

# Support for continued data collection and analysis concerning mobility patterns and career paths of researchers

**Remuneration – Cross-Country Report (WP4)**

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## 0 EXECUTIVE SUMMARY

### 0.1 Approach

This report provides a detailed description and analysis of the remuneration of researchers in over 45 countries. To complement the report's comparative analysis, a set of country profiles was also compiled for each of the EU-27 Member States, 13 other European countries, as well as the USA, Canada, Japan, China, South Korea, Singapore, Australia, Brazil and Russia.

Information was compiled by an extensive network of national experts as well as by an analysis which built upon these country profiles. Data were collected via three surveys ensuring coherence of the information and data given by the experts. First, a country correspondent's template was completed by the experts themselves. Second, the experts contacted universities in their countries to provide university specific information, and third, the experts were asked to contact research performing organisations (RPOs) which are key players in research in their country.

The data collected from the country experts mainly fed into the country profiles and were used to compare aspects of remuneration across countries. The structure of the report follows our approach of indirectly assessing the value of gross salaries, as described above. Therefore, we first present information on salaries<sup>1</sup>, stipends and benefits by job position and employment contract, and then focus on social security systems, labour legislation in the HEI sector, the tax system, etc.

At the level of research institutions (including both universities and research performing organisations) the report analyses how remuneration schemes and the rules governing the remuneration of researchers differ across country groups, between different research organisations and between different research fields. Furthermore, research institutions were shown two standardised CVs for a senior and a junior researcher and asked about the typical kind of contract which would be provided to these two fictitious candidates, as well as about wages, fringe benefits and holiday regulations.

Finally, although the main focus of this study lies on university researchers, the research team conducted semi-structured interviews with human resource managers and CEOs of private companies engaged in R&D. Furthermore, data from Eurostat's Structure of Earnings Survey (SES) have also been analysed. The main rationale of the semi-structured interviews and the analysis of SES data is to provide insights into remuneration of researchers in the private sector. We argue that it is difficult to identify comparable career stages and, therefore, adequate groups of comparison for university researchers. To summarise<sup>2</sup>, companies strongly differ from academia but also from other companies in:

- the career stages they offer
- the naming of these career stages
- the tasks and remuneration packages related to these career stages
- the promotion prospects within the company
- the requirements for promotion within the company.

We therefore focus on the permeability between the academic and the private sector to identify potential outside options for academic researchers. As we do not

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<sup>1</sup> In this report we use the terms 'salaries' and 'wages' synonymously.

<sup>2</sup> For a detailed discussion of these differences see ch. 3.5.1

know the equivalents of university posts in private companies<sup>3</sup>, the idea is to investigate those posts which university researchers can take up in the private sector. Knowing which positions a researcher can take up given her/his individual skills and work experience might enable us to assess whether the researcher earns more or less in academia than in the private sector. Nonetheless, the interviews do not deliver representative data on salaries in the private companies where a university researcher might take up a post. We therefore also analyse the SES data, which is the only representative data source which enables us to identify researchers in private companies while also providing salary data. This data source allows us to give representative statistics on remuneration for the population of researchers in the private sector. However, the analysis is also limited by a broad set of caveats.

## **0.2 Remuneration of researchers: importance for understanding mobility patterns**

As shown in chapter 3.1, monetary and non-monetary aspects of compensation are an important driver of mobility of human resources. Wage differentials across countries impact the willingness of researchers to become mobile. The literature argues that highly educated workers (if becoming mobile) end up where they are valued most. Besides wages, there exists a large number of push and pull factors affecting the mobility patterns of researchers. Differences in purchasing power and cost of living qualify wages. Moreover, differences in quality of life or social security systems, labour market regulations and the burden from income tax and social security contributions are important conditions in order to put wage differentials into perspective. Although the individual decision of a researcher to become mobile - and if so where to go - also depends on factors like career stage, educational and scientific record, the scientific field of activity, peer effects, personal circumstances, family, etc. which are not directly related to remuneration.

Chapter 3.2 gives an overview on differences across countries according to remuneration, attempting to consider the difficulty of assessing the value of net salaries across countries. The ways in which tax deduction or social insurance payments are handled and regulated varies greatly across countries. Furthermore, there might exist differences in legislation in federally organized HEI systems or between private and public universities. From our point of view, it is almost impossible to derive net salaries that are meaningfully comparable across countries. There are large differences across countries in terms of both what a researcher receives as net salary, and what is covered by this salary. Although net salaries in one country might be higher than in another, salaries in another country might already cover comprehensive social security insurance whereas in another, this is not the case. Therefore the pure amount of a net salary does not adequately reflect its value.

Our approach is to indirectly assess the value of the gross salaries by collecting information on what is on the one hand deducted from gross salaries (i.e. the share of the salary that has to be paid to cover taxes and social security contributions) and what researchers receive for these deductions (i.e. Which insurance is covered? What is the quality of life in the respective country? what is the quality and price for the education of the researchers' children? etc.). However, the information provided in this report is just an indication and cannot prove an exact measure of comparison across countries. A comparison of tax systems, social se-

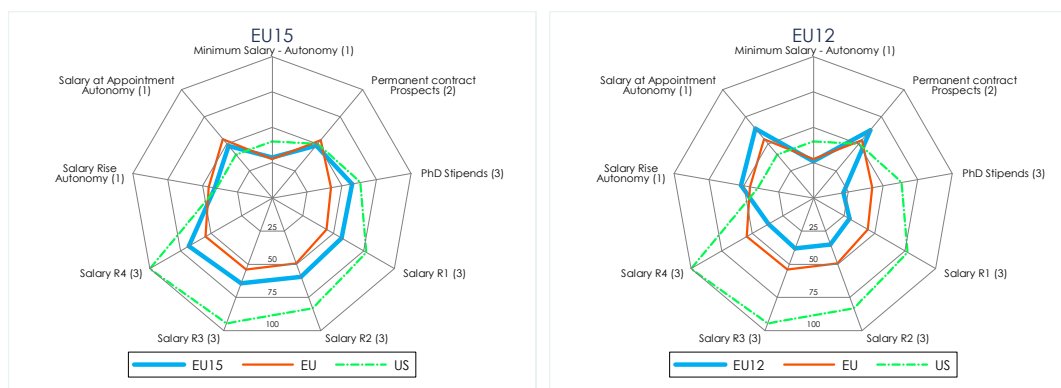
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<sup>3</sup> Although the Euro research career framework is meant to be sector neutral, it is difficult to identify equivalents across sectors without extensive preparatory work.

curity systems, but also quality of life is enormously complex and each of these aspects would require a study on its own. Nevertheless we think that our results yield meaningful insights into different aspects of researchers' remuneration and the assessment of its value.

### 0.3 Key Findings

Figure 0.1: Remuneration of university researchers – selected indicators by country groups



Source: MORE II expert survey;

Notes: Spokes are normalised (see below) Missing values are set to zero.

- 1) **Degree of autonomy:** „Salary rise”, „Salary at appointment”, and „Minimum salary” based on question: „Please indicate the institutional level at which the following aspects of public university researchers are determined?” Scale: (1) National, (2) Regional (state), (3) Sector/collective agreements, (4) University, (5) Individual negotiation, (0) missing value; In graph, maximum = 5
- 2) **Prospect of a “permanent contract”** shows the lowest career stage (R1-R4) at which university researchers can obtain permanent contracts. In graph, maximum = R1
- 3) **Salaries:** „PhD Stipends”, „Salaries R1-R4” show gross annual salaries (in PPP €) paid in the country as a percentage of the best paying country at this career stage. In graph, minimum = 0 and maximum = 100%

**In terms of purchasing power adjusted salaries, the EU countries are on average outperformed by the sample of covered non-European countries...**

- In all career stages (R1-R4), the average share of salaries paid in non-European countries in comparison with the best paying country within the career stage is by 5 to 10 percentage points in R2, R3 and R4 and about 25 percentage points in R1 higher than in the EU. When comparing the EU with all non-EU countries (incl. the covered European countries), gross annual salary levels are quite similar across both country groups (compare Table 0.1).
- When analysing best paying countries by position (c.f. Table 3.2.1) it turns out that although US universities pay relatively low amounts for the R1 level researchers (both in terms of stipends but also to a lesser extent in terms of salaries for employed PhD candidates) the higher the career level, the higher the PPP converted salaries are in the US in comparison to all other countries.
- Amongst the best paying countries are the US (R2-R4), Brazil (R1-R4), Switzerland (R2-R4), Cyprus (R2-R4), the Netherlands (R3, R4), Ireland (R4), and Belgium (R1). Denmark pays the highest stipends for PhD candidates across countries.
- On the other hand, Bulgaria, Romania, Lithuania, Latvia and Hungary pay very low levels in each of the available categories, sometimes paying less

than 20 percent of the respective best paying country. Outside the EU, the lowest annual gross salaries are paid in Albania and China. Table 3.2.1 summarises the information for all covered countries.

Table 0.1: Gross annual salaries and PhD stipends of university researchers as percentage of the best paying country within career stages. EU countries

	EU	EU15	EU12		non-EU	OECD non-EU		other Eur.	OECD Eur.	non-OECD Eur.		non-Eur.	OECD non-Eur.
<b>Salaries</b>													
Salary R1	45	60	30		50	60		40	65	30		70	60
Salary R2	50	60	35		50	60		45	70	35		55	55
Salary R3	55	65	40		55	65		50	65	40		65	65
Salary R4	55	70	35		60	70		55	70	45		65	70
<b>Annual Stipends for PhD candidates</b>													
R1	40	55	20		40	45		40	60	35		40	40

Source: MORE II expert survey. Minimum, average and maximum of gross annual salaries and PhD stipends (in PPPs) of each country are compared with minimum, average, and maximum of the best paying country in the covered sample respectively. The resulting shares for each country are then averaged within the country and rounded to 5 percentage points. The shown shares for country groups are averages across the respective countries. Covered countries: other Europe: AL, BA, CH, FO, HR, IS, ME, MK, NO, RS, RU, TR; non-Europe: AU, BR, CA, CN, IL, JP, KR, SG, US; OECD (excl. EU): AU, CA, CH, IL, IS, JP, KR, NO, US.

**... but there exist major differences across country groups of different innovative capacities within both the EU and non-EU countries<sup>4</sup> ...**

- There is substantial heterogeneity in gross wage levels within the EU27 countries. Wages in most of the EU12 countries are substantially lower than in the EU15. In particular, wages in most of the EU12 countries (all but the two innovation followers among these countries – Cyprus and Slovenia) are substantially lower than in the EU15. This also leads to additional income being much more important in the EU12 countries than in the EU15, where earning such additional income is actually less preponderant than in non-EU27 countries.
- Major differences in setting wage levels and increases for academics exist between countries of different innovative capacities. Countries which are innovation leaders pay slightly higher wages but, more importantly, also allow more wage dispersion, i.e. larger differences between high and low wages, within positions than countries that have a lower innovative capacity.
- In countries which are innovation leaders, additional income is also less important for the researchers and institutions (although the income earned through such additional income is not necessarily lower in these countries). RPOs in general also pay higher wages and allow substantially fewer additional jobs than universities and among universities wages are lower in physics and economics than in engineering with in particular researchers in engineering also earning more in additional jobs than in other disciplines.

**... and the comparison of EU countries with non-EU countries is strongly affected by the choice of non-EU countries.**

- While the EU is outperformed on average by the covered non-European countries, the difference diminishes when comparing EU15 countries with OECD countries (except those that are EU member states). This holds for the comparison with European (Switzerland, Norway and Island) and non-

<sup>4</sup> Further differences are summarised in Table 3.3.18.



European OECD countries. On the other hand, average researcher salaries paid in EU12 countries are quite similar to those in non-OECD countries.

- A central difference in remuneration between EU27 and non-EU27 countries is the larger wage equality in EU27 countries both with respect to the gross wage differences within individual positions (i.e. difference between maximum and minimum gross wages for a particular position) as well as with respect to disciplines. This, together with the lower autonomy in wage setting, may imply that for particularly able (or suitable) candidates wage flexibility in EU27 countries may be too low to be competitive.

**Lower net wages in the EU27 countries are associated with a much higher coverage by compulsory insurance and a more generous health insurance system.**

- The results suggest that - at least in part - researchers in the EU27 countries are compensated for the lower net wages than in non-EU27 countries through a more generous compulsory social security system. Although we cannot quantify the value of this better social security system to the researchers with the data at hand, this implies that comparing researcher salaries on the basis of net wages may overestimate the salary disadvantage of the EU27 countries relative to the non EU27-countries.

**Salaries are set on different institutional levels across countries**

- Salaries (on appointment) and salary rises are determined on the national level in less than half of the EU countries. This holds for Cyprus, Spain, France, Greece, Italy, Portugal, Romania, and Slovenia. Regions or states only play a role in Spain and Belgium. Decisions made at university level and during individual negotiation are important both in terms of both salary on appointment and salary rise. The picture looks very similar when looking at countries outside the EU.
- Among institutions located in countries which are innovation leaders, wages for academic positions are more often determined by the research institutions themselves rather than by law. They also put less emphasis on seniority and more on performance for pay increases as well as emphasizing individual negotiations more strongly than pre-determined wage scales for wage increases.

**The later the career stage, the longer the contracts and researchers are more frequently employed as civil servants.**

- Civil servant positions are rarely offered to PhD candidates. On the other hand, in over half the countries, R3 and R4 researchers are employed as civil servants. However, in the non-EU countries, particularly in the other non-EU European countries, civil servant positions are less frequent.
- Early career stages are usually fixed term for less than 4 years. In the EU, PhD candidates have permanent contracts only in two EU (Poland and Romania) and two non-EU countries (Albania and Brazil). On the other hand, at full professor level (R4) almost all countries provide permanent contracts. There are only three EU (Estonia, Latvia and Spain) and four non-EU countries (Faroe Islands, Russia, Australia and China) having fixed term contracts (more than 4 years) for their R4 researchers.
- Working time is determined on various institutional levels, reaching from the national level via collective agreements, and universities to individual negotiations.
- On average, universities located in EU27 countries seem to offer more flexibility with respect to arranging flexi-time agreements for junior researchers and also give their junior staff a higher portion of time for research and smaller teaching loads. The differences between universities in the EU27 and outside the EU27 with respect to senior staff, by contrast, remain lim-

ited to greater willingness to negotiate over working time allocations and flexi-time arrangements.

- In the EU12 countries, the junior researcher defined in our standardized CV would have a greater chance to obtain a permanent position and the senior researcher would be required to do less teaching and would spend more time undertaking research than in universities located in EU15 countries. The results of the analysis furthermore indicate that the share of time spent doing research would be higher for junior researchers in countries with higher innovative capacities.

### **Health care insurance is usually provided to university researchers...**

- Within the EU only in Denmark, Latvia, the Netherlands, and the UK and outside the EU only in Switzerland, Australia and Brazil (and in the R1 and R2 stages also Canada) researchers' remuneration packages do not compulsorily cover health care. In Germany compulsory coverage is not provided for all researchers within different career stages.
- Health care insurance is mainly centrally organised. 22 out of 25 EU countries decide at national level about health care for their university researchers. The picture looks very similar when looking on the non-EU European countries, where only health care in Bosnia is determined on the regional level. Outside Europe only 5 out of 9 countries are centrally organised. In the US, Brazil and Canada, health care is regulated at the regional level.
- Additional health care insurance provided by universities which exceeds that mandated by law is less common in the EU than outside it. In only 4 out of 24 countries in the EU do universities offer such benefits to all their researchers (Cyprus, Lithuania, Luxembourg, and Sweden). In five other countries (Austria, Belgium, Finland, Italy and Latvia) the provision of such benefits falls to the autonomy of the universities. In Belgium, Ireland, Italy, and Portugal it depends on either the employee's status or the contract. In 12 of the 24 countries, the survey results indicate that universities never provide additional health care insurance.
- Outside the EU, half of the countries' universities always provide additional health care insurance to their researchers. Outside Europe this holds for the US, Singapore, South Korea, Japan, Canada and China, while within Europe it is the case for Serbia, Turkey and Croatia. Furthermore, the experts stated that universities in the investigated countries outside Europe provide additional health care packages at least in specific cases.
- It is more common to privately purchase additional health care insurance in non-European countries. Australian, Brazilian, Korean, Singaporean and US researchers usually extend what it is provided in their remuneration packages. In the EU it is only common in 8 out of 20 countries.

### **... and almost all researchers have a retirement pension insurance included in their remuneration packages.**

- Almost all researchers have retirement pension insurance included in their remuneration package. Only in Latvia and Cyprus (in the PhD candidate stage) is retirement pension insurance not foreseen compulsorily for researchers. When looking outside the EU, only in South Korea and in Canada (during the first two career stages) is pension retirement insurance not compulsory.
- Almost all countries determine their retirement pension insurance on the national level. This holds for both the EU and non-EU countries. An outstanding exception is the US, where retirement insurance is decided at the regional level.
- In the EU, for eleven out of 24 countries, the survey results show that universities do not provide additional retirement pension insurance beyond

what is mandated by law. In these countries, researchers usually purchase private retirement pension insurance. 15 out of the 24 EU experts indicated that additional private retirement pension insurance is important for researchers to maintain their standard of living after retirement, while in the UK private retirement pension insurance is highlighted as being very important.

- Outside Europe, universities always provide additional retirement pension insurance for their researchers. In Canada, South Korea, Singapore and the US the researchers can however upgrade this insurance by buying into private pension funds.

#### **Unemployment insurance for university researchers is less often provided across countries.**

- Only about three quarters of the EU countries and half the non-European countries insure their researchers against unemployment. On the other hand, all the non-EU European countries (except Macedonia) insure their researchers against unemployment - at least those above R1 level.
- While 21 out of 25 EU countries regulate unemployment insurance for university researchers at national level, only 13 out of 21 of the non-EU countries covered do so.

#### **As a rule, research institutions in the EU27 grant fewer provisions and bonuses to their staff than do research institutions outside the EU27...**

- The use of provisions, bonuses and allowances is another main difference in the typical remuneration packages between research institutions located in EU27 countries and research institutions located outside the EU27. Research institutions in the EU27 generally grant fewer provisions and bonuses to their staff than do research institutions outside the EU27, and when EU27 research institutions do provide such payments they usually cover a smaller share of their employees and the value of these provisions and bonuses as a percentage of the salary is smaller.
- The only exceptions to this are allowances, which are, however, much less frequently used than provisions and bonuses, across all regions. Here, differences apply only to the EU12 and the EU15. They indicate that - as with provisions and bonuses - research institutions located in EU12 are also more likely to provide more allowances to their staff, cover a larger share of their personnel with such additional payments and pay a higher share of total salaries through these payments than those located in EU15 countries.
- Similar observations - again with the exception of allowances - apply to research institutions located in countries which are innovation leaders. They also pay more provisions and bonuses and when paying cover a higher share of both the salary as well as their personnel with these payments. By contrast, differences between types or research organizations and fields are somewhat smaller than could be expected. Here, the relevant difference seems to be that universities are more generous in providing additional health, pension and unemployment insurance to their employees than are RPOs.

#### **... but EU27 based research institutions are in general more generous with regard to holiday regulations than non-EU27 based institutions.**

- Finally, with respect to holiday regulations we find that EU27 based research institutions are generally more generous than non-EU27 based institutions with respect to their annual holidays. But when granting additional leave, they more often permit these for unspecified other reasons than do institutions based outside the EU27. Furthermore, there also seem to be some differences between institutions based in EU15 countries and

EU12 countries. The latter are less generous with holidays than the former and more often only provide unpaid additional leave for their staff. In addition, research institutions based in countries which have a higher innovation potential are generally less generous with annual leave and RPOs offer less annual holidays than universities.

**Wages are by far the most important elements which are negotiated with exceptional candidates.**

- In total, 43% of the research institutions state that they would be willing to negotiate wages with exceptional candidates. By contrast, provisions (such as health, pension, unemployment accident or other insurance) as well as allowances (for housing, commuting, the family, childcare or others) are much less frequently open to negotiation. Here, 12% of the respondents stated that they would negotiate on pension insurance and 11% state that they would negotiate over housing allowances, as these are the two most popular issues raised within the category of provisions and allowances.
- There is an increasing willingness to negotiate over all components of a remuneration package in light of the increasing seniority of the position. The only exceptions to this are health and other insurance, as well as maternity and annual leave.
- There are rather large differences among research institutions in terms of which aspects of remuneration schemes they are willing to negotiate with exceptional candidates. For instance, compared with non-EU countries, EU countries have, on average, less autonomy in setting wages at the level of individual research institutions as well as being less willing (or able) to negotiate over non-wage components of remuneration packages such as provisions or allowances.

**Remuneration patterns are heterogeneous across fields of science.**

- Among universities, wages are lower in physics and economics than in engineering. Specifically, researchers in engineering also earn more in additional posts than in other disciplines.
- Remuneration of research positions in economics more frequently depends on law and/or individual negotiation than in physics (with engineering an intermediary case) and wage increases are more often related to performance but also to seniority in economics than in other disciplines. In engineering, by contrast, pre-determined wage scales are a more important determinant of wage levels than in other disciplines.
- In engineering, research and teaching bonuses are granted more frequently on a performance basis and among research institutions working in physics teaching and function bonuses are rarer than in institutions working in other disciplines. Furthermore, the share of income received from bonuses is significantly higher in universities teaching economics than in RPO's and other universities.
- In physics, fewer permanent positions and fewer positions which offer the opportunity to continue a career as a full professor are offered to candidates and teaching loads are also smaller. In economics, on the other hand, although also many temporary positions are offered these are often associated with the possibility of continuing the career path to full professor.

**Research performing organizations (RPOs) are more autonomous than universities.**

- Research performing organizations (RPOs) more often negotiate wages individually, are less often bound to remuneration schemes by law and more often provide performance related wage increases than universities.

- RPOs generally also pay higher wages and allow substantially fewer additional jobs than universities. Furthermore, pension and health care insurance are less frequently provided by RPOs than by universities.
- With respect to field of research, results suggest that while all disciplines seem to have rather similar minimum wages, average and maximum wages of both researchers in economics and physics are significantly lower than among researchers in RPOs. By contrast, researchers working in engineering earn similar wages as do researchers in RPOs.
- The higher share of researchers earning additional income in universities relative to RPOs is primarily due to a higher share of researchers having an additional job.
- Unsurprisingly RPO's made much less use of teaching bonuses than universities and provide function bonuses more frequently on a performance basis.

**The more experienced the university researchers, the less often they switch to the non-academic sector...**

**.. because they are (1) path dependent in terms of job security and remuneration,...**

- University researchers are less likely to move to non-academic research positions the older they are or, more precisely, the longer they are working at the university. Those researchers who became top level university researchers (i.e. full professors) are often not willing to give up their positions. If university professors move they most often take over management positions or become members of an advisory board or similar.

**... (2) have different interests and ways of thinking than required in companies,...**

- The workflows and type of work differ strongly between universities and companies. Although there are differences across fields of science and sectors, university researchers require different skills and capabilities to be successful in academic research than do their counterparts in research performing companies. Furthermore, the different types of work also require different types of personal qualifications. Researchers often decide to work at a university (or at a company) because the workflows are what they are and suit their character/expectations better. Other motives such as remuneration may often be secondary.

**... and (3) companies require different skills than universities.**

- Moreover, university researchers would most often need additional education in management or business activities in order to be able to move to companies. Researchers who start working for a company at an earlier age are better suited to take over management tasks and know the business environment better because they grow up in this environment.

**Companies prefer collaboration rather than offering dual positions to university researchers.**

- In general, dual positions<sup>5</sup> are seldom used, although they are quite common in countries such as Norway. Companies usually prefer either to cooperate with universities in order to outsource research activities or to recruit researchers full-time. Dual positions bring with them problems related to the extensive workload but also potential problems with intellectual property rights.

<sup>5</sup> Dual positions apply if a researcher works for both a company and a university in research. We exclude here researchers who only do teaching but do not research at universities.

### **Salaries in the non-academic sector increase faster than in the academic sector ...**

- It is not clear whether researchers at the early stages of their careers earn more at a university or in a company. Sometimes they are better paid at companies, sometimes at universities. However, on average it might be expected that those researchers who start to work at a company and stay there have better promotion prospects and therefore better chances to improve their salaries during their careers, i.e. the interviews indicate that salaries increase faster in the non-academic than in the academic sector.

### **... but differ (i) across countries, (ii) by age, (iii) by company size, and (iv) by gender.**

- Purchasing power parity adjusted salaries are lower in the new member states, particularly in the transition countries than in the remaining countries available in the data set.
- On average, the older the researchers the more they earn.
- In most of the countries, large companies pay more than smaller or medium sized companies.
- The relative dispersion in remuneration, i.e. the difference between highest and lowest incomes within the group of researchers is lower in the new member states, but also in Norway and Sweden. This also holds for the differences across age groups.
- The gender wage gap is substantial for most of the countries.

## **0.4 Lessons learnt for future studies**

Finally we discuss the lessons learnt during the inception phase of preparing the questionnaires and templates, the data collection and the preparation of this report.

- Firstly, we would like to highlight the extensive workload required to collect data for about 50 countries via a network of country experts. In order to collect valid and reliable data, experts have to be closely accompanied during the data collection process. The closer the contact to the experts and the better the network management, the better the results will be.
- Furthermore, in this project it was possible to assign only one expert per country. Making use of more than one expert per country would be preferable in order to improve the quality and the validity of the data.
- Finally, we would like to highlight that the experiment collecting information on which job positions universities would offer to a researcher with a standardized CV profile could be an effective way to procure comparable data across countries in future data collection exercises. Without the university-specific parts raised in this project, the questionnaire is short enough to allow the respondent to complete the questionnaire in a short time. Therefore, we would like to recommend this experiment for further studies in order to construct an index on remuneration of university researchers. The major advantage of this index is its comparability across countries and the index could be easily reconstructed every year (or with another frequency). When the survey includes a broad set of universities, the index can easily become representative and other research fields could also be included. The experiment using standardized CVs carried out in this report has been a good pilot exercise for a potential future indicator on the comparability of researcher remuneration across countries.

## 1 INTRODUCTION

### 1.1 Objectives

The main objective of the study “support for continued data collection and analysis concerning mobility patterns and career paths of researchers” (MORE2) is (as mentioned in the Terms of Reference):

***“To provide internationally comparable data, indicators and analysis in order to support further evidence-based policy development on the research profession at European and national level.”***

In order to realize this overall objective, the study builds on the MORE1 results and methodologies, which will be improved, fine-tuned and expanded, where needed, both methodologically and conceptually.

More precise, MORE2 sets out to:

- I. Conduct a survey of researchers currently working in Europe in higher education institutions (HEI) regarding their mobility patterns, career paths and working condition (WP1)
- II. Conduct a survey of researchers currently working outside Europe regarding their mobility patterns, career paths and working conditions (WP2)
- III. Carry out a case study on the working conditions and career paths of early career researchers in selected countries (WP3)
- IV. Carry out a case study on the remuneration of researchers in selected countries (WP4)
- V. Develop and produce a set of internationally-comparable indicators on stocks, flows, working conditions and career paths of European researchers (WP5)
- VI. Drafting a final report that provides a comparative, policy-relevant analysis of the mobility patterns, working conditions and career paths of European researchers (WP6)

The focus of this report (D4) is on the results obtained in work package 4 - the remuneration of researchers (WP4) in selected countries. Thus, this report provides country profiles for the countries under investigation, which were compiled by an extensive network of national experts as well as the analysis building upon the country profiles. WP4 collected data jointly with WP3. Therefore, the methodology of data collection as described in chapter 2 is the same for both work packages.

## 2 DATA COLLECTION

The objective of work packages 3 and 4 is to provide detailed descriptions and an analysis of the working conditions, career paths and remuneration for (early career) researchers for 40 European countries, the USA, Canada, Japan, China, India, South Korea, Singapore, Australia, Brazil and Russia. In order to fulfil this task we used an extensive network of national experts (country correspondents). For each country, one national expert was appointed to collect the data as input for the WP3 and WP4 analysis and report. The national experts gathered the required country specific empirical information and data bases on which they compiled and provided country reports. In order to ensure coherence of the information and data a common approach was used. Country correspondents were provided with a set of instruments serving as the basis for collecting the data on working conditions and remuneration of researchers. This set of instruments consisted of:

- a country correspondents template,
- an university questionnaire,
- a RPO (research performing organization) questionnaire.

The template and the questionnaires were developed by the project team. These instruments were discussed and agreed upon with the representatives of the European Commission before they were made available to the country correspondents via a common web based platform. Together with the template, the country correspondents were provided with a) guiding material explaining how to fill in the template, b) a pilot study to provide additional guidance on the content we expected in the various sections of the template and c) an agreed upon set of statistical data for each country<sup>6</sup>. In addition, correspondents have been provided with links to the OECD Main Science and Technology Indicators online statistics<sup>7</sup> and to the European University Institutes Career descriptions<sup>8</sup>. Selected literature was stored on the web based platform providing relevant background information to the country correspondents. Details on the data collection and the set of instruments used can be found in IDEA Consult et al (2013).

It was agreed with the European Commission that we focus on the university system in the countries under investigation and to a lesser extent on RPOs<sup>9</sup>. Information on the business sector was to be gathered only very selectively. Therefore, a small number of semi-structured interviews were carried out in three selected countries: Austria, Germany and Denmark. An interview guideline<sup>10</sup> was developed and the interviews were carried out by members of the project team. Due to the reduced regional focus and the limited number of interviews, the information gathered by these interviews can only provide anecdotal evidence and cannot necessarily be considered as conclusive for the business enterprises sector as a whole. Complementing the interview approach in order to enrich the conclusions drawn from the interviews, descriptive analyses on gross annual earnings and average hourly wages of researchers in companies using the Structure of Earnings Survey (SES) from Eurostat for 17 EU-countries were carried out.

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<sup>6</sup> Depending on coverage and availability. We provided EUROSTAT data, thus no data was provided for countries not covered by the respective sources.

<sup>7</sup> [http://stats.oecd.org/Index.aspx?DataSetCode=MSTI\\_PUB](http://stats.oecd.org/Index.aspx?DataSetCode=MSTI_PUB)

<sup>8</sup> <http://www.eui.eu/ProgrammesAndFellowships/AcademicCareersObservatory/AcademicCareersbyCountry/Index.aspx>

<sup>9</sup> This work package mainly focused on the higher education sector. In order to extent the picture RPOs have been included.

<sup>10</sup> The interview guideline is included in the technical report, see IDEA Consult et al (2013).



### 3 THE REMUNERATION OF RESEARCHERS IN ACADEMIA

The attractiveness of pursuing a research career can only be assessed based on the overall layout of potential career pathways. Therefore, the various stages in a research career were addressed and data was gathered covering the overall research career path, starting from doctoral education (doctoral candidates), up to the highest achievable position in terms of the higher education system (the professorship).

For the higher education / university sector detailed information on positions available along this career path was gathered. In order to allow for country comparisons, an intermediate layer – namely specific career stages – has been introduced and country correspondents were asked to assign all positions to one of four career stages outlined and defined in the European Commission's communication "Towards a European Framework for Research Careers" (European Commission 2011, p. 2). These four career stages are:

- R1:** First Stage Researcher (up to the point of PhD),
- R2:** Recognized Researcher (PhD holders or equivalent who are not yet fully independent),
- R3:** Established Researcher (researchers who have developed a level of independence) and
- R4:** Leading Researcher (researchers leading their research area or field).

According to the definitions given in the EC's communication the different stages are characterized as follows:

A first stage researcher (R1) will:

- "Carry out research under supervision;
- Have the ambition to develop knowledge of research methodologies and discipline;
- Have demonstrated a good understanding of a field of study;
- Have demonstrated the ability to produce data under supervision;
- Be capable of critical analysis, evaluation and synthesis of new and complex ideas and
- Be able to explain the outcome of research and value thereof to research colleagues".

(see European Commission 2011, p. 7)

Recognized researchers (R2) are PhD holders or researchers with an equivalent level of experience and competence who have not yet established a significant level of independence. In addition to the characteristics assigned to the profile of a first stage researcher a recognized researcher:

- "Has demonstrated a systematic understanding of a field of study and mastery of research associated with that field
- Has demonstrated the ability to conceive, design, implement and adapt a substantial program of research with integrity
- Has made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, innovation or application. This could merit national or international refereed publication or patent.
- Demonstrates critical analysis, evaluation and synthesis of new and complex ideas.

- Can communicate with his peers - be able to explain the outcome of his research and value thereof to the research community.
- Takes ownership for and manages own career progression, sets realistic and achievable career goals, identifies and develops ways to improve employability.
- Co-authors papers at workshop and conferences”.

