EFFECTS OF HIGHER EDUCATION ON GLOBAL COMPETITIVENESS:
REVIEWS IN RELATION WITH EUROPEAN COUNTRIES AND THE
MIDDLE EAST COUNTRIES

HILAL YILDIRIR KESER
PhD., LECTURER
ULUDAG UNIVERSITY, VOCATIONAL SCHOOL OF SOCIAL SCIENCES, TURKEY
hilalyildirir@uludag.edu.tr

Abstract
The aim of this study is investigate the effects of higher education on global competitiveness. One of the most
widely accepted definition of global competitiveness is in the form of "efficiency level encompassing all of the
institutions that will ensure sustainable growth in a country, policies and factors of production". Therefore the
competitiveness of a country depends on the factors such as: The level of development of R & D activities and
productivity, performance of various sectors, the country's trade surplus, producing goods hosting high-tech in their
nature, availability of expert and skilled labor force. But one of the main points in the realization of these factors is the
quality of the higher education. Higher education has an important role in the formation of qualified labour. And the
qualified labour carries the competitiveness firstly of the sector and then of the country up to higher ranks by
increasing the performance and productivity of the companies. The study will be discussed in the following way:
firstly the context of the global competitiveness will be mentioned, secondly, the role and importance of higher education will
be put forth by explaining the basic determinants of competitiveness particularly within the World Economic Forum
Global Competitiveness Index. Finally, assessments will be made in relation with the situation of higher education in
global competitiveness in European countries and Middle Eastern countries.

Keywords: Higher Education, Competitiveness, Economic Development

Clasificare JEL: F63, I25

1. Introduction
In the globalizing world, having a competitive power at an international level is very important both for
developing and developed countries. There are various pillars setting the competition power of the companies. World
Economic Forum (WEF) is classifying these pillars under 12 titles. These are institutions, infrastructure,
macroeconomic stability, health, primary education, higher education and vocational education, the efficiency of the
output market, efficiency of the labour market, diversity of the financial markets, technological infrastructure, market
size, operation diversity and innovation. Each of the components has a different importance and they are in interaction
with one another. Among these, higher education and training pillars, are particularly important at the point of
increasing company productivity in terms of competition power.

The main aim of the study is the examination and manifestation of the competitive power of higher education
and training in Europe and the Middle East, in Global Competitiveness Index (GCI) published by the WEF every year.
In this context, firstly the creative effect of higher education will be explained by identifying the competitive power,
Afterwards, the comparision of the countries will be realized by referring GCI and its main pillars, higher education
and training, and their subcomponents.

2. Global Competitiveness and Higher Education
In order to provide an advantage in competitiveness and maintain it, it is possible to train individuals to
produce and use knowledge and technology. At that point, higher education aiming to provide efficiency by getting the
work force to gain qualifications, has been an important factor to obtain competitiveness in the recent years (Yildiz and
2.1. Competitiveness and Its Scope

There are various identifications on competitiveness. According to the identification of OECD, competitiveness is identified as “the ability of a country to produce suitable goods and services in open market conditions, as well as its degree of correcting and increasing the income of the citizens in the long run”. OECD also expresses that there is a connection between the competitiveness and import and export power of a country (Çakır and Civan, 2002: 67).

European Commission identifies competitiveness as a country’s providing sustainable high living standards at the lowest unemployment rate possible. Countries are able to raise their level of welfare, by increasing their proficiency at the products, at which they are very productive, and productivity. Accordingly, some solutions must be found for the problem about how to create the necessary conditions for the increase in the rapid and sustainable productivity which can create competitiveness (Akal and others, 2012: 110).

World Economic Forum, on the other hand, identifies the competitiveness as the ability of the settled operations in a country to sell the products and services they have produced to the international markets in a way that can make an increase in the living standards of all the citizens (Ulengin and others, 2011: 12).

According to the different identifications made for the competitiveness, some distinct features of competitiveness may be listed as follows:

i. The main objective of having competitiveness is increasing the life standards and welfare of the citizens.

ii. In order for a country to compete with the others, it must know its distinctive abilities and potentials and focus on them.

iii. When competitiveness of a country is probed, a lot of different indicators, such as international share rate, productivity, employment, level of technology, are faced (Çetinkaya, 2005: 31).

