Mihi-Ramírez, Antonio; Rodríguez, Yolanda García; Metelski, Dominik

Article
Economic factors concerning the migration of the best educated workers: The case of college teachers

Comparative Economic Research

Provided in Cooperation with:
Institute of Economics, University of Łódź

Suggested Citation: Mihi-Ramírez, Antonio; Rodríguez, Yolanda García; Metelski, Dominik (2015) : Economic factors concerning the migration of the best educated workers: The case of college teachers, Comparative Economic Research, De Gruyter, Warsaw, Vol. 18, Iss. 4, pp. 99-122, http://dx.doi.org/10.1515/cer-2015-0031

This Version is available at: http://hdl.handle.net/10419/184373

Terms of use:
Documents in EconStor may be saved and copied for your personal and scholarly purposes. You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public. If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

https://creativecommons.org/licenses/by-nc-nd/4.0
ANTONIO MIHI-RAMÍREZ*, YOLANDA GARCÍA RODRÍGUEZ**, DOMINIK METELSKI***

Economic Factors Concerning The Migration Of The Best Educated Workers. The Case Of College Teachers

Abstract

The migration flow of highly skilled workers is a growing and changing issue, especially under the economic conditions in recent years. This research focused on the migration of university teachers, a highly skilled collective responsible for the training of future skilled workers and also the innovation of a country through their research. An empirical analysis of migration flow of this collective and its relation with economics factors in Europe in the last decade showed that earnings are a key factor explaining variations in the migration flow of university teachers over time. Furthermore, considering the real purchasing power and the effect of personal taxes, it would be possible to show which countries are more relevant to the decisions of this collective on migration. Thus, the higher the purchasing power, the greater the number of university teachers who migrate to a given country. Hence those countries that keep or increase the earnings level of university teachers, especially during an economic depression, can attract or maintain highly skilled workers. In addition, the results showed that unemployment is a push factor for migration for these best educated workers.

Keywords: international migration, economic factors of migration, university teacher’s migration, highly skilled workers

* Ph.D., Granada University (Spain)
** Granada University (Spain)
*** Granada University (Spain)
1. Introduction

The migration of highly skilled workers is a noteworthy question. It entails important economic consequences for any country, such as higher added value, highly skilled workers and economic progress (Hawthorne 2009; Krisciunas and Greblikaitė 2007), especially in the time of global and growing migration in Europe (Kaczmarczyk and Okoński 2008).

University teachers represent a highly skilled collective. They are responsible for the future training of skilled workers and also they decisively contribute to the innovation of a country through their research.

Hence all changes in this collective should be given special attention, especially if they decide to settle down in other countries. While decision to migrate is also related to non-economic reasons, such as the reputation of the host organization, etc. (Eurydice, 2012), the economic aspects constitute the main factor in this decision (Papademetriou and Sumption 2011; Schierup et al. 2006).

Economic factors have a different impact on migration owing to their continuous variations over time (Aceleanu 2011), especially with respect to different and changing economic cycles (Stulgienė and Daunoriienė 2009). Further, activities connected with research and development conducted in the university have a significant impact on the evolution of the economic cycles of any country (Fix et al., 2009; Krisciunas and Greblikaitė 2007).

However, the literature on the migration of highly skilled workers is focused on brain drain at the general level. In the case of academic research it is limited to the migration of primary and secondary education teachers (EACEA’s 2012), in particular because it is very difficult to obtain relevant data.

Therefore, this paper analyses the migration of university teachers and the impact of variations of economic factors on this migration flow. This research analyses the literature and empirical data from the Organisation for Economic Cooperation and Development statistics (OECD) and Eurostat. The contents of this paper are organised into the following sections: introduction, theoretical background, methodology and discussion, and concluding remarks.

2. Theoretical background

Net migration in Europe (the difference between the number of immigrants and the number of emigrants during a period of at least 12 months) has been growing since the second half of the twentieth century, and especially from 1990
Economic factors are the main factors in migration (Čiarnienė and Kumpikaitė 2011; Cushing and Poot 2004). For these reasons this analysis focuses on such factors. Among these factors are earnings, consumer prices, personal income tax, gross domestic product, unemployment, and public investment (Kumpikaitė and Žickutė 2012; Stulgienė and Daunoriene 2009).

Several studies have analysed worker migration, but only a small proportion are dedicated to the highest educated workers, an issue which is called ‘brain drain’. (Daugeliene and Marcinkeviciene 2009). Krisciunas and Greblikaite (2007) analysed migration conditions in the European Union countries of ‘knowledge workers’. Bagdanavičius and Jodkoniene (2008) examined brain drain according to push-pull factors for qualified specialists, scientists, and students.