(see European Commission 2011, p. 8)

An established Researcher (R3) has developed a level of independence and, in addition to the characteristics assigned to the profile of a recognized researcher:

- “Has an established reputation based on research excellence in his field.
- Makes a positive contribution to the development of knowledge, research and development through co-operations and collaborations.
- Identifies research problems and opportunities within his area of expertise Identifies appropriate research methodologies and approaches.
- Conducts research independently which advances a research agenda.
- Can take the lead in executing collaborative research projects in cooperation with colleagues and project partners.
- Publishes papers as lead author, organizes workshops or conference sessions”.

(see European Commission 2011, p. 10)

A leading researcher (R4) leads research in his area or field. He or she leads a team or a research group or is head of an industry R&D laboratory. “In particular disciplines as an exception, leading researchers may include individuals who operate as lone researchers.” (European Commission 2011, p. 11). A leading researcher, in addition to the characteristics assigned to the profile of an established researcher:

- “Has an international reputation based on research excellence in their field.
- Demonstrates critical judgment in the identification and execution of research activities.
- Makes a substantial contribution (breakthroughs) to their research field or spanning multiple areas.
- Develops a strategic vision on the future of the research field.
- Recognizes the broader implications and applications of their research.
- Publishes and presents influential papers and books, serves on workshop and conference organizing committees and delivers invited talks”.

(see European Commission 2011, p. 11)

For selected countries career maps, which follow a respective four-stage model, which focuses specifically on academic careers, are provided by LERU<sup>11</sup>. Country correspondents were made aware of these existing descriptions and were provided with the respective links allowing them to access the relevant information.

<sup>11</sup> <http://www.leru.org/index.php/public/extra/careermapseurope/>

### 3.1 The remuneration of researchers: importance for understanding mobility patterns

Monetary and non-monetary aspects of compensation are an important driver for mobility of human resources. The classic literature on the migration of highly skilled workers has focused on the effect of wage differentials as a determinant for mobility. This literature argues that differences in net economic advantages, chiefly wages, are the main cause of migration<sup>12</sup>. International mobility patterns of the highly skilled will depend on the differences in how host and source countries "tax" highly skilled workers and "insure" less skilled ones.<sup>13</sup> Hence, countries which "tax" highly skilled less and at the same time "insure" low skilled workers less generously will experience more immigration of highly skilled people. Hence, the reward of specific skills/skill profiles will drive immigration patterns. In this way, highly educated workers end up in the country that values them most and countries will generally experience a brain gain.<sup>14</sup> The terms "taxing" and "insuring" have to be conceived broadly to encompass not only taxes and social benefits, but also factors affecting the intrinsic satisfaction and motivation of people, such as the working conditions, the social environment and so forth. In the study of work package 4, we focus on the monetary and non-monetary aspects affecting the evaluation of jobs.

A review of the literature shows that there are a large number of push and pull factors which affect the mobility of researchers. Mobility may not have a direct pecuniary effect on mobile workers, but it may lead to effects which indirectly increases their life income. When researchers make the choice to move they appraise these effects together with, and relative to, the remuneration they will receive in another country. For policy makers, this implies that it is also important to consider - after the absolute levels of obtained gross and net salaries - the most relevant non-monetary and institutional factors. An appropriate understanding of how they affect the choices of single researchers will lead to a more accurate comparison of the differences in remuneration of researchers across countries and by implication of the observed flows of researchers. On a country specific level some important conditions to take into account are:

- Differences in purchasing power and cost of living,
- differences in the quality of life,
- differentials in social security systems,
- labour market regulations, or
- the burden from income tax and social security contributions.

On an individual level one has also to consider factors such as:

- the career stage of a researcher,
- educational and scientific record,
- the scientific field of activity and the scientific field of education, and
- peer effects.

The aim of the research carried out in WP 4 is to provide a comprehensive data set on the remuneration of researchers and data that should provide a better base than prior studies for the international comparison of the data. In addition, the collected data provide a better understanding of the autonomy higher educa-

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<sup>12</sup> It has to be considered that in some countries it is mandatory to be mobile if one is to pursue a successful career, and in all countries it is welcome (even if not mandatory). In these cases, the institutional pressure to become mobile has to be added to the list of main causes of migration.

<sup>13</sup> See Heckman & Honoré (1990).

<sup>14</sup> See Borjas (1999); OECD (2008).

tion institutions have in setting remuneration schemes especially at the entry and the top levels (defined later).

### 3.1.1 Review of existing studies on the remuneration of researchers and implications for this study

In recent years, a number of studies have tried to compare the remuneration of researchers across countries. In the following we give an overview on the results obtained by international studies in the past five years and briefly discuss the implications of the results this body of research for the proposed research design outlined earlier. Few studies have tried to compare salaries of researchers on a wider international scale as do the studies carried out in WP3 and WP4 of the MORE II Project.

The study by Altbach et. al. (2008) compares and contrasts academic salaries across 15 different countries, including Argentina, Australia, Canada, China, Colombia, France, Germany, India, Japan, Malaysia, New Zealand, Saudi Arabia, South Africa, UK, USA and Palestine. Based on the academic year 2005-06, monthly base salaries (without fringe benefits) are compared at the entry-level and at the highest level of the academic employment ladder as well as in terms of overall national averages using the Worldbank PPP and the Big Mac Index to normalize data to constant purchasing power across countries. The Human Development Index (HDI) of the UNDP and the GDP per capita (Worldbank) act as benchmark indicator for national development. The data collection consists of publicly available government documents, databases and academic studies and in-country experts also provided information and feedback. The monthly salary at entry-level averages \$2,888 (WB PPP\$), at top-level \$5,318 (WB PPP\$) and lies overall at \$4,050 (WB PPP\$). In Saudi Arabia, academics have the best prospects of raising their salary during their career, with an absolute difference between bottom and top-level of \$5,328 (average WB PPP\$). Worst prospects for raising one's salary during an academic career are in India with only a \$920 (average WB PPP\$) increase. Furthermore, the authors identify that at the entry-level (average monthly salary in WB PPP\$ 2,888) Canada and the US pay best, with China and India as the lowest-paying countries. Saudi Arabia and Canada are best-paying comparing the top-level and average national salary; with China and India rated the lowest-paying countries. In general, the developmental status of a country is directly linked to the level of salary.

The CHERI (2012) survey, also often referred to as the Changing Academic Profession (CAP) survey, has studied the changing nature of academic work over the period 2006-2011 in a comparative study. It covers eighteen countries (Argentina, Australia, Brazil, Canada, China, Finland, Germany, Hong Kong, Italy, Japan, Malaysia, Mexico, Norway, Portugal, South Africa, South Korea, United Kingdom, United States of America). The main aim of this project is to identify external and internal drivers of change in the academic profession, to what extent these changes differ across countries, and to what extent these changes affect the attractiveness of academic careers and the capacity of academics to contribute to the development of knowledge societies. The collection of data on the remuneration of researchers is an important part of this project. After data on remuneration, this survey also asked respondents about job satisfaction by rank, propensity for job change, opportunity for research, environment support such as the quality of resources, contractual conditions and work load.

Russo (2010) presents the results of the Nature Jobs International Salary Survey 2010, with the participation of researchers from more than 130 countries. The questionnaire was published online in March and April 2010 with a response rate of 10,600 researchers working in academia or industry. The majority of the surveyed researchers holds PhD degrees. The survey does not include graduates, but

post-doc-students. Annual gross salaries are reported by the rank post-doc, assistant professor or lecturer, associate professor and full professor. Except for one salary comparison that is adjusted by US\$PPP all results presented in the article are not adjusted for cost of living. Despite this, the study analyzes various fringe-benefits with focus on satisfaction including holiday entitlement, health-care benefits, family leave or degree of independence, for example. Furthermore, some comparisons of salaries by gender or by academic and non-academic positions are presented. Results show that Denmark ranks as the most attractive country in terms of job satisfaction, whereas Japan scored the lowest. The comparison of academia and industry indicates disparities in the salaries. Salaries in the industry are 40-50% higher than in the academic sector. In North America the range of salaries in academia between post-doc and full professors is largest.

The study on the Remuneration of Researchers in the Public and Private Sectors (see European Commission 2007), on the other hand, examines differences in the levels of remuneration of researchers throughout the EU and associated countries. It has shown that only in a few EU Member States do the cost of living adjusted levels of remuneration match that of the United States and that there are considerable differences in pay progression during a researcher's career across countries. It has also produced evidence on a serious gender gap in the levels of remuneration for researchers. The study has collected relevant information on monetary and non-monetary components of the remuneration of researchers such as pension schemes and family supplements. However, it has not taken important differences into account regarding national tax regimes or social security systems, for example. It presents differences in average remuneration levels across sectors of activity (business sector, government, higher education), but the sampling approach pursued in the study does not lend itself to uncover statistically significant differences across sectors and countries.

Another rather comprehensive survey is published on the website of the European University Institute (2012). This survey provides information regarding early career researchers only and does not offer a comparative analysis. However, it does provide a comprehensive overview on the gross and net salaries for different career stages, barriers to career advancement, job security, working conditions, the labour market for researchers, and important research institutions in 19 European and 9 non-European countries. The quality of the data varies greatly. Some of the information, especially related to the comparison of salaries across countries, is drawn from existing studies such as the CARSA Study (see European Commission 2007). We present an overview table on the studies described in the Appendix below.

A number of studies have largely addressed the large economies in the Commonwealth area or major English speaking countries.

The study by Coates et. al. (2009) explores the attractiveness of the Australian academic profession relative to its international peers in Canada, England, the United States and New Zealand. Using data of previous studies and the CAP (Changing Academic Profession) survey, academic salaries as well as additional factors, the authors analyse the attractiveness of academic posts. Using the CAP data, after job satisfaction, they also study the propensity for job change. Academic salaries are reported as overall annual gross income in purchasing power adjusted US\$ by the rank Lecturer, Senior Lecturer, Associate Professor and Professor for the years 2003 to 2008. The actual average salary range (in PPP US\$) shows that the Australian and NZ salaries are average across the compared countries, except for professors whose salaries range in the lower end of the scale.

The Deloitte (2008) study *"Comparing salaries and benefits in the academic sector in New Zealand, Australia, Canada, England and the USA"* has examined how salaries in the academic sector compare relatively to important international

peers from the perspective of New Zealand. The study uses data from the Association of Commonwealth Universities (ACU) that are publicly available for the years 2005 and 2008. The average annual gross salaries have been adjusted using World Bank PPPs (US\$) as well as the Big Mac Index (US\$) by the career stage Lecturer or Assistant Professor, Senior Lecturer, Associate Professor and Professor. Universities included in the study have been selected by different criteria: in Australia the leading ones are included; and in Canada three "comprehensive" (significant amount of research activity and a wide range of programmes) and three "medical/doctoral" (broad range of doctoral programmes, research and who have medical schools) institutes according to the Macleans's guide have been selected. US-universities participating in this study have been selected according to America's Best Colleges 2008 and the Carnegie classification (median of 120 top US-universities). Salaries are listed by institute and rank, and other benefits such as pension scheme or leave are also included.

The study by Kubler & Lennon (2007) is the 6<sup>th</sup> survey on academic staff salaries covering Australia, Canada, New Zealand, South Africa and the United Kingdom. It provides information for the academic period 2004-2006. The data gathering took place through online-questionnaires and by collecting information from public sources. The study compares yearly gross salaries without bonuses or pay incentives adjusted by World Bank PPP and Big Mac PPP for the ranks assistant/associate lecturer, lecturer, senior lecturer, associate professor and professor. The survey includes country profiles, listing detailed bottom and top salary scales of the participating universities as well as information on non-salary benefits such as pension schemes, medical aid, (family) leave and vehicle hire. In a further step, the study compares salaries in the academic sector with earnings of lawyers in Australia, Canada, New Zealand and the United Kingdom using data of large private legal firms provided by recruitment firm based in Canada.

Robinson (2006) analyzes trends in salaries, working conditions and rights of academic staff in Australia, Canada, New Zealand, the UK and USA. Using the data collected by the Association of Commonwealth Universities (ACU) publicly available data of national statistic institutes and education departments extended the database. Average yearly (gross) salaries expressed in US\$ for the year 2003 have been adjusted by the OECD's Comparative Price Level (CPL) for the ranks associate lecturer (lecturer A), lecturer (lecturer B), assistant professor (senior lecturer), associated professor (senior lecturer or reader in the UK) and professor. Additional, country profiles provide indicators on overall economic and social conditions, labour protection and collective bargaining, the employment status of academic staff as well as academic freedom and tenure. Furthermore, the country profile of the USA lists additional benefits for full-time faculty.

Horsley et. al. (2005), also known as the CHEMS-survey, analyze salary relativities on the academic labour market in Australia, compared with Canada, New Zealand, South Africa, Malaysia, Singapore and the United Kingdom. The study use data of the CHEMS-survey, data of the Association of University Professors (AAUP) survey for the academic year 2001/02 and qualitative interviews with vice chancellors of 12 universities have been conducted. Furthermore, the Mercer database is used, which allows comparisons of academic and private sector positions.<sup>15</sup> The Mercer database provides base salary information and additional benefits as annual leave loading, award allowance or vehicle allowance of 30,000 public and private sector positions (IT, Engineering and Scientific Positions, Finance and Administration Positions, Human resources). This database is not publicly available. The CHEMS-survey includes average yearly gross salaries in PPP-US\$ as well as bottom, middle and top salaries by the rank associate lecturer,

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<sup>15</sup> For the 2011 edition see <http://www.imercer.com/products/2011/us-mbd.aspx>.

lecturer, senior lecturer, associate professor and professor. Other additional benefits such as pension and medical aid schemes, leave entitlements and other benefits as car and housing allowances are also included. The AAUP survey shows average yearly full-time faculty salaries at public, private and church related higher institutions with doctoral programs by the ranks lecturer, instructor, assistant professor, associate professor and professor.

Three studies which compare salaries only at national level in the United States are the study by Johnson & Turner (2009), Ehrenberg (2010) and Scott & Siegfried (2011). Johnson & Turner (2009) use the National Research Council data set that provides salaries of assistant professors and full professors by field and faculty for 132 institutions. To compare the institutions they index the median department to 100. Furthermore, a survey by the Oklahoma State University has been used with yearly (gross) salaries of full-time staff without fringe benefits by fields and 45 faculties from 1985-2001. Even if only a subset of universities gave their permission to use the data, it should be representative. The results show that Economics Departments represent the high-salary, high student faculty quadrant, music the low-salary, low student faculty quadrant. Furthermore departments with higher salaries do have systematically more students per faculty member for both assistant professors and full professors.

The study by Ehrenberg (2010) compares yearly average (gross) faculty salary without distinguishing between tenure track and non-tenure track faculty across public and private institutions in the US only. Using data of the American Association of University Professors (AAUP) for the academic year 2008/09 salaries of all universities are listed by the rank lecturer, assistant professor and professor and by the following institution types: 2-years college, (public/private) education up to Bachelor level (public/private), education up to Masters (public/private) level, and education up to PhD level.

Scott & Siegfried (2011) provide a more limited survey on academic salaries in economics departments in the US. They list gross salaries by a classification of universities into specific tiers by the National Research Council, by institutions providing up to BA education, MA education and PhD education, as well as career tracks.

Other recent studies have examined the range of annual gross salaries and working conditions in the education system in the EU-27 countries and a few associated countries.

Ranguelov et. al. (2009) present statistical data and qualitative information to provide an overview of the organisation and structure of education systems in Europe. Annual minimum and maximum basic gross salary (without fringe benefits) of teachers by educational level are reported for all EU-27 member countries as well as Iceland, Liechtenstein, Norway and Turkey. Only schools in the public sector have been included in this survey. The minimum salary is the salary received at the start of the career, the maximum salary on retirement or after a certain number of years of service. The salaries are compared at the ISCED levels 1-3 as % of GDP, an indicator of standard of living of a countries population, for the school year 2006/07. The data was collected by the Eurydice-network, whose correspondents are generally located in education ministries.

Ranguelov & Pejnovic (2011) discuss data collected by the Eurydice network on the yearly basis information on salaries and allowances for teachers and school heads for the school year 2009/10. Additionally, data of official documents by central education authorities and other documents and agreements accepted by these authorities has been collected. National administrative registers, statistical databases and representative surveys build additional sources for the data collection. Annual gross salaries of full-time teachers and schools heads are shown for EU-27 member states, Liechtenstein, Norway and Turkey. Salaries include 13<sup>th</sup>

month and holiday pay but do not include social security and pension contributions or other financial benefits. For a comparison across all countries, minimum salaries (start of the career) and maximum salaries (retirement) have been adjusted by PPS€ and reported in % of per capita GDP as well as compared to the average actual salaries over all teachers and school heads at a specific education level. National data sheets list information about the decision making levels for setting basic statutory salaries in public and private schools and annual gross salaries of fulltime qualified teachers. They also report if salaries increased or decreased (e.g. reforms) and how salary allowances for teachers are constituted. National data sheets show that in almost all countries, central or top-level authority set salaries in public and grant-aided private schools, private ones have individual contractual basis and almost all countries pay overtime.

This brief overview of existing studies on the remuneration of researchers shows that basically all approaches have tried to provide data on gross income levels typically adjusted by some purchasing power parity measure. Most studies also include some aggregate measures capturing the state of economic and social development of the compared countries as well as measures for working conditions, taxes, job security and employment protection or the quality of life, all of which are important criteria in the evaluation of job satisfaction and hence for potential mobility. Despite this, the studies differ however considerably in their attempt to provide comparative measures for net incomes. This points to the crucial problem in providing reliable estimates of net incomes, as the ways tax deduction or social insurance payments are handled and regulated varies greatly across countries. As a consequence it is difficult to compare the net salaries for researchers across countries<sup>16</sup>.

Very few studies provide a comparison of salaries with the private non-academic sector. Those studies which do try to provide figures on the non-academic sector either rely on rather expensive publicly non accessible private data bases (such as the Mercer Database) which suffer from limited country coverage and limited statistical representativeness, or are based on surveys which are methodologically flawed and are also statistically not representative. None of the surveys covered in this review considers potential variations in remuneration due to differences in legislation in federally organized HEI systems. Few draw clear lines between remuneration in private and public universities. The studies also differ in their data collection approach. Some studies have used data collected through surveys at the level of university departments or researchers. Others have relied on networks of correspondents who have collected data from publicly available documents or have carried out face to face interviews with university chancellors. Table 9.1 in the Annex provides an overview on the results for the remuneration of researchers obtained by the studies reviewed in this section. The provided information is difficult to compare across cited studies but also when considering the data collected in this study. The different studies are extremely diverse in focus (e.g. net vs. gross salaries) and methodology (e.g. PPP converted vs. nominal), country coverage, years covered etc.

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<sup>16</sup> When comparing salaries of researchers it is also important to consider working time which has to be spent on teaching or administration, which are crucial tasks in the higher education sector. This is important as a high teaching load reduces an academic's time to carry out research. We try to cover this issue by considering the percentage of working time a researcher has to spend on different tasks (teaching, research, administration).



## 3.2 The comparison of researcher remuneration in academia across countries

In this chapter we summarise the results of this study with respect to the remuneration of researchers in the academic sector. We present the results of the expert surveys conducted in 50 countries in comprehensive country profiles (see chapter 6). In this section, we will first describe what is covered in the profiles for each country and then compare the data and results across countries.

### 3.2.1 The content of the country profiles - remuneration

The country profiles in chapter 6 summarise all the information collected by country through the network of country correspondents set up for this project. The part of the country profiles which deals with the remuneration of researchers is structured as follows:

1. Main indicators
2. Salaries, stipends and benefits by job position and employment contract
3. Tax system
4. Labour legislation in the Higher Education Sector
5. Social security system
6. Quality of life.

In the first section, main indicators on remuneration (salaries, stipends, and the degree of autonomy of universities to decide on remuneration-related aspects) are compared with the EU-average and the US. In the second section, we summarise minimum, average and maximum annual gross salaries (both in national currency and in purchasing power parities<sup>17</sup>) for all available job positions and employment statuses. In the first row, we display the annual gross values of stipends which are available for PhD candidates in order for them to complete their studies. Furthermore, these tables contain the usual contract duration, and the mandatory insurance covered by the remuneration packages. The job positions are classified according to the classification as defined by the EC communication "Towards a European Framework for Research Careers" (European Commission 2011). We will use the German profile as an example to illustrate the results in this chapter. All the country profiles are identically structured and can be therefore analogously interpreted. In the German case, salary data are available for eight combinations of job positions and employment status. Five of them are specified as employee positions while three positions are civil servants. Both employment types (civil servant and employee) in the R4 stage Full Professor are permanent while the rest of the positions are fixed between one and over 4 years. The available annual salaries are based on collective agreements and therefore are only available as minimum data. In the German case, the maximum values are drawn from the highest minimum specified in the collective agreements for the respective position. All of the listed German job positions cover pension retirement insurance. Health care

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<sup>17</sup> We use the PPP-conversion rate of the World Bank Database: World Development Indicators and Global Development Finance (PPP \$). Salaries and Stipends in national currency are converted into PPP US-Dollar (2011) and the resulting PPPs are converted into EURO using the currency exchange rate of Eurostat 1,3920\$ = 1EURO; if the year of the salary or the stipend is not 2011, the amount is grossed up to 2011 using the unit labour costs index of the AMECO database.

Source: [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert\\_bil\\_eur\\_a&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&lang=en); and [http://databank.worldbank.org/data/Views/VariableSelection/SelectVariables.aspx?source=World%20Development%20Indicators%20and%20Global%20Development%20Finance#S\\_P](http://databank.worldbank.org/data/Views/VariableSelection/SelectVariables.aspx?source=World%20Development%20Indicators%20and%20Global%20Development%20Finance#S_P)

insurance and unemployment insurance are not mandatorily covered for the civil servants.

In the following sections we try to assess the value of the gross annual salaries. From our point of view, it is virtually impossible to derive net salaries that are meaningfully comparable across countries. There are large differences across countries, both in terms of what a researcher receives as net salary, and what is covered by this salary. Although net salaries in one country might be higher than in another, salaries in one may already cover comprehensive social security insurance whereas in another this is not the case. Therefore, the pure amount of a net salary does not adequately reflect the value of this net salary. Our approach is to indirectly assess the value of the gross salaries by collecting information on what is, on the one hand, deducted from gross salaries (i.e. the share of the salary that has to be paid for taxes and social security contributions, and, on the other, what the researcher receives for these deductions (i.e. What insurance is covered? What is the quality of life in the respective country? What is the quality and also the price for educating the researchers' children? etc.). However, the information provided in this report is just an indication and cannot prove an exact measure of comparison across countries. A comparison of tax systems, social security systems, but also quality of life is enormously complex and each of these aspects would require a study of its own. Nevertheless, we think that our results yield meaningful insights into different aspects of researchers' remuneration and the assessment of its value.

The section on taxes therefore gives an overview on marginal tax rates and the income brackets they refer to. This should allow us to estimate the deductions related to taxes a researcher with a given income would have to pay. In addition, we present the tax wedge (in percent of labour costs) provided by the OECD for selected personal circumstances that we expect to be realistic for researchers. For instance, a single person with no children has to deduct about 49% of his/her annual earnings if he/she earns approximately the average wage of the country. The indicator estimates the percentage of earnings researchers have to pay for both taxes and social security insurance.

In the fourth section on remuneration we provide information on the labour legislation relevant for researchers. We collected information on the institutional level on which important aspects of university researcher remuneration are determined, such as salary rise, salary at appointment, minimum salary, working time, unemployment insurance, health care insurance, and retirement pension insurance. The idea is to indicate how heterogeneous remuneration patterns are within the country and whether universities are able or rather allowed to provide additional benefits or higher salaries to top performing researchers. However, many institutional levels can be involved in any of these aspects. This section also covers unemployment insurance patterns in the country. We use available OECD data to provide an insight into what happens when researchers become unemployed. We therefore have information on the notice period (time period the researcher has to be informed before dismissal) and the severance pay (in proportion to the previous income) the person receives in case of dismissal from their employer. Moreover, we display the average net replacement rate for two selected personal circumstances. The rate indicates the percentage of a worker's pre-unemployment income that is paid by the unemployment insurance when the worker becomes unemployed.

The fifth section on remuneration in the country profiles gives an insight into the social security system of the country. We list the public social spending, and the public health spending as percentage of GDP in order to give an indication of the extent of public social security. Furthermore, we list some indicators which help to evaluate whether universities usually provide additional health care or retirement pension insurance packages to their researchers, and whether researchers pur-

chase such packages on their own. We also list what is covered by health care insurance and how important additional private retirement pension insurance is in order to maintain their personal standard of living after retirement.

In the sixth section, quality of life in the country is summarised. We use information on GDP per capita (in PPP Euros and in Euros), the human development index and life expectancy. Furthermore, we list indicators on governance quality (e.g. control of corruption, government effectiveness, political stability and absence of violence), on the quality of public child care, and the quality of education. The indicators give insights into quality of life as perceived by the researchers themselves and also on the main factors relevant for their dependants.

Finally, if available, the profiles also contain information on gross annual and hourly earnings of non-academic researchers based on the Structure of Earnings Survey provided by Eurostat (see also chapter 3.5.3), and a summary table on salary data collected in other studies (see also chapter 3.1.1).

Figure 3.2.1 summarises core aspects of researchers' remuneration by country groups. The following figures (3.2.2 to 3.2.5) show the same by individual countries. We compare the respective country or country group with the EU average and the US. The further away the line from the centre, the higher the country scores in the respective indicators. We plot the gross annual salaries for the four stages (R1-R4) and the annual value of stipends for PhD-candidates in PPP € relative to the best paying country at this career stage. The indicators are calculated by comparing each minimum, average and maximum with the highest minimum, average and maximum at this stage respectively. The resulting three ratios per country are then averaged within the country<sup>18</sup>. The grid lines of the net show the 25%, 50%, 75% and 100% values for these indicators (from the middle to the frame).

The spoke "permanent contract" displays the first career stage (R1-R4) that offers a permanent contract to university researchers in the country. The grid lines equal R1, R2, R3 and R4. The nearer the line is to the centre of the cobweb, the earlier researchers can obtain a permanent contract. The remaining three spokes on "Salary rise", "Salary at appointment", and "Minimum salary" illustrate the degree of autonomy the universities have. The indicators are ranked on an ordinal scale showing the maximum degree of autonomy: (1) National, (2) Regional (state), (3) Sector/collective agreements, (4) University, and (5) Individual negotiation. The nearer the country is located to the frame, the more autonomous the universities are to determine the pay and employment conditions of their researchers. If more than one institutional level is relevant for determining the respective aspect, the most autonomous level is displayed. For instance, if salaries at appointment are regulated on the national level (1) but universities (4) can decide within a given bandwidth, the university level (4) is displayed in the graph.

Table 3.2.1 compares gross annual salaries by stage across countries. The table also lists the annual value of stipends for PhD-candidates. The displayed numbers

<sup>18</sup> The indicator is exposed to potential bias due to the fact that we do not have all statistics (mean, minimum and maximum) for all countries. For instance, when only minimum salaries are available for the best paying country and therefore data are not available for average and maximum, results might be upward biased for countries where we only have data on average salaries. If the real but not observed average and maximum value for the best paying country is higher than the second ranked country, the reference point is downward biased as we have to take the available data point for Switzerland. In total this results in potential upward bias for all countries that have to be compared with the second best performing country. Nonetheless, this method is the best solution to compare salaries across countries considering the mentioned differences in data availability. In order to avoid exaggerated precision of the displayed shares, we only present the values rounded to 5 percentage points.

equal the percentage<sup>19</sup> of salaries in PPPs relative to the best paying country within the given stage as described above. We also display averages of the covered country groups EU and non-EU, whereas we distinguish also between non-EU European (other Europe) and non-European countries. In addition, Tables 3.2.2 to 3.2.6 summarise salaries and stipends in national currencies (and in PPP € in brackets) for the respective career stages.

When looking at best paying countries by position, in Table 3.2.1, it turns out that although the US universities pay relatively low amounts for the R1 level researchers (both in terms of stipends but also to a lesser extent in terms of salaries for employed PhD candidates) the higher the career level, the higher the PPP converted salaries are in the US in comparison to all other countries. Besides from the US, Brazil, Cyprus, Ireland, the Netherlands, and Switzerland are among the best paying countries in R4. The same holds for R3 with the exception of Ireland. In R2, amongst the best paying countries are Cyprus, Brazil, Switzerland, and the US, while it is Belgium, Brazil and Norway in R1. Denmark pays the highest stipends for PhD candidates across countries. At the other end, Bulgaria, Romania, Lithuania, Latvia and Hungary pay very low levels in each of the available categories, sometimes paying less than 20 percent of the respective best paying country. Outside the EU, the lowest annual gross salaries are paid in Albania and China.

When comparing the country groups, the results show that given the high heterogeneity in salary ranges paid inside the EU, the non-European countries covered in this survey pay on average higher salaries in all categories. An outlier in this group is China. However, even taking into account the effect it might have on the averages in the group of non-EU countries, the average salaries across all career stages are by 5 to 10 percentage points (R2-R4) and about 25 percentage points (R1) higher in this group than in the EU. When comparing EU countries with European countries which are not EU members, the average salary levels are quite similar. They are a little higher for R1, R2, R3 and PhD stipends in the EU. However, the average of the group of other European countries is mainly driven by Norway and Switzerland. When comparing the EU with all non-EU countries, gross annual salary levels are lower by about 5 percentage points in R1 and R4.

The comparison of EU countries with non-EU countries is strongly affected by the choice of non-EU countries. In this case, there are top performers in university rankings (e.g. the US or Switzerland) combined with countries with a low performing university system. When comparing EU15 countries with OECD countries (except those that are EU member states), salaries are quite similar. This holds for the comparison with European (Switzerland, Norway and Island) and non-European OECD countries. On the other hand, on average EU12 countries are paying quite similar salaries to non-OECD countries.

When comparing EU countries with the US, the EU pays more than 30 percentage points (with regard to the best paying country) less than the US in all four career stages. Only in case of stipends is the gap between EU and US smaller. Here, the EU pays on average 40% of the best paying country, Denmark, while US stipends equal about 65% of Danish PhD stipends. Nonetheless, there are also large differences across EU countries. The top performing EU countries related to gross salaries almost equal or outperform the salaries paid in the US on the R1 level, but the higher the career stage the larger is the difference. Considering other non-EU countries, Brazil pays very high PPP adjusted salaries in all four career stages. Also Switzerland pays higher salaries than the best paying EU countries. On the other end of the scale China pays slightly higher PPP adjusted salaries than the least paying countries in the EU in all four career stages.

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<sup>19</sup> Values are rounded to 5 percentage points due to methodological issues (cf. footnote 18).

Table 3.2.7 describes contract length and employment status for each career stage within each country. Each cell indicates whether the country offers positions to university researchers with the respective employment status (civil servant or employee) or contract duration. Multiple responses are possible whenever more than one type of position exists in the respective career stage. For instance, in the stages R2, R3, and R4 Germany has both types of employment. For instance, Germany has both types of employment in stages R2, R3, and R4. University researchers in Germany might be either employees or civil servants in each of the stages. Correspondingly, the contract duration also differ in R2 and R3 in Germany. There are contracts fixed between 2 and 4 years and contracts fixed longer than 4 years. The country group columns indicate the frequency of the respective aspect within the country group. When looking at employment status, there are only 4 out of 22 countries in the EU (Hungary, the Netherlands, Sweden and Slovenia) that offer civil servant positions to PhD candidates. In the non-EU countries, 4 out of 21 countries also offer PhD candidates civil servant positions (Norway, Turkey, Brazil and Japan). Within the EU, countries tend to offer civil servant positions for researchers at higher career stages. In more than half of the countries, R3 and R4 researchers are employed as civil servants, while in the non-EU countries civil servant positions are less frequent at these stages. Among the group of non-EU European countries R3 and R4 researchers have civil servant status only in Croatia, Norway and Turkey. In the countries with top performing university systems (incl. US, Switzerland, and Canada), the country experts indicated that in none of the career stages do university researchers have the status of a civil servant.

Concerning the length of contracts, early career stages are usually fixed term for less than 4 years. In the EU, PhD candidates have permanent contracts in only two countries (Poland and Romania). Similarly, outside the EU, permanent contracts are available for PhD candidates only in Albania and Brazil. On the other hand, at full professor level (R4), almost all countries provide permanent contracts. In the EU, Estonia, Latvia and Spain are the only countries having fixed term contracts (more than 4 years) for their R4 researchers. When looking outside the EU, only the Faroe Islands, Russia, Australia and China have no permanent positions for full professors.

When analysing social security insurance cover for university researchers (see Table 3.2.8), both health care insurance and retirement pension insurance are typically provided to university researchers. Within the EU only in Denmark, Latvia, the Netherlands, and the UK researchers' remuneration packages do not compulsorily cover health care. In Germany, compulsory coverage is not provided for all researchers within different career stages. In the non-EU countries the picture is quite similar. Switzerland, Australia and Brazil (and in the R1 and R2 stages also Canada) do not compulsorily insure their researchers on health care. In all other covered countries outside the EU researchers are insured.

