The Relationship between Higher Education and Employment Opportunities in Europe

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ABSTRACT

Today, it is believed that science and knowledge are the keys to a society's development. Indeed, education is a process for individuals to gain knowledge and advance in science. As the importance of knowledge is permanently increasing, in order for the society to be successful, skilled and unemployed workforce is required for application of theoretical and academic knowledge in the workplace. With this regard, universities have the main responsibility for preparing experts for the society.

On the other hand, higher education at present time cannot survive only by academic teaching to help individuals to develop mentally and spiritually. Additionally, education must guide people towards acquiring indispensable skills for economic development, to be able to exploit and manage resources, store products, and conserve them for future generations efficiently. This cause raised our curiosity to embark on performing a study about whether additional education facilities are enhancing the labor force adjustment to labor market.

The data is gathered from the World Bank database. A panel data analysis is utilized including nine countries, during a time period between 1995 and 2015 that encompasses four indicators. Tertiary school enrolment (gross enrolment ratio), government expending on education (as a percentage of GDP), unemployment rate, and GDP growth (annual percentage) were our four indicators in a way that unemployment rate is considered as dependent variable and three others are regarded as independent or explanatory variables. The study focuses on Europe and

differentiates between higher developed and lower developed countries across Europe, setting a criterion as Human Capital Index (HCI).

Based on the results of the analyses, for higher developed countries, tertiary school enrollment and government expenditure on education have significant negative impact on unemployment rate. The major factor lowering unemployment in high HCI European countries is government expenditure on education. On the other side, in lower developed countries, tertiary school enrollment, GDP growth, and government expenditure on education have negative impact on unemployment rate; however, the correlations are not statistically significant. This outcome implies that in high HCI countries in Europe the tertiary education is better harmonized with the labor market. No such harmony is observed for lower HCI countries in Europe.

Keywords: Higher Education, Employment Opportunities, Europe, Higher Developed Countries, Lower Developed Countries, HCI, Unemployment Rate, Tertiary School Enrolment, GDP Growth, Government Expenditure on Education.

ÖZ

Günümüzde bilim ve bilginin bir toplumun gelişiminin anahtarı olduğuna inanılmaktadır. Nitekim, eğitim, bireylerin bilimde bilgi edinmeleri ve ilerlemeleri için bir süreçtir. Bilginin önemi sürekli arttıkça, toplumun başarılı olabilmesi için, teorik ve akademik bilgilerini işyerine uygulayabilmek için yetenekli ve işsiz işgücü gerekmektedir. Bu bakımdan, üniversiteler topluma uzmanlar hazırlamak için ana sorumluluğa sahiptir.

Öte yandan, şu andaki yüksek öğretim, bireylerin zihinsel ve ruhsal gelişimlerine yardımcı olmak için yalnızca akademik öğretim ile hayatta kalamaz. Ek olarak, eğitim, insanları ekonomik kalkınma için vazgeçilmez beceriler edinmeye, kaynakları kullanmaya ve yönetmeye, ürünleri depolamaya ve gelecek nesiller için verimli bir şekilde korumaya yönlendirmeye yönlendirmelidir. Bu sebep, ek eğitim olanaklarının işgücü piyasasına uyum düzeyini arttırıp arttırmadığı konusunda bir çalışma yapmaya merakımızı arttırdı.

Veriler Dünya Bankası veritabanından toplanmıştır. 1995-2015 yılları arasında dört göstergeyi kapsayan bir süre zarfında dokuz ülkeyi kapsayan bir panel veri analizi kullanılmıştır. Yüksek okul kaydı (brüt kayıt oranı), eğitime harcanan devlet (GSYİH yüzdesi olarak), işsizlik oranı ve GSYİH büyümesi (yıllık yüzde), işsizlik oranının bağımlı değişken olarak kabul edildiği ve diğer üçünün dört bağımsız veya açıklayıcı değişkenler olarak kabul edilir. Çalışma Avrupa'ya odaklanmakta ve Avrupa'daki yüksek gelişmiş ve düşük gelişmiş ülkeler arasında farklılaşmakta ve İnsan Sermayesi Endeksi (HCI) olarak bir kriter belirlemektedir.

Analiz sonuçlarına dayanarak, daha gelişmiş ülkeler için, yüksek okul kayıtlarının ve eğitime yapılan devlet harcamalarının işsizlik oranını önemli ölçüde olumsuz etkilediği görülmüştür. Yüksek HCI Avrupa ülkelerinde işsizliği azaltan en önemli faktör devletin eğitim harcamalarıdır. Öte yandan, düşük gelişmiş ülkelerde, yükseköğretim okullarına kayıt, GSYİH büyümesi ve devletin eğitim harcamaları işsizlik oranını olumsuz etkiliyor; ancak, korelasyonlar istatistiksel olarak anlamlı değildir. Bu sonuç, Avrupa'daki yüksek HCI ülkelerinde yüksek öğrenimin işgücü piyasasına daha iyi uyumu olduğunu göstermektedir. Avrupa'daki düşük HCI ülkeleri için böyle bir uyum gözlenmedi.

Anahtar Kelimeler: Yükseköğretim, İstihdam Olanakları, Avrupa, Yüksek Gelişmiş Ülkeler, Düşük Gelişmiş Ülkeler, HCI, İşsizlik Oranı, Yüksekokul Kaydı, GSYİH Büyümesi, Devletin Eğitim Harcamaları.

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LIST OF ABBREVIATIONS

ESDPs	Essential Skills Development Programs
EU	European Union
GDP	Gross Domestic Product
HCI	Human Capital Index
HEI	Higher Education Institution
KSAOs	Knowledge, Skills, Abilities, Other characteristics
TRNC	Turkish Republic of Northern Cyprus

Chapter 1

INTRODUCTION AND AIMS OF THE RESEARCH

1.1 Introduction

People try in everyday life to achieve happiness and in this regard, money is a way of improving overall life satisfaction. Studies revealed that being unemployed affects quality of life not only through loss of money but also through some collateral effects such as psychological repercussions of being unemployed (Andren and Martinsson, 2006). Thus, countries try to develop their economies to provide employment opportunities for their citizens. Today, it is believed that science and knowledge are the keys to a society's development. Indeed, education is a process for individuals to gain knowledge and advance in science. This situation is described as "Educational Gospel" (Grubb & Lazerson, 2005, p.93). As the importance of knowledge is permanently increasing, in order for the society to be successful, skilled and unemployed workforce is required for application of theoretical and academic knowledge in the workplace. With this regard, universities have the main responsibility for preparing experts for the society.

Historically, universities had been at the service of social elites. However, as nations shifted from agriculture to industrialization, the need for more academic education was felt in most jobs such as in business and finance. Thus, to meet the need for more student admission in both government and private universities, it was vital to develop the tertiary education system, such that today universities give service to many young

people who prefer to continue their education at higher levels. University students pursue modern science with the hope of reaching an appreciated professional position after graduation (Williams, 1985). On the other hand, higher education at present time cannot survive only by academic teaching to help individuals to develop mentally and spiritually. Additionally, education must guide people towards acquiring indispensable skills for economic development, to be able to exploit and manage resources, store products, and conserve them for future generations efficiently (Leuven and Louvain-la-Neuve, 2009). This leads us to the crucial role that higher education is playing in meeting employment needs which has national, international, and global effects on the economy.