Mobility of university teachers is an important and necessary aspect in this profession in order to improve learning. Even national institutions encourage it because it enables the development of a scientific network and the improvement of human capital (Kilijonienė et al. 2010).

With respect to earnings, they encompass gross annual earnings before any tax deductions and social security contributions (Eurostat, 2015). Earnings imbalances between regions causes workers move to other regions in order to
obtain higher earnings (Jennissen 2003; Zimmermann 1996). Thus, a reduction in earnings imbalances could encourage the return of emigrants to their native countries (Boman, 2011). In addition, this analysis also pointed out that migrants decide to stay in new countries when their earnings increase.

The harmonised index of consumer prices (HICP) is widely used for international price comparisons, so it is also indicated to compare the living costs for migrants Mihi-Ramírez and Kumpikaitė, 2013). In this sense EACEA (2012) evaluated earnings with respect to their purchasing power (prices). Price imbalances in different countries could be analysed according to purchasing power parities (PPPs) per capita, which reflect differences in the volume of goods and services produced (OECD, 2015).

While a higher level of personal income tax negatively affects disposable incomes, it also is linked to a better welfare system (Kumpikaitė & Žickutė 2012). Both personal income taxes and consumer prices have increased in Europe in recent years, reducing the purchasing power (Mihi-Ramírez and Kumpikaitė 2013).

The gross domestic product (GDP) per capita is used for international comparison between countries in order to evaluate different levels of development. Higher levels of development could be a prerequisite for a reduction of migration (Mixon 1992). The evolution of GDP (economic cycles) can also condition migration flows, but with different intensity according the situation of each country (OECD 2015).

Van der Gaag and Van Wissen (2008) demonstrated that the level of unemployment was the most important reason for international migration in the Netherlands, Germany and England. When unemployment grows in a given country, emigration increases, and vice versa (Kumpikaitė & Žickutė 2012; Martinoia 2011). Likewise the unemployment of workers with the highest education demonstrates the level of labour market demands for an educated labour force, and a low demand has negative consequences for the economy of any country (Gлинкіенё and Петушкіенё 2009).

According to Eurostat (2015), expenditures on education favour economic growth. Such expenditures are structured by the governments of each country of Europe. Expenditures on education are analysed in combination with economic variables because they are considered an investment that enhances the prosperity of a country, diminishing the unemployment rate and emigration (De Haas 2010).
3. Methodology and Discussion

The growing trend in migration in Europe, as shown in Figure 1, changes according to the economic circumstances (Reher and Requena 2009; Rey and Cebrán 2010). Therefore, an empirical analysis should take into account the evolution of the migration and those economic factors affecting it. The migration data was collected from several sources: OECD, Eurydice, national statistics, and Eurostat.

This research analyses how the number of university teachers who migrate is explained by the following economic factors: Gross Domestic Product (GDP), Harmonized Index of Consumer Prices (HICP), public expenditures on education in universities (EXPENDITURE), earnings of university teachers (EARNINGS), unemployment (UNEMPLOYMENT) and personal income tax (TAX).

The sample includes 32 countries of Europe: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom (EU28), as well as Iceland, Norway, Switzerland and Turkey. The analysis of migration flow was performed taking into account its evolution over time (Cushing & Poot 2004), focusing on three economic cycles: the economic recession in Europe in 2002; the economic expansion (2006); and the latest crisis (2010).

Description of variables

The number of researchers and teachers at the tertiary level is determined based on collected data from the National Statistics Offices, Eurydice, OECD, and Eurostat. The number of annual contracts is an essential requirement for any worker and are officially registered by the National Ministries, which include statistical information such as native country, occupation, age, etc. Thus inconsistencies in the collection of available data are eluded.

The earnings of teachers and researchers is calculated taking into consideration the total gross yearly salary given by Eurostat and Eurydice in Euros, adjusted by a corrective coefficient to improve the precision of the study data. The yearly salary consisted of gross earnings paid during a year by the employer before tax deductions and social security contributions. The corrective coefficient is the most recent update of Power Purchase Parities (PPPs) by Eurostat. The application of the corrective coefficient selected is as follows:
Annual Earnings in Euros divided by PPPs. These salaries can be compared in terms of standardised PPS, taking into consideration the different costs of living in each country.

The HICP provide the official measure of consumer price inflation in the euro area and is produced by National Statistical Institutes and also collected by Eurostat.

Personal income tax is applied to the gross wage earnings plus the employee’s social security contributions, less universal cash benefits, expressed as a percentage of gross wage earnings. The tax rate corresponds to a typical married couple with two children, where both spouses earn 100% of the average wages.

