



HIGHER EDUCATION, EMPLOYABILITY AND COMPETITIVENESS

YÜKSEK ÖĞRETİM, İSTİHDAM EDİLEBİLİRLİK VE REKABET

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ABSTRACT: This paper studies the relationship between competitiveness and higher education systems in Europe. It explores whether more competitive countries have developed more labour-market-oriented systems of higher education (HE) that thereby give their graduates greater short term employability potential. Based on and a large-scale survey among 45.000 higher education graduates five years after graduation in 19 European countries, five employability indicators are identified and analysed in combination with World Economic Forum Indicators. The paper finds evidence demonstrating that more competitive countries have developed HE systems with more practically oriented studies and a higher workload. The paper identifies five country clusters indicating a combination of country competitiveness and other characteristics of HE systems. This is the first empirical study to examine relation between ‘soft’ dimensions of higher systems and competitiveness on country comparative basis.

Keywords:

competitiveness, employability, higher education, labour market

ÖZET: Bu makalede Avrupa’daki yükseköğretim sistemleri ile rekabet edebilirlik arasındaki ilişki incelenmiştir. Çalışmada rekabet gücü daha yüksek olan ülkelerin iş dünyasının ihtiyaçlarına uygun yükseköğretim sistemi geliştirmek suretiyle mezunlarının daha hızlı (kısa süre sonra) iş bulma potansiyeli olup olmadığı araştırılmıştır. Araştırmada iki uluslararası veri tabanı temel alınarak araştırma modeli kurulmuş ve denenmiştir; bu iki veri tabanından ilkinin 19 ülkedeki 45.000 yükseköğretim mezunu ile mezuniyetlerinden 5 yıl sonra yapılan anket sonuçları oluşturmakta olup bu verilerden 5 tane istihdam göstergesi (zor program, iş yükü, programın uygulama ağırlıklı olması, mesleki eğitim ağırlıklı olması ve iş arama süresi) geliştirilmiştir. Diğer veri tabanını Dünya ekonomik forumu göstergeleri oluşturmaktadır. Birinci gruptaki 5 gösterge ikinci gruptaki göstergelerle birleştirilerek analiz edilmiştir. Araştırma uygulama ağırlıklı eğitim ile daha fazla iş yükü (çalışma) isteyen programlara sahip yükseköğretim sistemleri geliştiren ülkelerin yüksek rekabet gücüne sahip ülkeler olduğunu gösteren kanıtlar ortaya koymuştur. Makalede ülkenin rekabet gücü ile yükseköğretim sisteminin diğer karakteristiklerinin birleştirilmesiyle oluşturulan beş ülke grubu tanımlanmıştır. Bu çalışma yükseköğretim sistemlerinin “nesnel” olmayan boyutları ile ülkenin rekabet gücü arasındaki ilişkiyi inceleyen ilk ampirik çalışmadır.

Anahtar Kelimeler: rekabet edebilirlik, istihdam, yükseköğretim, iş dünyası

1. INTRODUCTION

Research on the role of education in economic development and competitiveness has traditionally focused on four broad domains, namely: (a) the impact of the quality of education on incomes and social inequality; (b) the impact of the scope and quantity of average schooling years on economic growth and clear causal relationship between education and growth (World Bank 1999: 2); (c) the impact of investments in education on outcomes; and (d) the relationship of educational management systems with the first three issues. In the last few years these issues have been increasingly placed in the context of the current economic crisis.

Other multidisciplinary research projects (see for example CATEWE 2000/2012; REFLEX 2004/2012 or HEGESCO 2007/2012), on the other hand, seek to explore how education really matter for individuals’ performances in the labour market. This is difficult task in the case of higher education (HE) due to unclear impact of theoretical knowledge generated on professional performance. In addition, the transition of graduates from education to the labour market and their career success is also influenced by students’ social backgrounds and sector-related HE credentials.