Competitiveness of a country shows the level of the life standards reached. Since life standards, which are the indicators of welfare level, depend mostly on their productivity, the point at which the competitiveness based is productivity (Turpanç and Duman, 2014: 3). The effect of productivity on welfare increase is accepted by everybody. A healthy growth is only possible both in the base of the national economy and businesses with an increase in the productivity. One of the most important factors which provides productivity is the qualified workforce. What constitutes qualification is the quality of education and particularly higher education and training (Hokka Gökdemir, 2011:12).

2.2. Higher Education and Competitiveness

The most important factor of the globalization process is expressed as knowledge. Knowledge becomes a propulsive force in the process of creating technology and providing sustainable development and affect the competitiveness of countries directly. For this reason, knowledge strengthens change by being transferred to technology and provides competitive advantage to companies which can manage this process. In every respect of the knowledge age, the pursuit of the innovation and realization of economic development depends on the work force having received a qualified education (Ekinci, 2006:54).

Higher education is of crucial importance on development of production systems, implementation of new technologies and management systems at the point where strategical decisions are taken in a country. In today’s globalizing world, particularly, training specialized workforce, who is able to be adapted to the changing needs of the production system by receiving higher and vocational education, is important for increasing competitiveness (Sala-i-Martin and others, 2014: 7).

Bauk and Jusufranic (2014) and Bloom and others. (2006), has explained the effect of the higher education to competitiveness with the conceptual structure which is seen in Figure 1. According to this, higher education creates workforce both over private sector and public force. From the point of public sector, quantity and quality of higher education affect the productivity of both the individuals and companies and institutions. Increase in the productivity, by causing competitiveness to accelerate, is beneficial for the consumer in terms of quality, cheap and diverse range of goods production and it also protects the boom in the market. The best way to provide these conditions and protect their sustainability is improving entrepreneurship (Güner, 2010:10). Accordingly, productivity increase the tendency for entrepreneurship and creates new business opportunities with specialisation in production areas. In this way, an increase in the employment contribute to the economic growth (Altunetepe and Güner, 2013:74; Saygılı and others., 2002:83).

Higher education creates competitiveness over public sector as well. Higher education leads research and development activities, supporting the occurrence of the production and management systems which are compliant to the technology. In the long run, research and development expenditures affect the economic and social development positively by creating an incentive effect on foreign investment. Social progress includes areas like health, education, infrastructure, urbanization, environmental issues in a country, which are realized for the improvement of social conditions and whose service functions dominate (Tolunay and Akyol, 2006:119). Besides, foreign investments create
The fact that higher education affects economic development over private and public sectors causes a reduction in poverty by means of a sustainable income increase. By this way, higher living standards and competitiveness in the country reach to the higher levels. With an increase in competitiveness, spendings for higher education soar and in order for the competitiveness to reach to the upper levels, the cycle in Figure 1 proceeds (Bauk and Jusufranic, 2014:26-27).

3. Higher Education In The Global Competitiveness Index

The competition environment having been increased in the recent years, makes it necessary to follow the indicators about competitiveness closely and some studies about setting competitiveness have been started. The indexes consisting of various economic and social indicators have become one of those which informs about the position of the countries among other world economies.

There are three indexes developed by three institutions showing the datum on competitiveness of countries, and setting targets for setting strategies by enabling these datum to be compared. These are:

i. National Competitiveness Research done by Institute of Industrial Policy Studies (IPS)
ii. World Competitiveness Yearbook done by International Management Development (IMD)
iii. Global Competitiveness Index (GCI) done by the World Economic Forum (WEF)

From these three important indexes about the competitiveness of world countries, Global Competitiveness Index done by the World Economic Forum, preferred more frequently in academic studies and private sector. The fact that the number of the countries is high in the scope of the index and its theoretical framework is continuously being updated causes this index to be preferable. There are 144 countries in the latest Global Competitiveness Index.

WEF has been publishing its GCI, in which it has ranked the countries according to their competitivenesses, since 1979. This index, helps explaining the main factors of the economic growth and the facts lie behind success of some countries who manage to increase their economic growth. It also gives ideas to politics performers and managers in the business world about the instruments necessary for the for a developed economy (Ovalı, 2014: 19).