Gross Domestic Product (GDP) is the main indicator of economic development of any country and is calculated on an annual basis by Eurostat.

Unemployment data is collected from Eurostat and includes all persons between 15 and 74 years that are not working and are registered in the employment services.

Expenditure on education at the tertiary level is compiled by OECD and Eurostat through educational questionnaires that cover expenditures on universities and other public and private institutions delivering or supporting educational services, including instruction services, ancillary services for students and their families, and research expenditures by educational institutions. Around 77% of total public expenditure on education in Europe consists of teachers’ salaries (Eurostat, 2015).

Results and Discussion


The correlation coefficients for the years 2002, 2006 and 2010 were calculated with the aim of analysing what extent the predictors (Arah et al. 2008) - i.e. earnings, HICP, tax, unemployment, GDP and expenditure - are associated with endogenous variables, i.e. migrant university teachers.
Migrant university teachers are significantly and positively associated with the number of university teachers who migrated and earnings ($r=0.916$ (2002); $0.936$ (2006) and $0.972$ (2010) respectively, $P<.001$), and also with the personal income tax ($r=0.870$; $0.898$ and $0.904$ respectively, $P<.001$). This relation is stronger over time. In the case of the unemployment it is negatively associated with the number of university teachers who migrated ($r=-0.781$, -0.969 and -0.789 respectively, $P<.001$). This result underlines the role of unemployment as a push-pull factor. An unemployment increase denotes a migration decrease and vice versa (Mihi-Ramírez and Kumpikaitė 2013). Thus, during the economic stabilisation of 2006 the number of migrants was reduced due to the better economic conditions in the sender countries, and higher unemployment would imply a lower inflow of migrant teachers.

In addition, the results showed that earnings are associated with tax and also with unemployment, but in this latter respect it is negative (the higher the earnings, the less unemployment and vice versa, ($r=-0.554$ (2002); -0.867 (2006) and -0.763 (2010) respectively, $P<.001$). Earnings were higher during the periods of economic growth and the unemployment rate was the lowest in the analysed period. We attempted to explain the relationships between:

- Earnings and the number of university teachers who migrate.
- HICP and the number of university teachers who migrate.
- GDP and the number of university teachers who migrate.
- Unemployment and the number of university teachers who migrate.
- Expenditures for education and the number of university teachers who migrate.

The variables followed a normal distribution (K-S test) and our model met the assumptions with respect to linearity ($R(X,Y)$), independence (Durbin-Watson), and homoscedasticity (p. F-Snedecor) (Arah et al. 2008).

Moreover, changes in the economics factors explained 97.9% of the changes in the number of university teachers who migrated (see Table 1).

Although earnings is the most decisive variable in explaining university teachers’ migration, the results of our analysis showed that personal income tax was also meaningful.
Table 1. Standardized parameter estimates of the determinants of the numbers of migrant university teachers in Europe

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>24340.20</td>
<td>1.86</td>
<td>-2.58</td>
</tr>
<tr>
<td>Earning</td>
<td>-0.58</td>
<td>0.16</td>
<td>-2.58</td>
</tr>
<tr>
<td>hicp</td>
<td>257.93</td>
<td>0.16</td>
<td>1.37</td>
</tr>
<tr>
<td>Tax</td>
<td>-748.05</td>
<td>1.37</td>
<td>-1.37</td>
</tr>
<tr>
<td>GDP</td>
<td>-0.52</td>
<td>2.93</td>
<td>-2.93</td>
</tr>
<tr>
<td>Unemployment</td>
<td>3.99</td>
<td>0.87</td>
<td>0.87</td>
</tr>
<tr>
<td>expenditure</td>
<td>15.13</td>
<td>9.47</td>
<td>9.47</td>
</tr>
</tbody>
</table>

Numbers in parentheses are t-statistics

**Dependent variables:** teachers

**Explanatory variables:** earnings, hicp, tax, gdp, unemployment, expenditure

Coefficient of determination $R^2$ = 0.979

Durbin-Watson = 2104.00

F-Snedecor = 115.96

Hence, earnings are the main factor to explain variations in the number of university teachers who migrated.

Source: own elaboration.
According to EACEA (2012), application of a corrective coefficient considering the power purchase parities (PPPs) could reduce the differences between the remunerations of different countries by 26%, but the existence of different tax rates throughout the European and Associated Countries has the most significant impact on the nominal wages, reducing differences in the cost of living (r=0.987, 0.983 and 0.961 respectively, P<.001, table 1)

Therefore, earnings after fiscal deductions improve the attractiveness of any research location. As a result the highest earnings, taking in account the PPPs and personal income taxes, could help to benchmark attractive research locations (EACEA, 2012). In this sense, Figure 2 shows a map of the attractiveness of various countries for migrant teachers at tertiary level in 2010, based on Eurostat data about PPPs and using the tax rate corresponding to a married couple with two children.