This cause raised our curiosity to embark on performing a study about whether additional education facilities would help the labor force adjustment to labor market. In fact, the aim of this study is primarily to look into the effects of education on labor force states, especially relating to unemployment and employment rate. Our work targets foundation of casual link between education and employability to play a contributory role to growing literature intended for investigating the association among higher education and employment opportunities.

In this study, we will be confronted with the fact that education system and work environment in the higher developed countries across Europe are interconnected with each other. On the other hand, even though the effect of higher education on employability in lower developed countries can be regarded, these countries' education system is not fitted accordingly to work environment.

1.2 Background of the Study

1.2.1 Analysis of Overall Contraction Between Higher Education and Employment

The public opinion has been formed as if there is a linear relationship between college education, competencies obtained by graduates, and their achievement in finding a job as depicted in Figure 1.1.

Figure 1.1: Dominant Idea of Transition from Education to Work. Source: Ionela

However, there are many other factors in the interval between these 3 stages which potentially intervene in this progression. As long as the labor market was in the process of expansion and there was a soaring need for highly educated experts, it was quiet easy for graduates to be employed. However, as unemployment increases and job opportunities decrease, the university diploma is no longer sufficient for reaching a proper job; however, it is needed more than before. In other words, university degree could increase possibility of employment in the past, but it does not guarantee it in today's world (Smith, 1986).

Higher education is increasingly under pressure to develop a meaningful interaction between academy and employment. The reasoning behind this pressure is the growing concern within the European borders about destination of future competitiveness (Ball, 1989,1990). According to Ferrate (2009), tables might turn and higher education may have also negative effects on the level of life satisfaction. It is because education increases individuals' aspirations which may not be in parallel with their opportunities.

As this increase in aspirations surpasses available opportunities, the likelihood of the negative effects rises.

1.2.2 Empirical Studies on the Gap Between Employability and Essential Skills Development Programs (ESDPs)

Empirical studies about employability and ESDPs has largely concentrated on disparity between the extent to which job seekers are skilled and the requirements of demand for the labor force. Weligamage and Siengthai (2003) performed a study to recognize the factors influencing graduates' perceptions of their future jobs and also employers' real need in Sri Lanka. Accordingly, graduates' imaginary expectations about the labor market is not coinciding with the reality (Weligamage and Siengthai, 2003). Another survey carried out by Shukran, Wok, Majid and Noor (2004) revealed that higher education institution (HEI) students lack the desired knowledge, skill, ability, and other characteristics (KSAOs). A research by Aliaz (2007) in the Malaysia indicated that many graduates are out of work, not only because of lack of a realistic perception of world of work, but also lack of some social skills such as communication skills or fluency in English. However, Archer and Davison (2008) unearthed that 86% of UK employers most importantly give priority to communication skills. In this context, a study by Kolawole and Arikpo (2008) in Africa indicated that student's school curriculum does not keep up with changes in demand in the labor market. Consequently, these kinds of curricula do not enable graduates to achieve needed competencies for being employed. Karadisi (2012) did a study to evaluate how successful Dar es Salaam higher institutions in Tanzania are in transmitting students to labor market by imparting essential competencies. The findings indicated that job skills taught by higher educational institutions are not adequate neither for employment in organizations and companies nor for entrepreneurship; in a like

manner, research in Nigeria has proved a mismatch between employers' expectations and graduates' competencies in workplace particularly when it comes to communication skills, decision making, and critical thinking (Tyre & Braunstein, 1992). The Figure 1.2 clarifies this disparity in South Africa as a whole.

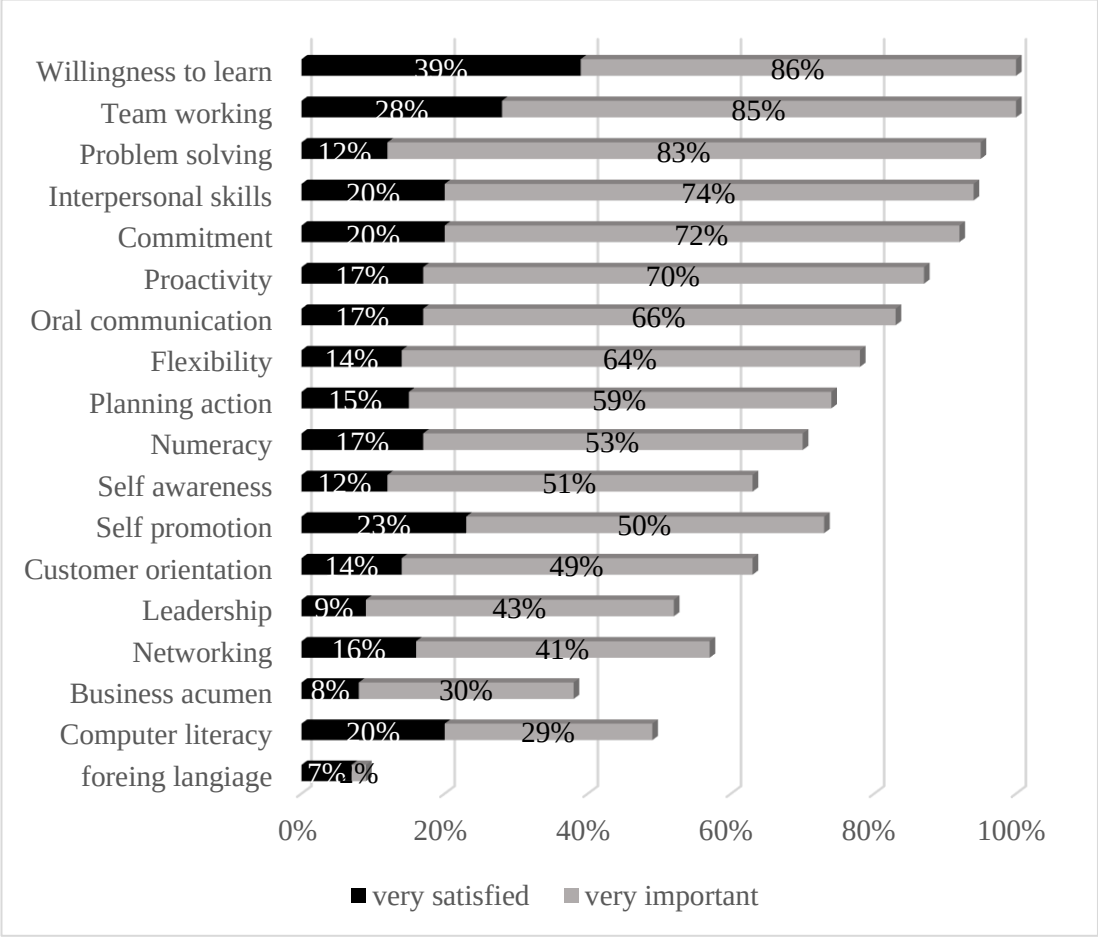

Figure 1.2: Comparison Between the Degree of Importance of Different Skills

Williams (1985) stated that the debate on the association between higher education and employment opportunity can be tracked back to two centuries focusing on if the core goal of higher education is to prepare students to enter the labor market or the mission is firstly aimed at developing science seekers intellectually, personally, and socially which might indirectly lead to a better career. Honkimaki (2001) states that

currently students are more vocational oriented and university is just an intermediate to get into work-life. Students no longer enter the universities in order to escalate their knowledge; rather, they intend to raise their chance of employment in the future.