The latest studies go beyond observable and measurable facts such as material equipment, school spending, reduced class size, increased teacher training and the like (Hanushek and

Woessmann 2007: 3; Schomburg and Teichler 2011) and instead survey the quality of education in relation to other factors. Although the returns to education and skills are likely to be questioned as the single greatest cause of the long-term rise in economic inequality, policies that lead to broad investments in education and training can help reduce inequality while expanding economic opportunity (Bernanke 2007). It is precisely for this reason that a holistic approach to surveying HE performance is now gaining increasing attention for exploring varieties of HE outcomes on the individual and macro level.

This paper studies how national HE systems are related to the overall competitiveness of countries. It thereby has multiple goals. First, it gives a short overview of competitiveness from social and economic perspectives and on this basis questions in which ways competitiveness can be related to HE systems. Second, it defines employability as a core concept for observing those characteristics of HE systems that have in the last years (presumably) been developed to support the careers of young professionals and, in turn, countries' competitiveness. Third, it constructs and tests our own research model based on two international data sets. The paper concludes with an interpretation of the findings and recommendations for further research on this topic.

1.1 Education and Competitiveness

There is a strong positive correlation between higher education, training and the competitiveness of countries (see Lopez-Claros *et al.* 2006). Countries with an excellent education system are also highly competitive (Finland, Switzerland, Singapore and Japan). However, even some less developed countries have achieved good results in standard knowledge tests. They are mostly countries that have followed more open development strategies or invested more in education (former socialist countries like Estonia and Poland) and also improved their competitiveness.

But one has to move beyond formal education in general and look at how it is created (quality, duration, demands on students and the employability of graduates). These all have an impact on competitiveness as the ability to sell products in global markets (Krugman 1994). Competitiveness depends on four factors (Porter 1990) with factor conditions being the most relevant to education since knowledge has become the most important production factor. Production needs induce the demand to improve education in order to improve products and services. Demand conditions are also important; more sophisticated, better educated buyers demand better products and services. Two external factors – chance and government – also play an important external role, meaning that government can contribute to the conditions for developing education.

Micro competitiveness can basically be enhanced by reducing costs or differentiating a product. The latter is central to our argument since differentiation is a product of talent, knowledge and innovation – mostly products of education. Education strengthens human capital, innovativeness and facilitates the transmission of knowledge by bolstering capacities for acquiring, absorbing and communicating knowledge.

1.2 Higher Education Systems and Graduate Employability

HE systems represent a link between research, industry and academia (Etzkowitz 2008). Their professional roles are often measured by indicators related to the number of enrolments, graduations (number of diplomas), employment of graduates, scientific excellence of academic staff and similar (Teichler 2009).

Yet these changes are being caught up in tensions between the *medium management cycle* (strategic planning, budgeting, transparency, academic responsibility, assessment) and the *long governance cycle* (state regulation, institutional university and campus management and department

academic management). All of them are increasingly exposed to cuts in public funding and growing enrolments.

If the key mission of HE systems is to prepare graduates for the world of work, the proper understanding of the determinants of graduates' career success is still a relatively under-researched topic. The determinants still to be explained can be classified in two broad typological categories:

- *determinants of career development under the "influence" of HE institutions* (study programme characteristics, teaching and learning modes, selection processes, cooperation with industry sectors); and
- *determinants external to the "influence" of HE institutions* (economic cycles and related prestige of study programmes, socio-biographic characteristics of students and their out-of-university work and learning experiences, national and globalisation trends).

From the macroeconomic perspective education contributes to economic development by enhancing productivity, helping introduce better products and services and by strengthening innovation capacities and the utilisation and transmission of information and new technologies (Hanushek and Woessmann 2007: 20). HE systems are expected to prepare graduates for professional tasks and to ensure they are able to:

- *think critically and make judgments* about the barrage of information they are subjected to every day. Critical thinking empowers people to assess, analyse and evaluate the credibility, accuracy and value of information they receive;
- *solve complex, multidisciplinary, open-ended problems* which typically do not have a single right answer;
- *think creatively and entrepreneurially* (an entrepreneurial mindset – the ability to recognise and act on opportunities offered by the market);
- *communicate and collaborate with teams of people* across cultural, geographic and language boundaries to interact competently and respectfully with others; and
- *make innovative use of knowledge* to create new services, processes and products. The global marketplace rewards organisations that rapidly and routinely find better ways of doing things.