Figure 2. Map of attractiveness of European countries for migrant teachers according to the PPPs level after taxes, 2010

Source: own elaboration based on Eurostat data.
According to this methodology, and based on the results of our research, earnings were the main reason for the migration of university teachers in Europe in the last decade. In this respect, Luxembourg, Switzerland, Ireland, Cyprus and Austria were the most attractive countries for such highly skilled workers in 2010.

This result extends to ISCED level 5-6 the EACEA’s (2012) results for teachers at ISCED level 1-4. Therefore this issue is an imperative element in designing an appropriate policy for keeping teachers and researchers and attracting more highly skilled workers, which improves the economic development of a country.

Furthermore, according to data from Eurostat and Eurydice (2013) during the economic recessions of the last decade a large number of European countries adopted a policy of salary restrictions for teachers. Taking in account the strong association between personal income tax and earnings, and also the number of migrant teachers (Tables 1 and 2), a nominal earnings reduction would decrease their purchasing power, and also would reduce the attractiveness of these countries for migrant university teachers. Thus several countries, such as Denmark, Estonia, Czech Republic, Finland, Norway, Poland, Latvia, Luxembourg, Iceland, Romania, Slovakia, Sweden and Switzerland, have tried to increase the nominal earnings of teachers in order to maintain or increase their purchasing power, although an absolute growth in earnings does not always translate into a real growth due to rises in the cost of living (Eurodyce 2012), (Figure 3).

Figure 3. Changes in the level of the nominal statutory earnings of teachers in Europe

Source: own elaboration based on Eurostat data.
Additionally, the results addressed the significant but negative association between the number of migrant university teachers and unemployment ($r$=-0.781, -0.969 and -0.789 respectively, $P<.001$, see Table 1). Thus, during the economic downturn of 2002 and 2010 the higher unemployment level in a country implied a reduction in the number of university teachers who migrated to that country. And during the economic stabilization of 2006 the opposite effect occurred. For instance, Figure 4 shows the level of the unemployment rate in Europe in 2010 (the higher unemployment rate, the lower the number of university teachers migrating to that country).

Figure 4. Map of attractiveness of European countries for migrant teachers according to the unemployment rate in 2010

4. Concluding remarks

This article has analysed the role of economic factors in the migration of university teachers, focusing on the three different economic stages of the last decade for 32 countries of Europe, with the aim of analysing how the economic factors affect the migration of high skilled workers to a particular country, which can strongly contribute to the economic development of a country.

The results showed a significant association between the number of university teachers and earnings. Further, this association became stronger over time. Thus earnings are the main factor explaining changes in migration flows of university teachers.

Additionally, personal income tax was significantly associated with the number of university teachers who migrated, and also with their earnings. Therefore, taking in account the impact of taxes on earnings it would be possible to show which countries are more attractive in the decision to migrate. Thus, including the purchasing power parity (PPP) is be an excellent method to analyse the real attractiveness of a country. The higher the PPP, the larger the number of university teachers who migrate to that country. Therefore those countries that keep or increased the earnings level of their teachers, especially in downturn moments, could attract or maintain such highly skilled workers as university teachers.

Contrary to this, our results showed unemployment is a push factor for migration for the best educated workers. This finding could be added to literature about the relation between unemployment and migration (e.g. Vojtovich 2013; Zimmermam 1996).

If, after reading this article, the reader would like to know more about the labour conditions of the higher education system of the European countries analysed, Appendix 1, based on Eurodyce, 2012, shows them in detail and is attached at the end of this article.

References


Appendix 1

Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Austria ................................................................. 114
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Belgium ......................................................... 115
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Spain ............................................................ 115
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Sweden ....................................................... 115
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Latvia ............................................................. 116
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Estonia ......................................................... 116
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Poland ............................................................ 116
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Cyprus ............................................................. 116
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Malta ............................................................. 116
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Slovakia ......................................................... 117
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Switzerland ..................................................... 117
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Czech Republic ................................................ 117
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. France ............................................................. 117
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Italy ............................................................... 118
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. United Kingdom (England) ....................... 118
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Bulgaria ....................................................... 118
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Croatia .......................................................... 118
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Denmark ....................................................... 118
Conditions of Service for Academic Staff Working in Higher Education in the field of the Humanities and Social Sciences. Finland ....................................................... 119
Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Austria