For the calculation of the GCI, about 20,000 datum are used. Some parts of the datum are obtained from national statistic units, agencies, ministries, intitutions with which World Economic Forun cooperate, Economist Intelligence Unit, IMF and some institutions and foundations such as regional development banks. For instance, all of the macroeconomic datum are obtained from the World Economic Outlook of the IMF. In this way, the datum which have been obtained in the international area, with a common system are used. Apart from these, when datum are not able to be obtained from the institutions and foundations globally, they are derived from the varied surveys done by the World Economic Forum (Turpançı and Duman, 2014:13).

WEF bases its competitiveness rank on GCI. GCI, which has a very extensive structure to analyze microeconomic and macroeconomic situation in the area of national competitiveness, is calculated by the weighted
average of the quite a few number of pillars. The pillars in question identify what the main pillar on which the competitiveness depend on and their properties in this context (Ulengin and others, 2011: 17)

12 pillars in the scope of GCI may be stated as follows;
1. Institutions
2. Infrastructure
3. Macroeconomic Stability
4. Health and primary education
5. Higher Education and Training
6. Goods Market Efficiency
7. Labour Market Efficiency
8. Financial Market Sophistication
9. Technological Readiness
10. Market Size
11. Business Sophistication
12. Innovation (Sala-i-Martin and others., 2014: 4-8)

Although the pillars in the scope of GCI are valid for all countries, they affect each country in a different way. For instance, the way to be followed in Colombia to increase competitiveness will not be as the one in France. Since development level of each country is different, the pillars to create competitiveness will be different (Sala-i-Martin, and others., 2014: 9)

There are three main development stages in the scope of the GCI. These stages are named as factor driven stage, efficiency driven stage and innovation-driven stages. For each developmental stage, pillars to create competitiveness for each developmental stage differs.

The first stage is defined as factor driven stage and countries compete depending on their factor resources (mainly unqualified workforce and natural resources). Companies sell basic products because of the weak productivity which is the reflection of low wages and compete on price basis. Institutions which are at the first four ranks of the pillars create competitiveness for the countries whose infrastructure, macroeconomic stability, health and primary education are at the level mentioned.

At the second stage productivity increases, and so as the wages, as a result of the soar in the development. Afterwards, the countries pass into efficiency driven stage. At that point, competitiveness is increasingly improved with higher training and education, efficient good markets, well running labour markets, finance markets and a wide domestic and foreign market.

Finally, countries pass into the innovation driven stage. At this stage, companies have to compete by directing into innovation, using the most developed production process and producing new and different products (Turpantı and Duman, 2014: 5-9; Sala-i-Martin, and others., 2014: 8). Figure 2, shows the pillars to improve the competitiveness according to developmental stages.

Figure No.2 : The Global Competitiveness Index Framework

Source: Sala-i-Martin and others., 2014: 9
Higher education which is the focal of the study exists with the name of higher education and vocational and as the fifth pillar in GCI. This pillar takes the application level of high and higher education institution into consideration. It also makes the measurement of how trained the workforce is for the demands of the business world (Ulengin and others., 2011:19)

Subindex is set in the measurement about the higher education and vocational education. These are called quantity of education, quality of education and on-the-job training. Table 1 shows the subindexes.

Table No.1: Pillar of Higher Education and Training

<table>
<thead>
<tr>
<th>5th pillar: Higher education and training;</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Quantity of education</td>
</tr>
<tr>
<td>5.01 Secondary education enrollment rate</td>
</tr>
<tr>
<td>5.02 Tertiary education enrollment rate</td>
</tr>
<tr>
<td>B. Quality of education</td>
</tr>
<tr>
<td>5.03 Quality of the education system</td>
</tr>
<tr>
<td>5.04 Quality of math and science education</td>
</tr>
<tr>
<td>5.05 Quality of management schools</td>
</tr>
<tr>
<td>5.06 Internet access in schools</td>
</tr>
<tr>
<td>C. On-the-job training</td>
</tr>
<tr>
<td>5.07 Local availability of specialized research and training services</td>
</tr>
<tr>
<td>5.08 Extent of staff training</td>
</tr>
</tbody>
</table>

Source: Sala-i-Martin and others., 2014: 50

The most important fact setting competitiveness in higher education is the quantity of it. While setting the quantity of higher education, registers at universities, which are higher education institutions are based on. Yet, to create competitiveness, quantity is not enough on its own and the registered students are supposed to graduate and be employed in their training areas. Besides, for the sustainability of competitiveness both the trainings of the ones who have been employed and and providing vocational education for public to contribute into the employment are of crucial importance.