Three to five years education puts off the entry of the age group between 18-25 into the labour market. For this reason, temporarily they may not shoulder the responsibility for job search. But later, entrance of a large number of graduates with great expectations may cause temporary unemployment, particularly in the course of an economic recession. This happened to United States between April 2009 and March 2010 when unemployment rate for university graduates rose to 9% on average relative to 5% on average in 2007 (Quillen, 2010).

1.2.3 Theoretical Background

1.2.3.1 Introduction

Researchers discovered that the association between university education and labour market varies in different periods of times, in different countries and under different circumstances. As a result, there are different theories and models depending on the circumstances in higher education and labour market (Fields, 1995). A few decades ago, between 1960s and 1970s, this relationship had already been a basic issue for research and policy. In 1960s, this idea emerged that expansion in university education may lead to economic boom and removing social inequality. Subsequently, economists embarked on carrying out numerous studies regarding prediction of how the supply and demand for manpower is shaping and what is going to happen to investments in education in the future. In 1970s, worries were increasing about the incompatibility between fairly growing demand for qualified labor force and swiftly increasing number of graduates from higher education institutions. Afterwards, this theme lost its significance until being resumed from around 1990s (Quillen, 2010).

We will discuss two main theories in this thesis, namely Human Capital Theory and Job Assignment Model, which try to explain the relationship between higher education and employment.

1.2.3.2 Human Capital Theory

The Human Capital Theory emerged in the 1960s for detecting the link between level of education and career advancement (Allen & Weert, 2007). Human Capital Theory stands on four pillars including knowledge, qualifications, abilities and individual qualities that improve and accelerate the economic, social and personal welfare of people (Nembot Ndeffo, 2010). This theory covers individuals' characteristics such as talents, skills, education, and experiences that influence their professional careers (McArdle, Waters, Briscoe & Hall, 2007). One way of investing in human capital is to invest in education because university is a place where adults become more productive in the labor market that in turn, will lead to producing better goods and services (Becker, Allen & Weert, 2007). This theory argues that competencies and knowledge gained by students in academic life are most likely to be valued in the labor market in the form of higher earnings (Becker, 1998). This economic approach to education has been criticized because of the fact that this theory excessively focuses on numerical outcomes and ignores some other factors such as the context in which education occurs, job characteristics, and the mismatch between expected skills by employers and skills received by job seekers (Ansell, 2005).

1.2.3.3 The Job Assignment Theory

The Job Assignment Theory was developed as a second view point. The model concentrates largely on significance of demand side in the labor market and stems from the idea that the right worker with the right skills should work in the right position in order to maximize income and productivity. (Allen & Weert, 2007). If this is not the

case, a disparity may take place between supply and demand in the labor market (Sattinger, 1993). This model also was castigated by many. The basic criticism this model met is that supply and demand are not precisely determined and each one reacts to differences in income (Sattinger, 2012).

1.3 Aims and Objectives of the Research

In this study, we aim to discuss the relationship between higher education, employment opportunities, and GDP growth in Europe via targeting some factors, namely Government Expenditure on Education, Unemployment Rate, and Annual GDP Growth. The research aims to discover the relationship and correlation between employment and higher education in European countries. The European countries are developed according to their Human Capital Index (HCI). In this way, the research aims to distinguish two groups according their attitude towards education. In other words, the research tries to answer which group is more successful in designing their educational system according to the demands of the labor market.

Principal objectives will be pursued as follows:

- ✓ The relationship between unemployment rate and tertiary school enrollment in European countries with higher Human Capital Index (HCI).
- ✓ The relationship between unemployment rate and GDP growth in European countries with higher HCI index.
- ✓ The relationship between unemployment rate and government expenditure on education in European countries with higher HCI index.
- ✓ The relationship between unemployment rate and tertiary school enrollment in European countries with lower HCI index.
- ✓ The relationship between unemployment rate and GDP growth in European countries with lower HCI index.

- ✓ The relationship between unemployment rate and government expenditure on education in European countries with lower HCI index.

1.4 Structure of the Thesis

The thesis is structured as follows:

Empirical models and literature review are explored in chapter 2. In chapter 3 we look into methodology of the present study. Formulation of our hypothesis, results of the hypothesis and other analysis are explained in chapter 4. The conclusion is placed in chapter 5 as well as limitations and recommendations for further related studies.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

Whatever the field of study, tertiary education is a means of flourishing intellectual and literary development of individuals. However, it must also prepare us for the world of work to be able to earn money, live independently, and stand on our own feet (Bartlett, 2016). With respect to the fact that the effect of human resources on a society's wealth is inevitable, the existing relationship between education, employment, and labour market will be examined in this section by having a comprehensive overview of conceptual framework for components of education and employability, and detailed investigation of previous studies.

2.2 The Conceptual Framework

2.2.1 The Concept of Employability

Employability means new graduates owing a group of skills which enable them to compete and find a job either in formal employment or self-employment (Harvey, 2003). Apart from the skills, employability also refers to unique features and experiences received in high level training where basic knowledge and skills are required (Harvey, 2001). Barrick and Bush (1987) mentioned that employability embraces some features beyond technical skills which cause workforce to be treated as assets by the employers. According to Hillage and Pollard (1998), becoming employed is defined as being able to find and accomplish a work. From employers' point of view, employability is known as abilities searched in employees, while

universities view employability within the framework of features that make their students more employable in uncertainty situations (Hager, 1996). Lately, concept of employability has undergone changes due to evolutions ensuing from globalization and advances in technology (Henry, Hill and Leitch, 2005). Bridgstock (2009) classified employability into traditional and modern perspectives. The traditional view point concentrates on discipline, fundamental skills, and generic outcomes of work. On the other hand, the modern perspective describes employability as individuals' personal life and gives credit to personal characteristics and differences (Rychen and Salganik, 2003).