<table>
<thead>
<tr>
<th>Planning Policy</th>
<th>Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences, Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By 2015 roughly one fifth of the 1,900 professors who are employed for an unlimited duration will be emeriti or retired. This makes it possible for universities to restructure and gives them the option to increase their proportion of women. The number of tenured university teachers decreased to 4,662 employment relationships by late 2010. 963 fewer or 17% less than 2007. There were even higher proportions of civil servants among professors according to §98 of the University Act (52%) and readers (93%). In 2010 a total of 315 appointments were recorded. In 2008 and 2009 the proportion of women was, at 34.6%, higher for professorships of limited duration than for those of unlimited duration (23.7%). A share of 40.9% of those appointed in 2008-2010 came from a university or employer in Austria, 48.2% from countries of the European Union.</td>
</tr>
</tbody>
</table>

| Professional Status | The collective bargaining agreement which has been valid for all 21 public universities since October 2009 forms the basis of the law of personnel management pursuant to the 2002 University Act. |

| Salaries | According to the collective bargaining agreement entered into between the umbrella organisation of universities and the Union of Public Service for employees of all universities, the minimum entry salary for university assistants is € 2,398 (including two to four weekly hours of teaching a semester) at the beginning. For assistant professors the minimum salary is € 3,270, for associated professors € 4,142, and for an appointed university professor € 4,360. |
Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Greece.

Planning Policy The appropriations granted every year by the Ministry of Education for the Teaching and Research Faculty Staff, are distributed by the Senate of the Universities to the Departments and by the general assemblies of the Departments to the Sectors. The Rector announces the opening, following the decision of the relevant Department, in the framework of the four-year academic-development programme and the relevant programme agreements, and after the Institution has conducted a legality control.

Professional Status Higher Education Teaching Staff members are public servants. The Institutions’ teaching staff is divided into ranks. Teaching staff progression from one rank to the next requires that the abovementioned conditions be met.

Salaries Average monthly salary €1,773 (Eurostat 2010)

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Belgium.

Planning Policy Current legislation does not define any planning policy with regard to higher education.

Professional Status The function of a member of the teaching staff can be modified by the executive board, on the advice of the body responsible for his/her workload, after asking the views of the staff member in question, and with due consideration of the latter’s qualifications and rights.

Salaries Salary supplements depend in particular on:
- the possession of special diplomas;
- social programming (end-of-year bonus);
- exercising a selection-grade, promotion-grade or better paid function.
Average monthly salary €3,910 (Eurostat 2010)

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Spain.

Planning Policy The Education Authorities, both the Ministry of Education, Culture and Sport (MECD), the Regional Ministry or Department of Education of each Autonomous Community, are responsible for managing the conditions of service for professors of university institutions. There are also several bodies for coordinating the education policy where these entities and other ones reach agreements on the teaching staff. When all the necessary agreements are reached, the universities themselves, depending on their needs, publish their own public vacancies for teaching staff, both for the teaching bodies and the staff on a contractual basis.

Salaries Average monthly salary €2,172 (Eurostat 2010)

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Lithuania.

Planning Policy Competence of every higher education institution

Professional Status Teachers and management staff are employees working under a contract of employment concluded with a higher education institution concerned.

Salaries 4 April 2007, in Resolution No. 337 teachers’ position-based salary coefficients: 22.7–40.9 (€761–€1,371) for professors; 15.6–31.8 (€523–€1,066) for associate professors; 13.2–24.2 (€441–€811) for lecturers; and 13.2–16.7 (€441–€560) for assistants.

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Sweden

Planning Policy Competence of every higher education institution

Professional Status Teachers are state employees.

Salaries Salaries at all institutions are individually negotiated between the teacher, the employer and a trade union, and there are no salary scales and not rules on minimum or maximum years of work before obtaining any specific salary level. Average monthly salary €3,617 (Eurostat 2010)
### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Latvia

**Planning Policy**
The Action Plan for Necessary Reforms of Higher Education 2010-2012 envisages that the number of new doctors has to be increased especially for multidisciplinary study fields. The Plan envisages regular evaluation of the efficiency of doctoral study programmes in terms of enrolment and number of graduates. The planned number of new doctors graduated in 2010-2012 is 600. Implementation of the objective is supported by the European Structural Fund programme.

**Professional Status**
In general teachers do not have a civil servant status. Employment terms and conditions are defined by the Law on Institutions of Higher Education and by the contract, and the collective agreement if there is such. The employment contract with a person elected to an academic position (professor, associate professor, docent, lecturer or assistant) is signed by the rector of higher education institution for the period of election – six years. The contract may be prolonged.

**Salaries**
Professor average monthly salary €928 (Eurostat 2010)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Estonia.

