

The global demand for higher education in European countries

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Abstract

Adaptation to the European Higher Education Area has prompted European universities to concentrate on becoming more attractive to students, lecturers and researchers from different world regions. This paper analyses the places of origin of international university students in different European countries. The countries are shown in groups by their international students' places of origin. The groups of countries were formed by using a cluster analysis and, as classification variables, the percentage of foreign students from different world regions in each of the European countries. An ascending hierarchical procedure was used to form the groups and, as the distance metric, the squared Euclidean. The results indicate that it is possible to identify four groups of countries with different characteristics. Following the classification, the main differences between the groups of countries were analyzed. Observing the different groups obtained, the percentage of African and South American students is remarkable in the group of countries formed by France, Portugal and Spain. In contrast, the group of countries formed by Finland, Germany, Ireland, the United Kingdom, Turkey, Ukraine, Greece and the Russian Federation is distinctive for a high average percentage of Asian students. In the other two groups of countries, there is a considerable percentage of international European students.

Keywords: global demand, university students, place of origin, European countries.

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1. Introduction

Different authors have pointed out that hosting international students does not only bring economic benefits. Indeed, these students also make considerable contributions to university academic and cultural life (Chen, 2008; Lopez, Chousa, & Fernandez, Chousa, Castro & Fernandez, 2000; Kinnell, 1989; Knight, 1999; Throsby, 1991; Throsby, 1998). Efforts are being made across the world to attract international students due to the economic and cultural resources they bring. In some cases, they also make universities more attractive to students from the host country itself.

According to Shanka, Quintal and Taylor (2005) the host countries and universities that aim to be competitive should meet these students' needs and expectations and be aware of the factors determining their choice of country and university. Along these same lines, Bruch and Barty (1998) point out that most universities devote great efforts to catering for the needs of international students as these add educational and cultural value to the university as well as income.

The work by Binsardi and Ekwulugo (2003) is one of the most outstanding on international university students. The authors expressed their concern for the growth of the United Kingdom's main competitor countries on the international university market and analysed international students' perceptions in order to collect useful information for strategic marketing policy-making to attract said students. The responses indicated that the best way to attract international students was to concentrate on reducing fees, provide more grants for international students and offer better service. This study therefore underscores the role of product and price variables when formulating strategies to attract international students.

A posteriori, Shanka, Quintal and Taylor (2005) intended to identify the main reasons that prompt international students to choose Australian universities. The results obtained show that students base their choice of university on a combination of factors that vary according to their country of origin. Students from Singapore choose the university these authors analysed for its proximity to their country and the quality of education whereas Malaysian students base their decision mainly on the safety of the location and the quality of education. For Indonesian students, proximity and having friends studying there are the main factors. Students from other Asian countries base their decision on safety and having friends in the area. Lastly, students from other countries focus on safety and the quality of education. It is therefore observed that the selection criteria vary for students from different countries.

Chen (2008) also analyses the influence of different factors on East Asian Bachelor's degree and graduate students' choice of Canadian universities. Firstly, the variables that affect the decision to study abroad are examined. Then the factors that determine the selection of Canada as the host country are explored. Lastly, the main factors that determine the choice of a university are analysed. The results of this research help to understand how international Bachelor's degree and graduate students select a university.

Another important aspect concerning international students is that they benefit the country's economy in addition to creating advantages of another type for the host university. Several authors have acknowledged that exporting higher education is a key contribution to the economy of different countries. Such authors include Binsardi and Ekwulugo (2003), who admit that international education contributes to the United Kingdom's gross national product. Taylor, Shanka and Pope (2004) also explain the remarkable value of international university students for the Australian economy, both for education as well as the tourist industry. The main reasons mentioned are the international students' long stays, high spending and leisure trips, in addition to the trips and amounts spent by visiting family members and friends. They specifically examine the economic impact and characteristics of the families and friends visiting international students. The later study conducted by Shanka, Quintal and Taylor (2005) mentioned the importance of the growing world demand for Australian university education for the country's export revenues.

The present study aims to contribute to the analysis of the international demand for countries participating in the Bologna Process. The main purpose is to provide a general vision of said demand that can help to understand its behaviour and main characteristics. Creation of a European Higher Education Area that would be attractive worldwide was one of the key objectives of the Bologna Process. In this respect, European universities have been encouraged to concentrate on becoming more attractive to students, lecturers and researchers from different world regions. This study aims to show a general perspective of the international demand for the different European countries, thus contributing to a better understanding of its characteristics. More specifically, the places of origin of the foreign demand for European higher education systems are studied.