Such skills improve their employability which involves issues like curricula, learning and teaching modes, transfer from education to the labour market, skill and education matching. Most of these issues fall deeply into mainstream education question research agenda such as, for example, an educational orientation to providing general versus specific skills, country and sector/issues variations or evidence-based education developments.

Historically, the concept of employability has been discussed in relation to one's individual capabilities versus actual registered employment. This relates to employability as the skill and education matching problem entails how individual skills and systems address labour shortages or surpluses (Allen and Van der Velden 2001), including issues of a cognitive decline or obsolete skills. Employability can also be studied at the individual level (skills, qualifications, socio-biographic characteristics...) in relation to circumstances (access to resources, work culture, household circumstances...) or in the polarity between the employers' dimension versus the societal dimension.

2. METHOD

2.1. Competitiveness Indicators

Although academic motives are vital for the internationalisation of HE institutions, economic motives are even more important¹. The World Economic Forum (WEF 2010) has been studying the competitiveness of countries for three decades already is well aware of the implications of graduates' shorter timeframes for choices and actions in the labour market. The report conceptually builds on the

¹ Research in the case of Slovenia demonstrated that academic motives were the number one motive (56% of respondents, while economic motives scored 115%; Braček 2011, p. 243).

contention that competitive economies have been able to develop those areas of economic and social life that drive productivity enhancements and sustain high incomes. In this context competitiveness is defined as:

“... the set of institutions, policies, and factors that determines the level of productivity of a country. The level of productivity, in turn, sets the sustainable level of prosperity that can be earned by an economy. In other words, more competitive economies tend to be able to produce higher levels of income for their citizens” (WEF 2010 4).

It is on this basis that the WEF's Global Competitiveness Index (GCI) integrates the following areas (pillars) with distinctive national sub-indicators: *institutions, infrastructure, macroeconomic environment, health and primary education, post secondary education and training, market efficiency, labour markets, financial market development, market size and innovation.*

Following the limitations of the paper we aim to build the analysis on the overall aggregated competitiveness index (GCI) that integrates all of the above indicators.

2.2. Indicators of Higher Education Curricular Processes

One of the best known collections of indicators is prepared by the OECD in the Education at a Glance publication (see OECD 2011-). These indicators rely heavily on national censuses, meaning they acquire relatively limited information on the tacit dimensions of learning and employment. The report focuses on primary and secondary education, whereas the availability of data on tertiary education is much more limited. The report only provides data for OECD countries and hence many new EU member countries are not included. Therefore, we rely more on other research data looking in particular at graduates' employability.

The key data set in this paper was used by the REFLEX project and implemented by a survey in 2005 in 16 (mainly EU) countries, while the HEGESCO project extended the survey to four Eastern European countries and Turkey in 2008. Both projects addressed more than 120,000 students five years after graduation from the first and second Bologna cycles with an average net response rate of 31 percent. With approximately 400 items in the questionnaire the survey studied programme characteristics, students' learning modes within study programmes and, informally, students' behaviour, their transition and early career, the quality of their employment, acquired and required competencies as an outcome of their educational programme and job placement, the characteristics of graduates' jobs and organisations. The survey identified the main competencies employers require of HE graduates and the HE system's relative contribution to the development of these competencies.