**Planning Policy**
In Estonia, there is no national planning policy for academic staff working in higher education.

**Professional Status**
All academic staff in universities and professional higher education institutions is employed on the basis of employment contracts.

**Salaries**
Average monthly salary €1,121 (Eurostat 2010)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Poland.

**Planning Policy**
The responsibility for teaching staff policies and planning for the higher education sector rests with the Ministry of Science and Higher Education, established on 5 May 2006, following the division of the former Ministry of Education and Science into the Ministry of National Education and the Ministry of Science and Higher Education.

**Professional Status**
Academic teachers are employed on the basis of appointment, providing greater legal protection, or an employment contract. They may now be employed on the basis of appointment only when they hold a professorial title and are employed on a full-time basis in a given HEI as the place of their primary employment (before the last amendments to the Law on Higher Education (LoHE), teachers were not required to have a professorial title in order to be appointed).

**Salaries**
Average monthly salary €1,154 (Eurostat 2010)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Cyprus.

**Planning Policy**
N/A

**Professional Status**
Academic staff at the university level are accountable to the governing bodies of the universities.

**Salaries**
Professors: A15 to A16 (€5208.24 - €6769.96)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Malta.

**Planning Policy**
While it is recognised that employing part-time academic/vocational staff (or visiting professionals in the case of UOM) can bring a wider range of educational experiences to the educational institutions involved in higher education, it is the established procedure to first engage full-time academic staff. A call for more lecturing staff (full-time or part-time) will be made by the respective Heads of Department if the incumbent staff is deemed not to be enough.
<table>
<thead>
<tr>
<th>Country</th>
<th>Professional Status</th>
<th>Salaries</th>
<th>Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slovakia</td>
<td>n/a</td>
<td>€1,680 (Eurostat 2010)</td>
<td>The planning policy indicating filling the posts of university teachers has not been worked out.</td>
</tr>
<tr>
<td>Slovakia</td>
<td>Higher education institutions are legal entities. The labour-legal relations of employees of the public higher education institutions and the State higher education institutions with an employer are regulated by a special provision, unless set up otherwise.</td>
<td>€1,054 (Eurostat 2010)</td>
<td>Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Switzerland.</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Employees at higher education institutions are state, in some cases private employees of the canton, or employees of the Confederation in the case of the Federal Institutes of Technology (FIT), the Swiss Federal Institute for Vocational Education and Training (SFIVET) and the Magglingen Federal University of Applied Sciences for Sports (EHSM).</td>
<td>€5,716 (Eurostat 2010)</td>
<td>Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Czech Republic.</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Academic staff are subject to general labour legislation (only the employees of the state schools with the status of civil servants are governed by specific legislation). The status of academic staff is set by the Higher Education</td>
<td>€1,297 (Eurostat 2010)</td>
<td>Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. France.</td>
</tr>
<tr>
<td>France</td>
<td>By virtue of the reform of the teacher-researcher status introduced by decree no. 2009-460 of 23 April 2009 amending decree no. 84-431 of 6 June 1984 defining the status of teacher-researchers and decree no. 93-1335 of 20 December 1993 relative to the decentralisation of certain management operations relating, amongst other things, to teacher-researchers, all routine management actions regarding the career of these personnel which were previously the responsibility of the minister for higher education, are transferred to the presidents of universities and directors of higher education institutions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Status</td>
<td>Teachers in higher education are Category A civil servants and are therefore subject to the rules that apply to all civil servants.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td>Average monthly salary €3,399 (Eurostat 2010)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Italy.

- **Planning Policy**: n/a
- **Professional Status**: University professors have always enjoyed a particular status and privileges. One privilege is lack of mobility, meaning that they cannot be transferred to another campus without their consent. As regards their activity, the assurance of freedom to teach and carry out scientific research is fundamental, but they must assure their presence for not less than 250 hours per year for the teaching activities, including the participation to the examination boards and degree examination board.
- **Salaries**: Average monthly salary €2,747 (Eurostat 2010)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. United Kingdom (England).