Additional health care insurance exceeding what is mandated by law is less common in the EU (see Table 3.2.9). In only 4 out of 24 countries in the EU universities offer such benefits to all their researchers (Cyprus, Lithuania, Luxembourg, and Sweden). In five other countries (Austria, Belgium, Finland, Italy and Latvia) the provision of such benefits falls into the autonomy of the universities. In 4 other countries it depends on either the employee status or the contract (Belgium, Ireland, Italy, and Portugal). In 12 of the 24 countries the survey results indicate that universities never provide additional health care insurance. Outside the EU in half of the countries, universities always provide additional health care insurance for their researchers. Outside Europe this holds for the US, Singapore, South Korea, Japan, Canada and China, while within Europe it is the case for Serbia, Turkey and Croatia. Furthermore the experts stated that universities in the investigated countries outside Europe provide additional health care packages at least in

specific cases. On the other hand, it is also common to privately purchase additional health care insurance in these countries. Australian, Brazilian, Korean, Singaporean and US researchers usually extend what it is provided in their remuneration packages. This is less common in the EU where it is standard in 8 out of 20 countries.

In the case of retirement pension insurance, almost all researchers have insurance included in their remuneration packages (see Table 3.2.10). Only Latvia and in the PhD candidate stage does Cyprus do not foresee retirement pension insurance compulsorily for their researchers. Outside the EU, pension retirement insurance is not compulsory in South Korea and during the first two career stages in Canada. In the EU, for eleven out of 24 countries, the survey results show that universities do not provide additional retirement pension insurance beyond what is mandated by law. In these countries, researchers usually purchase private retirement pension insurance. 15 out of the 24 EU experts indicated that additional private retirement pension insurance is important for researchers to maintain their standard of living after retirement, while in the UK private retirement pension insurance is highlighted as very important. Outside Europe, universities always provide additional retirement pension insurance for their researchers. However, in Canada, South Korea, Singapore and the US, researchers can upgrade this insurance by buying into private pension funds.

Unemployment insurance is less often provided across countries - only about three quarter of the EU countries and half the non European countries insure their researchers against unemployment. In particular Brazil, Australia, South Korea and Singapore do not have unemployment insurance. On the other hand, in Europe all the non-EU countries (except Macedonia) have their researcher insured against unemployment, at least above the R1 level. Employed PhD candidates are only insured in Albania, Faroe Islands, Iceland, Montenegro, Norway and Russia.

Concerning the institutional level on which important aspects of researchers' remuneration are determined (see Table 3.2.11), in the EU countries most of the aspects are regulated by the national authorities. In particular, health care insurance (22 out of 25), retirement pension insurance (24 out of 25), and unemployment insurance (21 out of 25) are centrally organised. On the other hand, salaries (at appointment) and salary rise are only determined nationally in less than half of the EU countries. This holds for Cyprus, Spain, France, Greece, Italy, Portugal, Romania, and Slovenia. Regions or states only play a role in Spain and Belgium. The university level, but also individual negotiations are mainly important for the decision on salary at appointment and salary rise. Working time is determined on various levels, reaching from the national level (in 14 out of 25 countries) via collective agreements (8 out of 25), and universities (7 out of 25) to individual negotiations (5 out of 25). The picture looks very similar when looking at countries outside the EU. Salary at appointment and salary rises are mainly determined by universities and individual negotiations. Health care insurance and retirement pension insurance are again most frequently regulated at national level. In comparison to EU countries, more non-EU countries decide aspects of remuneration of university researchers at regional / state level. This holds in particular for China, Bosnia and Herzegovina, Switzerland, but also to some extent for the US, Canada and Russia. Collective agreements again play a role for working time, whereas more of the country experts named the university level (10 out of 21) than the collective agreements (8 out of 21) as important. In the US, both the university level and collective / sectoral agreements play a role for all aspects except unemployment insurance.

In Table 3.2.12 we plot the tax wedge employees face in the countries, given their personal circumstances (i.e. income, children, and family status). 'Tax wedge' is defined as income tax plus employee and employer social security contributions minus cash transfers, i.e. the deductions an employee has to pay at given income.

The tax wedge is highest in Belgium and France in all selected categories of individual circumstances. The lowest deductions have to be paid in South Korea, Switzerland and Israel.

### 3.2.2 Remuneration of university researchers – selected indicators by country

Figure 3.2.1: Remuneration of university researchers – selected indicators by country groups



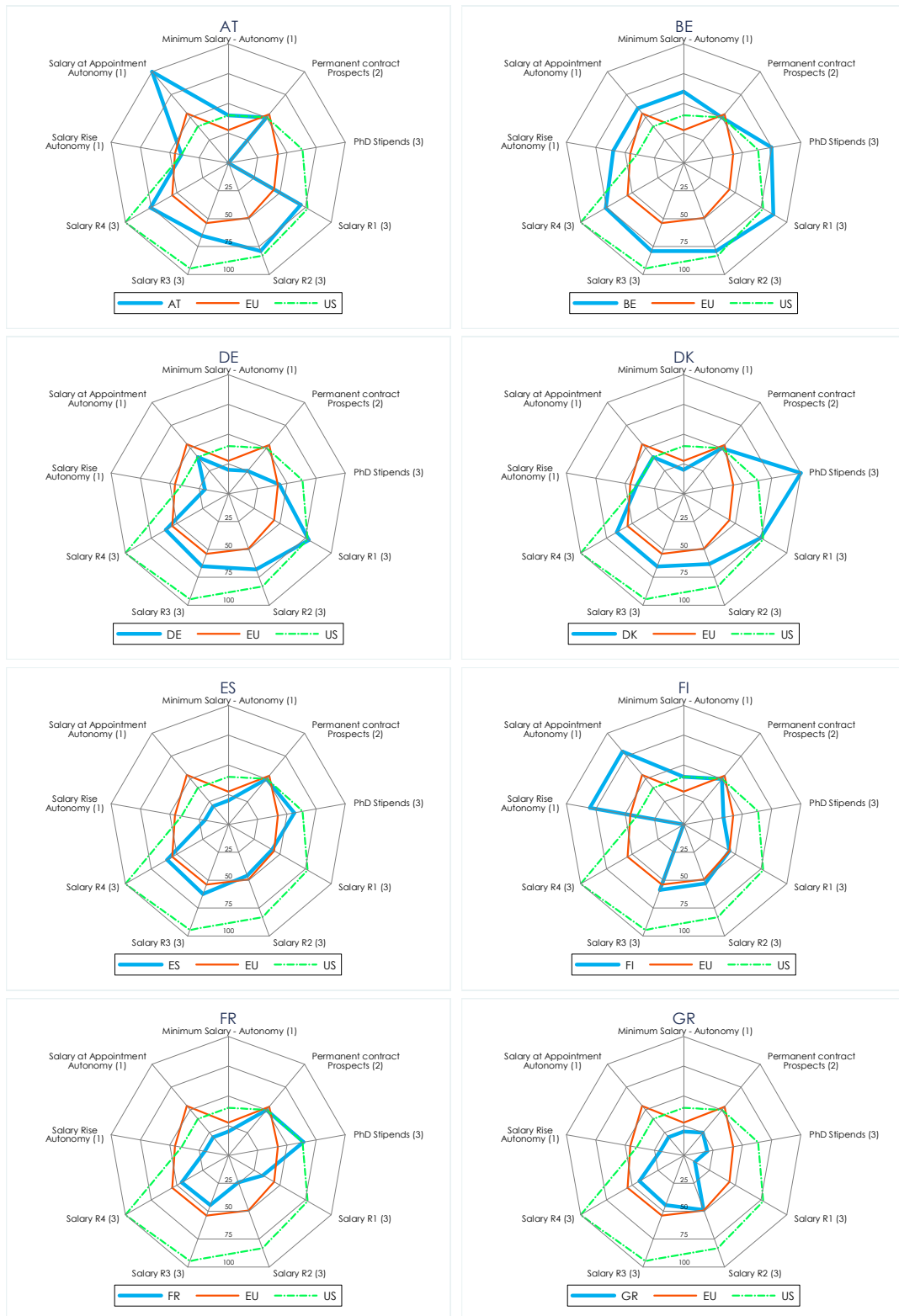
Source: MORE II expert survey;

Notes: Spokes are normalised (see below) Missing values are set to zero.

- 1) **Degree of autonomy:** „Salary rise”, „Salary at appointment”, and „Minimum salary” based on question: „Please indicate the institutional level at which the following aspects of public university researchers are determined?” Scale: (1) National, (2) Regional (state), (3) Sector/collective agreements, (4) University, (5) Individual negotiation, (0) missing value; In graph, maximum = 5
- 2) **Prospect of a “permanent contract”** shows the lowest career stage (R1-R4) at which university researchers can obtain permanent contracts. In graph, maximum = R1
- 3) **Salaries:** „PhD Stipends”, „Salaries R1-R4” show gross annual salaries (in PPP €) paid in the country as a percentage of the best paying country at this career stage. In graph, minimum = 0 and maximum = 100%

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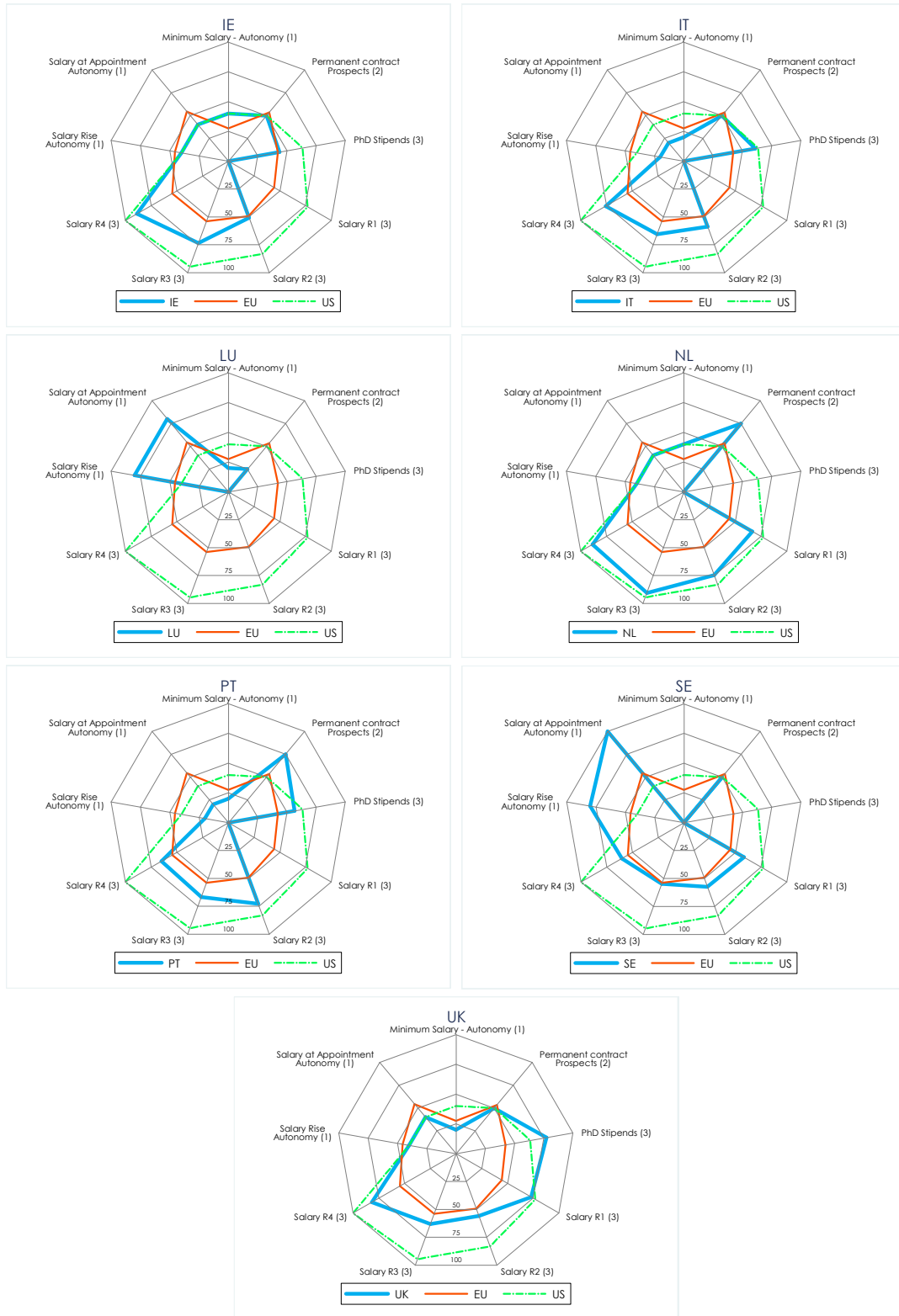
Figure 3.2.2: Remuneration of university researchers – selected indicators by country: EU15



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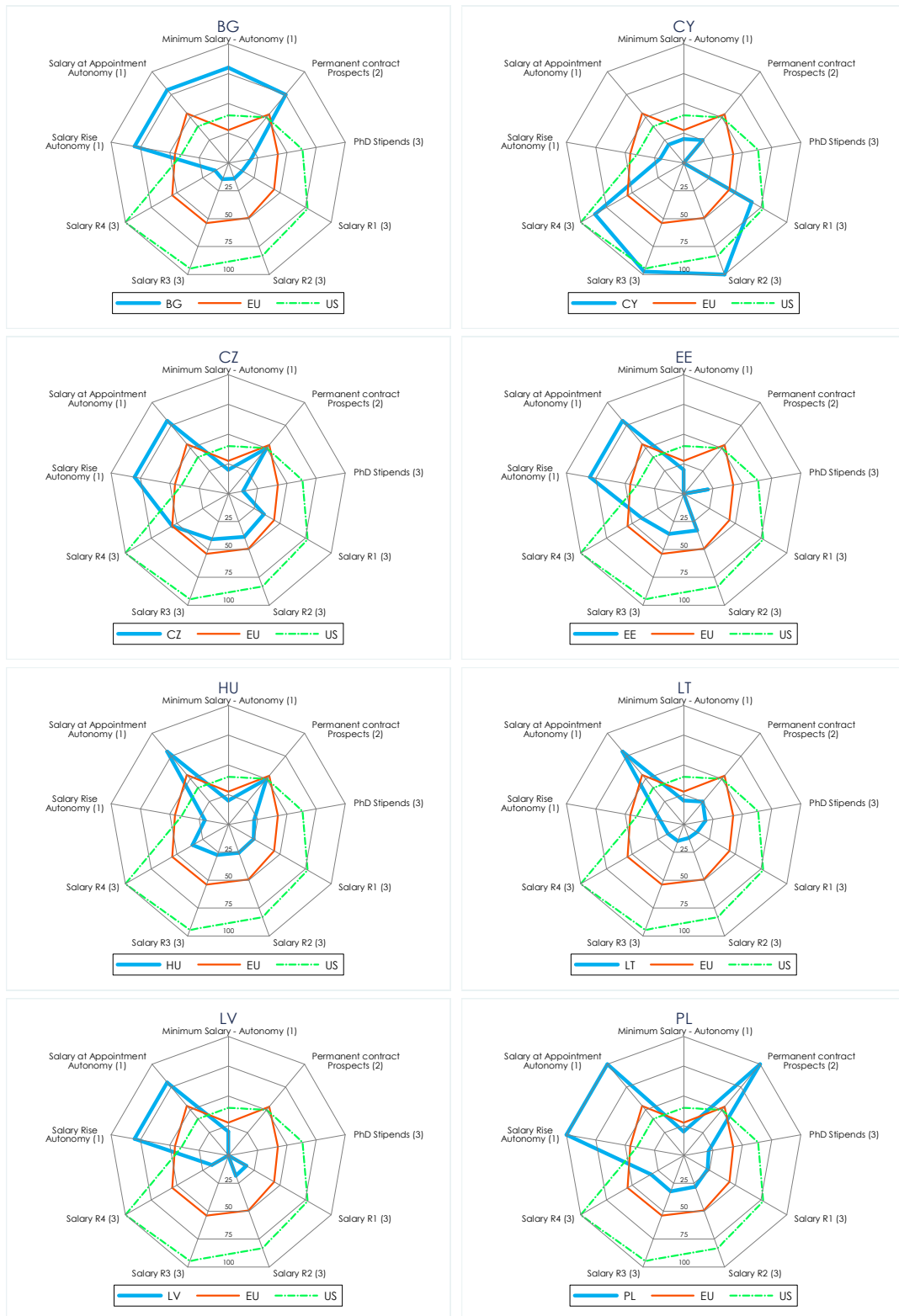
Figure 3.2.2 continued



Source: MORE II expert survey;  
Notes: see Figure 3.2.1

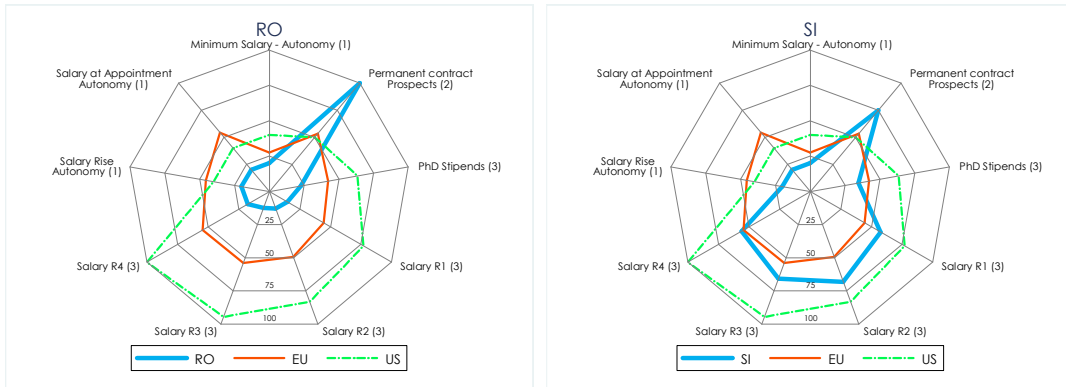
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Figure 3.2.3: Remuneration of university researchers – selected indicators by country: EU12



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Figure 3.2.3 continued



Source: MORE II expert survey;  
Notes: see Figure 3.2.1

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Figure 3.2.4: Remuneration of university researchers – selected indicators by country: non-EU European countries

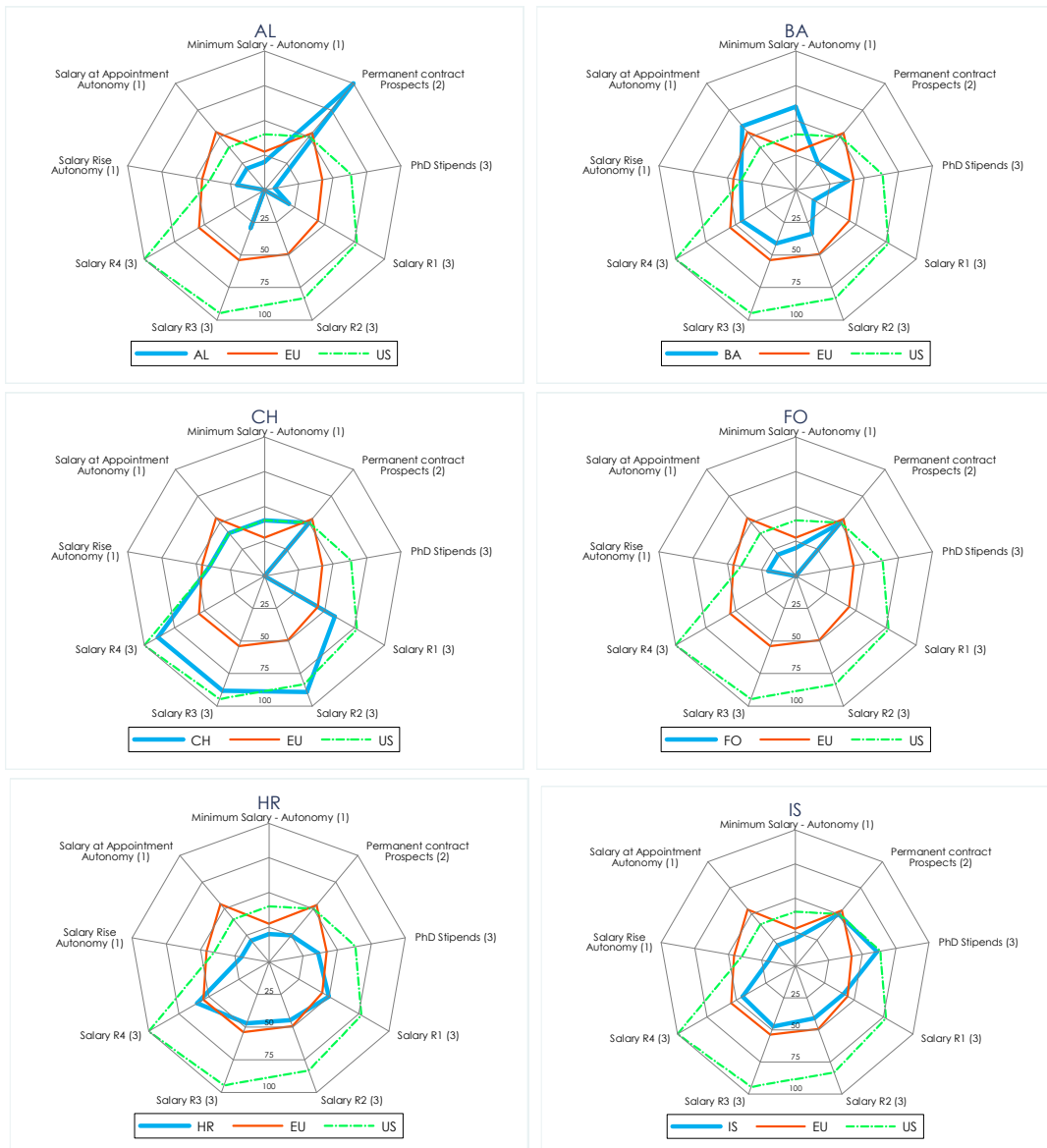
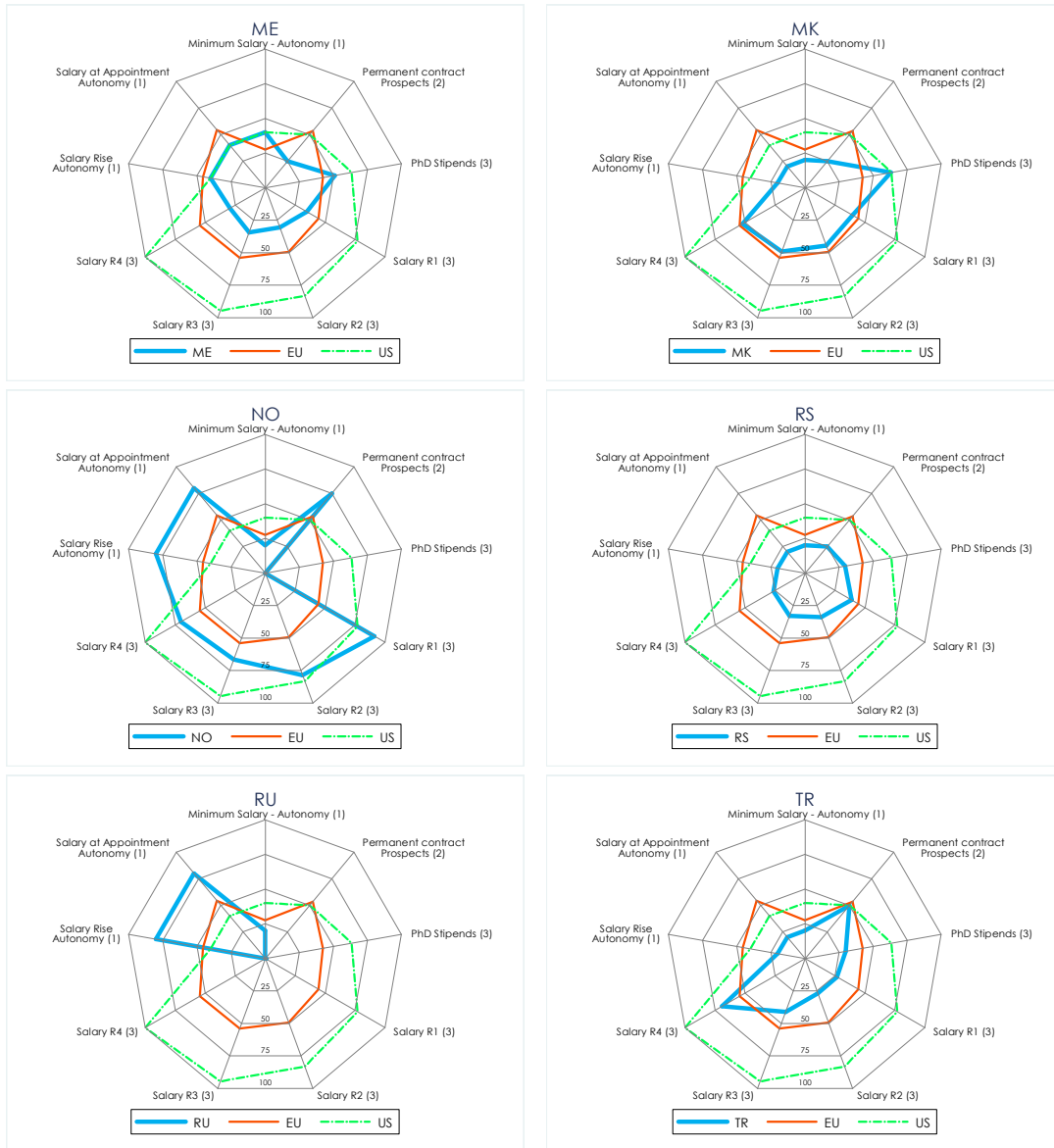


Figure 3.2.4 continued



Source: MORE II expert survey;  
Notes: see Figure 3.2.1

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Figure 3.2.5: Remuneration of university researchers – selected indicators by country: non-European countries

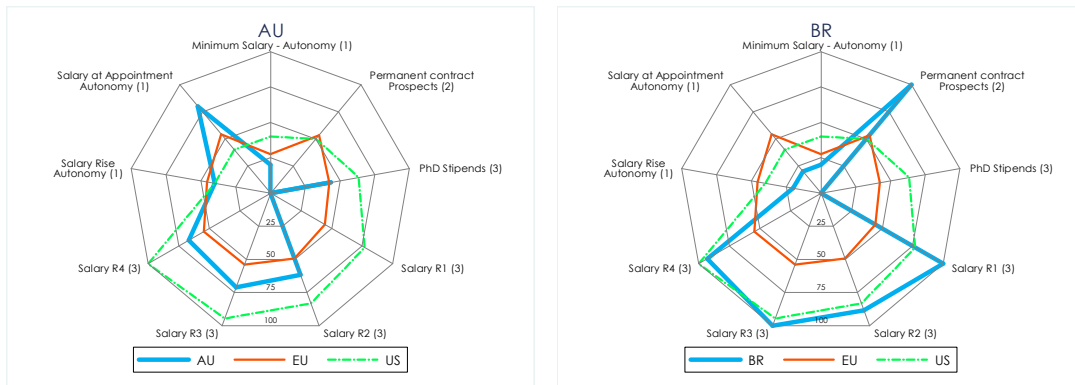
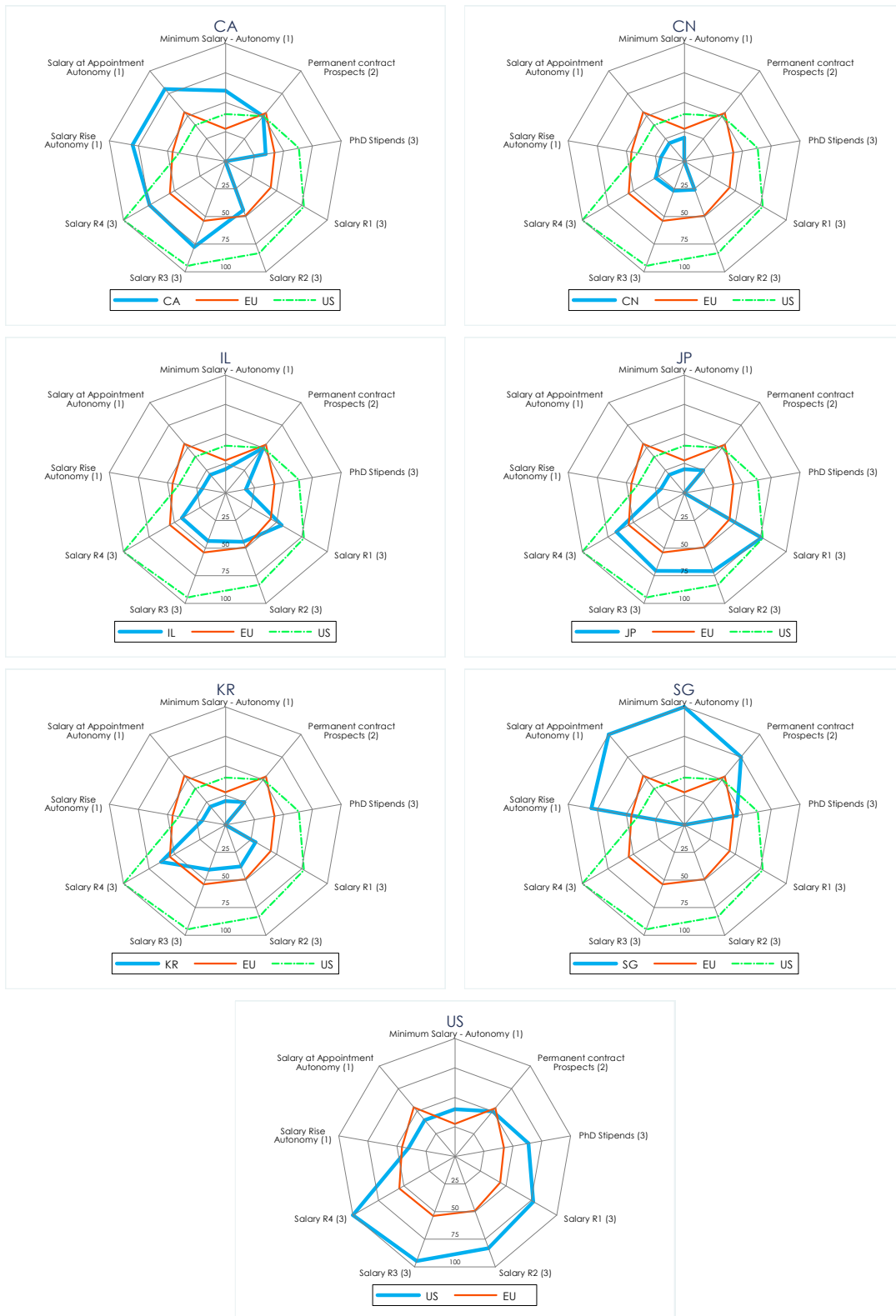


Figure 3.2.5 continued



Source: MORE II expert survey;  
Notes: see Figure 3.2.1

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Table 3.2.1: Gross annual salaries and PhD stipends of university researchers as percentage of the best paying country within career stages. A country comparison

	EU	EU15	AT	BE	DE	DK	ES	FI	FR	GR	IE	IT	LU	NL	PT	SE	UK		EU12	BG	CY	CZ	EE	HU	LT	LV	PL	RO	SI
<b>Salaries</b>																													
Salary R1	45	60	70	>80	80	75	40	45	35	<20	.	.	.	65	.	60	75		30	<20	65	35	.	25	<20	<20	25	<20	55
Salary R2	50	60	80	80	70	65	45	55	25	50	50	60	.	75	75	55	55		35	<20	>80	40	35	25	<20	20	30	<20	70
Salary R3	55	65	65	80	65	65	60	60	45	45	75	65	.	>80	65	55	65		40	<20	>80	40	35	25	<20	.	30	<20	65
Salary R4	55	70	75	75	60	65	60	.	45	45	>80	75	.	>80	65	60	80		35	<20	>80	55	40	35	<20	<20	30	20	55
<b>Annual Stipends for PhD candidates</b>																													
R1	40	55	.	75	45	>80	55	35	65	20	45	60	.	.	55	.	75		20	20	.	<20	20	20	20	.	20	25	35
	non-EU	OECD non-EU	other Eur.	OECD Eur.	non-OECD Eur.	AL	BA	CH	FO	HR	IS	ME	MK	NO	RS	RU	TR		non-Eur.	OECD non-Eur.	AU	BR	CA	CN	IL	JP	KR	SG	US
<b>Salaries</b>																													
Salary R1	50	60	40	65	30	20	<20	60	.	50	40	35	40	>80	40	.	25		70	60	.	>80	.	.	55	75	30	.	75
Salary R2	50	60	45	70	35	.	35	>80	.	45	40	30	45	80*	35	.	25		55	55	60	>80	45	25	45	70	40	.	>80
Salary R3	55	65	50	65	40	30	40	>80	.	45	45	35	50	65*	35	.	40		65	65	70	>80	80	25	45	70	40	.	>80
Salary R4	60	70	55	70	45	.	45	>80	.	60	45	30	50	70	25	.	70		65	70	65	>80	75	30	45	65	65	.	>80
<b>Annual Stipends for PhD candidates</b>																													
R1	40	45	40	60	35	<20	40	.	.	35	60	50	65	.	30	.	30		40	40	45	.	35	.	20	.	.	45	65

Source: MORE II expert survey. Minimum, average and maximum of gross annual salaries and PhD stipends (in PPPs) of each country are compared with minimum, average, and maximum of the best paying country in the covered sample respectively. The resulting shares for each country are then averaged within the country and rounded to 5 percentage points. The shown shares for country groups are averages across the respective countries. Covered countries: other Europe: AL, BA, CH, FO, HR, IS, ME, MK, NO, RS, RU, TR; non-Europe: AU, BR, CA, CN, IL, JP, KR, SG, US; OECD (excl. EU): AU, CA, CH, IL, IS, JP, KR, NO, US.\*) The Norwegian Associate Professor is classified as both R2 and R3. Therefore, for Norway the comparison of R2 and R3 with the best paying country might be upward and downward biased respectively.