Both surveys offered significant potential for identifying the factors relevant to countries' competitiveness. For this reason, a series of expert workshops was organised at the Faculty of Social Sciences (University of Ljubljana) in which globalisation and higher education experts identified the most pertinent factors that will be further surveyed in this paper. The rationale for their selection included the following arguments:

- *Low sensitivity to country differences, even though* individual countries' HE systems are generally hard to compare. The particular distinctive points relate to contrasts between the orientations of internal labour markets (ILM) and occupational labour markets (OLM) and employment protection legislation.
- *Relative resistance to institutional differences.* Following McCaffery (2010) HE institutions not only differ in their historical and cultural roots and *raison-d'être* but also in their teaching/research orientation as well as entrepreneurial and distance learning practices. More importantly, some universities have developed their own disciplinary priorities upon whose basis they build their marketing and finances.

- The final selection was made based on *conceptual considerations* between HE employability issues and competitiveness.

In line with the above mentioned criteria we conducted an expert workshop considering which aspects of higher education processes best correspond to a country's competitiveness. Following the conceptual premises we decided to select study programme dimensions as they are within the direct competence of the higher education area and strongly relate to employability. We added a fifth dimension – job search duration– which largely places an HE institution in relation to the world of work and hence describes the adaptation of its education to labour market demands. The selected measures are related to the following assessments of graduates five years after graduation: a) how demanding the programme was; b) the workload in hours per week; c) the vocational orientation of the study programme; d) the practical orientation of the programme; and e) job search duration after study². Our objective was not to create a single index but to explore each variable of HE in relation to competitiveness separately.

2.3. Research Model and Hypothesis

Past and ongoing research (see CHEERS 1988/2012-; REFLEX 2004/2012-; DEHEMS 2009/2012-) has already compared differences and similarities among European countries in terms of employability and education systems. Some of these surveys paid particular attention to employment protection legislation contrasting countries' internal labour markets (ILM) with their occupational labour markets (OLM) or the production approach vs. the training approach (Robert 2009: 57). Our paper takes a different perspective placing HE processes in relation to countries' overall competitiveness.

On the operational level it studies the relationship between the Global Competitiveness Index (GCI), four characteristics of HE processes and one concerning the transition between education and the labour market.

The model assumes that compared to the less competitive European countries in our sample the more competitive ones have HE systems with: (a) more demanding study programmes; (b) programmes that give students a higher workload in terms of study hours³; (c) a stronger vocational orientation of study programmes; (d) programmes that are more labour-market-oriented; and (e) a shorter transfer from education to the labour market.

3. FINDINGS

3.1. Competitiveness and Job Search Duration

First, we studied how countries' competitiveness is linked to HE graduates search duration since job search is an important indicator of the success of an HE system, signalling the extent to which a university provides readymade skills for the labour market (Robert 2009). We assume that if the search period is short the competencies acquired at the university are more instrumental for employers' demands, and so its students are more competitive in the labour market. Consequently, they can also enhance competitiveness earlier and better. There is therefore a negative correlation between job search duration and countries' competitiveness: the shorter the job search – the more competitive a country is. Of course, other factors also have an impact on such a relationship. One is the fact that competitive countries usually demonstrate higher growth rates which in themselves allow greater possibilities for jobs. The causal relations can therefore work in both directions.

² Variables were measured on a five-level scale with answers from 1 = "Not at all" to 5 = "Completely" (small variations in scale occurred in relation to the surveyed topic).

³ One of the considerations developed in the HEGESCO project was that workload in study hours is clearly different from study requirements.

For some students the job search process already starts during their HE studies. In Norway and Switzerland, for example, more than half of all students start searching for a job during their studies, while in Turkey and Spain only one out of 10 students does this. Frequently, the top avenues for job searching were family and friends, direct contact with employers, advertisements in newspapers and on the Internet, although the variations were significant across countries and fields of study (see HEGESCO). The average job search duration for most EU countries was between 1 and 4 months:

- a) The shortest average job search was reported in Norway (1 month); the Netherlands (1.1 months), Germany and Switzerland (1.6 months) – these all being highly competitive countries
- b) The longest average job search duration was reported in Turkey (6.8 months), Spain (4.4 months) and Slovenia (3.8 months) – countries with low competitiveness scores.