- **Planning Policy**: Recruitment and retention of academic staff is a matter for individual higher education institutions (HEIs). Each higher education institution is responsible for deciding which qualifications and skills it requires to fill a particular post.
- **Professional Status**: Academic staff in higher education institutions (HEIs) are employees of the individual institution. They are considered to be part of the public sector but they are not civil servants. They are not guaranteed employment at any stage of their professional life and must apply for specific posts.
- **Salaries**: Average monthly salary €3,759 (Eurostat 2010)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Bulgaria

- **Planning Policy**: The state exercises its higher education management functions through the National Assembly and the Council of Ministers. The National Assembly approves Higher Education Development Strategy which sets national priorities and aims for higher education development as well as measures for their fulfillment.
- **Professional Status**: Academic staff is appointed in compliance with the general Labour Code and its members do not have the status of state employees.
- **Salaries**: Average monthly salary €505 (Eurostat 2010)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Croatia

- **Planning Policy**: The Draft Strategy on Education, Science and Technology envisages measures for redefining selection criteria and grading system of academic staff as well as redefining of conditions of service in regard of working time, posts, workloads and hiring policy of academic staff.
- **Professional Status**: Academic staff on public higher education institutions are public servants
- **Salaries**: Average monthly salary €1,587 (Eurostat 2010)

### Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Denmark

- **Planning Policy**: There is no specific legislation concerning forward planning policy for teacher supply and demand.
In tertiary education, almost all categories are employed on a group contract basis, as this form of employment is gaining more and more ground. In certain areas, the predominant form is however still employment as a civil servant or on civil servant-like conditions, e.g. the educator training colleges. Fixed-term employment is also a widely used form of employment.

<table>
<thead>
<tr>
<th>Professional Status</th>
<th>Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Finland.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>Average monthly salary €5237 (Eurostat 2010)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planning Policy</th>
<th>There is no national programme or initiative for anticipating the quantitative and qualitative needs of university academic staff as there is for teachers in primary and secondary education. The higher education institutions are themselves responsible for planning policies.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Status</td>
<td>Since the reform of university legislation, teaching staff at universities are appointed in accordance with general employment legislation. In polytechnics teachers generally hold tenured posts as municipal civil servants.</td>
</tr>
<tr>
<td>Salaries</td>
<td>Average monthly salary €3479 (Eurostat 2010)</td>
</tr>
</tbody>
</table>

| Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Germany. |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------|
| Planning Policy | Staff planning in the higher education sector is implemented primarily on the basis of staff appointment plans laid down by the relevant Land ministry; however, the legal situation differs in each Land depending on whether there is a need for such plans and how binding they are. With the increasing autonomy of the higher education institutions, responsibility for staff planning is increasingly devolving on the institutions themselves. |
| Professional Status | As part of the process of increasing the autonomy of institutions of higher education, the responsibility for appointing Professors as civil servants with limited or unlimited tenure has in several Länder been transferred from the ministries responsible for science to the institutions of higher education. Professors can, however, also be taken on as employees. |
| Salaries        | Average monthly salary €3584 (Eurostat 2010)                                                                                   |

| Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Hungary. |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------|
| Planning Policy | n/a                                                                                                                            |
| Professional Status | The professional status of teachers is similar to that of school teachers. The Act on Higher Education determines professional conditions of employment. That includes a clear criminal record, unobstructed capacity to act, a Master degree and compliance with the requirements of the institution. The most usual type of employment in tertiary education is for an unspecified period. |
| Salaries        | Average monthly salary €1175 (Eurostat 2010)                                                                                   |

| Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Iceland. |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------|
| Planning Policy | There is no planning policy in Iceland on educational staff working in higher education.                                                                                      |
| Professional Status | University teachers are state employees.                                                                                                                                      |
| Salaries        | 25.357€ (Eurostat, 2010)                                                                                                  |
Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Ireland.

**Planning Policy**
Staffing is a matter for the institutions. However, an employment control framework has been in place since 2008 to bring about a reduction in overall pay costs in light of the need to reduce public expenditure to alleviate economic difficulties. While this framework provides the sector with overall target reductions, institutions have been given flexibility in how they achieve these targets.

**Professional Status**
Academic staff members in higher education institutions are public servants.

**Salaries**
Average monthly salary €3 788 (Eurostat 2010)

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Liechtenstein.

**Planning Policy**
N/a

**Professional Status**
Academic staff working in higher education institutions are no civil servants but are privately employed.

**Salaries**
5,835€ (Eurostat, 2010)

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Luxembourg.

**Planning Policy**
The planning policy for academic staff is defined at the level of the institution concerned.

The University of Luxembourg defines a wage bill within its four-year plans. This budget is taken into account when the four-year contracts (contrat d’établissement pluriannuel) with the Ministry for Higher Education and Research are established.

**Professional Status**
Members of academic staff hold private working contracts with the University of Luxembourg. They enjoy academic freedom (liberté académique) which includes freedom of thought and expression, freedom of education as well as freedom of research and studies.

**Salaries**
Average monthly salary €4605 Eurostat 2010)

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Netherlands.

**Planning Policy**
The conditions of service and legal status of education personnel in both the public and private sectors are determined partly at suprasectoral and sectoral level and partly at decentralised and institutional level.