2.2.2 The Concept of Unemployment

In the present world, unemployment is one of the controversial issues not only in underdeveloped and developing countries, but also in developed countries (Card, 2001; Grossman, 2005; Oreopoulos and Salvanes, 2009). Unemployment is known as a situation in which a bunch of people are ready to work and actively in search for a job but they cannot find that (Rafiq et al., 2010). What is meant by unemployment and shortage of job is beyond natural rate of unemployment that occurs even if a society has full-employment rate, because if an economy is at full-employment level, it does not mean that anybody and 100 percent of people who can work, are working and we still have some unemployed people; this kind of unemployment is called natural rate of unemployment that could be 2,4,5... percent depending on country's characteristics. These people are unemployed not because there are not available jobs for them but for

some natural reasons such as search or frictional unemployment[1], structured unemployment[2], and voluntary unemployment[3] (ILO, 2011).

2.2.3 The Concept of GDP Growth Rate

The Bureau of Economic Analysis (BEA) gives a clear definition for GDP:

Gross domestic product (GDP) measures the monetary value or market value of final goods and services produced in an economy. In fact, it measures the economic activity that occurs within the physical borders of a country.

GDP has become the preferred measure of economic performance of a country in the last decades. When economists, journalists, and other analysts talk about the economy, they continually discuss GDP regarding how much it has increased or decreased (Coyle, 2014).

Real GDP is monetary value of all final goods and services produced in one year within a given country after taking inflation rate into account from previous year to the current year. Real GDP is important to a society because it measures what is really produced in that country (Carson, 1975).

2.2.4 The Concept of Higher Education

Armstrong (1991) defined higher education as follows:

[1] Even if the economy is operating very well and there are jobs available, when individuals lose their job for some reasons such as resigning or a company bankruptcy, usually it takes time to find a new job approximately six months or a year on average; however, if the labor market is efficient and information is communicated to unemployed people about the availability of jobs very quickly, this period of time is going to be relatively short (Levine, 2013).

[2] Occasionally, as a consequence of emergence of some phenomena such as globalization and computerization, people who are looking for a job or have been already employed, are not skillful enough and companies are in search of new kinds of skills. Therefore, jobs are available but skills are not adequate for available jobs and there is a lack of necessary skills (Spletzer, 2012).

[3] This is a situation whereby a part of people prefers to stay unemployed because of the fact that the level of wage which is paid is not coinciding with workers' expectations and is unable to meet substantial needs of job seeker (Levine, 2013).

"Actions associated with knowledge, skills, and moral values which finally lead to developing all aspects of life rather than being limited to only one field of activity" (Armstrong, 1991, p.114).

Additionally, Pinnington and Edwards (2000) gave a definition of higher education as follows:

"Higher education refers to a set of activities which aims to enable individuals to assimilate and develop knowledge, skills, values and understanding that are not simply related to a narrow field of activity but allow a broad range of problems to be defined, analyzed and solved" (Pinnington and Edwards, 2000, p.33).

Education level relates to academic degree obtained by individuals. In the scope of our paper, we consider higher education as university education in different streams and we also refer educated employees to as those who hold at least bachelor's degrees which are essential for high-income occupation.

2.3 previous studies

2.3.1 Expansion in Higher Education

Recently, the relationship between higher education and employability has been given considerable attention by policy and educational decision makers. It is now well found that orientation of educational system cannot simply and precisely determined by the quantitative prediction of need for workforce. Since the dramatic expansion of universities and entrance of increasing number of graduates to the labor market, student's major became a trimming device for employers. Mass higher education is defined as when over 15% of age grades access higher education (Trow, 1973). Moving to mass higher education occurred in developed countries in the middle of

20th century. This target was also shot by the Central Government of China and it was reached by 2002 (Bai, 2006). Alongside with the expansion of Chinese economy, a dramatic increase in demand for workers with higher education has been observed. What is more, the classical Chinese thought that "education should be treated as a consumption good" has been substituted for the idea that "education is considered as an investment which will pay off in the future".

Nowadays, higher academic education is a key social factor. Annually, millions of people leave their hometown to go to universities. Hence, university education can be perceived as a tourism attraction which has enough potential to contribute to economic growth of countries. This fact is especially important for developing countries. A study exposed that there is a long-term relation between economic growth and higher education in TRNC in a way that higher education sector in parallel with international tourism are the major accelerator of economic growth in TRNC (Katirciog˘lu, 2010). Considering that TRNC has problem in economic and political interactions with the rest of the world, the results are quite interesting.

2.3.2 Is Education for Eliminating Inequality or Strengthening It?

As students depart from educational system in search of finding a job, they enter the labour market. Generally, the belief in the societies is that higher education and employment are strongly related and the changes in educational institutions will directly and indirectly change the situation of the labour market. One of the justifications for investigating university education from an economic standpoint is to eradicate inequality of income and connect academic education with labor market as much as possible (Ram, 1989).

Needless to say, studying abroad and investing in education are affected by many factors from internal ones such as family background, i.e. household income, parents' education level, size and composition of the family, to external ones such as geographical location, climate, economic condition, political system, scholarship opportunity of target country and above all, accreditation of the diploma received from the desired university. (Beneito et al., 2001).

Amongst all other personal characteristics, gender, family background, level of parent's education, and employment status are considered to specify the likelihood of finding the first job for young people (Kelsall, Poole, and Kuhn, 1972). A survey also uncovered the fact that some personal characteristics such as gender, persistency in job search, the field of study, and parental education influence the length of time period for finding the first job (Harvey and MacDonald, 1993). For instance, there is a conspicuous gender difference in favor of males and also there are age differences against matures relative to youngers (Gunduz and Hatemi-J, 2005). When it comes to field of study, it seems that education in Health, Computing, Business, and Architecture lower the first period of unemployment (Salas, 2007). Nonetheless, there is no consistency of results in the literature.

Although university education is growing in Sub-Saharan Africa, there are noticeable inequalities in accessibility. Except for different groups of people who are deprived of higher education because of socioeconomic, ethnic, and regional inequalities, women are one of the main groups who suffer most as victims of discrimination with just 38% of whole university enrolment.

Stevens and Weale (2003) found out, in spite of the fact that women had considerable achievements in higher education, young females still have lower employment opportunities and earn lower incomes relative to males.

2.3.3 Higher Education Can Act as a Catalyst for Finding a Job

It has been demonstrated that university education leads to superior job opportunities and income rate over a long term (Shelley, 1996). “The higher education level, the more chance for individuals to enter labor market and receive higher income” (Moretti, 2004, p.40). This statement was made through an economic model and stated that salary increases as education level increases. Moreover, many international organizations such as World Bank and Eurostat have provided statistics in a similar way. Accordingly, as level of education goes up, employment opportunities increase. This can be explained by the fact that individuals who are prepared and skilled enough are more likely to be able to adapt themselves to technological changes.