Where searching for a job is expected to take longer than average this does not stimulate graduates to start looking for a job already during their studies, but the contrary (Allen *et al.* 2011-). There is a strong negative link between how long graduates search for a job and countries' competitiveness (Spearman's coefficient is -0.791, significant at a risk level of 0.01). Graduates in the most competitive EU countries have the shortest job search duration while those in less competitive countries have the longest.

3.2. Competitiveness and Practical Orientation of Study Programmes

EU policies on HE modernisation indicate the need to strengthen the practical orientation of HE. This is related to various teaching characteristics such as problem-based learning or ensuring work placements or internships. We posit that countries whose study programmes have a stronger practical orientation train graduates who are more able to improve their country's competitiveness at least in the short run. We found evidence of a positive correlation between both dimensions (Spearman's coefficient of 0.506 was found to be significant at the 0.05 level). Countries that have developed more practical-knowledge-oriented HE programmes are on average more competitive (France, Netherlands, UK, Finland, Belgium or Norway), while on the other hand countries such as Turkey, Lithuania or Slovenia whose HE programmes are generally less practical in orientation are less competitive.

3.3. Competitiveness and Workload in Hours

The number of hours students spend on their studies is an objective way of looking at the scope of potential competencies students can gain. It is assumed that the more hours they spend studying the stronger their competencies, assuming that all those entering universities possess a good basis for upgrading their competencies. Students' average weekly study hours vary significantly across EU countries, ranging from France, Portugal and Switzerland (approximately 40 hours per week) to Slovenia and Turkey (approximately 23 hours). We detected a tentative, albeit statistically insignificant, correlation with country competitiveness (Spearman's coefficient is 0.357) which could indicate not only the quantity but also the quality and relevance of training for enhancing competitiveness.

The trend ranges from less competitive countries such as Turkey and Slovenia where students spend fewer hours on their studies to France, Germany and Switzerland which are characterised by a large number of study hours and a more competitive environment. Outliers to this rule are less competitive countries such as Portugal, Spain and Italy where students spend a lot of time at universities but their countries are not very competitive. Comparing work load with the demandingness of programmes we can see that such a workload is also related to the demands put on students by their universities (Spearman's coefficient 0.514, significant at a risk level of 0.05).

3.4. Competitiveness and Programme Requirements

Every second EU graduate reported they had experienced a study programme that was generally regarded as demanding (REFLEX and HEGESCO data), particularly in engineering (60 percent for a first-level programme and 74 percent for a second-level programme). The smallest proportion of graduates reporting demanding study programmes was seen in education (37 percent for a first-level programme and 64 percent for a second-level programme). While the REFLEX and HEGESCO surveys found some evidence that more demanding studies contribute to the development of competencies, we found no robust evidence that this could be related to country competitiveness.

3.5. Competitiveness and the Vocational Orientation of Study Programmes

We also assumed that the practical orientation of study programmes, namely more vocational training, would also stimulate countries' competitiveness. The rationale for this is based on the fact that HE systems with a vocational orientation require strong links with employers. In Europe, on average 47 percent of undergraduate-level graduates reported their study was vocationally oriented, and only 37 percent at the graduate level. Health and welfare studies are the most vocationally oriented (53 percent) while the social sciences are the least (23 percent). Surprisingly, we found no such correlation between the vocational orientation of study programmes and national competitiveness. However, we did find, similarly to the assessment of study demands, a specific country clustering (see the next section).

3.6. Country Clustering

Earlier we studied how competitiveness is related to the general characteristics of HE study programmes (programme requirements, the practical orientation of study programmes, vocational orientation, weekly workload in hours and job search duration). In two cases we, rather than a casual relation, detected country typologies indicating that some countries can be highly competitive but have a low indication of a quality HE system, or vice versa. To study the subject in detail we clustered 'countries' (using Wards' cluster analysis) to identify general similarities and differences among studied groups of countries for all five dimensions. The results of the country clusters (average values) are presented in Table 1.