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Table 3.2.2: Gross annual salaries of first stage researchers (R1) in national currency (and in 2011 PPP €)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>EU15</b>						
AT Austria	34,416 (28,376)	- (-)	- (-)	2011	EUR	
BE Belgium	37,747 (29,707)	- (-)	63,879 (50,273)	2012	EUR	
DE Germany	38,244 (32,539)	- (-)	44,712 (38,042)	2012	EUR	
DK Denmark	304,053 (25,264)	356,899 (29,655)	409,745 (34,047)	2012	DKK	
ES Spain	15,988-22,073 (14,450-19,950)	16,205-22,073 (14,647-19,950)	16,422-22,073 (14,843-19,950)	2012	EUR	
FI Finland	21,000 (14,763)	24,000 (16,873)	31,000 (21,794)	2012	EUR	
FR France	16,200 (13,619)	- (-)	19,800 (16,646)	2008	EUR	
GR Greece	- (-)	3,328 (3,079)	6,656 (6,158)	2012	EUR	
IE Ireland	- (-)	- (-)	- (-)		EUR	
IT Italy	- (-)	- (-)	- (-)		EUR	
LU Luxembourg	- (-)	- (-)	- (-)		EUR	
NL Netherlands	28,500 (23,206)	32,476 (26,443)	36,453 (29,682)	2009	EUR	
PT Portugal	- (-)	- (-)	- (-)		EUR	
SE Sweden	271,500 (20,713)	301,800 (23,024)	334,500 (25,519)	2011	SEK	
UK United Kingdom	- (-)	15,000 (14,962)	50,000 (49,872)	2012	GBP	
<b>EU12</b>						
BG Bulgaria	5,400 (4,768)	6,000 (5,298)	6,600 (5,827)	2012	BGN	
CY Cyprus	22,750 (22,400)	- (-)	39,000 (38,399)	2012	EUR	
CZ Czech Republic	170-240 (7,951-11,224)	288-320 (13,491-14,966)	360-390 (16,836-18,240)	2010	CZK	national currency in 1000
EE Estonia	- (-)	- (-)	- (-)		EUR	
HU Hungary	1,941,612-2,099,040 (9,520-10,292)	- (-)	- (-)	2012	HUF	
LT Lithuania	14,128 (5,068)	- (-)	18,648 (6,690)	2009	LTL	
LV Latvia	4,056 (6,961)	- (-)	- (-)	2010	LVL	
PL Poland	22,620 (8,043)	- (-)	37,440 (13,312)	2011/2012	PLN	
RO Romania	14,676 (5,099)	16,944 (5,887)	19,212 (6,676)	2012	RON	
SI Slovenia	16,481 (17,369)	21,829 (23,006)	27,178 (28,643)	2012	EUR	
<b>NON-EUROPE</b>						
AU Australia	- (-)	- (-)	- (-)		AUD	
BR Brazil	101,080-104,041 (39,713-40,876)	- (-)	- (-)	2012	BRL	
CA Canada	- (-)	- (-)	- (-)		CAD	
CN China	- (-)	- (-)	- (-)	2012	RMB	
IL Israel	99,384 (15,851)	138,672 (22,118)	177,972 (28,386)	2011	ILS	
JP Japan	3,300-3,800 (20,553-23,304)	4,400-5,000 (27,404-30,663)	6,300-7,100 (39,237-43,542)	2010/2012	JPY	national currency in 1000
KR South Korea	- (-)	12,000 (9,349)	- (-)	2012	KRW	national currency in 1000
SG Singapore	- (-)	- (-)	- (-)		SGD	
US USA	23,174 (16,648)	42,408 (30,466)	65,823 (47,287)	2011	USD	

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Table 3.2.2 (continued)

ISO	Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>NON-EU EUROPE</b>							
AL	Albania	552 (6,767)	- (-)	967 (11,857)	2012	ALL	national currency in 1000
BA	Bosnia and Herzegovina	-	6,000 (4,759)	- (-)	2012	BAM	
CH	Switzerland	44,000 (19,423)	- (-)	78,000 (34,431)	2011	CHF	
FO	Faroe Islands	443,011	502,475	591,656	2012	DKK	
HR	Croatia	- (-)	98,820 (15,836)	- (-)	2012	HRK	
IS	Iceland	3,000 (14,410)	3,400 (16,331)	3,800 (18,252)	2012	ISK	national currency in 1000
ME	Montenegro	7,961 (11,825)	9,339 (13,872)	10,401 (15,449)	2012	EUR	
MK	Former Yugoslav Republic of Macedonia	300 (9,503)	450 (14,254)	800 (25,340)	2011	MKD	national currency in 1000
NO	Norway	416,000 (31,178)	424,568 (31,820)	642,900 (48,184)	2012	NOK	
RS	Serbia	720-780 (10,970-11,884)	960-1,080 (14,627-16,455)	1,200-1,380 (18,283-21,026)	2012	RSD	national currency in 1000
RU	Russia	- (-)	- (-)	- (-)		RUB	
TR	Turkey	10,800-18,000 (6,523-10,872)	14,400-20,400 (8,698-12,322)	19,200-23,004 (11,597-13,895)	2012	TRY	
Country Groups - Average Salaries		Minimum	Average	Maximum	Year	Currency	
<b>EU</b>							
	EU	16,315	16,269	23,922	2011	PPP €	
	EU15	22,719	18,648	28,959	2011	PPP €	
	EU12	9,911	12,105	16,727	2011	PPP €	
<b>NON-EU</b>							
	non-EU	17,329	17,824	27,543	2011	PPP €	
	other Europe	14,154	15,365	23,239	2011	PPP €	
	non-Europe	23,681	22,741	39,021	2011	PPP €	
	OECD	19,906	23,186	36,322	2011	PPP €	
	OECD (Europe)	21,670	24,076	33,623	2011	PPP €	
	OECD (non-Europe)	18,143	22,741	39,021	2011	PPP €	
	non-OECD (Europe)	9,644	12,462	17,009	2011	PPP €	

Source: MORE II expert survey. PPP € (2011) in brackets. Salaries in national currency are converted into PPP US-Dollar (2011) and the resulting PPPs are converted into EURO using the currency exchange rate of Eurostat 1,3920\$ = 1EURO; if the year of the salary or the stipend is not 2011, the amount was grossed up to 2011 using the unit labour costs index of the AMECO database.

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Table 3.2.3: Gross annual salaries of recognised researchers (R2) in national currency (and in 2011 PPP €)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>EU15</b>						
AT Austria	45,965 (37,898)	- (-)	- (-)	2011	EUR	
BE Belgium	46,756 (36,797)	- (-)	72,888 (57,363)	2012	EUR	
DE Germany	38,244-42,307 (32,539-35,996)	- (-)	47,122-58,812 (40,092-50,038)	2012	EUR	
DK Denmark	381,857 (31,729)	408,565 (33,948)	435,273 (36,168)	2012	DKK	
ES Spain	25,200-25,265 (22,776-22,835)	25,265-28,500 (22,835-25,759)	25,265-35,314 (22,835-31,918)	2012	EUR	
FI Finland	33,000 (23,200)	41,000 (28,824)	50,000 (35,151)	2012	EUR	
FR France	14,484 (11,800)	- (-)	20,322 (16,556)	2009	EUR	
GR Greece	23,355 (21,606)	29,305 (27,111)	33,912 (31,374)	2012	EUR	
IE Ireland	19,665-51,716 (12,918-33,974)	- (-)	32,930-81,456 (21,633-58,887)	2008/2010	EUR	
IT Italy	34,898 (29,788)	- (-)	45,367 (38,724)	2012	EUR	
LU Luxembourg	- (-)	- (-)	- (-)		EUR	
NL Netherlands	33,200 (27,033)	51,280 (41,754)	69,360 (56,476)	2009	EUR	
PT Portugal	35,172 (35,395)	39,300 (39,549)	43,428 (43,704)	2011	EUR	
SE Sweden	343,000-393,900 (26,167-30,050)	380,530-436,000 (29,030-33,262)	418,140-480,000 (31,900-36,619)	2011	SEK	
UK United Kingdom	23,000 (22,941)	30,000 (29,923)	40,000 (39,898)	2012	GBP	
<b>EU12</b>						
BG Bulgaria	7,800 (6,887)	8,400 (7,417)	9,600 (8,476)	2012	BGN	
CY Cyprus	48,724 (47,973)	- (-)	71,359 (70,260)	2012	EUR	
CZ Czech Republic	200 (9,354)	372 (17,406)	900 (42,091)	2010	CZK	national currency in 1000
EE Estonia	- (-)	14,806 (15,715)	- (-)	2009	EUR	
HU Hungary	2,361,420-2,623,800 (11,578-12,865)	- (-)	- (-)	2012	HUF	
LT Lithuania	14,128 (5,068)	- (-)	27,125 (9,731)	2009	LTL	
LV Latvia	5,076 (8,711)	- (-)	- (-)	2010	LVL	
PL Poland	35,220 (12,523)	- (-)	59,040 (20,993)	2011/2012	PLN	
RO Romania	16,188 (5,625)	20,280 (7,047)	24,372 (8,468)	2012	RON	
SI Slovenia	28,347 (29,876)	35,489 (37,403)	42,631 (44,930)	2012	EUR	
<b>NON-EUROPE</b>						
AU Australia	51,876-73,428 (24,610-34,835)	60,804-80,196 (28,846-38,046)	69,732-86,976 (33,081-41,262)	2010	AUD	
BR Brazil	106,666-109,459 (41,908-43,005)	- (-)	- (-)	2012	BRL	
CA Canada	- (-)	38,000 (21,101)	- (-)	2012	CAD	
CN China	71,000 (11,814)	78,000 (12,979)	105,000 (17,472)	2012	RMB	
IL Israel	101,004 (16,110)	154,836 (24,696)	208,680 (33,284)	2011	ILS	
JP Japan	4,900 (30,050-30,518)	6,000 (36,796-37,369)	8,200 (50,287-51,071)	2010/2012	JPY	national currency in 1000
KR South Korea	18,000 (14,024)	24,000 (18,699)	40,000 (31,164)	2012	KRW	national currency in 1000
SG Singapore	- (-)	- (-)	- (-)		SGD	
US USA	39,264-60,343 (28,207-43,350)	66,564 (47,819)	54,180-93,175 (38,922-66,936)	2011/2012	USD	

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Table 3.2.3 (continued)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>NON-EU EUROPE</b>						
AL Albania	-	-	-		ALL	
BA Bosnia and Herzegovina	(-)	(-)	(-)		BAM	
CH Switzerland	90,000	-	152,000	2011	CHF	
FO Faroe Islands	(39,729)	(-)	(67,097)		DKK	
HR Croatia	-	133,200	-	2012	HRK	
IS Iceland	3,800-4,100	4,050-5,200	4,300-6,400	2012	ISK	national currency in 1000
ME Montenegro	9,619	11,249	12,649	2012	EUR	
MK Former Yugoslav Republic of Macedonia	(14,288)	(16,709)	(18,788)			
NO Norway	500	700	1,200	2011	MKD	national currency in 1000
RS Serbia	(15,838)	(22,173)	(38,010)			
RU Russia	468,000	571,548	689,200	2012	NOK	
TR Turkey	(35,075)	(42,836)	(51,654)			
	900	1,230	1,560	2012	RSD	national currency in 1000
	(13,712)	(18,740)	(23,768)			
	-	-	-		RUB	
	(-)	(-)	(-)			
	19,200	24,000	30,000	2012	TRY	
	(11,597)	(14,497)	(18,121)			
Country Groups - Average Salaries	Minimum	Average	Maximum	Year	Currency	
<b>EU</b>						
EU	22,825	26,272	35,203	2011	PPP €	
EU15	27,625	32,069	38,393	2011	PPP €	
EU12	15,360	16,997	29,278	2011	PPP €	
<b>NON-EU</b>						
non-EU	23,537	24,695	35,815	2011	PPP €	
other Europe	21,316	21,825	34,734	2011	PPP €	
non-Europe	25,758	27,974	37,077	2011	PPP €	
OECD	27,476	30,987	43,680	2011	PPP €	
OECD (Europe)	31,259	32,526	48,149	2011	PPP €	
OECD (non-Europe)	25,207	30,474	40,998	2011	PPP €	
non-OECD (Europe)	13,859	18,258	24,672	2011	PPP €	

Source: MORE II expert survey. PPP € (2011) in brackets. Salaries in national currency are converted into PPP US-Dollar (2011) and the resulting PPPs are converted into EURO using the currency exchange rate of Eurostat 1,3920\$ = 1EURO; if the year of the salary or the stipend is not 2011, the amount was grossed up to 2011 using the unit labour costs index of the AMECO database.

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Table 3.2.4: Gross annual salaries of established researchers (R3) in national currency (and in 2011 PPP €)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>EU15</b>						
AT Austria	46,735 (38,532)	- (-)	- (-)	2011	EUR	
BE Belgium	47,149 (37,106)	- (-)	93,935 (73,927)	2012	EUR	
DE Germany	41,472-52,700 (35,285-44,838)	- (-)	47,122-64,400 (40,092-54,793)	2012	EUR	
DK Denmark	441,149 (36,656)	507,550 (42,173)	573,951 (47,691)	2012	DKK	
ES Spain	29,341-35,638 (26,519-32,211)	42,300-49,300 (38,232-44,559)	54,700-60,000 (49,439-54,230)	2012	EUR	
FI Finland	39,000 (27,418)	57,000 (40,072)	68,000 (47,806)	2012	EUR	
FR France	21,168 (17,796)	38,280 (32,182)	44,904 (37,751)	2008	EUR	
GR Greece	25,616 (23,698)	32,076 (29,675)	36,023 (33,326)	2012	EUR	
IE Ireland	63,125-64,032 (41,469-46,291)	- (-)	68,817-94,032 (45,208-67,979)	2008/2010	EUR	
IT Italy	45,346 (38,706)	- (-)	- (-)	2012	EUR	
LU Luxembourg	- (-)	- (-)	- (-)		EUR	
NL Netherlands	61,797 (50,318)	72,208 (58,795)	82,620 (67,273)	2009	EUR	
PT Portugal	39,300 (39,549)	42,630 (42,901)	45,960 (46,252)	2011	EUR	
SE Sweden	363,600-424,200 (27,739-32,362)	435,300-488,650 (33,209-37,279)	521,160-567,200 (39,759-43,271)	2011	SEK	
UK United Kingdom	30,000 (29,923)	40,000 (39,898)	55,000 (54,859)	2012	GBP	
<b>EU12</b>						
BG Bulgaria	9,360 (8,264)	10,800 (9,536)	12,000 (10,595)	2012	BGN	
CY Cyprus	57,694 (56,806)	- (-)	77,811 (76,613)	2012	EUR	
CZ Czech Republic	300-420 (14,030-19,643)	450-547 (21,046-25,559)	610-1,200 (28,528-56,122)	2010	CZK	national currency in 1000
EE Estonia	- (-)	19,899 (21,121)	- (-)	2009	EUR	
HU Hungary	2,886,180-3,673,320 (14,151-18,010)	- (-)	- (-)	2012	HUF	
LT Lithuania	18,648 (6,690)	- (-)	39,133 (14,039)	2009	LTL	
LV Latvia	- (-)	- (-)	- (-)		LVL	
PL Poland	42,480 (15,104)	- (-)	84,000 (29,868)	2011/2012	PLN	
RO Romania	17,388 (6,042)	21,984 (7,639)	30,180 (10,487)	2012	RON	
SI Slovenia	32,489 (34,240)	40,598 (42,787)	48,708 (51,334)	2012	EUR	
<b>NON-EUROPE</b>						
AU Australia	89,784 (42,594)	96,552 (45,805)	103,332 (49,021)	2010	AUD	
BR Brazil	147,630-153,349 (58,002-60,249)	- (-)	- (-)	2012	BRL	
CA Canada	45,590-46,698 (26,119-26,754)	88,932-109,535 (50,951-62,755)	111,500-137,000 (63,881-78,490)	2009	CAD	
CN China	83,000 (13,811)	94,000 (15,642)	138,000 (22,963)	2012	RMB	
IL Israel	110,472 (17,620)	180,564 (28,799)	250,668 (39,981)	2011	ILS	
JP Japan	5,900-6,300 (36,182-39,237)	7,000-7,500 (42,928-46,711)	8,700-9,300 (53,354-57,921)	2010/2012	JPY	national currency in 1000
KR South Korea	24,000 (18,699)	36,000 (28,048)	42,000 (32,722)	2012	KRW	national currency in 1000
SG Singapore	- (-)	- (-)	- (-)		SGD	
US USA	71,674-73,115 (51,490-52,525)	78,565 (56,440)	86,241-129,517 (61,955-93,044)	2011/2012	USD	

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Table 3.2.4 (continued)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>NON-EU EUROPE</b>						
AL Albania	1,440 (17,654)	- (-)	1,800 (22,067)	2012	ALL	national currency in 1000
BA Bosnia and Herzegovina	- (-)	30,420 (24,130)	- (-)	2012	BAM	
CH Switzerland	112,000 (49,440)	- (-)	163,000 (71,953)	2011	CHF	
FO Faroe Islands	412,508 (-)	471,971 (-)	561,153 (-)	2012	DKK	
HR Croatia	- (-)	156,360-188,292 (25,057-30,174)	- (-)	2012	HRK	
IS Iceland	4,600-5,060 (22,095-24,305)	6,250-6,630 (30,021-31,846)	7,900-8,200 (37,946-39,387)	2012	ISK	national currency in 1000
ME Montenegro	12,837 (19,068)	14,829 (22,026)	17,210 (25,563)	2012	EUR	
MK Former Yugoslav Republic of Macedonia	700 (22,173)	900 (28,508)	1,500 (47,513)	2011	MKD	national currency in 1000
NO Norway	468,000 (35,075)	571,548 (42,836)	689,200 (51,654)	2012	NOK	
RS Serbia	1,020 (15,541)	1,410 (21,483)	1,800 (27,425)	2012	RSD	national currency in 1000
RU Russia	- (-)	- (-)	- (-)		RUB	
TR Turkey	27,576-42,000 (16,657-25,369)	28,500-60,000 (17,215-36,241)	29,436-78,000 (17,780-47,114)	2012	TRY	
<b>Country Groups - Average Salaries</b>						
	Minimum	Average	Maximum	Year	Currency	
<b>EU</b>						
EU	29,171	33,337	44,419	2011	PPP €	
EU15	34,407	40,259	50,726	2011	PPP €	
EU12	20,008	20,877	33,609	2011	PPP €	
<b>NON-EU</b>						
non-EU	29,447	33,378	44,420	2011	PPP €	
other Europe	25,395	28,032	39,661	2011	PPP €	
non-Europe	33,499	39,487	49,859	2011	PPP €	
OECD	33,642	41,817	54,258	2011	PPP €	
OECD (Europe)	35,905	36,885	54,091	2011	PPP €	
OECD (non-Europe)	32,511	43,461	54,341	2011	PPP €	
non-OECD (Europe)	19,090	25,082	31,003	2011	PPP €	

Source: MORE II expert survey. PPP € (2011) in brackets. Salaries in national currency are converted into PPP US-Dollar (2011) and the resulting PPPs are converted into EURO using the currency exchange rate of Eurostat 1,3920\$ = 1EURO; if the year of the salary or the stipend is not 2011, the amount was grossed up to 2011 using the unit labour costs index of the AMECO database.

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Table 3.2.5: Gross annual salaries of leading researchers (R4) in national currency (and in 2011 PPP €)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>EU15</b>						
AT Austria	62,133 (51,228)	- (-)	- (-)	2011	EUR	
BE Belgium	64,511 (50,770)	- (-)	110,389 (86,876)	2012	EUR	
DE Germany	48,328-57,990 (41,118-49,339)	- (-)	66,347-79,616 (56,449-67,739)	2012	EUR	
DK Denmark	579,959 (48,190)	663,340 (55,118)	746,722 (62,047)	2012	DKK	
ES Spain	43,978 (39,749)	57,350 (51,835)	68,700 (62,093)	2012	EUR	
FI Finland	- (-)	- (-)	- (-)		EUR	
FR France	30,684 (25,796)	49,332 (41,473)	61,548 (51,743)	2008	EUR	
GR Greece	30,151-35,307 (27,893-32,663)	36,635-42,815 (33,892-39,609)	42,264-52,309 (39,100-48,393)	2012	EUR	
IE Ireland	78,948 (57,074)	- (-)	146,028 (105,568)	2010	EUR	
IT Italy	60,158 (51,349)	- (-)	- (-)	2012	EUR	
LU Luxembourg	- (-)	- (-)	- (-)		EUR	
NL Netherlands	68,510 (55,784)	94,420 (76,881)	120,330 (97,978)	2009	EUR	
PT Portugal	50,382 (50,702)	54,357 (54,702)	58,332 (58,702)	2011	EUR	
SE Sweden	557,500 (42,531)	667,850 (50,950)	808,400 (61,672)	2011	SEK	
UK United Kingdom	56,000 (55,857)	65,000 (64,833)	- (-)	2012	GBP	
<b>EU12</b>						
BG Bulgaria	10,680 (9,430)	12,000 (10,595)	14,400 (12,715)	2012	BGN	
CY Cyprus	61,831-70,106 (60,878-69,027)	- (-)	84,296-91,128 (82,998-89,725)	2012	EUR	
CZ Czech Republic	500 (23,384)	721 (33,728)	2,100 (98,213)	2010	CZK	national currency in 1000
EE Estonia	- (-)	30,671 (32,554)	- (-)	2009	EUR	
HU Hungary	3,935,700-5,247,600 (19,297-25,729)	- (-)	- (-)	2012	HUF	
LT Lithuania	27,972 (10,035)	- (-)	50,294 (18,042)	2009	LTL	
LV Latvia	6,348 (10,894)	- (-)	- (-)	2010	LVL	
PL Poland	49,740 (17,686)	- (-)	120,000 (42,668)	2011/2012	PLN	
RO Romania	30,216 (10,499)	44,868 (15,590)	59,508 (20,677)	2012	RON	
SI Slovenia	38,614 (40,696)	45,419 (47,868)	52,225 (55,041)	2012	EUR	
<b>NON-EUROPE</b>						
AU Australia	107,976 (51,225)	113,352-138,552 (53,775-65,730)	118,728 (56,325)	2010	AUD	
BR Brazil	158,004-162,526 (62,078-63,854)	- (-)	- (-)	2012	BRL	
CA Canada	57,136 (32,734)	139,861 (80,129)	- (-)	2009	CAD	
CN China	95,000 (15,808)	115,000 (19,136)	250,000 (41,600)	2012	RMB	
IL Israel	121,776 (19,423)	241,944 (38,589)	362,124 (57,758)	2011	ILS	
JP Japan	7,600-8,200 (46,608-51,071)	8,500-9,200 (52,127-57,299)	10,300-11,200 (63,166-69,755)	2010/2012	JPY	national currency in 1000
KR South Korea	13,800-62,772 (11,171-50,814)	57,000-86,850 (46,141-70,305)	73,044-156,840 (59,129-126,961)	2010	KRW	national currency in 1000
SG Singapore	- (-)	- (-)	- (-)		SGD	
US USA	99,691 (71,617)	117,368 (84,316)	139,954 (100,542)	2012	USD	

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Table 3.2.5 (continued)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>NON-EU EUROPE</b>						
AL Albania	-	-	-		ALL	
	(-)	(-)	(-)			
BA Bosnia and Herzegovina	-	45,000	-	2012	BAM	
	(-)	(35,696)	(-)			
CH Switzerland	110,000	-	271,000	2011	CHF	
	(48,557)	(-)	(119,627)			
FO Faroe Islands	469,148	528,612	617,793	2012	DKK	
	(-)	(-)	(-)			
HR Croatia	-	296,892	-	2012	HRK	
	(-)	(47,577)	(-)			
IS Iceland	5,700	8,150	10,600	2012	ISK	national currency in 1000
	(27,379)	(39,147)	(50,915)			
ME Montenegro	14,469	16,701	19,288	2012	EUR	
	(21,492)	(24,807)	(28,650)			
MK Former Yugoslav Republic of Macedonia	840	1,200	2,500	2011	MKD	national currency in 1000
	(26,607)	(38,010)	(79,188)			
NO Norway	572,700	711,036	1,215,800	2012	NOK	
	(42,922)	(53,290)	(91,121)			
RS Serbia	1,080	1,500	1,920	2012	RSD	national currency in 1000
	(16,455)	(22,854)	(29,253)			
RU Russia	-	-	-		RUB	
	(-)	(-)	(-)			
TR Turkey	43,584-108,000	47,928-150,000	52,284-192,000	2012	TRY	
	(26,326-65,234)	(28,950-90,603)	(31,581-115,972)			
Country Groups - Average Salaries	Minimum	Average	Maximum	Year	Currency	
<b>EU</b>						
EU	37,077	44,068	60,367	2011	PPP €	
EU15	46,503	54,068	69,252	2011	PPP €	
EU12	23,462	28,067	47,674	2011	PPP €	
<b>NON-EU</b>						
non-EU	37,394	47,706	67,652	2011	PPP €	
other Europe	32,742	40,145	67,504	2011	PPP €	
non-Europe	41,464	56,348	67,825	2011	PPP €	
OECD	41,311	58,468	78,377	2011	PPP €	
OECD (Europe)	39,619	46,219	87,221	2011	PPP €	
OECD (non-Europe)	42,157	62,551	73,070	2011	PPP €	
non-OECD (Europe)	27,583	38,120	52,717	2011	PPP €	

Source: MORE II expert survey. PPP € (2011) in brackets. Salaries in national currency are converted into PPP US-Dollar (2011) and the resulting PPPs are converted into EURO using the currency exchange rate of Eurostat 1,3920\$ = 1EURO; if the year of the salary or the stipend is not 2011, the amount was grossed up to 2011 using the unit labour costs index of the AMECO database.

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Table 3.2.6: Gross annual stipends of PhD candidates in national currency (and in 2011 PPP €)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>EU15</b>						
AT Austria	-	-	-		EUR	
	(-)	(-)	(-)			
BE Belgium	25,489	-	30,887	2011	EUR	
	(20,060)	(-)	(24,308)			
DE Germany	13,200	-	17,600	2011	EUR	
	(11,231)	(-)	(14,974)			
DK Denmark	304,053	335,625	367,197	2011	DKK	
	(25,264)	(27,888)	(30,511)			
ES Spain	15,988	16,500	19,800	2011	EUR	
	(14,450)	(14,913)	(17,896)			
FI Finland	-	-	19,400	2011	EUR	
	(-)	(-)	(13,639)			
FR France	-	20,112	-	2011	EUR	
	(-)	(15,986)	(-)			
GR Greece	-	5,400	-	2011	EUR	
	(-)	(4,996)	(-)			
IE Ireland	16,000	-	18,000	2011	EUR	
	(12,064)	(-)	(13,572)			
IT Italy	16,160	-	-	2011	EUR	
	(13,794)	(-)	(-)			
LU Luxembourg	-	-	-	2011	EUR	
	(-)	(-)	(-)			
NL Netherlands	-	-	-	2011	EUR	
	(-)	(-)	(-)			
PT Portugal	11,760	16,140	20,520	2011	EUR	
	(11,835)	(16,242)	(20,650)			
SE Sweden	-	-	-	2011	SEK	
	(-)	(-)	(-)			
UK United Kingdom	13,590	15,000	45,000	2011	GBP	
	(13,555)	(14,962)	(44,885)			
<b>EU12</b>						
BG Bulgaria	5,400	6,000	7,200	2011	BGN	
	(4,768)	(5,298)	(6,357)			
CY Cyprus	-	-	-	2011	EUR	
	(-)	(-)	(-)			
CZ Czech Republic	57	75	100	2011	CZK	national currency in 1000
	(2,662)	(3,502)	(4,670)			
EE Estonia	-	4,602	-	2011	EUR	
	(-)	(5,131)	(-)			
HU Hungary	-	1,116,000	-	2011	HUF	
	(-)	(5,472)	(-)			
LT Lithuania	12,948	-	14,976	2011	LTL	
	(5,031)	(-)	(5,819)			
LV Latvia	-	-	-	2011	LVL	
	(-)	(-)	(-)			
PL Poland	13,572	-	-	2011	PLN	
	(4,826)	(-)	(-)			
RO Romania	14,676	-	-	2011	RON	
	(5,099)	(-)	(-)			
SI Slovenia	1,212	5,968	27,654	2011	EUR	
	(1,277)	(6,290)	(29,145)			
<b>NON-EUROPE</b>						
AU Australia	-	23,728	-	2011	AUD	
	(-)	(10,779)	(-)			
BR Brazil	-	-	-	2011	BRL	
	(-)	(-)	(-)			
CA Canada	0	-	50,000	2011	CAD	
	(0)	(-)	(27,764)			
CN China	-	-	-	2011	RMB	
	(-)	(-)	(-)			
IL Israel	18,000	32,400	48,000	2011	ILS	
	(2,871)	(5,168)	(7,656)			
JP Japan	-	-	-	2011	JPY	
	(-)	(-)	(-)			
KR South Korea	-	-	-	2011	KRW	
	(-)	(-)	(-)			
SG Singapore	24,000	26,400	30,000	2011	SGD	
	(11,318)	(12,450)	(14,147)			
US USA	-	22,032	-	2011	USD	
	(-)	(15,828)	(-)			

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Table 3.2.6 (continued)

ISO Country	Minimum	Average	Maximum	Year	Currency	Notes
<b>NON-EU EUROPE</b>						
AL Albania	150	-	220	2011	ALL	national currency in 1000
	(1,839)	(-)	(2,697)			
BA Bosnia and Herzegovina	-	12,000	-	2011	BAM	
	(-)	(9,519)	(-)			
CH Switzerland	-	-	-	2011	CHF	
	(-)	(-)	(-)			
FO Faroe Islands	-	-	-	2011	DKK	
	(-)	(-)	(-)			
HR Croatia	-	-	90,000	2011	HRK	
	(-)	(-)	(14,423)			
IS Iceland	3,480	3,480	3,480	2011	ISK	national currency in 1000
	(16,715)	(16,715)	(16,715)			
ME Montenegro	9,384	9,384	9,384	2011	EUR	
	(13,939)	(13,939)	(13,939)			
MK Former Yugoslav Republic of Macedonia	400	550	800	2011	MKD	national currency in 1000
	(12,670)	(17,421)	(25,340)			
NO Norway	-	-	-	2011	NOK	
	(-)	(-)	(-)			
RS Serbia	436	-	-	2012	RSD	national currency in 1000
	(6,641)	(-)	(-)			
RU Russia	-	-	-	2011	RUB	
	(-)	(-)	(-)			
TR Turkey	9,600	14,400	19,200	2011	TRY	
	(5,799)	(8,698)	(11,597)			
Country Groups - Average Salaries	Minimum	Average	Maximum	Year	Currency	
<b>EU</b>						
EU	10,423	10,971	18,869	2011	PPP €	
EU15	15,282	15,831	22,554	2011	PPP €	
EU12	3,944	5,139	11,498	2011	PPP €	
<b>NON-EU</b>						
non-EU	7,977	12,280	14,920	2011	PPP €	
other Europe	9,601	13,258	14,119	2011	PPP €	
non-Europe	4,730	11,056	16,523	2011	PPP €	
OECD	6,529	12,122	17,379	2011	PPP €	
OECD (Europe)	16,715	16,715		2011	PPP €	
OECD (non-Europe)	1,435	10,591		2011	PPP €	
non-OECD (Europe)	8,178	12,394		2011	PPP €	

Source: MORE II expert survey. PPP € (2011) in brackets. Stipends in national currency are converted into PPP US-Dollar (2011) and the resulting PPPs are converted into EURO using the currency exchange rate of Eurostat 1,3920\$ = 1EURO; if the year of the salary or the stipend is not 2011, the amount was grossed up to 2011 using the unit labour costs index of the AMECO database.