2.3.4 Unemployment Can Act as a Catalyst for College Enrollment

Betts and McFarland (1995) posited that the major factors affecting demand for post-secondary education would be cost of gaining an education, student’s financial abilities to afford those costs, and also advantages of receiving that education (Beneito et al, 2001). Beneito et al (2001) discovered that individuals sensitively follow the state of the labor market and behave accordingly in reaction to changes. Luzzi and Flu¨ckiger (2003) clarified that rise in unemployment rate encourages new unemployed people to invest in higher education in an attempt to escape from probable future unemployment. Bets and McFarland (1995) analyzed the unemployment rate at national level and the level of college enrollment using the data gathered by the Higher Education Department in the United States (US) between 1969 and 1985 applying linear regression. Analysis revealed that college enrollment responds positively and

negatively to ups and downs in unemployment rate (Betts & McFarland, 1995). However, full- and part-time enrollment sensitivity to changes in unemployment rate are dissimilar. Full-time enrollment is expected to react to unemployment rate more strongly (Betts and McFarland, 1995). Alternatively, Delaney and Doyle (2011) with the aid of time series analysis between 1984 and 2004 gathered by National Center for Educational Statistics proved that the relationship between state unemployment rate and college enrollment is not statistically significant. The literature review showed that the interaction between college enrollment and national or state unemployment had contradictory messages in the US (Prasad, 2008). Arkes (2010) analyzed state unemployment rate as means of measuring returning back to education applying the 1980 census dataset. Arkes (2010) argued that state unemployment rate has a positive effect on attending college for those who faced with large unemployment rate when they were teenagers. Another study showed that at the age of 17, as national or state rate of unemployment soars, the probability of college finalization by students who are in the range of medium and high ability percentile will rise (Boffy- Ramirez, et al., 2010, n.p.). Indications also show a weak interaction between university education and employment opportunities in Iran and finding a suitable job for graduates is not easily attainable, and there are also a few training courses for job seekers. Furthermore, there is no meaningful relationship between gender and employability (Yousef and Baratali, 2011). Indications also showed that while return to higher education grew steadily, the percentage of highly educated employment decreased in comparison with previous international average (Gui-zhi, 2009).

2.3.5 Employability Status for University Graduates Across Europe

In the last decade, the interaction between higher education and employability has introduced itself as one of the main issues for policy makers and the leading topic for

research in Europe (cf. Psachropoulos, 1987; Sanyal, 1991; Teichler, 1992). Over the last decade, the number of university graduates increasingly went up due to the need for specialization and also high competition in the labour market (Kostoglou and Paloukis, 2007). This increase caused the rapid expansion in higher education in countries which are the member of the European Union. Therefore, employment status of graduates who are mostly young has become one of the controversial issues in Europe (Kostoglou and Paloukis, 2007).

It is clear that the goal in European countries is set as tightening connections between educational systems and the labour market and removing the borders among EU countries as much as possible (Kivinen et al, 2007). Kivinen and Nurmi (2003) also asserted that educational institutions in Europe have converted to being semi-school and career based. As a result, the objective and content of university programs are surprisingly meeting the requirements of labour market.

2.3.5.1 Negative Relationship Between Higher Education and Employability in Europe

Some studies in Europe, have focused on the rate of return on education. In the study of eight European countries including Greece, France, Germany, Italy, Spain, United Kingdom, Sweden, and Portugal around one-third of employers complained that the lack of necessary skills causes considerable business problems such as cost and time efficiency (McCloy, Campbell, and Cudeck, 1994). In addition, Germany, Sweden, and United Kingdom have got more than 25 percent of unemployment rate among young people (McCloy, Campbell, and Cudeck, 1994). In comparison with general population, unemployment rate among young people is extremely high which is higher than twice the rate of unemployment rate in general population for all the countries surveyed except in Germany (McCloy, Campbell, and Cudeck, 1994). On the whole,

unemployment rate among young people has not fallen lower than 17 percent (McCloy, Campbell, and Cudeck, 1994). The largest percentage of employers who moan about lack of skills which makes problem in their business is related to service industries such as hotels and restaurants and in public-service organizations such as health care and education (McCloy, Campbell, and Cudeck, 1994). The barriers in moving from academic education to employment make people doubtful about continuing tertiary education after high school such that among all young people surveyed in the eight European countries just 42 percent believed that higher education will enhance their chance of employment, by comparison with those surveyed in general population (McCloy, Campbell, and Cudeck, 1994).

According to the unemployment rate after graduation from educational institutions in EU; Lithuania, Hungary, and Greece in turn with 8.5%, 7.5%, 7.1% present graduates' unemployment rates going beyond 7% (Eurostat, 2004). The worst position belongs to Poland with unemployment rate of graduates at 18.6% (Eurostat, 2004).

2.3.5.2 Positive Relationship Between Higher Education and Employability in Europe

Many studies have analyzed the employment status of those graduates who have been in a certain period of time after gaining their first diploma. Nickell (1979) examined the relationship between higher education and duration of unemployment applying UK data. Nickell (1979) clarified that each year of academic study lower expected duration of unemployment approximately by 4 percent and graduation at ordinary level or above, declines this duration by almost 12 percent. Similarly, Mincer (1991) exposed shorter duration of unemployment for job seekers who are better educated.

The overall average EU graduates' employment rate four years after graduation was 84% and the lowest rates were observed in France, Spain and Italy; 69%, 73% and 79% respectively (Mora et al., 2003; Schomburg and Teichler, 2006). With regard to this survey, within the bound of considered area, overall, five out of six graduates play a part in the workforce. About the remaining, some were studying at advanced level, some were still passing trainings professionally, some were busy with child rearing, and others were involved in doing other activities (Teichler, 2007).

According to the unemployment rate after graduation from educational institutions in EU; Latvia, Ireland, Netherlands, and Luxemburg in turn with 1.2%, 1.6%, 1.7%, 1.9% benefit from the lowest rate of unemployment which are all below 2% (Eurostat, 2004). Comparing the results showed that as the overall unemployment rate goes up, the graduates' unemployment rate escalates. Additionally, the current trend sometimes forces graduates not to be employed in a job which is vocationally relevant to what they studied academically (Eurostat, 2004). Schomburg and Teichler (2006) got to the truth that since graduation until 3 to 4 years later, 84% of European graduates are counted as a part of the workforce and solely 3% are counted as real unemployed. A study in Finland supported the above finding that educated employment rate has stood in a good situation altogether (Kivinen and Nurmi, 2003; Sainio, 2008). On the basis of this study, almost 67% university students work in the meanwhile (Kivinen and Nurmi, 2003; Sainio, 2008). For the specialists and generalists, the average waiting time for getting the first job was in turn two and four months (Kivinen and Nurmi, 2003; Sainio, 2008). This time period for job search is the lowest among all other European countries. Moreover, Lindberg (2007) somehow verified that the lowest length of the time for job search is in Norway, Finland, Netherlands, and the United Kingdom. Studies show noticeable differences between North and South of Europe.

Graduates from Italian and Spanish universities usually encounter serious unemployment problems (Vinod and Kaushik, 2007). While, graduates from Nordic countries and UK hardly ever are challenged in finding their first job (Lanzi, 2007; Trusty and Niles, 2004). In this thesis the findings support that in high HCI countries, tertiary education increases the employability. While, in low HCI countries, there is no significant relationship between tertiary education and employability.