Table 1: Country groups (five cluster solutions) for general competitiveness and higher education system characteristics*

Cluster	Countries	Global Competitiveness Index	Percentage of graduates who assessed their study programme as demanding	Percentage of graduates who assessed the vocational scope of their HE programme as high	Percentage of graduates who assessed their study programme as offering practical knowledge to a high extent	Average study workload per week (in hours)	Average job search (in months)
1	E, IT, PT, HU, CZ, LT	4.4	62.2	43.6	32.1	33.9	2.9
2	AT, BE, DE, CH, FR, UK	5.3	61.3	30.5	42.2	36.5	1.9
3	FI, NL, NO	5.3	45.7	60.1	47.8	33.2	1.3
4	EE, PL	4.6	36.6	31.8	41.0	28.5	2.1
5	SI, TR	4.3	50.9	41.8	28.8	22.9	5.3
	Total	4.8	55.4	40.6	38.4	32.9	2.5

* Average country cluster values are presented.

As Table 1 shows, the typology indicates five cluster solutions. The *first group* contains three Southern European countries (Spain, Italy and Portugal) and three Central European countries (Hungary, Czech Republic and Lithuania). These countries are characterised by low competitiveness potential but have an HE system that is characterised by a demanding study programme and at the same time requires students to put in comparatively more study hours. Their programmes on average lack a practical orientation and vocational scope.

The second group encompasses six Western European countries: Austria, Belgium, Germany, Switzerland, France and the UK. These countries are highly competitive and on average have the most demanding study programmes with the longest study requirements among all five groups. However, the average practical and vocational scope of the HE studies in these countries is comparatively low, which might be a pitfall compared to the other country clusters. *The third group* of two Nordic countries, Norway and Finland, and the Netherlands is also characterised by the highest level of competitiveness, and an HE system with the strongest practical and vocational scope, although their study requirements are apparently lower than for the first and second groups. In accordance with their practical and vocational orientation, graduates in these three countries have the shortest transition periods from education to the labour market.

The fourth cluster is represented by Estonia and Poland. Graduates in these two countries reported having an HE system with low requirements and a small workload and, similarly to the second cluster, a low vocational scope. However, the practical orientation of the study programmes in these two countries is not the lowest and the transition from education to the labour market is also similar to Western European countries.

The fifth cluster includes Slovenia and Turkey. Among the five clusters, these two countries are the lowest in competitiveness with the smallest study workload and practical knowledge, although they are characterised by a somewhat average vocational scope and study requirements. Both countries are strongly characterised by the longest job searches, more than twice as long as for the other countries.

4. DISCUSSION AND RESULTS

The impact of education on individual and social well-being has a long tradition in economic and sociological research. However, only a few studies have evaluated the dimensions of education processes and training processes in relation to competitiveness. This was the goal of our paper. It started with the general hypothesis that more competitive national countries have developed more practical, efficient and demanding HE systems (study hours and demands). The efficiency of HE systems in Europe was related to HE processes that strengthen graduates' employability.

Following a series of our own interdisciplinary workshops four employability indicators under the direct influence of the HE curriculum were identified (demanding study, workload, practical orientation of the study programme and its vocational scope) and, lastly, job search duration. We studied how these indicators are related to country competitiveness. The main conclusions of our research are as follows:

First, we found an indication that the HE systems of more competitive countries have more practically oriented HE studies that also impose a higher workload on students (the latter only with an indicative correlation). The dimensions of practically oriented studies and relevant work experience and a higher workload proved in previous studies (Allen *et al.*, 2011) to have a positive effect on the level of competencies acquired.

Second, we surprisingly did not find any evidence that countries with more demanding HE programmes and programmes with a stronger vocational focus are correlated with competitiveness.

Third, the strongest correlation with competitiveness was found with study job search duration.