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Table 3.2.7: Employment status and contract period of university researchers by career stage. A country comparison

	EU	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	NL	PL	PT	RO	SE	SI	UK
<b>Employment status</b>																										
<b>R1</b>																										
Civil Servant	4 / 22	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	-	-	NO	NO	NO	YES	NO	-	NO	YES	YES	NO
Employee	18 / 22	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	-	-	YES	YES	YES	NO	YES	-	YES	NO	NO	YES
<b>R2</b>																										
Civil Servant	8 / 25	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES	YES	YES	NO	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
Employee	19 / 25	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	NO	YES	NO	YES	NO	NO	YES
<b>R3</b>																										
Civil Servant	12 / 24	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	YES	YES	YES	YES	YES	NO	NO	-	YES	NO	YES	NO	YES	YES	NO
Employee	15 / 24	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	YES	NO	YES	YES	-	NO	YES	NO	YES	NO	NO	YES
<b>R4</b>																										
Civil Servant	13 / 24	NO	NO	NO	YES	NO	YES	YES	NO	YES	-	YES	YES	YES	YES	YES	NO	NO	NO	YES	NO	YES	NO	YES	YES	NO
Employee	12 / 24	YES	YES	YES	NO	YES	YES	NO	YES	NO	-	NO	NO	NO	NO	NO	YES	YES	YES	NO	YES	NO	YES	NO	NO	YES
<b>Typical contract period</b>																										
<b>R1</b>																										
Fixed <1 year	2 / 22	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	-	-	NO	NO	NO	NO	NO	-	NO	NO	NO	NO
Fixed 1-2 years	5 / 22	NO	NO	NO	YES	NO	YES	YES	NO	NO	NO	NO	NO	YES	-	-	YES	YES	NO	NO	NO	-	NO	NO	NO	NO
Fixed 2-4 years	12 / 22	YES	YES	NO	NO	YES	NO	YES	YES	YES	YES	YES	NO	YES	-	-	NO	NO	YES	NO	-	NO	YES	YES	NO	NO
Fixed >4 years	4 / 22	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	-	-	YES	NO	YES	NO	-	NO	NO	NO	NO	NO
Permanent	2 / 22	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	-	NO	NO	NO	NO	YES	-	YES	NO	NO	NO
Other	1 / 22	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	-	NO	NO	NO	NO	NO	-	NO	NO	NO	YES
Unknown	0 / 22	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	-	NO	NO	NO	NO	NO	-	NO	NO	NO	NO
<b>R2</b>																										
Fixed <1 year	1 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO
Fixed 1-2 years	5 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO
Fixed 2-4 years	10 / 25	YES	YES	NO	YES	NO	YES	NO	NO	YES	YES	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES
Fixed >4 years	7 / 25	NO	NO	NO	NO	YES	YES	YES	YES	NO	NO	NO	YES	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	NO	NO	NO
Permanent	6 / 25	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	NO
Other	1 / 25	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Unknown	0 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>R3</b>																										
Fixed <1 year	0 / 24	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO
Fixed 1-2 years	0 / 24	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO
Fixed 2-4 years	2 / 24	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO
Fixed >4 years	6 / 24	NO	NO	NO	YES	NO	YES	NO	YES	NO	NO	NO	YES	NO	YES	NO	YES	YES	-	NO	NO	NO	NO	NO	NO	NO
Permanent	18 / 24	YES	YES	YES	NO	YES	NO	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	NO	-	YES	YES	YES	YES	YES	YES	YES
Other	2 / 24	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO
Unknown	0 / 24	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO
<b>R4</b>																										
Fixed <1 year	0 / 24	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Fixed 1-2 years	0 / 24	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Fixed 2-4 years	0 / 24	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Fixed >4 years	2 / 24	NO	NO	NO	NO	NO	NO	NO	YES	NO	-	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO
Permanent	21 / 24	YES	YES	YES	YES	YES	YES	YES	NO	NO	-	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES
Other	1 / 24	NO	NO	NO	NO	NO	NO	NO	NO	YES	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Unknown	0 / 24	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

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Table 3.2.7 continued

	non-EU	other Europe	AL	BA	CH	FO	HR	IS	ME	MK	NO	RS	RU	TR		non-Eur.	AU	BR	CA	CN	IL	JP	KR	SG	US	
<b>Employment status</b>																										
<b>R1</b>																										
Civil Servant	4 / 21	2 / 12	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES		2 / 9	NO	YES	NO	NO	NO	YES	NO	NO	NO	
Employee	19 / 21	11 / 12	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES		8 / 9	YES	NO	YES	YES	YES	YES	YES	YES	YES	
<b>R2</b>																										
Civil Servant	6 / 19	2 / 10	-	NO	NO	-	NO	NO	NO	NO	YES	NO	NO	YES		4 / 9	YES	YES	NO	NO	NO	YES	NO	YES	NO	
Employee	17 / 19	9 / 10	-	YES	YES	-	YES	YES	YES	YES	NO	YES	YES	YES		8 / 9	YES	NO	YES	YES	YES	YES	YES	YES	YES	
<b>R3</b>																										
Civil Servant	7 / 21	3 / 12	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	YES		4 / 9	YES	YES	NO	NO	NO	YES	NO	YES	NO	
Employee	18 / 21	10 / 12	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES		8 / 9	YES	NO	YES	YES	YES	YES	YES	YES	YES	
<b>R4</b>																										
Civil Servant	7 / 20	3 / 11	-	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	YES		4 / 9	NO	YES	NO	NO	NO	YES	YES	YES	NO	
Employee	17 / 20	9 / 11	-	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES		8 / 9	YES	NO	YES	YES	YES	YES	YES	YES	YES	
<b>Typical contract period</b>																										
<b>R1</b>																										
Fixed <1 year	4 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		4 / 9	NO	NO	YES	NO	YES	NO	YES	NO	YES	
Fixed 1-2 years	5 / 21	3 / 12	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES		2 / 9	NO	NO	NO	YES	NO	NO	NO	YES	NO	
Fixed 2-4 years	4 / 21	4 / 12	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	NO	YES		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Fixed >4 years	4 / 21	3 / 12	NO	NO	YES	NO	YES	NO	YES	NO	NO	NO	NO	NO		1 / 9	NO	NO	NO	NO	NO	YES	NO	NO	NO	
Permanent	2 / 21	1 / 12	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		1 / 9	NO	YES	NO	NO	NO	NO	NO	NO	NO	
Other	0 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Unknown	2 / 21	1 / 12	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO		1 / 9	YES	NO	NO	NO	NO	NO	NO	NO	NO	
<b>R2</b>																										
Fixed <1 year	2 / 19	1 / 10	-	NO	NO	-	NO	YES	NO	NO	NO	NO	NO	NO		1 / 9	NO	NO	NO	NO	YES	NO	NO	NO	NO	
Fixed 1-2 years	4 / 19	0 / 10	-	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO		4 / 9	NO	NO	YES	NO	NO	NO	YES	YES	YES	
Fixed 2-4 years	5 / 19	4 / 10	-	YES	NO	-	NO	YES	NO	YES	NO	NO	YES	NO		1 / 9	NO	NO	NO	YES	NO	NO	NO	NO	NO	
Fixed >4 years	6 / 19	5 / 10	-	NO	YES	-	YES	NO	YES	NO	NO	YES	NO	YES		1 / 9	NO	NO	NO	NO	NO	YES	NO	NO	NO	
Permanent	3 / 19	1 / 10	-	NO	NO	-	NO	NO	NO	NO	YES	NO	NO	NO		2 / 9	NO	YES	NO	NO	NO	NO	NO	YES	NO	
Other	1 / 19	1 / 10	-	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	YES		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Unknown	1 / 19	0 / 10	-	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO		1 / 9	YES	NO	NO	NO	NO	NO	NO	NO	NO	
<b>R3</b>																										
Fixed <1 year	0 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Fixed 1-2 years	0 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Fixed 2-4 years	3 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		3 / 9	NO	NO	NO	YES	NO	NO	YES	YES	NO	
Fixed >4 years	7 / 21	6 / 12	NO	YES	NO	NO	YES	NO	YES	NO	YES	YES	YES	NO		1 / 9	NO	NO	NO	NO	NO	YES	NO	NO	NO	
Permanent	10 / 21	6 / 12	YES	NO	YES	YES	NO	YES	NO	NO	YES	NO	NO	YES		4 / 9	NO	YES	YES	NO	YES	NO	NO	NO	YES	
Other	2 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		2 / 9	NO	NO	YES	NO	NO	NO	NO	NO	YES	
Unknown	2 / 21	1 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES		1 / 9	YES	NO	NO	NO	NO	NO	NO	NO	NO	
<b>R4</b>																										
Fixed <1 year	0 / 20	0 / 11	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Fixed 1-2 years	0 / 20	0 / 11	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Fixed 2-4 years	0 / 20	0 / 11	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Fixed >4 years	3 / 20	1 / 11	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES		2 / 9	NO	NO	NO	YES	NO	NO	YES	NO	NO	
Permanent	16 / 20	9 / 11	-	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES		7 / 9	NO	YES	YES	NO	YES	YES	YES	YES	YES	
Other	1 / 20	0 / 11	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		1 / 9	NO	NO	NO	NO	NO	NO	NO	YES	NO	
Unknown	3 / 20	2 / 11	-	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES		1 / 9	YES	NO	NO	NO	NO	NO	NO	NO	NO	

Source: MORE II expert survey. "Employment status" and "Typical contract period" show whether there are job positions accessible for university researchers with the respective type of employment status or contract duration respectively. Country group columns show the number of countries equalling "YES" in all non-missing countries. [return to page 27](#)

Table 3.2.8: Social security insurance covered by remuneration packages of university researchers by career stage. A country comparison

	EU	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	NL	PL	PT	RO	SE	SI	UK	
<b>Health care insurance</b>																											
R1	17 / 22	YES	YES	YES	NO	YES	YES	NO	YES	YES	YES	YES	YES	YES	-	-	YES	YES	NO	NO	YES	-	YES	YES	YES	YES	NO
R2	21 / 25	YES	YES	YES	YES	YES	(YES)	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES	NO
R3	21 / 24	YES	YES	YES	YES	YES	(YES)	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	-	NO	YES	YES	YES	YES	YES	YES	NO
R4	20 / 24	YES	YES	YES	YES	YES	(YES)	NO	YES	YES	-	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	YES	YES	YES	NO
<b>Pension retirement insurance</b>																											
R1	19 / 22	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	-	-	YES	YES	NO	YES	YES	-	YES	YES	YES	YES	NO
R2	24 / 25	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES
R3	24 / 24	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	-	YES	YES	YES	YES	YES	YES	YES	YES
R4	23 / 24	YES	YES	YES	YES	YES	YES	YES	YES	YES	-	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES
<b>Unemployment insurance</b>																											
R1	16 / 22	YES	YES	YES	NO	YES	YES	NO	YES	YES	YES	YES	YES	NO	-	-	YES	YES	NO	YES	YES	-	YES	NO	YES	NO	NO
R2	19 / 25	YES	YES	YES	NO	YES	(YES)	NO	YES	YES	YES	YES	YES	NO	YES	YES	(YES)	YES	NO	YES	YES	YES	YES	NO	YES	NO	NO
R3	18 / 24	YES	YES	YES	NO	YES	(YES)	NO	YES	YES	YES	YES	YES	NO	YES	NO	YES	YES	-	YES	YES	YES	YES	NO	YES	NO	NO
R4	17 / 24	YES	YES	YES	NO	YES	(YES)	NO	YES	YES	-	YES	YES	NO	YES	NO	YES	YES	NO	YES	YES	YES	YES	NO	YES	NO	NO
	non-EU	other Eur.	AL	BA	CH	FO	HR	IS	ME	MK	NO	RS	RU	TR		non-Eur.	AU	BR	CA	CN	IL	JP	KR	SG	US		
<b>Health care insurance</b>																											
R1	15 / 20	9 / 11	YES	NO	NO	YES	YES	YES	YES	YES	YES	YES	-	YES		6 / 9	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES
R2	14 / 18	8 / 9	-	YES	NO	-	YES	YES	YES	YES	YES	YES	-	YES		6 / 9	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	(YES)
R3	17 / 20	10 / 11	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	-	YES		7 / 9	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
R4	16 / 19	9 / 10	-	YES	NO	YES	YES	YES	YES	YES	YES	YES	-	YES		7 / 9	NO	NO	YES	YES	YES	YES	YES	(YES)	YES	YES	YES
<b>Pension retirement insurance</b>																											
R1	15 / 20	9 / 11	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	-	NO		6 / 9	YES	YES	NO	YES	YES	YES	NO	YES	NO	NO	NO
R2	16 / 18	9 / 9	-	YES	YES	-	YES	YES	YES	YES	YES	YES	-	YES		7 / 9	YES	YES	NO	YES	YES	YES	NO	YES	(YES)	YES	(YES)
R3	19 / 20	11 / 11	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	-	YES		8 / 9	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
R4	19 / 19	10 / 10	-	YES	YES	YES	YES	YES	YES	YES	YES	YES	-	YES		9 / 9	YES	YES	YES	YES	YES	YES	(YES)	YES	YES	YES	YES
<b>Unemployment insurance</b>																											
R1	11 / 20	6 / 11	YES	NO	NO	YES	NO	YES	YES	NO	YES	YES	-	NO		5 / 9	NO	NO	YES	YES	YES	YES	NO	NO	NO	YES	YES
R2	12 / 18	8 / 9	-	YES	YES	-	YES	YES	YES	NO	YES	YES	-	YES		4 / 9	NO	NO	NO	YES	YES	YES	NO	NO	NO	(YES)	YES
R3	15 / 20	10 / 11	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	-	YES		5 / 9	NO	NO	YES	YES	YES	YES	NO	NO	NO	YES	YES
R4	14 / 19	9 / 10	-	YES	YES	YES	YES	YES	YES	NO	YES	YES	-	YES		5 / 9	NO	NO	YES	YES	YES	YES	NO	NO	NO	YES	YES

Source: MORE II expert survey. Based on question "Please indicate which of the following types of mandatory or company-provided insurance are covered by the annual gross salary." "(YES)" indicates that not all contract types within the career stage have a corresponding insurance coverage. Country group columns show the number of countries equalling either "YES" or "(YES)" in all non-missing countries.

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Table 3.2.9: Quality of health care insurance of university researchers. A country comparison

	EU	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	NL	PL	PT	RO	SE	SI	UK	
Universities provide health care insurance for university researchers exceeding what is mandated by law...																											
Always	4 / 24	NO	NO	NO	YES	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO	
Depending on university	5 / 24	YES	YES	NO	NO	-	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	
Depending on employee status	2 / 24	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	
Depending on contract	2 / 24	NO	YES	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Never	12 / 24	NO	NO	YES	NO	-	YES	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	YES	NO	
Researchers's remuneration compulsorily covers...																											
Ambulant treatment	19 / 24	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	-	YES	YES	NO	NO	YES	YES	YES	YES	YES	NO	
Hospital treatment	19 / 24	YES	NO	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	-	YES	YES	NO	NO	YES	YES	YES	YES	YES	NO	
Pharmaceuticals / drugs	19 / 24	YES	NO	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	-	YES	YES	NO	NO	YES	YES	YES	YES	YES	NO	
Rehabilitation	18 / 24	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	NO	-	YES	YES	NO	NO	YES	YES	YES	YES	YES	NO	
No compulsory coverage	4 / 24	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	YES	
Researchers usually purchase additional health care insurance beyond what is already provided in the remuneration packages:																											
	8 / 20	-	NO	NO	YES	-	NO	YES	NO	-	NO	YES	-	NO	YES	NO	NO	YES	NO	YES	NO	YES	NO	NO	YES	-	
	non-EU	other Eur.	AL	BA	CH	FO	HR	IS	ME	MK	NO	RS	RU	TR		non-Eur.	AU	BR	CA	CN	IL	JP	KR	SG	US		
Universities provide health care insurance for university researchers exceeding what is mandated by law...																											
Always	9 / 18	3 / 11	NO	NO	NO	NO	YES	NO	NO	NO	-	YES	NO	YES		6 / 7	-	NO	YES	YES	-	YES	YES	YES	YES		
Depending on university	3 / 18	2 / 11	NO	YES	NO	NO	NO	NO	NO	NO	-	NO	YES	NO		1 / 7	-	YES	NO	NO	-	NO	NO	NO	NO		
Depending on employee status	1 / 18	0 / 11	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO		1 / 7	-	NO	YES	NO	-	NO	NO	NO	NO		
Depending on contract	2 / 18	1 / 11	NO	YES	NO	NO	NO	NO	NO	NO	-	NO	NO	NO		1 / 7	-	NO	YES	NO	-	NO	NO	NO	NO		
Never	6 / 18	6 / 11	YES	NO	YES	YES	NO	YES	YES	YES	-	NO	NO	NO		0 / 7	-	NO	NO	NO	-	NO	NO	NO	NO		
Researchers's remuneration compulsorily covers...																											
Ambulant treatment	15 / 18	10 / 11	YES	YES	NO	YES	YES	YES	YES	YES	-	YES	YES	YES		5 / 7	NO	NO	-	YES	-	YES	YES	YES	YES		
Hospital treatment	15 / 18	10 / 11	YES	YES	NO	YES	YES	YES	YES	YES	-	YES	YES	YES		5 / 7	NO	NO	-	YES	-	YES	YES	YES	YES		
Pharmaceuticals / drugs	10 / 18	7 / 11	NO	YES	NO	YES	YES	YES	YES	NO	-	YES	NO	YES		3 / 7	NO	NO	-	NO	-	YES	YES	NO	YES		
Rehabilitation	13 / 18	8 / 11	NO	NO	NO	YES	YES	YES	YES	YES	-	YES	YES	YES		5 / 7	NO	NO	-	YES	-	YES	YES	YES	YES		
No compulsory coverage	3 / 18	1 / 11	NO	NO	YES	NO	NO	NO	NO	NO	-	NO	NO	NO		2 / 7	YES	YES	-	NO	-	NO	NO	NO	NO		
Researchers usually purchase additional health care insurance beyond what is already provided in the remuneration packages:																											
	7 / 17	2 / 10	NO	YES	NO	NO	YES	NO	NO	NO	-	NO	NO	-		5 / 7	YES	YES	NO	-	-	NO	YES	YES	YES		

Source: MORE II expert survey

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Table 3.2.10: Quality of pension retirement insurance of university researchers. A country comparison

	EU	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	NL	PL	PT	RO	SE	SI	UK	
Universities provide pension retirement insurance for university researchers exceeding what is mandated by law...																											
Always	6 / 24	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	-	YES	YES	NO	NO	NO	NO	NO	YES	NO	YES	
Depending on university	5 / 24	NO	YES	NO	YES	YES	YES	NO	NO	NO	YES	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Depending on employee status	2 / 24	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	
Depending on contract	3 / 24	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	-	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Never	11 / 24	NO	NO	YES	NO	NO	NO	NO	YES	YES	NO	YES	YES	YES	NO	-	NO	NO	YES	YES	YES	NO	YES	NO	YES	NO	
Researchers usually purchase additional pension funds beyond what is already provided in the remuneration packages:																											
	11 / 21	-	YES	NO	-	YES	YES	YES	YES	YES	NO	NO	-	NO	YES	NO	NO	YES	NO	NO	NO	YES	YES	YES	NO	-	
Additional (private) retirement pension insurance is (0) not important, (1) important, or (2) very important for researchers in order to maintain their personal standard of living after retirement.																											
	16 / 25	1	1	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	1	0	0	1	0	0	1	2	
	non-EU	other Eur.	AL	BA	CH	FO	HR	IS	ME	MK	NO	RS	RU	TR		non-Eur.	AU	BR	CA	CN	IL	JP	KR	SG	US		
Universities provide pension retirement insurance for university researchers exceeding what is mandated by law...																											
Always	11 / 18	4 / 11	NO	NO	YES	NO	YES	NO	NO	NO	-	YES	NO	YES		7 / 7	YES	YES	YES	YES	-	YES	YES	-	YES		
Depending on university	2 / 18	2 / 11	NO	YES	NO	NO	NO	NO	NO	NO	-	NO	YES	NO		0 / 7	NO	NO	NO	NO	-	NO	NO	-	NO		
Depending on employee status	1 / 18	0 / 11	NO	NO	NO	NO	NO	NO	NO	NO	-	NO	NO	NO		1 / 7	NO	NO	YES	NO	-	NO	NO	-	NO		
Depending on contract	3 / 18	2 / 11	NO	YES	NO	NO	NO	YES	NO	NO	-	NO	NO	NO		1 / 7	NO	NO	YES	NO	-	NO	NO	-	NO		
Never	4 / 18	4 / 11	YES	NO	NO	YES	NO	NO	YES	YES	-	NO	NO	NO		0 / 7	NO	NO	NO	NO	-	NO	NO	-	NO		
Researchers usually purchase additional pension funds beyond what is already provided in the remuneration packages:																											
	5 / 16	1 / 9	NO	YES	NO	NO	-	NO	NO	NO	-	NO	NO	-		4 / 7	NO	NO	YES	-	-	NO	YES	YES	YES		
Additional (private) retirement pension insurance is (0) not important, (1) important, or (2) very important for researchers in order to maintain their personal standard of living after retirement.																											
	9 / 19	4 / 11	2	2	0	0	2	0	0	0	-	0	0	1		5 / 8	0	0	1	1	-	1	2	1	0		

Source: MORE II expert survey

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Table 3.2.11: Degree of autonomy when determining aspects of remuneration of university researchers. A country comparison

	EU	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LT	LU	LV	NL	PL	PT	RO	SE	SI	UK	
<b>National</b>																											
Salary at appointment	8 / 25	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	YES	YES	NO	NO	YES	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	
Salary rise	11 / 25	NO	NO	NO	YES	NO	YES	NO	NO	YES	NO	YES	YES	YES	NO	YES	YES	NO	NO	NO	NO	YES	YES	NO	YES	NO	
Minimum salary	18 / 25	NO	NO	NO	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	
Working time	14 / 25	YES	NO	NO	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO	YES	NO	YES	NO	
Health care insurance	22 / 25	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	
Retirement pension insurance	24 / 25	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Unemployment insurance	21 / 25	YES	YES	YES	NO	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	
<b>Regional(state)</b>																											
Salary at appointment	2 / 25	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Salary rise	2 / 25	NO	YES	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Minimum salary	1 / 25	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Working time	1 / 25	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Health care insurance	1 / 25	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Retirement pension insurance	1 / 25	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Unemployment insurance	1 / 25	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
<b>Sector/Collective Agreements</b>																											
Salary at appointment	6 / 25	NO	NO	NO	NO	NO	YES	YES	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES
Salary rise	7 / 25	YES	NO	NO	NO	NO	YES	YES	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES
Minimum salary	7 / 25	YES	NO	NO	NO	NO	YES	YES	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES
Working time	8 / 25	YES	NO	NO	NO	NO	YES	YES	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO	YES	NO	NO	
Health care insurance	4 / 25	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	
Retirement pension insurance	5 / 25	YES	NO	NO	NO	NO	NO	YES	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	
Unemployment insurance	2 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	
<b>University</b>																											
Salary at appointment	11 / 25	NO	NO	YES	NO	YES	YES	YES	YES	NO	YES	NO	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES
Salary rise	12 / 25	NO	NO	YES	NO	YES	YES	YES	YES	NO	YES	NO	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO	NO	NO	YES	NO	YES
Minimum salary	3 / 25	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	
Working time	7 / 25	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	NO	NO	NO	NO	YES	YES	NO	NO	YES	
Health care insurance	2 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Retirement pension insurance	2 / 25	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Unemployment insurance	1 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
<b>Individual Negotiation</b>																											
Salary at appointment	8 / 25	YES	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	YES	YES	NO	NO	YES	NO	NO	
Salary rise	9 / 25	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO	YES	YES	NO	YES	YES	NO	NO	YES	NO	YES	
Minimum salary	0 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Working time	5 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	NO	YES	YES	YES	YES	NO	NO	NO	NO	
Health care insurance	0 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Retirement pension insurance	0 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Unemployment insurance	0 / 25	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	

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Table 3.2.11 continued

	non-EU	other Eur.	AL	BA	CH	FO	HR	IS	ME	MK	NO	RS	RU	TR	non-Eur.	AU	BR	CA	CN	IL	JP	KR	SG	US
<b>National</b>																								
Salary at appointment	12 / 21	7 / 12	YES	NO	NO	YES	YES	YES	NO	YES	NO	YES	NO	YES	5 / 9	NO	YES	NO	YES	YES	YES	YES	NO	NO
Salary rise	12 / 21	7 / 12	YES	NO	NO	YES	YES	YES	NO	YES	NO	YES	NO	YES	5 / 9	NO	YES	NO	YES	YES	YES	YES	NO	NO
Minimum salary	15 / 21	9 / 12	YES	NO	NO	YES	YES	YES	NO	YES	YES	YES	YES	YES	6 / 9	YES	YES	NO	YES	YES	YES	YES	NO	NO
Working time	13 / 21	10 / 12	YES	YES	NO	YES	NO	YES	YES	YES	YES	YES	YES	YES	3 / 9	NO	NO	NO	NO	YES	YES	YES	NO	NO
Health care insurance	16 / 21	11 / 12	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	5 / 9	NO	NO	NO	YES	YES	YES	YES	YES	NO
Retirement pension insurance	18 / 21	10 / 12	YES	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	8 / 9	YES	YES	YES	YES	YES	YES	YES	YES	NO
Unemployment insurance	13 / 21	8 / 12	YES	NO	NO	YES	YES	YES	YES	NO	YES	YES	NO	YES	5 / 9	NO	NO	YES	YES	YES	NO	NO	YES	
<b>Regional(state)</b>																								
Salary at appointment	3 / 21	2 / 12	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	YES	NO	NO	NO	NO	NO
Salary rise	3 / 21	2 / 12	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	YES	NO	NO	NO	NO	NO
Minimum salary	5 / 21	3 / 12	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO	2 / 9	NO	NO	YES	YES	NO	NO	NO	NO	NO
Working time	0 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO
Health care insurance	4 / 21	1 / 12	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	3 / 9	NO	NO	YES	YES	NO	NO	NO	NO	YES
Retirement pension insurance	4 / 21	2 / 12	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	2 / 9	NO	NO	NO	YES	NO	NO	NO	NO	YES
Unemployment insurance	3 / 21	2 / 12	NO	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	YES	NO	NO	NO	NO	NO
<b>Sector/Collective Agreements</b>																								
Salary at appointment	5 / 21	4 / 12	NO	NO	YES	NO	YES	YES	YES	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	NO	NO	NO	NO	NO	YES
Salary rise	8 / 21	6 / 12	NO	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	2 / 9	YES	NO	NO	NO	NO	NO	NO	NO	YES
Minimum salary	5 / 21	4 / 12	NO	NO	YES	NO	YES	YES	YES	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	NO	NO	NO	NO	NO	YES
Working time	8 / 21	5 / 12	NO	YES	NO	NO	YES	YES	YES	NO	NO	NO	NO	YES	3 / 9	YES	NO	NO	NO	YES	NO	NO	NO	YES
Health care insurance	2 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	2 / 9	YES	NO	NO	NO	NO	NO	NO	NO	YES
Retirement pension insurance	2 / 21	1 / 12	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	NO	NO	NO	NO	NO	YES
Unemployment insurance	2 / 21	1 / 12	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	1 / 9	YES	NO	NO	NO	NO	NO	NO	NO	NO
<b>University</b>																								
Salary at appointment	11 / 21	7 / 12	NO	YES	YES	NO	NO	YES	YES	YES	YES	NO	YES	NO	4 / 9	YES	NO	YES	YES	NO	NO	NO	NO	YES
Salary rise	12 / 21	7 / 12	NO	YES	YES	NO	NO	YES	YES	YES	YES	NO	YES	NO	5 / 9	YES	NO	YES	YES	NO	NO	NO	YES	YES
Minimum salary	6 / 21	4 / 12	NO	NO	YES	NO	NO	YES	NO	YES	NO	NO	YES	NO	2 / 9	NO	NO	YES	NO	NO	NO	NO	NO	YES
Working time	10 / 21	4 / 12	NO	NO	YES	NO	NO	YES	NO	YES	NO	NO	NO	YES	6 / 9	YES	YES	YES	YES	NO	NO	NO	YES	YES
Health care insurance	8 / 21	3 / 12	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	YES	YES	5 / 9	YES	NO	YES	YES	NO	NO	NO	YES	YES
Retirement pension insurance	6 / 21	3 / 12	NO	NO	YES	NO	NO	NO	NO	YES	NO	NO	YES	NO	3 / 9	NO	NO	YES	YES	NO	NO	NO	NO	YES
Unemployment insurance	3 / 21	1 / 12	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	2 / 9	YES	NO	NO	YES	NO	NO	NO	NO	NO
<b>Individual Negotiation</b>																								
Salary at appointment	7 / 21	4 / 12	NO	NO	YES	NO	NO	YES	NO	NO	YES	NO	YES	NO	3 / 9	NO	NO	YES	NO	NO	NO	NO	YES	YES
Salary rise	4 / 21	2 / 12	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	2 / 9	NO	NO	YES	NO	NO	NO	NO	YES	NO
Minimum salary	2 / 21	1 / 12	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	NO	NO	NO	NO	YES	NO
Working time	4 / 21	2 / 12	NO	NO	NO	NO	NO	YES	NO	NO	NO	NO	NO	YES	2 / 9	NO	NO	YES	YES	NO	NO	NO	NO	NO
Health care insurance	0 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0 / 9	NO	NO	NO	NO	NO	NO	NO	NO	NO
Retirement pension insurance	2 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	2 / 9	NO	NO	YES	NO	NO	NO	NO	YES	NO
Unemployment insurance	1 / 21	0 / 12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	1 / 9	NO	NO	NO	NO	NO	NO	NO	YES	NO

Source: MORE II expert survey. Based on question "Please indicate the institutional level at which the following aspects of public university researchers are determined."

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Table 3.2.12: Tax Wedge in % of labour costs for different wage levels and household types, 2010

Single No Children		Single No Children		Married Couple 2 Children		Married Couple 2 Children		Married Couple No Children	
AW		167% of AW		AW		AW + 67% of AW		AW + 33% of AW	
Belgium	55.4	Belgium	60.6	France	42.1	Belgium	47.8	Belgium	47.7
France	49.3	France	53.2	Belgium	39.6	France	44.3	France	45.4
Germany	49.1	Hungary	52.7	Italy	37.2	Italy	42.1	Germany	44.9
Austria	47.9	Italy	52.1	Sweden	37.1	Germany	41.4	Austria	44.3
Italy	46.9	Germany	51.5	Finland	36.6	Austria	40.0	Hungary	43.7
Hungary	46.4	Sweden	50.8	Austria	36.6	Hungary	39.2	Italy	43.6
Sweden	42.7	Austria	50.4	Greece	36.6	Sweden	38.5	Sweden	40.9
Slovenia	42.4	Finland	47.9	Hungary	36.3	Turkey <sup>1</sup>	37.6	Czech Rep	40.0
Czech Republic	42.2	Slovenia	47.3	Turkey <sup>1</sup>	35.9	Spain	36.6	Slovenia	40.0
Finland	42.0	Czech Republic	44.7	Spain	33.8	Finland	36.5	Finland	38.6
Estonia	40.0	Denmark	44.5	Estonia	33.5	Greece	35.7	Estonia	38.6
Spain	39.6	Portugal	43.8	Germany	32.6	Estonia	35.5	Turkey <sup>1</sup>	37.7
Netherlands	39.2	Norway	42.6	Netherlands	30.8	Czech Rep	34.4	Denmark	36.8
Denmark	38.3	Netherlands	42.5	Norway	30.0	Slovenia	33.8	Greece	36.7
Slovak Republic	37.8	Spain	42.5	Poland	28.4	Denmark	33.7	Spain	36.7
Portugal	37.7	Greece	41.9	Denmark	27.1	Netherlands	33.7	Netherlands	34.5
Turkey <sup>1</sup>	37.4	Luxembourg	41.4	Portugal	26.9	Portugal	33.1	Norway	34.4
Norway	36.8	Estonia	41.2	United King	26.8	Norway	32.9	Slovak Rep	33.5
Greece	36.6	Turkey <sup>1</sup>	40.4	Slovak Rep	22.6	Slovak Rep	31.2	Poland	33.3
Poland	34.3	Slovak Republic	40.2	Slovenia	22.4	Poland	30.8	Portugal	32.8
Luxembourg	34.0	Ireland	39.9	Japan	21.6	United King	28.8	Japan	29.7
United Kingdom	32.7	United Kingdom	37.5	Czech Rep	21.2	Iceland	26.7	United King	29.6
Iceland	31.3	Iceland	36.1	South Kore	17.5	Canada	26.2	United Stat	28.1
Japan	30.5	United States	35.2	Canada	17.3	Japan	25.2	Canada	27.0
Canada	30.3	Poland	35.0	Israel	16.9	United Stat	24.9	Luxembourg	26.0
United States	29.7	Japan	33.5	United Stat	16.3	Ireland	21.1	Iceland	25.7
Ireland	29.3	Canada	32.6	Ireland	13.4	Australia	21.0	Australia	22.4
Australia	26.2	Australia	31.7	Iceland	12.7	Luxembourg	20.9	Ireland	21.2
Switzerland	20.8	Israel	29.0	Australia	12.1	South Kore	17.6	South Kore	18.9
Israel	20.2	Switzerland	25.0	Luxembourg	11.2	Switzerland	14.3	Switzerland	18.4
South Korea	19.8	South Korea	21.6	Switzerland	8.3	Israel	14.0	Israel	16.9

Source: OECD 2010; Tax Wedge = income tax plus employee and employer social security contributions minus cash transfers; AW = yearly gross wage earnings of the average worker; 1) Wage figures are based on the old definition of average worker (ISIC D, rev 3).