2.3.6 An Overview of Preceding Research about Yield of Education on Economic Growth

Education costs encompass actual expenses and opportunity costs incurred by individuals and society in the course of becoming educated (R. Lopez, 2003). Many research found out that alongside with increase in the education level of citizens of a country, level of economic growth goes up. Nevertheless, there is no consensus on the degree to which education can potentially affect economic growth. What majority of researchers agree on is the direct association between investment in education and economic growth (E. A. Hanushek and L. Woessmann, 2008). Table 2.1 illustrates summary of the recent research regarding yield of education on economic growth.

Chapter 3

METHODOLOGY

3.1 Introduction

Knowing that a scientific study needs to be acceptable and also replicable logically, systematically and ethically, this chapter will go into detail about research approaches and sampling techniques to reveal that an authentic study has been performed.

3.2 Econometrics and Regression Analysis

Econometrics is the application of statistical techniques that puts economical and mathematical theories into reality and enables researchers to test and estimate economical phenomena (Salvatore and Reagle, 2002). Estimating parameters of the regression model plays the determinant role. In this regard, regression analysis plays the core part in the econometric studies. It is a statistical technique for obtaining the line that best fits the data points according to an objective statistical criterion (Mincer, 1962). It is great for forecasting economic variables and evaluating or implementing government or business policy; it makes estimating relationship between economic variables very easy and also helps with testing economic theories and hypothesises (Becker, 1975).

3.3 Sample and Procedure of the Study

Sample of the current study comprises European countries focusing on high HCI countries as a group and lower HCI countries as the other group. The aim is to find whether there are differences between the two groups as far as unemployment and

economic growth, government expending on education and tertiary education are concerned.

In order to come up with statistically meaningful findings, E-Views software is used as the program for data analysis. After data collection, all desired indicators were inserted into E-Views data sheet. Furthermore, Microsoft Excel was utilized to make tables and diagrams.

3.3.1 Steps Used for Data Collection

The data is gathered from the World Bank database. A panel data including 9 countries during a time period between 1995 and 2015[1] which encompasses 4 indicators was under consideration. Hence, totally 21 observations were used for each indicator in the analysis. Tertiary school enrolment (gross enrolment ratio), government expenditure on education (as a percentage of GDP), unemployment rate, and GDP growth (annual percentage) were our four indicators in a way that unemployment rate is considered as dependent variable and three others are counted as independent or explanatory variables. Then, for choosing country, focusing on Europe, we decided to differentiate between higher developed and lower developed countries across Europe setting a criterion as Human Capital Index (HCI).[2] For HCI, we selected the year 2017 which was the last update of World Bank database available. Then, having the data on HCI for all European counties, we calculated the average of this index throughout Europe in 2017 which was nearly 0.71. Afterwards, we were about to choose some countries with highest HCI and also some with lowest which were naturally above and below

[1] Since this length of time had minimum missing data relatively, it was chosen.

[2] Human Capital Index (HCI) looks at education and health data for a country and calculate how much a generation may fall short of achieving its full potential. It does this by combining five carefully selected indicators of health and education chosen because global research has linked them directly to productivity: 1- child survival 2- school enrolment 3- quality of learning 4- healthy growth 5- adult survival. All enter into the Human Capital Index. This index calculates the single value between 0 and 1 based on how much each indicator contributes to productivity as an adult (World Bank, 2011).

the average in turn. As there was a meaningful relationship between lower HCI and missing data regarding four indicators, we ignored those countries whose missing data was a lot and chose alternatives still owned low HCI with moderate missing data. Finally, we came up with Switzerland, Sweden, Ireland, Norway, and Spain as representatives of higher developed counties and on the other hand, we reached Slovakia, Lithuania, Hungary, and Ukraine as representatives of lower developed countries. All in all, we reached 5 countries classified as higher developed countries and 4 countries classified as lower developed countries and this classification was done with the aid of HCI criterion. Each of these nine countries had four indicators with 21 observations for each indicator.

As it was mentioned, we coped with the problem of facing many missing data by considering the time period between 1995 and 2015. But still we encountered a few missing data for some indicators of specific countries. Enders (2003) stated that a missing rate of 15% to 20% is common in educational and economical studies. Statistically, over the time period between 1995 and 2015, the percentage of missing data for each of the three indicators of all countries was less than five which is statistically justifiable. Specifically, this almost 5 percent meant maximum one missing data out of 21 observations for each of the indicators. To tackle the problem of one missing data for some indicators, we got the average of the desired indicator between previous and next year and substituted the average.

3.3.2 Data Analysis and Statistical Models

A panel data analysis was performed to examine the effect of higher education and GDP Growth Rate on unemployment rate. The next stage in the process of econometrics analysis was to select a functional form and perform a regression analysis. Since the classical linear regression model was under consideration, the

method of ordinary least square was used. The entire statistical and econometrics analysis was fulfilled adopting E-Views 11 statistical package.

3.4 Measures

3.4.1 Estimation Techniques

3.4.1.1 Validity and reliability

Berman (2006) stated that based on validity criterion, variables must measure what they are supposed to measure. In this study, the data for relevant indicators which were related to desired variables were gathered. Thus, with respect to the data collection methods adopted, the study satisfies validity criterion.

Berman (2006) described reliability as when repeating measurements results in the same findings. In this study the reliability criterion is met due to the fact that data were gathered for the same period of time and same specifications which logically yields high reliability.

3.4.1.2 Unit Root Test

When dealing with panel data, it is a widely accepted criterion to firstly test the data for stationary due to the fact that panel data often do not have unit root. In other words, this kind of data usually are non-stationary, that is to say, they have mean, variances, and covariances that vary over time. Hence, there is no possibility of predicting any non-stationary data which in turn results in little reliability as a source for modelling or estimation (Iordanova, 2007). Therefore, since the panel data was used in this study, they underwent unit root test to see whether they are non-stationary or not. There are several alternatives for this process. In this study, we took on Summary test type. With regard to this test, if the P-value is less than five percent, we reject the null hypothesis whereby data is not stationary and accept the alternative (Iordanova, 2007). It is

necessary to say that we chose automatic lag length taking individual intercept and using Schwarz Info Criterion. Since in our model, the P-value for all indicators in most of the methods used, namely Levin, Lin & Chu t, Im, Pesaran and ShinW-stat, ADF-Fisher Chi-square, and PP - Fisher Chi-square, is higher than 5 percent, our data has got unit root and is not stationary. Thus, we accept null hypothesis. Needless to say, the coefficient is certainly negative that is to say our model is viable and valid an allows us to go for further analysis.

3.4.2 Ordinary Least Squares (OLS) Regression Analysis

After fulfilment of the above techniques, we run the regression OLS to analyze the relationship among unemployment rate, tertiary school enrolment (gross enrolment ratio), government expenditure on education (as a percentage of GDP), and GDP growth (annual percentage). This process will divulge the existence, nature, direction, strength, and magnitude of probable predictive relationships. Parameter estimation was carried out using ML estimation. Additionally, the unknown parameters were also estimated to adjust variances and covariances regenerated from the model to observed data. Standardized regression coefficients were employed to specify the independent variables that have highest explanatory power on estimating variation in dependent variable. Standardized regression coefficients are utilized in multiple linear regression so as to optimize comparison among independent variables through ignoring measurement units. Statistically, all dependent and independent variables are subtracted by the mean and divided by the standard deviation to be standard, specifically meaning that standardized coefficient indicates the change in response to a change of one standard deviation in a predictor.