Fourth, by using Ward's method we identified five country clusters indicating different combinations of country competitiveness and other characteristics of HE systems and employability determinants. We identified different combinations between country competitiveness and the particularities of the HE systems.

In a nutshell, we can see how complex HE systems are when observed from the aspect of traits that are presumably related to country competitiveness. We left the question of the causal direction between country competitiveness and HE system characteristics open. However, what we did find is that the most competitive countries have developed several virtues of HE systems: for example, Western EU countries put high demands on their students (in study hours and demands), while Nordic countries and the Netherlands stand out for their vocational scope and practical orientation.

Countries that are less competitive can broadly be divided into two groups. The group whose HE systems have at least a few comparative virtues (e.g. high requirements of students) and the group without (almost) any EU comparative virtue such as Slovenia and Turkey. It seems that in such countries the burden of developing professional competencies is transposed to students and employers after the students finish their studies.

Finally, we can conclude that in the coming decade of economic downturn public and policy interest in HE research will continue to follow employability issues. Even though this concept is clearly multidimensional, it will be increasingly determined by higher education's potential to develop competencies. Hence, HE systems' contributions to enhanced competitiveness might come under increasing scrutiny.

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Genişletilmiş Özet

Eğitimin kişiler ve toplum üzerine olan olumlu etkisi uzun zamandan beri ekonomik ve sosyolojik araştırmalara konu olmuştur. Ancak, eğitim ve öğretim süreçlerinin rekabet gücü ile ilişkisini değerlendiren çalışmaların sayısı çok azdır. Bu makale bu amaca yönelik hazırlanmış olup, ulusal öğretim sistemlerinin Avrupa'nın rekabet edebilme gücü ile olan ilgisi çalışılmıştır. Araştırmada, rekabet gücü daha yüksek olan ülkelerin iş dünyasının ihtiyaçlarına göre yapılmış yükseköğretim sistemine sahip olmalarından dolayı, verdikleri mezunların daha kısa sürede istihdam olanağı bulup bulmadıklarını incelenmektedir.

Makalede ilk olarak sosyal ve ekonomik açıdan rekabet gücü ve buradan hareketle rekabet gücünün yükseköğretim sistemlerine ilgisi olup olmayacağı kısaca incelenmiştir. İkinci bölümde istihdam edilebilirlik, yükseköğretim sistemlerinin (tahminen) son yıllarda genç profesyonellerin ve ülkelerin rekabet edebilirliğini desteklemek için geliştirilmiş olan karakteristiklerini açıklamak için ana kavram olarak ele alınmıştır. Makalenin üçüncü bölümünde ise iki uluslararası veri tabanı temel alınarak araştırma modelimiz kurulmuş ve denenmiştir; bu iki veri tabanından ilkinin 19 ülkedeki 45.000 yükseköğretim mezunu ile mezuniyetlerinden 5 yıl sonra yapılan anket sonuçları oluşturmakta olup bu verilerden 5 tane istihdam göstergesi (zor program,iş yükü,programın uygulama ağırlıklı olması, mesleki eğitim ağırlıklı olması ve iş arama süresi) geliştirilmiştir. Diğer veri tabanını Dünya ekonomik forumu göstergeleri oluşturmaktadır. Birinci gruptaki 5 gösterge ikinci gruptaki göstergelerle birleştirilerek analiz edilmiştir.

Araştırma uygulama ağırlıklı eğitim ile daha fazla işyükü (çalışma) isteyen programlara sahip yükseköğretim sistemleri geliştiren ülkelerin yüksek rekabet gücüne sahip ülkeler olduğunu gösteren kanıtlar bulmuştur.