The following section shows a classification of the different European countries according to the origin of their international demand. The main characteristics of the international demand for the different groups of countries obtained are then explained. The last section sets out the main conclusions of the study.

2. Classification of the European countries

The main goal of this section is to provide a general view of the places of origin of the international demand for the different European higher education systems. For this purpose, the various EHEA countries are put into groups according to the origin of their international demand. A large number of the countries participating in the Bologna Process have been included in the analysis. The foreign demand for higher education was analysed for the following European countries: Bulgaria, the Russian Federation, Hungary, Poland, the Czech Republic, Romania, Turkey, Ukraine, Germany, Austria, Belgium Denmark, Spain, Finland, France, Greece, Ireland, Iceland, Italy, Norway, the Netherlands, Portugal, the United Kingdom and Northern Ireland, Sweden and Switzerland.

This study has been conducted using data on higher education from the United Nations Educational, Scientific and Cultural Organisation (UNESCO) Institute for Statistics. The information on international students provided by the UNESCO Institute for Statistics (UIS) Data Centre refers to students that have crossed national or territorial borders for the purpose of studying and are currently enrolled outside their home countries. It is important to note that this information does not include international students on exchange programmes.

The origin of the international demand for the countries studied was expressed by using the percentage of international students from different places. The UIS Data Centre provides information on international students' countries of origin by geographic regions. In other words, information is shown for foreign students from different world regions that include certain countries. A total of seven geographic areas are taken into consideration: Africa; North America, Central America and the Caribbean; South America; Asia; Europe; Oceania; regions and countries not specified.

As indicated above, the different European countries are classified according to the percentage of international students they receive from different regions. The countries were grouped by using a cluster analysis and the classification variables were the percentage of foreign students from different world regions.

Kotler and Fox (1995) cite cluster analysis as a quantitative tool for business research and define it as a statistical technique that can be used to classify objects, such as places or universities, in a certain number of mutually exclusive and internally homogenous categories. That is to say, this technique places a set of individuals in the most homogeneous groups possible according to a series of variables. Said classification is based on a similarity metric, such as the squared Euclidean distance, which indicates how similar the individuals are, and for which calculation all the variables in the analysis are used.

In this study the groups were formed by an ascending hierarchical procedure and using the squared Euclidean distance as the distance metric. Ward's method was applied to determine the distance between groups. Using this method, the squared Euclidean distance is calculated for each case in relation to the average of its group, adding up the resulting distances for all of the elements in each group. The groups that least increase the total sum of the squared intragroup distances are gathered together in each stage.

The results indicate that it is possible to identify four groups of countries with different characteristics. The resulting dendrogram is presented below, showing the graphic representation of the entire conglomeration process.