**Professional Status**
Teaching staff in public-authority schools and institutions are formally public sector personnel; they are public servants.

**Salaries**
Average monthly salary €3639 Eurostat 2010)

Conditions of Service for Academic Staff Working in Higher Education in the field of the humanities and social sciences. Norway.

**Planning Policy**
N/a

**Professional Status**
For conditions for academic staff in higher education, the HEIs must adhere to the ordinary provisions of the Working Environment Act, Civil Service Act (employees at state HEIs), and special provisions pursuant to the Act relating to universities and university colleges. Some conditions of service also follows from various collective agreements applying to public or non-public HEI.
<table>
<thead>
<tr>
<th>Country</th>
<th>Planning Policy</th>
<th>Professional Status</th>
<th>Salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>Public HEI must have a permanent group of professors who are beneficiary of a reinforced statute of working stability, in an appropriate number, and complying with the Education Careers Statutes.</td>
<td>Teachers and management staff are employees working under a contract of employment.</td>
<td>€5767 (Eurostat 2010)</td>
</tr>
<tr>
<td>Romania</td>
<td>National educational planning regarding recruitment of the teachers applies only to Pre-academic education</td>
<td>Teaching positions in higher education can be occupied with permanent teachers, associate teachers and consultant teachers. Permanent teachers are appointed for an indefinite period of time through decision of the rector. Permanent teachers are the only one that can be elected for management positions.</td>
<td>€1708 (Eurostat 2010)</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Demographic projections, student intake, the number of employees and the manner of employment is monitored and published by the National Statistical Office. The Ministry of Education monitors statistics and gives consent to student intake proposals. There are no regulations regarding long-term human resources planning in higher education. Planning in individual higher education institutions is only partially influenced by financial regulations and regulations related to the quality in higher education.</td>
<td>Lecturers and instructors in public vocational colleges are public servants.</td>
<td>€748 (Eurostat 2010)</td>
</tr>
<tr>
<td>Turkey</td>
<td>Higher Education Law (Yükseköğretim Kanunu): This law is the basic law regulating Turkish Higher Education System. In this context, the said law includes issues related to duties, working principles, appointments, promotion, training and assignment to other universities or in abroad of teaching staff.</td>
<td>“Associated professors” and “professors” among the teaching staff in higher education institutions in Turkey are employed in the status of permanent position. Working type of the same can be either full time or part time status</td>
<td>€1289 (Eurostat 2010)</td>
</tr>
<tr>
<td></td>
<td>Average monthly salary €1892 (Eurostat 2010)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Streszczenie

WPŁYW CZYNNIKÓW EKONOMICZNYCH NA MIGRACJĘ PRACOWNIKÓW Z WYSOKIMI KWALIFIKACJAMI. PRZYKŁAD PRACOWNIKÓW NAUKOWYCH NA EUROPEJSKICH UNIWERSYTETACH

Migracja pracowników posiadających wysokie wykształcenie znacznie zwiększyła się w ostatnich latach. Szczególny wpływ na te zmiany wywarły określone warunki ekonomiczne. Przeprowadzone przez nas badanie koncentruje się na analizie przepływów migracyjnych pracowników naukowych, a więc wysoce wykształconej grupy zawodowej i kształtującej również w przyszłości przypodawanie zawodowe innych pracowników, ale również odpowiedzialnej w wysokim stopniu za realizowane innowacje m.in. dzięki badaniom naukowym jakie prowadzą.

Analiza przepływu migracji tego gremium zawodowego i jego relacja z różnymi czynnikami ekonomicznymi (w Europie) w ostatniej dekadzie – pokazała, że dochody są kluczowym czynnikiem, który tłumaczy zmienność w przepływach migracyjnych pracowników naukowych.

Poza tym, biorąc pod uwagę rzeczywistą siłę nabyciową i efekt podatków osobistych, można dowieść w których konkretnie krajach podjęcie decyzji dotyczącej migracji jest kwestią bardziej wrażliwą i istotną zarazem.

Generalnie większa siła nabywcza w jakimś kraju jest czynnikiem przyciągającym większą liczbę pracowników naukowych do takiego kraju. W związku z tym, te państwa, które zwiększają poziom zarobków dla swoich pracowników naukowych (szczególnie w okresie dekoniunktury ekonomicznej) – jednocześnie utrzymują i przyciągają wysoce wykwalifikowanych pracowników.

 Wyniki naszego badania pokazały również, że bezrobocie stanowi czynnik wypychający (push factor) dla najlepiej wyedukowanych pracowników naukowych.

Słowa kluczowe: migracja międzynarodowa, czynniki ekonomiczne wpływające na migrację, migracja pracowników naukowych