4. The Situation Of European Countries And Middle East Countries In Global Competitiveness Index In Terms Of Higher Education

In the last Global Competitiveness Report published by WEF, in the course of 2014-2015, among the 144 countries evaluated, Switzerland, Singapore, The USA were ranked as the first, second and the third countries, respectively, followed by Finland, Germany, Japan, Hong Kong, the Netherlands, England and Sweden. Among the first 10 countries, the biggest fall is realized by Sweden, which drops to the 10th place. Japan goes up for three places to the sixth position, whereas England is ninth by going up one place. Singapore being in the first place, Asian countries consisting of Hong Kong, Japan, Taiwan and China are among the first twenty countries.

When the results are considered in terms of Higher Education and Training (HET), the most competitive counties among 144 countries are Finland, Singapore, Netherlands, Switzerland, Belgium, United Arab Emirates, United States, Norway, New Zealand and Denmark respectively. The GCI ranks and values of these countries are as shown in Table.2
When competitiveness evaluated in terms of higher education and training (HET) evaluated with regards to Europe and Middle East, North Africa and Pakistan country groups, it is seen that European countries have a higher level of competitiveness. The main reason for this may be stated as the more money is spent on HET in developed countries and higher education has been existing in the development plan for a long time. As it is seen, while an important part of the European countries are in innovation-driven stage, only one of the Middle-Eastern countries meets this criteria.

Table No.3: Development Stages of Europe and Middle East, North Africa and Pakistan Country Group

<table>
<thead>
<tr>
<th>Stage 1 Factor-driven</th>
<th>Transition from stage 1 to stage 2</th>
<th>Stage 2: Efficiency-driven</th>
<th>Transition from stage 2 to stage 3</th>
<th>Stage 3: Innovation-driven</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle East North Africa and Pakistan</td>
<td>Yemen</td>
<td>Algeria Iran Islamic Rep. Kuwait Libya Saudi Arabia</td>
<td>Egypt Jordan Morocco Tunisia</td>
<td>Bahrain Lebanon Oman United Arab Emirates</td>
</tr>
<tr>
<td>European Countries (EU28)</td>
<td></td>
<td>Bulgaria Romania</td>
<td>Croatia Hungary Latvia Lithuania Poland</td>
<td>Austria Belgium Cyprus Czech Republic Denmark Estonia Finland France Germany Greece Ireland Italy Luxembourg Malta Netherlands Portugal Slovak Republic Slovenia Spain Sweden United Kingdom</td>
</tr>
</tbody>
</table>
HET competitiveness increases as skipping into the innovation driven space. As it is seen in graphic 1, HET competitiveness is low in the factor driven stage. Yet, since HET is the main propellant power at the efficiency driven development stage, higher education is given more importance. For this reason, competitiveness of the countries at this stage and beyond must be higher.

Graphic No.1 : HET According to Developmental Stages (2014)

Source: WEF, Global Competitiveness Index Dataset, 2014-2015

When HET competitiveness evaluated on a country basis, the group which Middle Eastern countries are in appears to be below the average value and European Countries are close to the average level. In the developed countries, competitiveness index value is seen to be high because of the importance given to the higher education.

Graphic No.2: Higher Education and Training According to the Country Groups

Source: WEF, Global Competitiveness Index Dataset, 2014-2015

On the basis of the EU countries (EU28) and Middle Eastern countries, the value of competitiveness index value is shown in Graphic 3 and Graphic 4. According to the graphics, Finland, Netherlands, Belgium, Denmark are Sweden are heading the countries whose competitiveness ar at the highest level.
Finland, which is at the first position in competitiveness, higher education system is given particular importance. In the current situation, higher education is offered through 20 universities and 29 polytechnic schools (applied sciences universities). At all universities there are continuing education centres where vocational education is given.

In Finland, “life long learning” is adopted as the most important principle of the education. Teachers follow learning techniques developing continuously through in service training. In this way, not only an effective education is realized for students and but also the quality of education is improved.