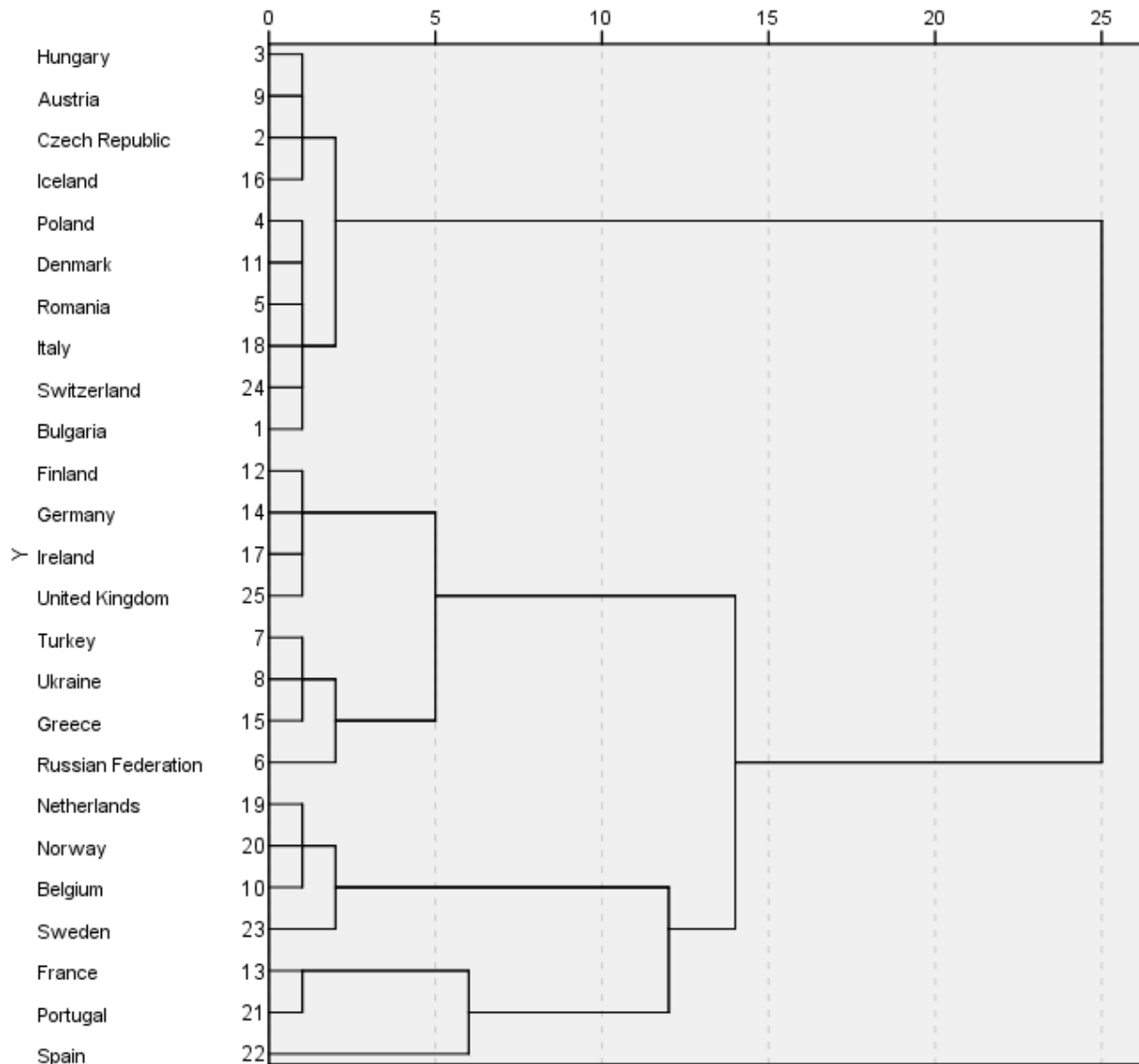


Figure 1. Dendrogram using Ward Linkage.

The different countries included in each of the four groups are shown in the table below/

Table 1. Groups of countries according to the origin of their international demand.

Group 1
Hungary, Austria, The Czech Republic, Iceland, Poland, Denmark, Romania, Italy, Switzerland, Bulgaria
Group 2
Finland, Germany, Ireland, The United Kingdom, Turkey, Ukraine, Greece, The Russian Federation
Group 3
The Netherlands, Norway, Belgium, Sweden
Group 4
France, Portugal, Spain

Following the classification, the main differences between the groups of countries were analysed. In other words, the study examined whether there were significant differences between the groups obtained in relation to the different variables used in the analysis. The following section shows the main differences between the groups of countries.

3. The origin of European countries' international demand

This section shows the origin of the international demand for the different groups of countries identified. That is to say, the differences between the groups of countries are studied according to the classification variables used in the analysis. One-way analysis of variance was used to identify these differences. This technique enables us to study the existence of significant differences in the values of a dependent variable according to an independent variable or factor and is based on the hypothesis test of equal means.

In this case, the intention is to observe whether there are differences in the values of the classification variables according to the cluster by applying various analyses of variance. That is, in each analysis of variance an international demand variable is used as the dependent variable whereas the factor or independent variable is one which indicates belonging to one group of countries or another. The result obtained was that the following variables do not show significant differences between the groups of countries identified.

- Percentage North America, Central America and the Caribbean
- Percentage Oceania

However, it was proven that the following variables are significantly different in the various groups of countries.