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### 3.3 Do countries pursue different strategies when paying their academic researchers, depending on their circumstances?

In the framework of the MORE II project, research institutions in 45 countries<sup>20</sup> were also interviewed on both the institutional preconditions governing their wage policies as well as on the wages they pay for researchers at different qualification levels. Country experts were asked to present an interview on researcher remuneration to three universities in their country. According to the instructions provided to interviewers, these universities were to be selected from those listed in the Shanghai ranking in the fields of economics, engineering and physics in the respective countries. In the event that the respective country had none or fewer than three such universities, the interviews were conducted among the top universities in the respective country in the same fields. In addition, country experts were asked to contact two non-university research performing organizations. These were also selected so as to represent the key players in research in the respective country.

During these interviews respondents in a first block of questions (the so called research institution questionnaire) were asked on the rules governing wage determination at the respective institution, the wages, fringe benefits and bonuses paid for various positions and the possibilities of the institution to attract exceptional candidates. In this part of the questionnaire, therefore, information on the remuneration policies governing a total of 784 job positions at 180 research institutions was gathered. In a second block of questions (the so called standardized CV or Big Mac survey) only the universities among the research institutions were presented with a standardized CV for two researchers (one junior and one senior—see the appendix on the questionnaire for Universities for the CVs) and questioned on the typical wage and position which this researcher could expect to obtain at the interviewed institution. In this block, 104 responses from 104 universities were collected regarding remuneration schemes for both junior as well as senior researchers.

Thus, the results of our questionnaire can hardly be considered representative for the overall research system of the countries considered. This would be a major problem if our aim in this chapter were to describe remuneration at the “average” university in a country, as in the previous chapters. This would necessitate collecting a representative sample of the universities of each and every country in our analysis. This could require collecting data on a few hundred or (given that some of the countries e.g. China or the US are rather large) potentially even thousands of universities. This task is clearly well beyond the possibilities of the current project, but could potentially be undertaken at a later date.

Our data, however, can be considered to provide a rather precise picture of remuneration schemes at top universities in the interviewed countries. Since our sampling procedure strongly focuses on the top research institutions (three universities listed in the Shanghai countries or the top universities in the respective countries) in three research fields, the results are likely to provide reliable information on the remuneration policies of top level research institutions in EU 27 countries (as well as in those countries not in the EU that were also sampled).

Thus, in this and the next chapter, we slightly shift the focus of our analysis. Rather than looking at the average university we now look at top universities. This is

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<sup>20</sup> See the Appendix for an overview of the sample.

relevant in the context of this study as these top level institutions are also likely to compete most intensively in the international competition for talent and are also the most relevant attractors of mobile researchers.<sup>21</sup>

This chapter thus uses the survey to provide important information on remuneration in top research institutions in the EU 27 countries<sup>22</sup> and the sampled non-EU 27 countries.<sup>23</sup> We use the results from the research institution questionnaire to provide information on the autonomy of higher education institutions in setting remuneration schemes, as well as on the remuneration packages typically provided by top universities and research performing organizations in their respective countries for different academic positions in three fields of academic research (economics, engineering and physics). In the next chapter we go onto focus on results from the standardized CVs.

In particular in this chapter our focus is on three central issues of the policy debate on researcher remuneration in the EU:

- First, we want to know how remuneration schemes and the rules governing the remuneration of researchers differ between EU 27 and non-EU 27 countries as well as between the EU 15 countries (i.e. the EU 27 countries which were members of the EU before 2004) and the EU 12 countries (i.e. the EU countries which became members after or in 2004).
- Second, we want to determine to what degree countries with different research capacities differ in their remuneration schemes and the rules governing the remuneration of researchers. To this end, we link our data with data on the innovation union scoreboard (IUS)<sup>24</sup>. This provides a broad based overall assessment of the research capacities of individual countries by dividing both EU 27 and non-EU 27 countries into four groups (innovation leaders, innovation followers, moderate innovators and modest innovators) according to their research capacities. We use this typology on a national level to discuss to what degree the rules governing remuneration of researchers and remuneration levels differ between countries with different research capacities.
- Third, we also want to determine how rules of remuneration and remuneration levels differ between different seniority levels of researchers (as measured by the European Framework for Research Careers) and different research fields.

It should be noted that the small sample of interviews on which this and the next chapter are based is a limiting factor for the insights that can be gained. Due to the small number of observations by country, our analysis cannot be conducted on a country by country basis. As a consequence, we therefore augment our descriptive analysis conducted on the level of country groups by a regression analysis to accommodate the potential compositional effects (such as for instance the fact that both the EU 27 and non-EU 27 countries contain countries with very different levels of innovation capacity) which could impact on the results for the

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<sup>21</sup> An example of this would be the US, where an analysis based on a representative sample of research institutions might well show worse performance than in the EU given the large number of academically less important institutions. In this case arguably a focus on the average institution would, however, distort results in terms of relative competitiveness of the US for mobile European researchers, since for these researchers in all likelihood only universities of a certain quality are relevant potential employers.

<sup>22</sup> The only EU 27 country where no research institution provided information was Slovakia

<sup>23</sup> These were: Albania, Bosnia and Herzegovina, Croatia, FYRM, Iceland, Liechtenstein, Montenegro, Norway, Russia, Serbia, Switzerland, Israel, Australia, Brazil, Canada, China, Japan, Singapore, South Korea and the USA.

<sup>24</sup> see [http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index\\_en.htm](http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index_en.htm)

most important indicators. We do this by including the region of location of the institution, the innovation capacity of the country of location and the type of institution as explanatory variables.

The remainder of this chapter is structured as follows. In the next section we describe the data. Section two then presents results on institutional aspects governing remuneration schemes, while section 3.3.3 discusses results concerning wages and the possibility of earning extra income. In section 3.3.4 we consider the provisions, fringe benefits and allowances typically granted by research institutions and in section 3.3.5 holiday regulations are analyzed. Section 3.3.6 then summarizes our most important findings.

### 3.3.1 Data description

Throughout this analysis the unit of observation is the individual academic position at a research institution or respectively the research institution if the information was not collected on the level of positions. Research institutions were specifically asked about the remuneration packages offered and the rules governing the determination of remuneration for different research positions at their institution in the respective field of research.

Table 3.3.1 presents some information on the structure of this data. As can be seen, the data is relatively evenly spread across country groups both when considering geographical location as well as research capacities. In total, 350 observations on academic positions come from non-EU countries and 434 from the EU 27 countries (208 from EU 12 countries and 226 from EU 15 countries) and interviews from countries that are considered innovation leaders and innovation followers account for between 20% and 23% of the research positions sampled, while for moderate and modest inventors the respective percentages are between 27% and 30%. These small differences are due to the larger number of countries which are moderate and modest inventors relative to the countries which are innovation leaders and followers in the sample.

With respect to other indicators, however, the sample - in accordance with the characteristics of the university and RPO sector analyzed - is much less balanced. Thus, the overwhelming part of the positions analyzed (82%) are at public organizations and 67% of the positions covered are at institutions that perform both basic and applied research. Only 15% of positions are in institutions which only undertake basic research. Similarly, the largest proportion of the positions considered are also in the intermediate qualification levels (i.e. recognized - R2 - or established - R3 - researcher positions according to the European Framework for Research Careers). Leading researcher (R4) positions account only for around 20% of the positions while 15% of the positions can be considered for first stage researchers (R1) positions. The split of positions between RPOs and universities, by contrast, is slightly more balanced, with 41% of the positions surveyed in RPOs and 59% in universities (20% in physics, 16% in engineering, and 23% in economics).

There are also differences across the groups of countries considered. Thus, for instance, there are no positions in countries which can be considered innovation leaders in the EU 12 countries and none in countries that may be considered modest innovators among the EU 15 countries. This is due to the fact that, according to the IUS, none of the EU 12 countries can be considered innovation leaders and none of the EU 15 countries is a modest innovator. Similarly, the share of positions in countries which could be considered innovation followers among the non-EU 27 countries is rather low (5%). This is again due to the countries selected. Among the non-EU 27 countries in our interviews, only 2 (Iceland and Canada) belong to the group of innovation followers. Similar observations

apply to innovation followers in the EU 12. Only Cyprus and Slovenia belong to this group among the EU 12 countries.

Table 3.3.1: Structure of the sample of research positions

	Absolute				Total	In % of Sample				
	Non-EU	EU 27	EU 12	EU 15		Non-EU	EU 27	EU 12	EU 15	Total
<b>By research capacity</b>										
Innovation Leaders	103	55	-	55	158	29.4	12.7	-	24.3	20.2
Innovation Followers	17	166	81	85	183	4.9	38.2	38.9	37.6	23.3
Moderate Innovators	87	145	59	86	232	24.9	33.4	28.4	38.1	29.6
Modest Innovators	143	68	68	-	211	40.9	15.7	32.7	-	26.9
<b>By position</b>										
First stage researcher	45	74	40	34	119	12.9	17.1	19.2	15	15.2
Recognised researcher	122	168	82	86	290	34.9	38.7	39.4	38.1	37
Established researcher	108	87	41	46	195	30.9	20	19.7	20.4	24.9
Leading researcher	69	86	37	49	155	19.7	19.8	17.8	21.7	19.8
<b>By field</b>										
RPO	148	176	95	81	324	42.3	40.6	45.7	35.8	41.3
Universities	202	258	113	145	460	57.7	59.4	54.3	64.2	58.7
- Economics	77	104	46	58	181	22	24	22.1	25.7	23.1
- Engineering	56	68	22	46	124	16	15.7	10.6	20.4	15.8
- Physics	69	86	45	41	155	19.7	19.8	21.6	18.1	19.8
<b>Research type</b>										
Unknown	1	2	-	2	3	0.3	0.5	-	0.9	0.4
Only basic	55	60	47	13	115	15.7	13.8	22.6	5.8	14.7
Basic & applied or other	232	295	121	174	527	66.3	68	58.2	77	67.2
Only applied or other	62	77	40	37	139	17.7	17.7	19.2	16.4	17.7
<b>Ownership</b>										
Private	40	31	10	21	71	11.4	7.1	4.8	9.3	9.1
Public	289	353	184	169	642	82.6	81.3	88.5	74.8	81.9
Other	21	50	14	36	71	6	11.5	6.7	15.9	9.1
<b>Total</b>	<b>350</b>	<b>434</b>	<b>208</b>	<b>226</b>	<b>784</b>					

Source: More II research institution questionnaire, unit of observation = research positions, RPO=Research performing organization.

Other than that, differences in the sample with respect to structural characteristics of the research institutions seem to be rather minor. Among the positions in the EU 27 countries, first stage researcher and recognized researcher (R1 and R2) level positions seem to be overrepresented relative to non-EU 27 countries at the expense of established researcher (R3) positions. In addition, in the EU 27, slightly more positions in the university sector and in economics as well as of institutions performing both basic and applied research and neither private nor public institutions were sampled than in the non-EU 27 countries. In particular the latter two differences seem to reflect the particularities of the EUs research system, where applied research often plays a more important role and where forms of ownership between the private and public sector institutions are more preponderant.

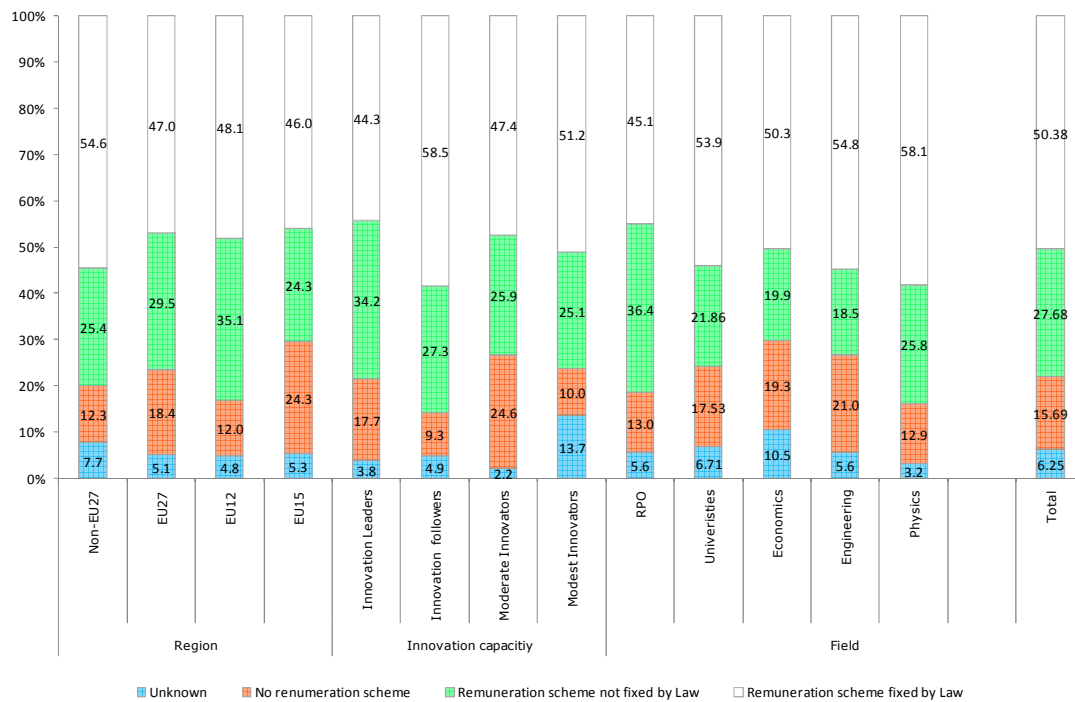
Finally, the data also suggest slight differences in sampling of positions between the EU 15 and EU 12 countries. Particularly in EU 15 countries, more leading researcher positions and positions at RPOs as well as in institutions only performing basic research and at institutions that are neither private nor public have been sampled than in the EU 12.

### 3.3.2 Institutions governing the determination of remuneration

#### 3.3.2.1 Existence and type of a remuneration scheme

In the set of questions referring to the general conditions under which remuneration is decided, research institutions were asked to report whether the remuneration of the institution’s research staff is generally fixed by law or not and whether such a remuneration schedule exists. From this question we can therefore split the institutions in our sample into those where remuneration schemes were fixed by law, those where remuneration schemes were not fixed by law (but where such schedules existed) and those where no remuneration schemes exist.

Figure 3.3.1: Remuneration schemes of research institutions (Is the remuneration Scheme of your institutions research staff fixed by law? - % of total answers)



Source: More II research institution questionnaire, unit of observation=research institution, RPO=research performing organisation

As can be seen from Figure 3.3.1, where the shares of research institutions in the respective categories are illustrated, the majority of research institutions (78%) have some form of a remuneration schedule for their staff. In 50% of cases, this schedule is dictated by law, while in the remaining 28%, this schedule is based on other regulations. Research institutions which do not have a remuneration schedule account for only 16% of all research institutions, while for 6% of the research institutions no response on the question could be obtained.

Rather unsurprisingly, the share of legally binding remuneration schedules is substantially lower among RPO's (45%) than among universities (54%). Among universities those providing research in economics, in particular, have the fewest legally binding remuneration schemes, while such schemes are more important among universities researching in physics.

Somewhat more surprisingly, the highest share of remuneration schemes not bound by law (59%) is found among the countries considered to be innovation followers. The primary reason for this seems to be that a number of countries with a very laissez faire approach to labor market regulation are counted among these countries (such the UK and Ireland). Finally, the research institutions of the EU 27 countries (in particular those of the EU 15) also have a lower share of legally binding remuneration schemes than do institutions located outside the EU 27. EU 12 countries have a high share of institutions where no remuneration schemes exist at all.

Table 3.3.2: Results of a multinomial logit analysis on the presence of a remuneration scheme in an organisation

	No remuneration scheme		Remuneration scheme fixed by law		Remuneration scheme not fixed by law	
	coeff.	S.E	coeff.	S.E	coeff.	S.E
Non-EU27	base category					
EU15	0.13 ***	0.04	0.03	0.05	-0.16 ***	0.05
EU12	0.02	0.04	0.15 ***	0.06	-0.17 ***	0.05
Innovation leaders	base category					
Innovation followers	-0.11 ***	0.03	-0.14 ***	0.05	0.24 ***	0.06
Moderate innovators	0.04	0.04	-0.11 **	0.05	0.07	0.05
Modest innovators	-0.03	0.04	-0.10 **	0.05	0.13 **	0.06
RPO	base category					
Universities: Economics	0.05	0.04	-0.15 **	0.04	0.10 *	0.05
Universities: Engineering	0.05	0.04	-0.16 **	0.04	0.11 **	0.05
Universities: Physics	-0.03	0.04	-0.11 **	0.04	0.13 ***	0.05

Source: More II research institution questionnaire, unit of observation = research institution. Table reports marginal effects of a multinomial logit analysis. SE=heteroscedasticity robust standard error, \*\*\* (\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. Note: non-respondents are excluded from the analysis, RPO=Research performing organisation

In part these results could, however, be determined by compositional effects (such as the large number of innovation followers among the EU 15 countries). We therefore checked for such co-linearity by means of a multinomial logit analysis. When doing so, we entered a variable taking the value of 0 when no remuneration scheme exists, 1 when a remuneration scheme is fixed by law and 2 when another remuneration scheme was in place as dependent variable. As explanatory variables we use indicator variables for the region of location of the institution, the innovation capacity of the country of location and the type of institution.

The results (in Table 3.3.2) confirm much of the previous analysis. The share of legally binding remuneration schemes is significantly lower among universities than RPOs and the share of institutions without remuneration schemes is significantly higher in the EU 15 countries than in non-EU 27 countries (all at the expense of a higher share of remuneration schemes not fixed by law). The only additional insight gained from this regression is that the share of remuneration schemes fixed by law is lower in countries of all innovation capacities than among innovation leaders, after controlling for the influence of other variables. This therefore implies that the high share of remuneration schemes governed by law among institutions located in countries that are innovation followers is mainly due to compositional effects (i.e. a high share of EU 15 countries among that group and quite a few RPO's).

### 3.3.2.2 Determinants of remuneration and pay increases

While the question on remuneration scheme was posed at the level of institutions, the research institutions were also asked: how remuneration was determined for each academic position reported (by law, by the institution, by individual negotiation) and also how wage increases were determined (by performance, seniority or neither) and how these were arranged (through collective agreement, individual arrangements or by a pre-determined wage scale).<sup>25</sup> The response to this question therefore allows a more detailed analysis of the institutions governing remuneration in different academic positions both between country groups as well as with respect to the position mentioned. Descriptive evidence on this question (reported in figures 3.3.2 and 3.3.3) suggests that:

- One of the important differences in the wage determination between EU 27 countries and non-EU 27 countries is that the individual research in-

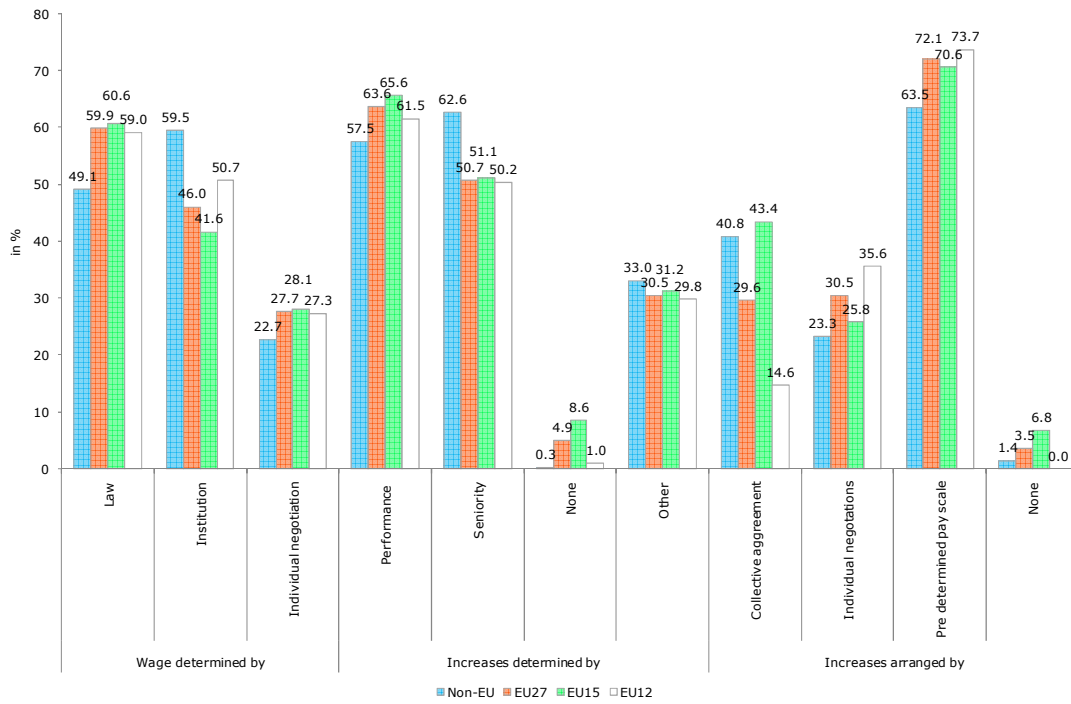
<sup>25</sup> Responses to these questions were not mutually exclusive since we expected that more than one determinant could be important for the remuneration in a position.

stitutions have a much larger role in the determination of wages in non-EU 27 countries. For 59% of the reported positions in the non-EU 27 countries (as opposed to 46% in the EU 27), remuneration is determined by the institution. By contrast, the share of positions where remuneration is determined by law is 49% in the non-EU 27 countries but 60% in the EU 27 countries. (Figure 3.3.2, top panel).

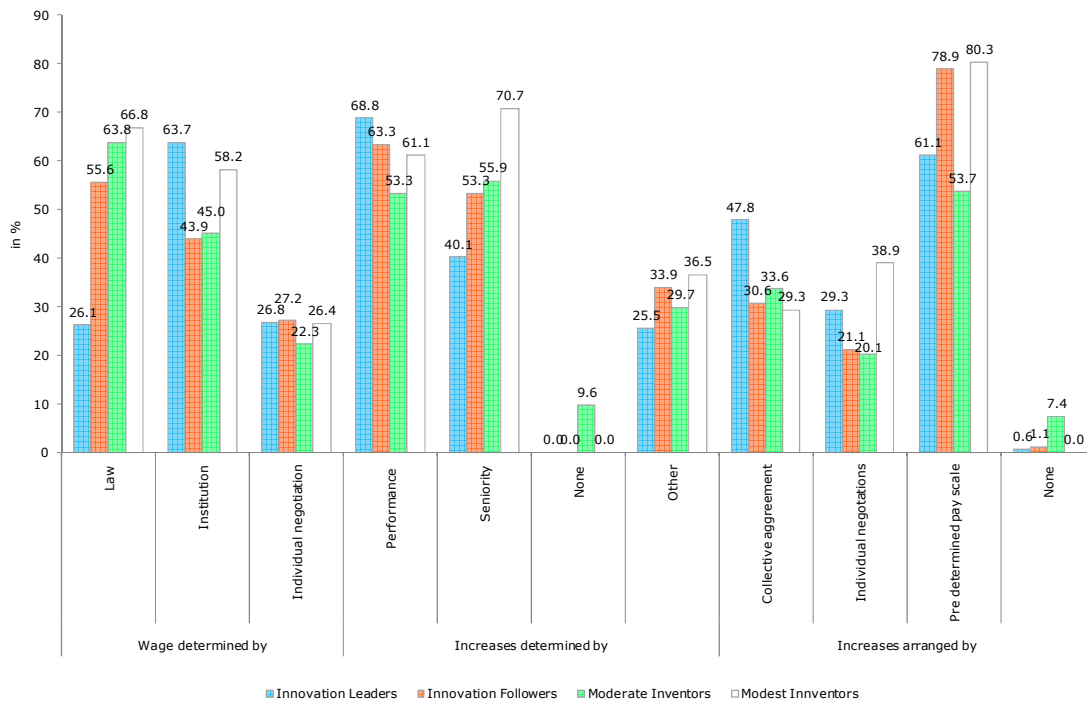
- Despite this, however, wage increases are more often determined by seniority and less often by pre-determined wage scales in non-EU 27 countries. The share of positions where wage increases are governed by seniority is 63% in non-EU 27 countries but 51% in the EU 27 countries, and the share of increases in pay determined by predetermined pay scales is 64% in the non-EU 27 countries, but 72% in the EU 27 countries.
- In countries which are classified as innovation leaders, wages are often determined by the institutions themselves and wage increases determined by performance play a larger role than in countries with lower innovation capacities. For 64% of the positions in research institutions located in countries that are innovation leaders, wages are determined by the institution and in 69% of the cases pay increases are performance related. By contrast, in countries that have lower innovation capacities (such as the modest innovators) laws play a much larger role in wage determination, while seniority and predetermined wage scales are more important in determining pay increases. Among the modest innovators, laws determine the wage level for 67% of the positions and in 71% of the positions surveyed seniority is a reason for pay increases and in 80% of the cases this increase is determined by a predetermined pay scale (see Figure 3.3.2, bottom panel).
- Pay levels for first stage researchers are more often governed by law than for more senior researchers. For 66% of the first stage positions, wage levels are determined by law. For more senior researchers both performance and seniority are more important determinants of pay increases than for more junior researchers. For instance, at the level of leading researcher, for 67% of the positions wage levels are related to performance and 59% to seniority (see Figure 3.3.3, top panel).
- Wages in research positions at RPOs are less often determined by law and more often by individual negotiation and pay increases in these organizations also depend on performance more frequently. In addition, remuneration of research positions in economics more frequently depends on law and/or individual negotiation than in physics (with engineering an intermediary case) and wage increases are more often related to performance but also to seniority in economics than in other disciplines. In engineering, by contrast, predetermined wage scales are a more important determinant of wage levels than in other disciplines (see Figure 3.3.3, bottom panel).

Figure 3.3.2: Determinants of wages and pay increases (by region and by research capacity - % of positive answers)

a) By region



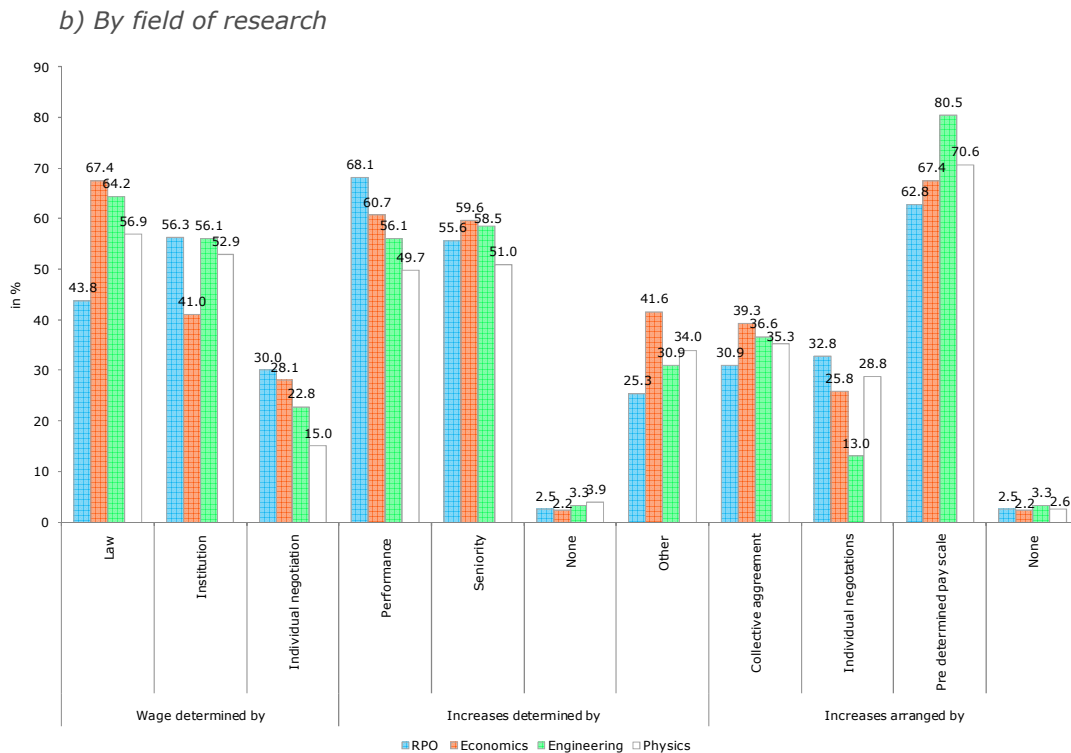
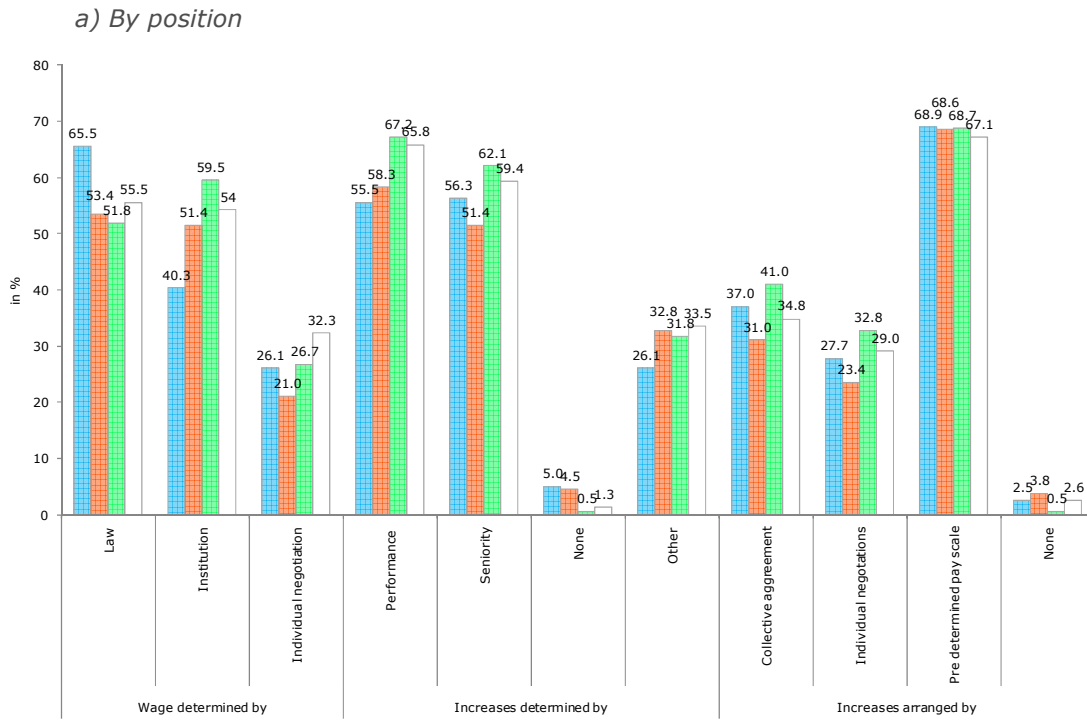
b) By research capacity



Source: More II research institution questionnaire unit of observation = research position



Figure 3.3.3: Determinants of position and pay increases (by position and by research field- % positive answers)



Source: More II research institution questionnaire, unit of observation = research position, RPO=Research performing organisation

While most of these results accord well with the literature, some are also a little surprising. This applies particularly to the result that seniority and collective agreements play a larger role for wage increases in non-EU 27 countries. As with the results for determination of wages this could, however, also be due to compo-

sition effects. Thus as in the previous section, we also ran a series of logit regressions: in addition to indicator variables for the region of location of the institution, the innovation capacity of the country of location, the qualification level of the position, and the type of institution also an interaction between the qualification level of the position and the region of location of the institution were also included.<sup>26</sup> This interaction tests the hypothesis that wage determination follows different rules in either EU 15 or EU 12 countries than in non-EU 27 countries for different qualification levels of academic positions.