3.4.2.1 Features of an Efficient Ordinary Least Square Linear Regression (OLS)

Having said that we dealt with a single dependent variable and three independent variables as predictors, multiple linear regression method was statistically appropriate testing hypotheses.

It should be remarked that an efficient ordinary least square linear regression (OLS) model should hold some features so that valid statistical interference is achievable (Stock and Watson, 2009).

First of all, the regression line must be fitted to the data strongly. If the value of R-squared is more than 60 percent, our model meets the criteria (Iordanova, 2007). In our model this would be the case and the regression line is appropriately fitted to the data with scoring 78.04 percent as R-squared.

Another feature is that variance of the residuals (error term) must be homoscedastic which is equivalent of having constant variance by residuals and in opposition with heteroscedasticity to gain the best unbiased linear estimator. In this study, the Breusch-Pegan-Godfrey test was accomplished to check if our regression model meets the mentioned hypothesis in which the null hypothesis is in favour of being homoscedastic if the P-value is higher than five percent (Iordanova, 2007). In our model, variance of the residuals is homoscedastic because of the fact that it is more than five percent.

Another sing of an efficient ordinary least square linear regression (OLS) model is following normal distribution by residuals. Respectively, we used Jarque Bera Statistics test in which normal distribution of residuals is considered as null hypothesis. If the P-value is more than 5 percent, we accept the null hypothesis and vice versa

(Iordanova, 2007). Our model passes this criteria having P-value higher than five percent (approximately 78 percent).

Additionally, since in panel data autocorrelation problem may be found which is against an efficient ordinary least square linear regression (OLS) model, we made sure that our model is excluded from serial correlation via using Breusch-Godfrey Serial Correlation LM Test which holds the assumption that residuals are not serially correlated as null hypothesis. On the basis of this test, if the P-value is higher than 5 percent, we accept the null hypothesis which is regarded as residuals are not serially correlated and vice versa. In our analysis, the P-value is higher than 5 percent and does not have auto-correlation problem (Iordanova, 2007).

Moreover, in an efficient ordinary least square linear regression (OLS) most of the independent variables (in our model, 2 out of 3) should be individually significant (having P-value less than five percent as as an alternative of null hypothesis) to explain dependent variable. It can be tested using T-test. Fortunately, this is the case in our model and we accept the alternative instead of null hypothesis.

Furthermore, all independent variables should be jointly significant (containing P-value less than five percent as an alternative of null hypothesis) to influence dependent variable. The accuracy of this criterion in our model was checked by using F-test. In our model, the null hypothesis is rejected and we accept null.

Chapter 4

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter will cover the results of our analyses using different tests. First, the features of an efficient ordinary least square linear regression will be investigated by exploring the related tables and then the hypotheses will be developed. Afterwards, the corresponding tables are brought for multiple regression model for both two groups of countries as higher developed and lower developed and finally we compare the results with our developed hypotheses.

4.2 Estimation Techniques

4.2.1 Unit Root Tests

As discussed in the previous chapter, all the variables have got unit root test. The corresponding tables and tests to check unit root test, are as following.

Table 4.1: Panel Unit Root Test, GDP

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.05699	0.0137	9	179
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and ShinW-stat	-4.02506	0.1603	9	179
ADF - Fisher Chi-square	48.4158	0.0696	9	179
PP - Fisher Chi-square	46.6250	0.1058	9	180

Table 4.2: Panel Unit Root Test, Government Expenditure

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.44037	0.0749	9	173
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.83893	0.0330	9	173
ADF - Fisher Chi-square	26.6922	0.0850	9	173
PP - Fisher Chi-square	17.7279	0.1737	9	180

Table 4.3: Panel Unit Root Test, Unemployment

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.62209	0.0244	9	172
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.79464	0.0666	9	172
ADF - Fisher Chi-square	34.5247	0.0908	9	172
PP - Fisher Chi-square	22.6161	0.2058	9	180

Table 4.4: Panel Unit Root Test, Tertiary School Enrollment

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.77214	0.0001	9	170
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-0.88782	0.1873	9	170
ADF - Fisher Chi-square	21.9874	0.2325	9	170
PP - Fisher Chi-square	17.5995	0.4823	9	180

Table 4.5: Correlation Matrix for Higher Developed Countries

Correlation Probability	GDP	GOV_EX	TER_SCH_EN
GDP	1.000000 -----		
GOV_EX	-0.423730 0.0718	1.000000 -----	
TER_SCH_EN	-0.443878 0.1431	0.335805 0.4155	1.000000 -----

Table 4.6: Correlation Matrix for Lower Developed Countries

Correlation Probability	GDP	GOV_EX	TER_SCH_EN
GDP	1.000000 -----		
GOV_EX	-0.576922 0.1074	1.000000 -----	
TER_SCH_EN	-0.139509 0.2056	0.548329 0.4901	1.000000 -----

It can be seen that there is no correlation[1] problem among independent variable in neither higher developed countries nor lower developed countries.

4.2.3 Features of an Efficient Ordinary Least Square Linear Regression (OLS)

As mentioned in the preceding chapter, our model is statistically fit for running regression OLS. The related table is shown as following:

[1] At 95 percent confidence interval.

Table 4.7: R-squared, T-test, and F-test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	32.57918	6.651398	4.898095	0.0000
UNEMP	0.154488	0.240791	0.641584	0.0199
GDP	-0.287777	0.268380	-1.072273	0.2850
GOV_EX	4.753396	0.972784	4.886385	0.0000

R-squared	0.780403	Mean dependent var	7.500000
Adjusted R-squared	0.122519	S.D. dependent var	17.05709
S.E. of regression	15.97805	Akaike info criterion	8.401245
Sum squared resid	47230.12	Schwarz criterion	8.469854
Log likelihood	-789.9177	Hannan-Quinn criter.	8.429040
F-statistic	9.749919	Durbin-Watson stat	0.077317
Prob(F-statistic)	0.000005		

4.3 Hypothesis Development

H1: Tertiary school enrolment (gross enrolment ratio) has negative significant effect on unemployment rate in higher developed countries.

H2: GDP growth (annual percentage) has negative significant effect on unemployment rate in higher developed countries.

H3: Government expenditure on education (as a percentage of GDP) has negative significant effect on unemployment rate in higher developed countries.

H4: Tertiary school enrolment (gross enrolment ratio) has negative significant effect on unemployment rate in lower developed countries.

H5: GDP growth (annual percentage) has negative significant effect on unemployment rate in higher developed countries.

H6: Government expenditure on education (as a percentage of GDP) has negative significant effect on unemployment rate in higher developed countries.