- Percentage Africa
- Percentage South America
- Percentage Asia
- Percentage Europe
- Percentage region not specified

The analysis of variance only enables us to observe whether there are significant differences between the different groups of countries in relation to a certain variable. Once it has been proven that differences exist, such as the case of the last five variables mentioned, it is necessary to conduct a multiple comparison test a posteriori to determine exactly what groups of countries are different.

Of the various existing tests, we used Duncan's for this study, which shows the averages of the groups classified in homogenous subsets. The following tables show the results of Duncan's test for the significant variables mentioned.

Table 2. Percentage Africa.

Duncan			
Belonging to the group	N	Subset for alpha = 0.05	
		1	2
Group 3	4	4.0180	
Group 1	10	4.2554	
Group 2	8	5.7706	
Group 4	3		39.1050
Sig.		.782	1.000

The previous table shows that in the fourth group of countries, formed by France, Portugal and Spain, the percentage of international students from Africa is significantly higher than in the other groups of countries. In this group, on average, over a third of foreign students are from Africa.

Table 3. Percentage South America.

Duncan			
Belonging to the group	N	Subset for alpha = 0.05	
		1	2
Group 2	8	.7435	
Group 3	4	1.1905	
Group 1	10	1.6781	
Group 4	3		13.4844
Sig.		.698	1.000

It can also be seen that the percentage of students from South America is significantly higher in the fourth group of countries than in the others. On average, over 13% of international students in France, Portugal and Spain come from South America.

Table 4. Percentage Asia.

Duncan			
Belonging to the group	N	Subset for alpha = 0.05	
		1	2
Group 4	3	7.4021	
Group 3	4	9.7070	
Group 1	10	14.7467	
Group 2	8		44.5116
Sig.		.260	1.000

As can be seen in the previous table, the second group of countries is distinguished from the rest by showing a significantly higher orientation towards students from Asia. In this group, formed by Finland, Germany, Ireland, the United Kingdom, Turkey, Ukraine, Greece and the Russian Federation, over 40% of students, on average, are of Asian origin.

Table 5. Percentage Europe.

Duncan				
Belonging to the group	N	Subset for alpha = 0.05		
		1	2	3
GROUP 4	3	23.1417		
GROUP 2	8	34.0843		
GROUP 3	4		46.3895	
GROUP 1	10			73.3833
Sig.		.061	1.000	1.000

In relation to the percentage of international students from European countries, the results presented above show, firstly, their predominance in the countries that form the first group. In other words, it can be seen that over two thirds of the international students are of European origin in the group formed by Hungary, Austria, the Czech Republic, Iceland, Poland, Denmark, Romania, Italy, Switzerland and Bulgaria.

It is equally worthwhile to point out that, although the percentage of European students is lower in the third group than in the first, the percentage is significantly higher than in the rest of the groups. In the third group, formed by the Netherlands, Norway, Belgium and Sweden, a quite considerable percentage (46%) of foreign students are from Europe.

Table 6. Percentage region not specified.

Duncan				
Belonging To The Group	N	Subset For Alpha = 0.05		
		1	2	
Group 1	10	1.6589		
Group 4	3	3.1154		
Group 2	8	10.2116		
Group 3	4		35.8757	
Sig.		.168	1.000	

Finally, as can be observed in the previous table, in the third group there is also a high percentage of international students from regions and countries that are not specified.

4. Conclusions

This work examines the student mobility flows to the different EHEA countries from outside their borders. The main objective is to provide a general view of the origin of the international demand for higher education in countries participating in the Bologna process. In this respect, the countries have been classified in four groups based on the origin of their international demand. Observing the different groups obtained, the percentage of African and South American students is remarkable in the

group of countries formed by France, Portugal and Spain. It is important to note that there is an especially high percentage of South American students in Spanish and Portuguese higher education.

It is reasonable to think that the colonial past of the three countries mentioned may affect their current international demand for tertiary education. Particularly remarkable is the lack of language barriers for South American and African students in some of the countries mentioned, which may influence the international demand. In contrast, the group of countries formed by Finland, Germany, Ireland, the United Kingdom, Turkey, Ukraine, Greece and the Russian Federation is distinctive for a high percentage of Asian students. Finally, in the other two groups of countries, the percentage of international European students is noteworthy. This is especially true in the group formed by Hungary, Austria, the Czech Republic, Iceland, Poland, Denmark, Romania, Italy, Switzerland and Bulgaria.

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