As can be seen from Table 3.3.3, these regressions qualify the descriptive findings to some degree. They indicate that the institutional arrangements governing the determination of pay differ most strongly between innovation leaders and countries with lower innovation capacity. Differences between EU 27 and non-EU 27 countries, by contrast, are much smaller once differences in innovation capacity are controlled for. Thus, in countries which are innovation leaders, salaries for academic positions are more often determined by the research institutions themselves rather than by law. These countries also put a lower emphasis on seniority and a larger one on performance for pay increases. In addition, they also emphasize individual negotiations more strongly than pre-determined wage scales for pay increases. This therefore corroborates many of the findings of previous literature on the differences in determinants of wages in academic positions between the technologically most advanced nations and other countries.

By contrast, after controlling for other influences, the differences between EU 27 countries and other countries remain limited to a significantly lower role for seniority and a significantly higher one for performance in determining wage increases among the EU 27 countries. In addition, collective agreements play a significantly less important role in determining wage increases in EU 12 countries than in non-EU 27 countries and individual negotiations are significantly more important in the EU 15 countries than in non-EU 27 countries.

Furthermore, this analysis also confirms some of the descriptive results on differences in wage setting institutions for different sub-markets of the academic job-market. Thus, for highly qualified researchers the individual research institution plays a significantly more important role in wage setting than for the less qualified researchers and salary increases are also significantly more strongly related to performance. Similarly, in RPOs laws are significantly less important for determining wage levels and performance and individual negotiations are significantly more important for wage increases.

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<sup>26</sup> We would also have liked to include further interactions between explanatory variables (as for instance in the wage regressions below). This was, however, impossible on account of the low number of positive responses for a number of questions, which led to identification (convergence) problems in estimation.

Table 3.3.3: Regression Results for institutional determinants of remuneration

	Wages determined by						Increases granted for						Increases mandated by						
	Law		Institutions		Individual neg.		Performance		Seniority		Other		Collective		Individual		Pre-det. wage scale		
	coeff.	SE	coeff.	SE	coeff.	SE	coeff.	SE	coeff.	SE	coeff.	SE	coeff.	SE	coeff.	SE	coeff.	SE	
Innovation leaders	base category																		
Innovation followers	0.28 ***	0.06	-0.19 ***	0.06	-0.01	0.05	-0.09	0.06	0.23 ***	0.05	0.09	0.06	-0.03	0.06	-0.15 ***	0.04	0.11 **	0.05	
Moderate innovators	0.38 ***	0.05	-0.20 ***	0.05	-0.06	0.04	-0.19 ***	0.06	0.22 ***	0.05	0.05	0.06	-0.06	0.05	-0.14 ***	0.04	-0.10 *	0.05	
Modest innovators	0.42 ***	0.05	-0.09	0.06	0.01	0.05	-0.04	0.06	0.31 ***	0.05	0.12	0.05	-0.09 *	0.05	0.10 **	0.05	0.18 ***	0.04	
Non-EU27	base category																		
EU15	0.08	0.12	0.06	0.12	0.22 *	0.12	0.29 ***	0.09	-0.29 **	0.12	-0.18	0.1	0.12	0.11	0.30 ***	0.12	-0.03	0.11	
EU12	-0.03	0.12	0.11	0.11	0.12	0.11	0.17 *	0.09	-0.28 ***	0.11	-0.18 **	0.09	-0.39 ***	0.08	0.21 *	0.12	0.03	0.10	
first stage researcher	base category																		
recognised researcher	-0.21 **	0.09	0.25 ***	0.09	0.08	0.09	0.17 ***	0.08	-0.17 *	0.09	-0.02	0.08	-0.08	0.08	0.11	0.09	-0.08	0.09	
established researcher	-0.17 *	0.09	0.24 ***	0.08	0.07	0.09	0.18 **	0.07	-0.04	0.09	-0.04	0.08	0	0.08	0.10	0.09	-0.07	0.09	
leading researcher	-0.12	0.10	0.25 ***	0.09	0.04	0.10	0.14 *	0.08	-0.06	0.11	-0.03	0.09	-0.04	0.08	-0.06	0.09	0.01	0.09	
first stage researcher*EU 15	base category																		
recognised researcher*EU 15	0.09	0.13	-0.17	0.13	-0.17 ***	0.06	-0.33 ***	0.12	0.19	0.11	0.17	0.16	-0.13	0.10	-0.18 ***	0.06	0.15	0.09	
established researcher*EU 15	0.13	0.13	-0.21	0.13	-0.10	0.09	-0.02	0.15	0.27 ***	0.09	0.22	0.17	-0.11	0.10	-0.08	0.1	0.22	0.06	
leading researcher*EU 15	0.10	0.14	-0.31 ***	0.12	-0.01	0.12	-0.09	0.16	0.22	0.11	0.28	0.17	-0.09	0.11	0.11	0.16	0.02	0.13	
first stage researcher*EU 12	base category																		
recognised researcher*EU 12	0.22 *	0.12	-0.25 **	0.12	-0.14 *	0.08	-0.15	0.13	0.17	0.11	0.24 *	0.14	0.30	0.18	-0.11	0.09	0.15	0.09	
established researcher*EU 12	-0.05	0.16	0.07	0.15	0.01	0.13	-0.08	0.15	-0.05	0.15	0.17	0.16	0.29	0.19	0.06	0.14	0.03	0.13	
leading researcher*EU 12	-0.11	0.16	-0.03	0.16	0.10	0.16	0.00	0.15	0.02	0.15	0.16	0.17	0.14	0.22	0.29	0.19	-0.10	0.16	
RPO	base category																		
Universities Economics	0.23 ***	0.04	-0.15 ****	0.05	-0.02	0.04	-0.10 *	0.05	0.02	0.05	0.19 ***	0.05	0.07	0.05	-0.07 *	0.04	0.03	0.04	
Universities Engineering	0.19 ***	0.05	0.02	0.06	-0.07 *	0.04	-0.15 ***	0.06	0.00	0.06	0.07	0.06	0.01	0.05	-0.19 ***	0.03	0.17 ***	0.04	
Universities Physics	0.11 ***	0.05	-0.03	0.05	-0.14	0.03	-0.20	0.05	-0.09 *	0.05	0.12 **	0.05	0.04	0.05	-0.04	0.04	0.06	0.04	

Source: More II research institution questionnaire, unit of observation = research position, table reports marginal effects of a logit analysis. SE=heteroscedasticity robust standard error, \*\*\* (\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. Note: non-respondents are excluded from the analysis. RPO=Research performing organisation, Coeff=coefficient estimate, SE=standard error of the estimate.

The results reported in Table 3.3.3 also provide only limited evidence for differences in the determinants of remuneration of different qualification levels between EU 27 countries and non-EU 27 countries. Focusing only on results that are significant at the 5% level indicates that:

- for the most highly qualified academics (i.e. those working at the level of leading researcher) individual research institutions are less important for salary levels in the EU 15 than in non-EU 27 countries;
- for those working at the level of recognized researcher individual negotiations and performance are less important for salary increases in the EU 15 than in non-EU 27 countries,
- in EU 12 countries salary levels of recognized researchers are less often determined by the institutions than in non-EU 27 countries
- salary increases of established researchers in EU 15 countries are more often linked to seniority than in non EU 27 countries.

### 3.3.2.3 Negotiating with exceptional candidates

Finally, in the set of questions devoted to the institutional preconditions of determining remuneration packages, respondents were asked whether they would be willing (or able) to negotiate wages and a large list of bonuses, provisions, allowances and leave with exceptional candidates. As can be seen from the results in Tables 3.3.4 and 3.3.5, salary is by far the most important element which is negotiated with exceptional candidates. In total, 43% of the research institutions state that they would be willing to negotiate salaries with exceptional candidates. By contrast, provisions (such as health, pension, unemployment accident or other forms of insurance) as well as allowances (for housing commuting the family, childcare or others) are much less often subject to negotiation. Here 12% of the respondents stated that they would negotiate on pension insurance and 11% state that they would negotiate over housing allowances, as the two most popular items among the category of provisions and allowances.

Bonuses and leave (i.e. sabbaticals and study, maternity or annual leave) are an in-between case. They are generally negotiated less frequently than allowances and provisions but less often than wages. Among the bonuses, function bonuses (over which 30% of the institutions are willing to negotiate) and research bonuses (28%) are often negotiated with exceptional candidates. Appointment and other bonuses, by contrast, are negotiated at only 17% or 19% of the institutions, respectively. Similarly extra study leave is negotiable at 34% of the institutions, while maternity leave can be negotiated at 18% or 16% of the institutions. Sabbaticals are negotiated with exceptional candidates at only 6% of the institutions.

There are, however, rather large differences among research institutions in terms of which elements of remuneration schemes they are willing to negotiate with exceptional candidates. Thus, for instance:

1. Function and research bonuses are particularly frequently negotiated in the EU 12 countries, as is additional maternity and annual leave as well as health and pension insurance. Research institutions in EU 15 countries are much less willing to negotiate on these items.
2. Parts of remuneration packages other than wages are much less often subject to negotiation in EU 15 countries than either in EU 12 countries or in non-EU 27 countries. The only exception to this is study leave and housing allowance. These are negotiated more frequently in EU 15 countries than in EU 12 and non-EU 27 countries. In addition commuting and family allowances are negotiated over more often in EU 15 countries than in EU 12 countries.
3. All aspects of the remuneration package - with the exceptions of maternity leave and housing allowance - are less readily negotiated over even for excep-

tional candidates in research institutions based in EU 27 countries than in institutions based in outside the EU 27.

- Research institutions located in countries which are innovation leaders are most willing to negotiate over wages while, for almost all other components of remuneration packages, institutions located in modest innovators are more willing to negotiate than are innovation leaders. This indicates that top institutions located in countries with poorer innovation capacity and low flexibility in determining wages compensate for this disadvantage by recruiting exceptional candidates through their greater willingness to negotiate over other components of the remuneration package. The only exceptions to this are family, commuting and housing allowances as well as annual and sabbatical leave.

Table 3.3.4: Fields of negotiation with exceptional candidates (by region and research capacity - % positive answers)

	By region				By research capacity				Total
	Non-EU 27	EU 27	EU 15	EU 12	Innovation leaders	Innovation followers	Moderate innovators	Modest innovators	
Gross salary	44	42	42	42	49	40	44	39	43
Health insurance	12	11	4	18	11	5	7	22	11
Pension insurance	12	12	4	21	8	5	15	18	12
Unemployment insurance	8	3	0	6	4	0	0	16	5
Accident insurance	11	2	0	4	10	2	2	10	6
Other insurance	5	2	0	5	4	0	4	5	3
Appointment bonus	21	15	13	17	22	8	18	22	17
Function bonus	32	29	19	38	30	18	28	42	30
Research bonus	30	27	16	39	21	17	27	45	28
Other Bonus	19	19	7	32	9	12	17	36	19
Housing allowance	7	13	19	7	22	10	9	5	11
Commuting allowance	10	5	5	4	6	6	8	7	7
Family allowance	9	6	8	5	8	11	3	8	7
Childcare Allowance	8	5	0	10	6	0	4	14	6
Other Allowances	9	5	2	8	8	2	7	9	6
Sabbatical leave	7	5	2	7	6	6	9	2	6
Study leave	35	32	36	28	30	40	23	42	34
Maternity leave	14	22	13	31	22	14	15	24	18
Annual leave	12	20	15	25	18	16	16	16	16

Source: More II research institution questionnaire, unit of observation = research position

- In general, RPO's are more willing to negotiate over wages of exceptional candidates than universities, but are less willing to negotiate over other parts of the remuneration package (with the exception of health, pension and unemployment insurance, childcare allowance as well as maternity leave). This once more indicates that lacking wage flexibility may in part be compensated by a higher willingness to negotiate other aspects of the remuneration package.
- Differences among disciplines in the negotiable aspects of remuneration packages are rather small. Engineering universities seem to make less use of appointment, research and other bonuses as well as being less willing to negotiate on study leave. Physics universities are more willing to negotiate childcare allowances but less willing to negotiate family allowances.
- There is an increasing willingness to negotiate over all components of a remuneration package with increasing seniority of the position. The only exceptions to this are health and other kinds of insurance as well as maternity and annual leave.

In sum, therefore, these results suggest that the most important differences in the institutions governing wage levels and wage increases of academics are those between countries with different innovative capacities. Particularly among institutions located in countries which are innovation leaders, wages for academic positions are more often determined by the research institutions themselves rather than by law. They also put lower emphasis on seniority and more on performance related pay, as well as emphasizing individual negotiations more strongly than pre-determined wage scales.

Table 3.3.5: Fields of negotiation with exceptional candidates (by type of organisation and position)

	By type of organisation					By position			
	RPO	Total	University			PhD	Post Doc	Assis- tant	Profes- sor
			Economics	Engineering	Physics				
Gross Salary	46	41	49	28	41	24	32	36	39
Health Insurance	12	9	12	9	10	8	8	8	8
Pension Insurance	13	11	16	6	10	3	6	7	11
Unemployment insurance	9	3	2	3	3	2	4	4	5
Accident Insurance	6	6	6	8	5	3	4	5	6
Other Insurance	3	4	6	1	3	2	2	2	3
Appointment Bonus	14	20	22	15	21	9	8	11	13
Function bonus	28	31	38	24	30	16	23	25	25
Research bonus	28	29	39	17	26	16	21	24	25
Other Bonus	10	25	34	14	24	8	15	16	18
Housing allowance	7	13	7	18	15	4	7	8	10
Commuting allowance	3	9	7	9	13	1	3	4	7
Family allowance	7	8	10	9	3	2	4	7	7
Childcare Allowance	7	6	4	2	10	4	4	5	5
Other Allowances	6	7	6	7	8	3	5	5	6
Sabbatical leave	1	9	13	2	9	3	3	5	6
Study leave	32	35	41	21	38	19	24	27	30
Maternity leave	22	16	17	16	14	11	15	16	16
Annual leave	18	15	9	20	17	12	15	15	15

Source: More II research institution questionnaire, RPO=Research performing organisation, unit of observation = research position

By contrast, research institutions located in EU 27 countries – after controlling for other differences - differ from institutions located outside the EU by giving a significantly lower role to seniority and a significantly higher one to performance in determining wage increases. However, they also apparently have lower levels of autonomy in setting wages at the level of individual research institutions as well as being less willing (or able) to negotiate over non-wage components of remuneration packages such as provisions or allowances.

In addition, collective agreements play a significantly less important role in determining wage increases in EU 12 countries and individual negotiations are significantly more important for wage increases in the EU 15 countries than in non-EU 27 countries, with institutions in EU 12 countries generally being more willing than institutions in EU 15 countries to negotiate over other aspects of remuneration packages than wages.

Finally, wage setting institutions differ across different sub-segments of the job market for academics. Here the largest differences are between RPOs and universities. The former more often negotiate wages individually, are less often bound to remuneration schemes by law and more often provide performance related wage increases than universities. By contrast, indication for differences in the determinants of remuneration of different qualification levels between EU 27 countries and non-EU 27 countries remains rather limited.

### 3.3.3 Remuneration

The core of the research institutions questionnaire in the MORE II project was devoted to determining the wage levels as well as non-wage components of remuneration packages for different academic positions in the EU countries and the considered non-EU 27 countries. Institutions were specifically asked to state the minimum, maximum and average gross salary paid to each and every academic position at their respective institution.

Table 3.3.6 summarizes the results of this question by reporting the minimum, maximum and average wages in Euro per year at purchasing power parities of the year 2011.<sup>27</sup> According to the results, the average minimum wage for a position in non-EU 27 countries reported in the questionnaire was € 30,306.—and the

<sup>27</sup> These purchasing power parities were calculated according to the data provided by the OECD (see <http://stats.oecd.org/Index.aspx?DataSetCode=PPPGDP>)

maximum wage amounted to € 42,887.--, the average wage paid was € 33.270.-- . In the EU 27 countries the equivalent salaries were 27,413.-- for the minimum wage, € 41,406.-- for maximum wages and € 31,727.-- for the average wage. This therefore indicates that wages for academic positions are lower in the EU 27 countries than in the non-EU 27 countries.

Table 3.3.6: Average, minimum and maximum gross wages by region, innovation capacity, position and field (in € at PPP)

	Minimum				Maximum				Average			
	Non-EU	EU27	EU12	EU15	Non-EU	EU27	EU12	EU15	Non-EU	EU27	EU12	EU15
By Innovation capacity												
Innovation leaders	41179	31638	31638	31638	62389	46187	46187	46187	49569	38368	38368	38368
Innovation followers	22592	34347	30849	37798	34476	51696	46117	57518	27841	46003	40315	50670
Moderate innovators	35115	26839	19867	31458	46671	39343	40113	38692	36715	30315	26258	34082
Modest innovators	20831	8818	8818		24594	17863	17863		21038	12592	12592	
By position												
First stage researcher	19536	16505	10659	22351	26274	25196	20489	30774	21416	18749	11733	26045
Recognised researcher	31561	24373	20337	28408	45989	38616	34791	42663	35730	28685	22076	35035
Established researcher	27915	30164	23537	35782	37441	45596	38863	52329	28895	34559	27785	41913
Leading researcher	39027	39543	27821	48334	57337	58050	46992	68801	43694	45602	33359	56361
By field												
RPO	31094	26235	18484	36683	47724	37072	29863	48312	39128	29173	21697	38592
University: Economics	28664	30112	27289	31890	34147	45391	42204	47854	27125	34984	29121	40010
University: Engineering	30173	29869	22895	32901	48146	48676	44654	50738	32607	37367	28504	44014
University: Physics	30602	24703	17902	32055	37353	40188	35624	45306	23379	28563	18657	38788
<b>Total</b>	<b>30306</b>	<b>27413</b>	<b>20432</b>	<b>33751</b>	<b>42887</b>	<b>41406</b>	<b>34937</b>	<b>48171</b>	<b>33270</b>	<b>31727</b>	<b>23535</b>	<b>40033</b>

Source: More II research institution questionnaire, unit of observation = research position, RPO=Research performing organisation. Note: Wages of Innovation followers among EU 12 countries based on 2 countries only (Slovenia and Cyprus)

This result is, however, due to a number of compositional effects. Thus, for instance, lower pay in the EU 27-countries is primarily due to the EU 12 countries where minimum and maximum as well as average wages across all positions are substantially lower than in non-EU 27 countries. By contrast, the average wages of the positions reported among EU 15 countries are higher than those of non-EU 27 countries. Furthermore, by and large, this hierarchy is maintained for different subgroups when analysing wages by the technological capacities of the country of location of the respective research institutions by the seniority of the position and the field of research in which this position was reported in Table 3.3.6. This suggests that low wages for EU 27 countries are solely due to the low wages in EU12 countries.

However, there are also some differences in remuneration patterns, particularly between the non-EU 27 countries and the EU 15 countries in various sub/categories. For example, higher remunerations in the EU 15 countries seems to be primarily due to high remuneration in countries that are innovation followers. Here, even EU 12 countries on average report higher minimum, maximum and average wages than the non-EU 27 countries. Similarly, wages are lower in EU 15 countries than in the EU 27 countries among research positions as recognized researcher. These differences are, however, primarily driven by individual countries which might be considered outliers. Thus, for instance, the high wages of innovation followers in the EU 12 countries are solely due to Cyprus (the only innovation follower among the EU 12 countries next to Slovenia). Similarly, the low wages of innovation followers among the non-EU 27 countries are solely due to low wages reported in Iceland, while high wages among innovation followers in the EU15 are primarily due to high wages in the UK.

To analyze the potential biases from composition effects and outliers at least to some degree, we therefore used regression analysis once more. In particular, we regressed (logarithm of) minimum, maximum and average wages on indicator variables for the country group in which the interviewed research organization resided, the innovative capacity of the country of the research organization, the seniority of the position and the field of study in which this position existed. Our hypotheses with respect to these variables were that more technologically advanced countries offer higher wages and that more senior positions would command a higher wage level, while the fields of research were included to account for wage difference among fields, for which we had no clear a priori expectations

and the region was included to test for differences in pay among non-EU 27, EU 15 and EU 12 based research institutions. Furthermore, in addition to these “main effects” we also included interaction terms between the region of affiliation variable and all other variables, to account for potential differences in the impact of other determinants of wage differences between non-EU 27, EU 15 and EU 12 countries.

The results of these regressions confirm many of our expectations. Institutions located in countries which are innovation leaders also offer significantly higher salaries, since the coefficients of the main effects for this group of variables are negative for all other groups in the regression and thus indicate lower wages than in the reference group of innovation leaders. Interestingly, differences among these groups are also larger for average and maximum wages than for minimum wages offered for a position. This may indicate that, aside from offering higher wages, research institutions located in countries which are innovation leaders also have more possibilities to offer a larger wage premium over the (often legal) minimum for candidates that seem to be particularly well suited for the position in question than are research institutions located in moderate and modest inventors.

The results imply that more senior positions receive higher wages and also point to remuneration differences for different disciplines. For the positions of recognized researcher and established researcher these differences are, however, often not significant, which suggests rather low wage premiums for these position. By contrast, for leading researcher positions, coefficients are highly significant and large. This indicates a particularly large wage increase for such senior positions. With respect to field of research, by contrast, results suggest that while all disciplines seem to have rather similar minimum wages, average and maximum wages of both researchers in economics and physics are significantly lower than among researchers in RPOs. By contrast, researchers working in engineering earn similar wages as researchers in RPOs.

The results with respect to our main variable of interest (i.e. the region of affiliation of the position) suggest firstly that minimum wages in the EU 15 and non-EU 27 countries do not differ significantly, but that only average and maximum wages are significantly lower in the EU 15 than in the EU 27 countries. The average higher wages in the EU 15 reported in Table 3.3.6 are therefore solely due to the high wages paid in innovation followers in EU 15 countries (a result that as explained above is, however, based on only very few observations). This indicates greater wage equality among research positions in the EU 15 countries.



Table 3.3.7: Regression results concerning wage levels paid

	Log minimum wage		Log minimum wage		Log average wage	
	coeff.	SE	coeff.	SE	coeff.	SE
Non-EU27 countries	base category					
EU15 countries	-0.17	0.15	-0.47 ***	0.16	-0.46 ***	0.14
EU12 countries	0.20	0.16	-0.05	0.18	-0.06	0.18
Innovation leaders	base category					
Innovation followers	-0.47 ***	0.08	-0.42 ***	0.09	-0.36 ****	0.10
Moderate innovators	-0.12	0.09	-0.21 **	0.08	-0.22 ***	0.08
Modest innovators	-0.78 ***	0.09	-1.11 ***	0.10	-0.92 ***	0.09
Innovation leaders *EU15	base category					
Innovation followers *EU15	0.62 ***	0.09	0.61 ***	0.11	0.64 ***	0.11
Moderate innovators *EU15	0.05	0.10	-0.05	0.10	0.06	0.09
Modest innovators *EU15	n.a.					
Innovation leaders *EU12	n.a.					
Innovation followers *EU12	base category					
Moderate innovators *EU12	-0.97 ***	0.12	-0.49 ***	0.12	-0.61 ***	0.14
Modest innovators *EU12	-0.90 ***	0.12	-0.32 **	0.14	-0.49 ***	0.14
First stage researcher	base category					
Recognised researcher	0.29 **	0.13	0.22	0.14	0.24 *	0.12
Established researcher	0.26 **	0.14	0.18	0.14	0.24 *	0.12
Leading researcher	0.65 ***	0.14	0.67 ***	0.14	0.68 ***	0.13
First stage researcher*EU15	base category					
Recognised researcher*EU15	-0.04	0.15	0.12	0.15	0.09	0.14
Established researcher*EU15	0.24	0.15	0.43 ***	0.15	0.31 **	0.14
Leading researcher*EU15	0.13	0.15	0.16	0.16	0.12	0.14
First stage researcher*EU12	base category					
Recognised researcher*EU12	-0.06	0.15	0.10	0.17	0.06	0.15
Established researcher*EU12	0.24	0.17	0.27	0.17	0.24	0.15
Leading researcher*EU12	0.09	0.18	0.07	0.18	0.11	0.16
RPO	base category					
Economics	-0.08	0.09	-0.34 ***	0.10	-0.39 ***	0.09
Engineering	-0.01	0.11	0.09	0.12	-0.08	0.10
Physics	-0.01	0.10	-0.26 **	0.10	-0.49 ***	0.10
RPO*EU15	base category					
Economics*EU15	0.00	0.11	0.4 ***	0.11	0.52 ***	0.11
Engineering*EU15	-0.03	0.12	0	0.13	0.17	0.11
Physics*EU15	-0.02	0.12	0.33 ***	0.12	0.58 ***	0.12
RPO*EU12	base category					
Economics*EU12	0.15	0.15	0.39 ***	0.14	0.36 **	0.14
Engineering*EU12	0.12	0.15	0.24	0.18	0.14	0.13
Physics*EU12	-0.05	0.14	0.44 ***	0.15	0.49 ***	0.14
Constant	10.14 ***	0.13	10.68 ***	0.14	10.48 ***	0.12
Observations	702		640		572	
R <sup>2</sup>	0.49		0.51		0.56	

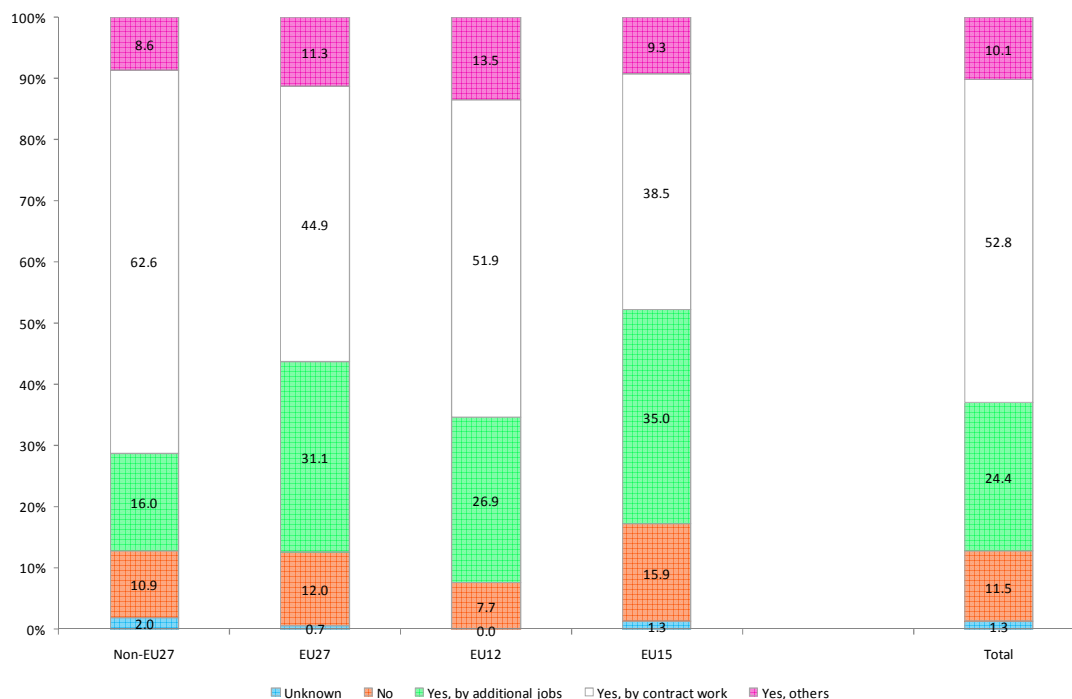
Source: MORE II research institution questionnaire, table reports linear regression coefficients. Dependent variables are  $\ln(\text{wages})$ , SE=heteroscedasticity robust standard error, \*\*\* (\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. Note: non-respondents are excluded from the analysis, RPO=Research performing organisation, n.a. not available

Secondly, all the results suggest that wages in the EU 12 countries are not, in general, lower than in the non-EU 27 countries, but that the low average wage levels can be explained solely by the very low wage levels in the modest and moderate innovators among those countries. While this result may seem surprising, this is equivalent to the statement that all EU 12 countries except Cyprus and Slovenia pay significantly lower wages in academia than the non-EU 27 (and also the EU 15) countries.

Thirdly, in both the EU 15 and EU 12 countries, wages are also more equally distributed across disciplines, since both economists and physicists in both regions receive a wage premium relative to their counterparts in non-EU 27 countries. Comparing the positive significant effects for the interaction terms of these two disciplines with those of the negative coefficients of the main effects suggests that the wage disadvantage of the economists and physicists found in non-EU 27 countries disappears in the EU 15 and EU 12 since these coefficients are of opposite sign but about equal magnitude.

In sum, therefore, evidence from this regression analysis indicates that the central difference in remuneration between EU 27 and non-EU 27 countries is the larger wage equality both with respect to the wage differences within individual positions as well as with respect to disciplines in the EU 27 countries.

Figure 3.3.4: Is your staff allowed to earn additional private income (% of all institutions)



Source: MORE II research institution questionnaire, unit of observation = research institution

### 3.3.3.1 Additional private income

Aside from these differences in wage schedules there are also important structural differences between non-EU 27 countries and EU 15 as well as EU 12 countries with respect to the possibility of earning additional private income. These apply both to how such income can be generated as well as to the importance of this income both to individual researchers and to the institution, as a means being competitive in recruiting. Thus, while the share of institutions at which earning additional income is impossible is rather similar between non-EU 27 countries, EU 15 countries and EU 12 countries, a larger share of the positions offered in the EU 12 countries - and particularly in the EU 15 countries - is associated with the possibility to earn such income in an additional job than in non-EU 27 countries, where such income is much more often earned through contract work (see Figure 3.3.4).

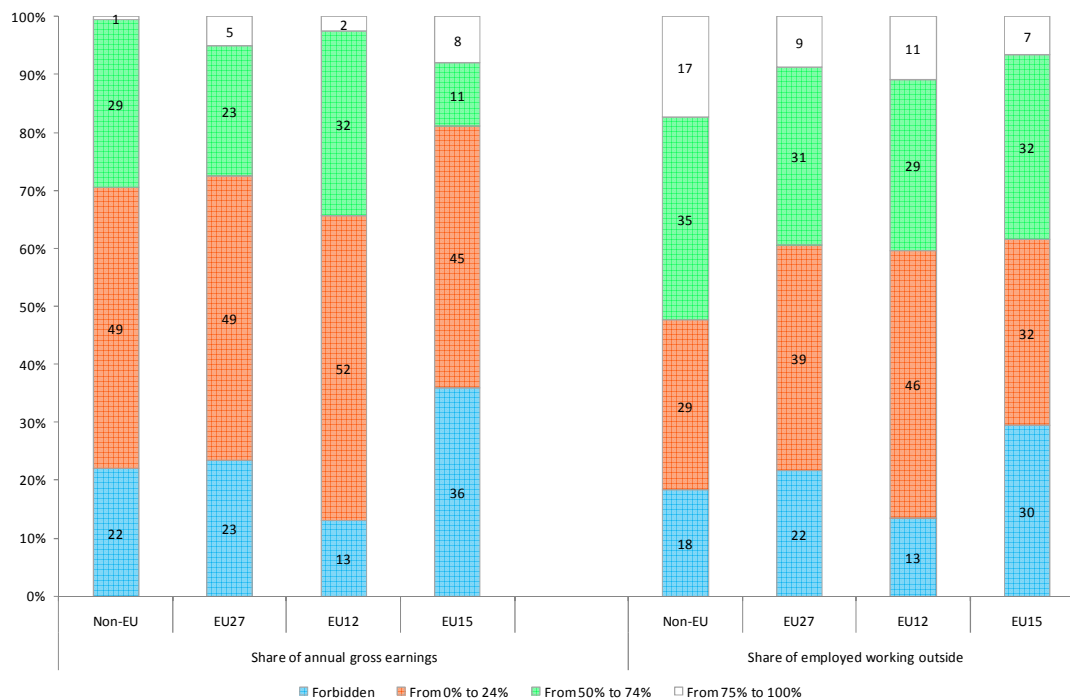
Similarly, institutions located in the EU 12 also attribute a much higher importance to such income. This applies both to the individual researcher as well as to the institution. For 66% of the institutions surveyed in EU 12 countries, the respondents indicate that additional income is of importance for individual researchers, while in the non-EU 27 countries and the EU 15 the same applies to only 37% and 33% of the institutions. In addition in the EU 12 countries such income is also important to the institutions. It is considered important in designing competitive remuneration packages at 53% of the institutions; while in the non-EU 27 countries and the EU 15 countries the same is the case for only 39% and 35% of the institutions respectively (Table 3.3.8).