İlk olarak, rekabet gücü yüksek olan ülkelerin uygulama ağırlıklı ve aynı zamanda daha fazla işyükü (çalışma) isteyen (bu ikinci özellik sadece ipucu veren korelasyona sahip idi) yükseköğretim programlarına sahip olduğuna dair bulguya ulaştık. İkinci olarak, beklenmedik bir şekilde, daha zor olarak kabul edilen yükseköğretim programları ile mesleki ağırlıklı programlara sahip ülkelerde rekabet gücünün korelasyonuna dair herhangi bir delil bulamadık. Üçüncü olarak ise, Ward'ın metodunu kullanarak, ülkenin rekabet gücü ve yükseköğretim sistemi karakteristikleri ile istihdam determinantlarının değişik kombinasyonlarını gösteren 5 ülke grubu tespit ettik.

Birinci grup 3 güney Avrupa ülkesi (İspanya, İtalya ve Portekiz) ile 3 orta Avrupa ülkesini (Macaristan, Çek Cumhuriyeti ve Litvanya) içermektedir. Bu ülkeler düşük rekabet gücü potansiyeline fakat zor eğitim programlarına ve aynı zamanda öğrencilerinden okulda daha fazla çalışma isteyen programlara sahip yükseköğretim sistemine sahip ülkelerdir. Genel olarak bu ülkelerin programları uygulamalar ve mesleki ağırlık taşımazlar.

İkinci grup 6 batı Avrupa ülkesini içerir: Avusturya, Belçika, Almanya, İsviçre, Fransa ve birleşik Krallık. Bu ülkeler yüksek rekabet gücüne sahiptir ve ortalama olarak 5 grup ülke içine en uzun eğitim süresine sahip en zor programların olduğu ülkelerdir. Ancak, yükseköğretim programlarının uygulama ve mesleki kapsamı bu ülkelerde göreceli olarak düşüktür ki bu özellik diğer ülkelerle karşılaştırıldığında gizli bir tehlike olabilir.

Üçüncü grup iki kuzey ülkesi, Norveç ve Finlandiya ile Hollanda'dan oluşmaktadır. Bu ülkeler yüksek rekabet gücü ve uygulama ağırlıklı ve mesleki kapsamlı en güçlü olan yükseköğretim sistemleri ile karakterizedir. Bunun yanı sıra bu ülkelerin eğitim programlarının bir özelliği kolay

mezuniyet şartlarına sahip olmalarıdır ve bu şartlar birinci ve ikinci grup ülkelerdekilerden daha kolaydır. Programların Uygulama ve mesleki eğitim ağırlıklı olmasıyla uyumlu olarak bu ülke mezunları eğitimden iş dünyasına geçmede en kısa geçiş dönemine sahiptir.

Dördüncü grup ülkeyi Estonya ve Polonya'dan oluşmaktadır. Bu ülkelerde mezunlar daha kolay mezuniyet şartları ile daha az işyükü isteyen ve ikinci grup ülkeler gibi daha az mesleki ağırlığa sahip yükseköğretim sistemlerine sahiptir. Ancak, bu iki ülkede programların uygulama komponentleri en düşük değildir ve eğitimden iş dünyasına geçiş batı Avrupa ülkeleri ile aynıdır.

Beşinci grupta Slovenya ve Türkiye yer almaktadır. 5 grup arasında bu iki ülke rekabet gücü en düşük olanlardır ve yükseköğretim programları orta düzeyde mesleki ağırlık ve mezuniyet şartlarına sahip olmasına rağmen en düşük işyüküne ve uygulamaya sahiptir. Her iki ülke en uzun iş arama sürelerine sahiptir ve bu süre diğer ülkelerdekine oranla iki kattan fazladır.

Sonuç olarak şunu söyleyebiliriz ki önümüzdeki 10 yıldaki ekonomik düşüşle yükseköğretim araştırmalarına olan politik ve toplumsal ilgi istihdam sorunlarının izlenmesi şeklinde devam edecektir. İstihdam edilebilirlik kavramı çok boyutlu olmasına rağmen, yükseköğretim sistemlerinin rekabet gücü artışına katkıları araştırmalarda artışa neden olabilecektir.