In Finland, higher education institutions are compliant with the international system and most of the classes are given in English with country’s prestige in the education area. This situation interests more and more students every year. Besides, the fact that Center for International Mobility (CIMO), a public institution, which supports international mobility in the field of youth and culture, and other foundations provide scholarships for post graduate and research studies makes higher education attractive in Finland. (http://www.academix.com.tr/makaleler/dogu-ile-batinin-arasinda-bir-iskandinav-ulkesi.aspx)

When HET values of Middle East countries are considered, United Arab Emirates is seen to have the highest competitiveness followed by Israel, Qatar, Jordan and Turkey respectively.
The United Arab Emirates (The UAE) has shown a considerable in the HET competitiveness rank in recent years. In its Vision 2021 strategy, where economic development targets are set by using the power of knowledge, higher education is of crucial importance. UAE government states that knowledge is the most important factor to compete globally and in order to realize a sustainable economic development, knowledge is the most important fact and productivity will increase only with the knowledge oriented strategies. Higher education, on the other hand, is a lifeblood factor for knowledge economies. In this context, in the UAE, education opportunities are increased considerably and higher education, to increase qualified workforce, has been started to publicly invested gradually. UAE goverment is directed to the implementations by which higher education is realized in the world standards according to the needs of the private sector, and accordingly, employment and welfare are increased (ECC, 2014: 1-6). As a result, a considerable competitiveness is started to be obtained in higher education. Graphic 5 shows the progress of HET competitiveness change in years.

Graphic No.5: Higher Education and Training Competitiveness of UAE (2006-2014)

In UAE, which experiences a changeover to knowledge based economy in the last ten years, a considerable amount of increase is seen in the higher school programmes offering students education opportunities. A great majority of the international students are from USA, France, Canada, Australia and India. Besides, the fact that international universities have branches in the country makes the higher education stronger.

One of the most important points of HET’s bringing competitiveness is that it must be improved both in quality and quantity. Universities, increasing only in number and registered students are not enough to gain competitiveness. Unless, education meeting the private sector’s expectations and are compliant with improving technology, it is not possible to create qualified workforce. For this reason, the balance between quantity and quality must be formed accurately.

5. Conclusion

Competitiveness, which has become a primary concern in the globalizing world, turned out to be the most important indicator of the countries’ international success. Among the plenty of definitions made on competitiveness, the most accepted one has been made by WEF. WEF defines competitiveness as being able to sell goods and services in international markets in a way that increase the living standards of the citizens living in the country. According to this, there are a lot of pillars affecting competitiveness. These may be listed as institutions, infrastructure, macroeconomic environment, health and primary education, higher education and vocational education, efficiency of the commodity market, development of financial markets, technological preparation, market size, labour market development and innovation. These pillars affect the competitiveness according to the developmental level of a country.

Welfare power is dependent on the welfare increase. Welfare, on the other hand, goes up directly proportional with productivity. Productivity with regards to national economy means “producing added-value”. The prior condition for being productive and productivity increase is trained workforce. People who have received a better education are prone to be adapting into learning new things, new production conditions, and accordingly to increasing productivity. Because of the direct proportion between education, learning capacity, and accordingly productivity increase, education is of crucial importance in the developed countries. That general and skill-oriented higher education and vocational
education are not at sufficient level is the biggest obstacle for realization of increase in productivity. As a result, welfare level increase at a slower rate and it takes longer to reach at the desired level of living standards.

WEF publishes “Global Competitiveness Report”, which shows competitiveness of countries, by taking plenty of parameters into consideration. The report shows the competitiveness rank for each pillar setting the competitiveness as well. The datum of competitiveness constituting the topic of the study is in the context of “HET- Higher Education and Training”, which is the fifth pillar.

In 2014, the countries having the highest competitiveness among 144 countries in the context of GCI are Finland, The Netherlands and Belgium. These countries are among the advanced EU28 economies, which are at the last stage of the development process. In these countries higher education is given of crucial importance. When Middle East countries are considered, UAE is by far the most advanced one in terms of HET. Policies followed by UAE in the recent years, cause HET competitiveness to increase. An important part of the Middle East is among the developed and developing countries. Accordingly, HET is of a crucial importance on to changeover to efficiency-driven development stage and complementation of this stage. The development of the higher and vocational education in both quality and quantity to meet the needs of the private sector will lead an increase in productivity and as a result, it will be possible for these countries to obtain more competitiveness.

6. Bibliography