The model for testing these hypotheses is exhibited as following:

$E(Y) = a + b_1X_1 + b_2X_2 + b_3X_3$

Y: Unemployment Rate

a: Vertical Intercept (constant)

X_1: Tertiary School Enrolment (gross enrolment ratio)

X_2: GDP Growth (annual percentage)

X_3: Government Expenditure on Education (as a percentage of GDP)

b_1: Slop of Coefficient (it measures change in Y per unit change in X_1 while holding X_2 and X_3 constant) = $\frac{\Delta Y}{\Delta X_1}$

b_2: Slop of Coefficient (it measures change in Y per unit change in X_2 while holding X_1 and X_3 constant) = $\frac{\Delta Y}{\Delta X_2}$

b_3: Slop of Coefficient (it measures change in Y per unit change in X_3 while holding X_1 and X_2 constant) = $\frac{\Delta Y}{\Delta X_3}$

4.4 Panel Last Square

Table 4.8: Panel Least Square, Regressed on Unemployment Rate for higher developed countries

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TER_SCH_EN	-0.112289	0.038862	2.889406	0.0047
GOV_EX	-1.374143	0.375497	-3.659535	0.0004
GDP	-0.183101	0.150687	-1.215107	0.2272
C	9.626873	3.034900	3.172056	0.0020

R-squared	0.262992	Mean dependent var	8.106133
Adjusted R-squared	0.131592	S.D. dependent var	5.795907
S.E. of regression	5.401113	Akaike info criterion	6.248438
Sum squared resid	2946.374	Schwarz criterion	6.349541
Log likelihood	-324.0430	Hannan-Quinn criter.	6.289407
F-statistic	6.253139	Durbin-Watson stat	0.119165
Prob(F-statistic)	0.000616		

Table 4.9: Panel Least Square, Regressed on Unemployment Rate for lower developed countries

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TER_SCH_EN	-0.044037	0.023189	-1.898995	0.0612
GOV_EX	-1.099485	0.554780	-1.981839	0.0509
GDP	-0.008130	0.073718	0.110287	0.9125
C	18.67384	2.374221	7.865248	0.0000

R-squared	0.175280	Mean dependent var	10.88139
Adjusted R-squared	0.144353	S.D. dependent var	3.762281
S.E. of regression	3.480154	Akaike info criterion	5.378478
Sum squared resid	968.9179	Schwarz criterion	5.494231
Log likelihood	-221.8961	Hannan-Quinn criter.	5.425010
F-statistic	5.667545	Durbin-Watson stat	0.322082
Prob(F-statistic)	0.001428		

4.5 Result Hypotheses[1]

Table 4.10: Result Hypotheses

HYPOTHESES	FINDINGS
H1: Tertiary school enrolment (gross enrolment ratio) has negative significant effect on unemployment rate in higher developed countries.	SUPPORTED
H2: GDP growth (annual percentage) has negative significant effect on unemployment rate in higher developed countries**.**	NOT SUPPORTED
H3: Government expenditure on education (as a percentage of GDP) has negative significant effect on unemployment rate in higher developed countries.	SUPPORTED
H4: Tertiary school enrolment (gross enrolment ratio) has negative significant effect on unemployment rate in lower developed countries.	NOT SUPPORTED
H5: GDP growth (annual percentage) has negative significant effect on	NOT SUPPORTED

[1] At 95 percent confidence interval

unemployment rate in higher developed countries.	
H6: Government expenditure on education (as a percentage of GDP) has negative significant effect on unemployment rate in higher developed countries.	NOT SUPPORTED

Chapter 5

CONCLUSION

5.1 Discussion of Findings

As is observed from the panel least square multiple regression for higher developed countries, tertiary school enrollment and government expenditure on education have significant[1] negative impact on unemployment rate. The major factor lowering unemployment in high HCI European countries is government expenditure on education. This results are in favor of the Human Capital Theory in which competencies and knowledge gained by students in academic life are most likely to be valued in the labor market in the form of high earnings (Becker, 1998). Furthermore, in high HCI European countries, tertiary education system fulfills the requirements of the labor market more than low HCI European countries.

On the other hand, as is illustrated from the panel least square multiple regression for lower developed countries, tertiary school enrollment, GDP growth, and government expenditure on education have negative impact on unemployment rate; however, this three impacts are not statistically significant. Again government expenditure on education has some influence on lowering unemployment in low HCI European countries; however, this correlation is weak. This results are against the Human Capital Theory based on which university is a place where adults become more productive in the labor market that in turn, will lead to producing better goods and services (Becker, Allen & Weert, 2007).

The results can bring us to the fact that education system and work environment in the higher developed countries are interconnected with each other. It actually means the mission of higher education in these countries which is preparing seekers of science for easily and appropriately entering working environment as job seekers is satisfactorily fulfilled. On the other side, although the effect of higher education on employability in lower HCI countries can be regarded, this effect is not significant. In other words, these countries' education system is not fitted accordingly to work environment.

Furthermore, this study potentially contains some useful clues for governments and policy makers especially in lower developed countries to prompt them to reconsider their economic and educational policies and take corrective and fundamental actions in order to bring higher education and employability as close as possible to first give meaning to their investment in education and then expedite the prosperity and flourishment of their economy.

All in all, this study subscribes to the fact that when a country is economically developed and as this development soars, foundations are more prepared for employment and education in such a framework would be more meaningful and at the service of employment.

5.2 Limitations of the Study

One of the limitations of this study is that tertiary school enrolment which is representative of higher education in our study, may be affected by a plethora of personal factors such as parental education, marital status, age, gender, race, academic ability, and it may also be influenced by some institutional factors such as educational

institutions' policy. Since this study has got an overall and national perspective and explores the effect of economic phenomena on the contraction between employability and higher education as a result of economic policy adopted by the governments, a variety of factors may be omitted in explaining the college enrolment motives and causes due to the limitation of World Bank dataset.

Moreover, due to the fact that this study is on the basis of using secondary data, researcher had no control on the process of data collection. However, at the World Bank, the development data group works closely with the bank's regions and global practices guided by professional standards in the collection of data to ensure that users can benefit from confident and accurate data produced.

5.3 Recommendations for Further Studies

Firstly, our study was performed in a specific length of time up until the year 2015. However, during the last years, countries underwent many changes in the area of higher education and economic policy. Therefore, re-evaluation of this study in the desired countries is suggested for adapting the findings.

Moreover, it would be stimulating to detect whether or not all the regions of the desired countries respond to tertiary school enrolment, GDP growth, and government expenditure om education in the same way in terms of unemployment rate.

Furthermore, it is recommended to investigate why education in European countries with higher HCI is fruitful and in connection with employment, but it is not the case for European countries with lower HCI. In other words, the causes of academic achievements for high HCI European countries in terms of methods of teaching, students' talent and capacity and other probable characteristics can be regarded.

Finally, investigation of the association between tertiary school enrolment and higher education completion in the considered areas is recommended.

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