Table 3.3.8: Importance of private income for individual researchers and institution (%)

	Non-EU	EU27	EU12	EU15
<b>Is additional income important for the individual researchers at your institution?</b>				
No response	9.7	20.7	16.8	24.3
No	53.1	30.6	17.3	42.9
Yes	37.1	48.6	65.9	32.7
<b>Is additional income important for your institution to increase competitiveness in the job market?</b>				
No response	10.9	14.1	8.7	19
No	50	41.9	38	45.6
Yes	39.1	44	53.4	35.4

Source: MORE II research institution questionnaire, unit of observation = research institution

Figure 3.3.5: Average share of private income and share of staff earning additional private income (% of positive responses)



Source: MORE II research institution questionnaire, unit of observation = research institution

This greater role of additional income in the EU 12 countries also feeds into a higher typical share of total earnings earned in other jobs in the EU 12 countries but not necessarily into a higher share of personnel involved in such activities. In the EU 12 countries, around 34% of the staff in research institutions earns more than 25% of their average wage in additional income. In the EU 15 countries this share is only 19% and in the non-EU 27 countries it is 30%. By contrast, the share of staff earning additional income of some form is estimated to be above 24% in 52% of the non-EU 27 institutions, 41% of the EU 12 institutions and 38% of the EU 15 institutions (Figure 3.3.5).

Once more, these results are confirmed by regression analyses (Tables 3.3.9 and 3.3.10). Thus, for instance, a logit analysis of the importance of additional income for individual researchers - as well as for the institutions competitiveness on the job market - confirms that additional income is significantly more important for researchers in the EU 12 countries (but also less significant in the EU 15 countries) than in non-EU 27 countries, while it is significantly less important for research institutions located in EU 15 countries than for those located in non-EU 27 countries. In addition, these regressions indicate a significantly higher importance of the additional income both to researchers as well as institutions in countries with lower innovative capacities than the innovation leaders and in universities than in RPO's (with the exception of the importance of additional income to university researchers in the field of physics - see columns 2 and 3 of Table 3.3.9).

The results also indicate that earning additional income is significantly more often impossible in EU 15 countries but significantly less frequently impossible in EU 12 countries relative to institutions located outside the EU 27 and also universities relative to RPOs. In addition, in the EU 15 countries, the lower share of researchers which can earn additional income is primarily due to a lower share of researchers performing contract work, while the higher share of researchers earning additional income in universities relative to RPOs is primarily due to a higher share of researchers having an additional job (see columns 4 to 7 in Table 3.3.9).

Table 3.3.9: Regression results on importance of additional income earned for staff and the institution and type of additional income allowed

	Importance of additional income		Additional Income through			
	Important for institution	Important for staff	Forbidden	Additional job	Contract work	Others
Non-EU 27 countries	base category					
EU 15 countries	-0,13 **	0,11 *	0,05 *	0,08 *	-0,17 ***	0,03
EU 12 countries	-0,02	0,41 ***	-0,04 *	0,08	-0,09	0,05
Innovation leader	base category					
Innovation followers	0,57 ***	0,23 ***	0,01	0,08	-0,10	0,00
Moderate innovators	0,41 ***	0,29 ***	-0,04	-0,05	0,12 **	-0,03
Modest innovators	0,44 ***	0,48 ***	0,00	-0,20 ***	0,18 ***	0,02
RPO	base category					
University: Economics	0,33 ***	0,22 ***	-0,06 ***	0,13 ***	-0,06	-0,01
University: Engineering	0,34 ***	0,42 ***	-0,08 ***	0,25 ***	-0,08	-0,10 ***
University: Physics	0,32 ***	-0,02	-0,13 ***	0,11 **	0,01	0,01

Source: MORE II research institution questionnaire, unit of observation = research institution, table reports marginal effects of a (multinomial) logit analysis. \*\*\* (\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. RPO=Research performing organisation

Furthermore - in accordance with descriptive evidence - the higher share of additional income earned among researchers in EU 12 countries is associated with a significantly higher share of these researchers receiving 25% or more of their income from additional jobs. The lesser importance of additional income in EU 15 countries, by contrast, is associated with a significantly lower share of these researchers receiving income of more than 25% of their wages from such additional income. The higher share of additional income of university researchers relative to researchers working at RPOs is also associated with a significantly higher share of these researchers earning more than 25% of their income from additional jobs.

With respect to the share of personnel earning additional income, by contrast, a significantly lower share of the institutions in the EU 15 has more than 25% of their staff earning additional income than in non-EU 27 countries. Yet, a significantly higher share of universities compared to the RPOs has more than 25% of their staff working in such positions.

In sum, therefore, evidence on the level of gross wages earned at research institutions indicates that EU 27 countries do not generally pay lower gross wages than non-EU 27 countries. The central difference in gross wage levels between EU 27 and non-EU 27 countries is the larger wage equality in the EU 27, both with respect to the wage differences within individual positions (i.e. difference between maximum and minimum wages for a particular position) as well as with respect to disciplines. This, together with the lower autonomy in wage setting found in the last section, suggests that for particularly able or fitting candidates, wage flexibility in the EU 27 countries may be too low to compete.

Table 3.3.10: Regression results on share of gross wages accounted for by additional income earned and share of staff receiving additional income

	Share of gross wages earned through additional income				Share of staff earning additional income			
	Forbidden	0-24%	25-49%	50% or more	Forbidden	0-24%	25-49%	50% or more
Non-EU 27 countries	base category							
EU 15 countries	0,10 *	0,00	-0,07 **	-0,04 **	0,07 **	0,05 **	-0,04 *	-0,08 **
EU 12 countries	-0,10 ***	-0,04 *	0,09 ***	0,05 ***	0,03	0,02	-0,01	-0,03
Innovation leader	base category							
Innovation followers	0,11 *	0,00	-0,07 **	-0,04 *	0,15 ***	0,07 ***	-0,08 ***	-0,14 ***
Moderate innovators	-0,09 **	-0,04	0,08 *	0,05 *	-0,05	-0,05	0,03	0,07
Modest innovators	-0,05	-0,01	0,04	0,02	-0,07 *	-0,07 *	0,04 *	0,10 *
RPO	base category							
University: Economics	-0,13 ***	-0,08 *	0,12 ***	0,09 **	-0,16 ***	-0,20 ***	0,05 ***	0,31 ***
University: Engineering	-0,16 ***	-0,17 **	0,17 ***	0,16 **	-0,11 ***	-0,15 ***	0,04 ***	0,23 ***
University: Physics	-0,15 ***	-0,12 ***	0,15 ***	0,12 ***	-0,09 ***	-0,11 ***	0,04 ***	0,16 ***

Source: MORE II research institution questionnaire, unit of observation = research institution, table reports marginal effects of a multinomial logit analysis. \*\*\* (\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. RPO=Research performing organisation.

Furthermore, the evidence also suggests large differences in gross wage levels within the EU 27 countries. In particular, here gross wages in most of the EU 12 countries (all but the two innovation followers among these countries – Cyprus and Slovenia) are substantially lower than in the EU 15. This also leads to additional income being much more important in the EU 12 than in the EU 15 countries – where earning such additional income is actually less preponderant than in non-EU 27 countries. Differences between the EU 27 and non-EU 27 countries in this respect are more subtle, in that more of the research institutions in the EU 27 countries allow researchers to earn income through additional jobs, while in non-EU 27 countries contract work is more common.

Finally, some differences in wage schedules also exist between countries with different innovation capacities and different organizations as well as fields. Countries which are innovation leaders pay slightly higher wages but, more importantly, also allow more wage dispersion, i.e. larger differences between high and low wages, within positions than in countries which have a lower innovative capacity. In these countries, additional income is also less important for the researchers and institutions (although the share of income earned through such additional income is not necessarily lower in these countries). RPOs also generally pay higher wages but allow substantially fewer additional jobs than universities; across universities wages are lower in physics and economics than in engineering with researchers in engineering also earning more in additional jobs than in other disciplines.

### 3.3.4 Provisions, bonuses and allowances

A further topic about which respondents to the interview on research institutions were interviewed was the various provisions, bonuses and allowances provided by research institutions. In particular, responding institutions were asked:

- a) Under what conditions they generally provide health retirement and unemployment insurance to their staff.
- b) In what cases they offer cash bonuses in the form of appointment, function, performance, research, teaching or other bonuses to their respective staff.
- c) Under which circumstances they provided housing, commuting, family, child-care and other allowances for their staff.

Furthermore, in a number of subsequent questions, the institutions were also asked what share of income the respective provisions, bonuses and allowances typically accounted for approximately, and what share of the respondents' personnel was covered by these benefits in the respective institution.

#### 3.3.4.1 Provisions

The responses to these questions show that additional insurance is provided by less than half of the research institutions. Pension and health insurance are the most popular provisions in research institutions. In total, 53% of the research institutions provide pension insurance and 45% provide health insurance at least in some cases. In most of these cases, the insurance is provided to all of the staff (between 35% of the pension insurance and 40% of the health insurance), while only a minority of the research institutions (14% for pension insurance and 10% for health insurance) provide insurance related to performance, seniority or other reasons.

Furthermore, pension and health insurance are substantially more frequently granted to the staff in non-EU 27 countries than in EU 27 countries, but also substantially more often in EU 12 countries than in EU 15 countries. Such insurance is also more common at universities than at RPOs. In addition, countries counted as innovation leaders are also more likely to provide such additional health insurance to their staff than are less technologically advanced countries (Table 3.3.11).

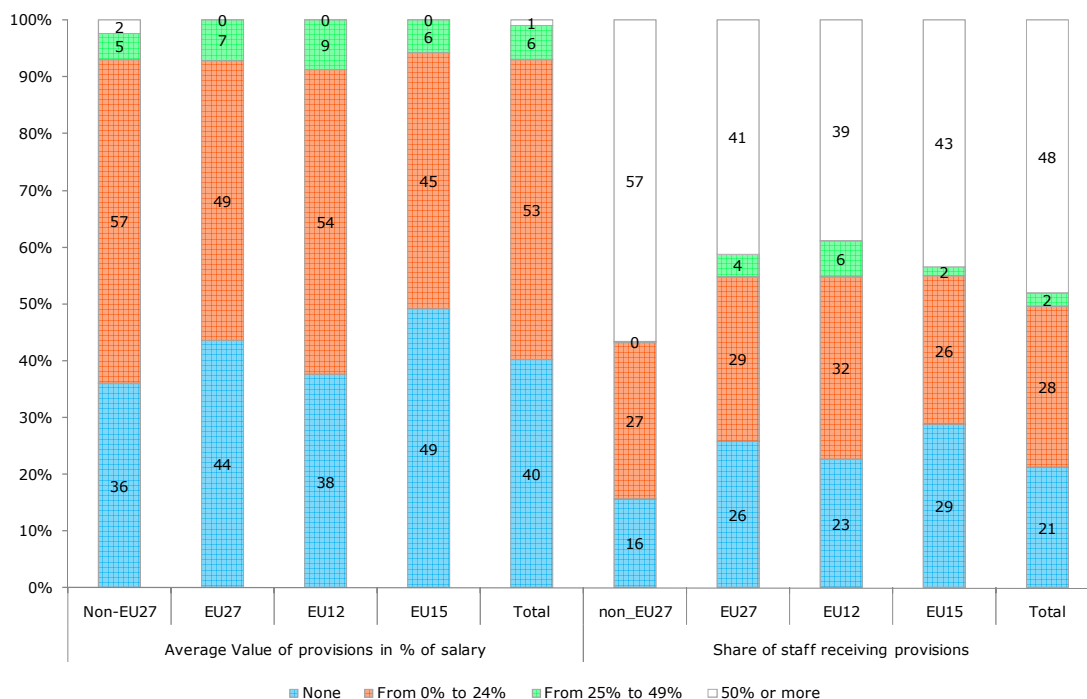
Unemployment insurance, by contrast, is paid by a smaller number of research institutions. In total, 67% of the research institutions never provide such insurance. If it is granted, unemployment insurance is also mostly provided to all the staff of an institution rather than being provided for performance, seniority or other reasons. Again, this kind of insurance is more often provided in non-EU 27 countries than in EU 27 countries, in universities than in RPOs, in countries that are innovation leaders and in EU 12 countries rather than in EU 15 countries.

Table 3.3.11: In which cases does your institution generally offer the following health insurance provisions to your staff (exceeding the legal minimum in %)

	By region				By innovative capacity				By organisation and field					Total
	Non-EU 27	EU 27	EU 15	EU 12	Innovation leaders	Innovation followers	Moderate innovators	Modest innovators	RPO	University				
									Total	Economics	Engineering	Physics		
<b>Health care insurance</b>														
Always	43	30	31	29	48	40	22	37	38	35	38	39	26	35
Performance	1	1	0	2	0	0	0	4	1	1	2	0	0	1
Seniority	2	3	0	5	0	0	0	9	5	1	1	2	0	2
Other	5	9	5	12	6	15	6	3	6	6	11	0	10	7
Never	50	60	65	54	48	56	66	48	50	60	56	50	70	55
<b>Pension insurance</b>														
Always	46	35	32	39	42	55	28	39	45	38	40	35	35	40
Performance	1	4	0	8	0	0	0	9	5	1	2	0	0	3
Seniority	2	3	0	6	0	0	0	9	5	1	0	2	0	2
Other	9	10	8	12	13	20	7	0	8	10	10	6	12	9
Never	41	51	61	40	42	27	63	50	41	50	50	48	53	47
<b>Unemployment insurance</b>														
Always	23	13	15	11	39	19	4	15	19	17	19	13	15	17
Performance	1	3	0	7	0	0	0	9	5	1	2	0	0	2
Seniority	1	3	0	6	0	0	1	7	5	0	0	0	0	2
Other	0	7	5	9	0	13	3	0	0	6	11	0	6	4
Never	64	70	79	61	53	65	80	66	62	70	70	69	73	67

Source: MORE II research institution questionnaire, unit of observation = research institution, RPO=Research performing organisation

Figure 3.3.6: Share of income accounted for by provisions and share of staff receiving provisions (% of institutions)



Source: MORE II research institution questionnaire, unit of observation = research institution

Table 3.3.12: Regression results on share of wages accounted for by provisions and share of staff receiving provisions

	Average value of provisions in % of salary				Share of staff receiving provisions			
	None	From 0% to 24%	From 25% to 49%	50% or more	None	From 0% to 24%	From 25% to 49%	50% or more
Non-EU 27 countries	base category							
EU 15 countries	-0,03	0,02	0,01	0,00	0,12 ***	0,05 ***	0,00	-0,17 ***
EU 12 countries	-0,09 *	0,07 **	0,02 *	0,01 *	0,11 ***	0,05 ***	0,00	-0,15 ***
Innovation leader	base category							
Innovation followers	0,20 ***	-0,16 ***	-0,03 ***	-0,01 **	-0,02	-0,01	0,00	0,03
Moderate innovators	0,20 ***	-0,16 ***	-0,03 ***	-0,01 **	0,13 ***	0,06 ***	0,00	-0,19 ***
Modest innovators	-0,16 ***	0,12 ***	0,04 ***	0,01 *	0,07 *	0,04 **	0,00	-0,11 *
RPO	base category							
University: Economics	0,01	-0,01	0,02	0,00	0,14 ***	0,05 ***	0,00 *	-0,19 ***
University: Engineering	0,00	0,00	0,02	0,00	0,07 **	0,03 ***	0,00	-0,11 **
University: Physics	0,18 ***	-0,14 ***	-0,03 ***	-0,01 **	0,16 ***	0,05 ***	0,00 *	-0,21 ***

Source: MORE II research institution questionnaire, unit of observation = research institution, table reports marginal effects of a multinomial logit analysis. \*\*\* (\*\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. RPO=Research performing organisation

In the largest section of research institutions which do provide additional insurance, more than 50% of the researchers are covered by these and for those covered, their monetary value usually accounts for less than 25% of the gross salary of the researchers (Figure 3.3.6). Regression analysis, however, suggests that both in the EU 15 and EU 12 countries the share of research institutions providing additional insurance to none or less than 25% of their staff is significantly higher, and the share of institutions providing insurance to more than 50% of their staff is significantly lower than in non-EU 27 countries.<sup>28</sup> The same also applies to research institutions located in countries which are moderate or modest innovators relative to institutions located in innovation leaders and to staff working at universities relative to staff working at a RPO (Table 3.3.11, left hand side panel). The value of additional insurance for the staff receiving them is, however,

<sup>28</sup> This may be because compulsory insurance systems in the EU 27 are more generous than outside the EU 27 (see next chapter), which reduces demand for additional insurance.



higher in the EU 12 countries, relative to non-EU 27-countries. It is also higher among institutions located in modestly innovating countries than in other countries as well as in institutions researching in physics relative to RPOs. By contrast, this income share is lower than among innovation leaders in institutions located in innovation followers and moderate inventors (see Table 3.3.12).

#### 3.3.4.2 Bonuses

While additional insurance is therefore less frequently used by research institutions, bonuses are a much more common part of the incentive package. Function and research bonuses are more frequently offered by the majority of the institutions interviewed. Only 40% of the research institutions never offer function bonuses and only 45% never offer research bonuses. By contrast, teaching bonuses are never offered by 59% of the research institutions and 51% of the institutions never provide other bonuses, so that they – although more widely used than most provisions – are not available at the majority of research institutions. The only bonuses rarely granted are appointment bonuses. 71% of the interviewed institutions never offer such a bonus (see Table 3.3.13).

Bonuses are also typically granted on the basis of performance rather than on the basis of seniority or to provide ubiquitous coverage, as in the case of provisions. Thus 34% of the institutions interviewed grant function bonuses on the basis of performance, 39% research bonuses, 21% teaching bonuses and 18% other bonuses. By contrast, only function bonuses are granted to everyone by more than 10% of the institutions and seniority plays a very minor role for granting all kinds of bonuses.

Institutions located in non-EU 27 countries also use bonuses more often than those in EU 27 countries. In all categories of bonuses (except for teaching bonuses and other bonuses) the share of institutions never granting a bonus is larger among the EU 27 countries than among the non-EU 27 countries. This difference is primarily due to a lower share of research institutions in which bonuses are always granted in the EU 27 countries.

Differences in the use of bonuses between EU 15 and EU 12 countries remain limited to a lower share of performance related bonuses in all categories, except for research bonuses and a more frequent use of other bonuses in EU 12 countries.

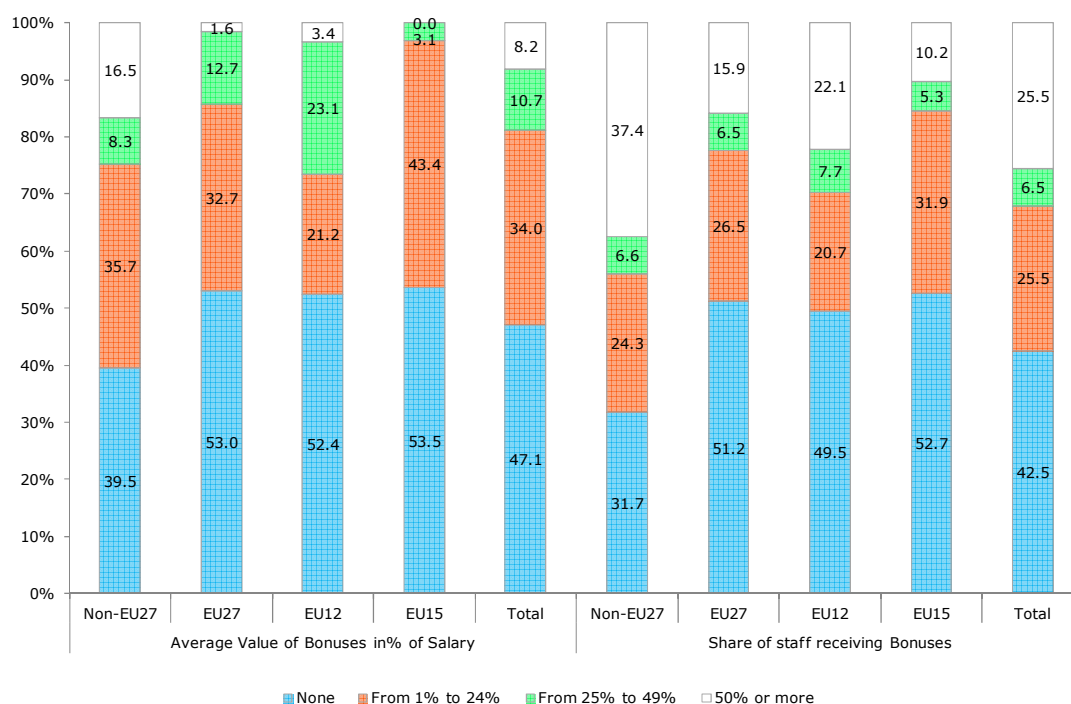
Institutions located in countries that are innovation followers use function, research and teaching bonuses substantially less often than both innovation leaders, as well as modest and moderate innovators. Modest innovators, however, provide a much larger share of bonuses to all their staff than research institutions located in countries with a higher research capacity.

Table 3.3.13: In which cases does your institution generally offer the following bonuses?

	By region				By innovative capacity				By organisation and field				Total	
	Non-EU 27	EU 27	EU 15	EU 12	Innovation leaders	Innovation followers	Moderate innovators	Modest innovators	RPO	University	University: Economics	University: Engineering		University: Physics
<b>Appointment Bonus</b>														
Always	7	0	0	0	0	0	2	9	3	4	3	3	3	3
Performance	10	8	9	6	12	2	3	18	9	9	13	6	5	9
Seniority	4	3	3	3	0	5	1	7	3	4	0	6	7	3
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	7	2	2	2	8	2	6	1	7	3	6	0	0	4
Never	61	78	79	77	66	80	79	57	71	69	72	66	73	71
<b>Function Bonus</b>														
Always	21	7	4	11	8	2	12	28	7	18	21	19	12	13
Performance	33	35	38	31	39	32	33	33	42	29	28	36	24	34
Seniority	3	2	3	1	0	0	4	4	2	3	0	10	0	2
Last Bonus	1	0	0	0	0	0	2	0	1	0	0	0	0	1
Others	0	7	11	2	6	0	8	0	1	6	6	3	8	4
Never	38	42	42	42	34	59	40	29	40	39	43	34	44	40
<b>Research Bonus</b>														
Always	11	0	0	1	0	0	6	13	3	8	14	0	3	5
Performance	36	41	41	41	37	27	46	42	37	40	36	47	38	39
Seniority	2	3	5	1	0	2	4	3	4	2	0	6	0	2
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	1	5	3	6	3	6	1	2	2	4	7	3	0	3
Never	39	49	52	45	48	58	40	35	50	39	41	31	47	45
<b>Teaching Bonus</b>														
Always	14	2	2	2	0	3	3	21	2	11	17	12	3	7
Performance	15	27	36	17	22	14	27	22	6	32	33	41	25	21
Seniority	0	2	3	0	0	0	3	0	0	2	0	6	0	1
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	0	4	3	5	0	3	3	2	2	2	6	1	0	2
Never	59	59	58	60	63	74	57	46	74	48	44	39	61	59
<b>Other Bonus</b>														
Always	6	1	0	1	10	0	3	0	4	3	3	0	3	3
Performance	11	24	34	13	20	22	16	17	17	20	13	20	27	18
Seniority	0	3	0	5	0	0	5	0	2	1	0	3	0	1
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	8	10	8	12	10	9	7	10	12	7	5	6	10	9
Never	55	48	44	51	46	57	45	55	55	46	61	40	39	51

Source: MORE II, research institution questionnaire, unit of observation = research institution. RPO=Research performing organisation

Figure 3.3.7: Share of income accounted for by bonuses and share of staff receiving bonuses (%)



Source: MORE II research institution questionnaire, unit of observation = research institution.

Table 3.3.14: Regression results on share of wages accounted for by bonuses and share of staff receiving bonuses

	Average value of bonuses in% of salary				Share of staff receiving bonuses			
	None	From 0% to 24%	From 25% to 49%	50% or more	None	From 0% to 24%	From 25% to 49%	50% or more
Non-EU 27 countries	base category							
EU 15 countries	0,16 ***	-0,07 ***	-0,05 ***	-0,04 ***	0,16 ***	-0,03 ***	-0,02 ***	-0,11 ***
EU 12 countries	0,04	-0,02	-0,01	-0,01	0,11 **	-0,02 *	-0,02 **	-0,08 ***
Innovation leader	base category							
Innovation followers	0,30 ***	-0,14 ***	-0,08 ***	-0,06 ***	0,27 ***	-0,06 ***	-0,04 ***	-0,17 ***
Moderate innovators	0,16 ***	-0,07 ***	-0,05 ***	-0,04 ***	0,16 ***	-0,03 **	-0,02 ***	-0,11 ***
Modest innovators	0,03 ***	-0,01	-0,01	-0,01	-0,03	0,00	0,00	0,03
RPO	base category							
University: Economics	-0,13 ***	0,04 ***	0,05 ***	0,04 **	0,01	0,00	0,00	-0,01
University: Engineering	-0,06	0,02	0,02	0,02	0,02	0,00	0,00	-0,01
University: Physics	-0,01	0,00	0,00	0,00	0,05	-0,01	-0,01	-0,04

Source: MORE II research institution questionnaire, unit of observation = research institution, table reports marginal effects of a multinomial logit analysis. \*\*\* (\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. RPO=Research performing organisation

Differences by types of organization and fields of research in the use of bonuses remain limited. Unsurprisingly, RPO’s made much less use of teaching bonuses than universities and more frequently provide function bonuses on a performance basis. In engineering, research and teaching bonuses are granted more frequently on a performance basis and among research institutions working in physics teaching and function bonuses are rarer than among institutions working in other disciplines.

Therefore, descriptive evidence indicates that the use of bonuses is a major difference in the remuneration systems of EU 27 and non-EU 27 countries. This hypothesis is also corroborated by data on the share of income contributed by bonuses and the share of staff receiving bonuses (in Figure 3.3.7) as well as regression results (in Table 3.3.14). In non-EU 27 countries only 32% of the institutions do not pay bonuses to their staff and 37% of the institutions pay bonuses to over 50% of their staff. In the EU 27 countries the respective percentages are 51%

and 16%, respectively. As a consequence, the share of research institutions not paying bonuses is significantly larger in both EU 15 and EU 12 countries than among non-EU 27 countries, even after controlling for compositional effects (Table 3.3.14) at the expense of institutions that are paying them. The same applies to research institutions located in countries that are modest innovators or innovation followers.

Similarly, in non-EU 27 countries at 17% of the institutions, bonuses also comprise over 50% of the gross salary of the staff receiving them, while in EU 27 countries this share is only 3%. Here, regression results suggest a significantly higher importance of the income from bonuses in non-EU 27 countries than in EU 15 countries (but not necessarily in EU 12 countries). Again, the same also applies to institutions located in countries that are innovation followers as well as to institutions located in countries that are moderate or modest innovators. Finally, the share of income received from bonuses is also significantly higher in universities teaching economics than in RPO's and other universities.

#### 3.3.4.3 Allowances

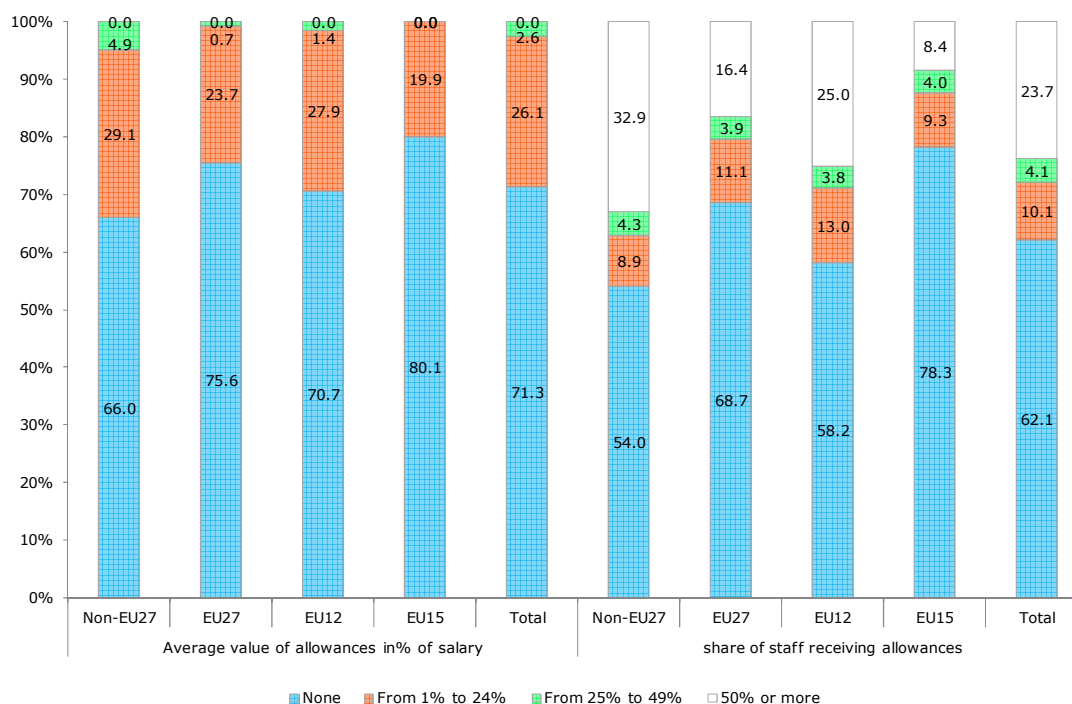
Additional allowances such as housing, commuting, family childcare or other allowances, by contrast, are used less in the remuneration packages of research institutions. Depending on the type of allowance, between 66% and 84% of the responding institutions declared that they never made use of such allowances. The least popular allowances are family and housing allowances, which are never granted in 84% and 76% of the interviewed institutions, respectively. The most popular allowances are commuting and other allowances, which are never paid in 66% of the interviewed research institutions. Furthermore – as for provisions – allowances when granted are usually given to all of the staff rather than being based on seniority and performance. However, in contrast to provisions and bonuses, allowances are also more often granted for other reasons, such as the presence of children, family or other specific circumstances.

Table 3.3.15: In which cases does your institution generally offer the following allowances?

	By region				By innovative capacity				By organisation and field					Total
	Non-EU 27	EU 27	EU 15	EU 12	Innovation leaders	Innovation followers	Moderate innovators	Modest innovators	RPO	University	University: Economics	University: Engineering	University: Physics	
<b>Housing Allowance</b>														
Always	7	0	0	0	13	0	0	1	1	4	2	6	5	3
Performance	2	1	0	1	2	2	0	1	2	1	2	0	0	1
Seniority	6	0	0	0	0	0	4	5	2	3	0	0	9	3
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	14	13	14	12	23	20	11	4	16	12	6	16	15	13
Never	68	82	85	78	59	79	82	78	76	76	87	70	66	76
<b>Commuting Allowance</b>														
Always	23	14	10	19	24	30	6	17	27	13	12	12	10	18
Performance	1	0	0	0	0	2	0	0	1	0	0	0	0	1
Seniority	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	8	13	8	19	3	23	9	8	9	12	15	10	10	11
Never	67	65	81	47	68	45	81	66	59	69	73	70	70	66
<b>Family Allowance</b>														
Always	9	4	7	0	9	7	3	6	6	6	9	4	5	6
Performance	0	0	0	0	0	0	0	0	0	4	0	0	0	0
Seniority	0	3	0	5	0	0	0	5	3	1	0	0	0	1
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	4	6	4	9	0	0	9	8	6	3	4	3	6	5
Never	83	84	88	80	83	92	83	79	84	12	86	79	84	84
<b>Childcare Allowance</b>														
Always	21	7	10	3	23	4	12	15	12	76	15	19	9	13
Performance	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seniority	0	3	0	5	0	0	0	5	3	0	0	0	0	1
Last Bonus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	6	9	7	12	2	2	13	11	10	6	7	8	5	8
Never	67	79	82	75	64	92	72	67	75	12	76	59	81	74
<b>Other Allowances</b>														
Always	6	3	4	2	0	3	3	10	5	69	0	9	5	4
Performance	5	1	2	0	2	2	7	0	3	6	2	0	6	3
Seniority	4	0	0	0	0	0	4	2	0	3	0	3	6	2
Last Bonus	4	0	0	0	0	0	4	2	0	3	0	3	6	2
Others	12	18	12	25	10	18	23	9	8	21	25	15	21	16
Never	63	68	78	57	72	68	61	65	70	63	62	57	68	66

Source: MORE II research institution questionnaire, unit of observation = research institution.

Figure 3.3.8: Share of income accounted for by bonuses and share of staff receiving allowances



Source: MORE II research institution questionnaire, unit of observation = research institution.

Table 3.3.16: Regression results on share of wages accounted for by provisions and share of staff receiving provisions

	Average value of allowances in% of salary				Share of staff receiving allowances			
	None	From 0% to 24%	From 25% to 49%	50% or more	None	From 0% to 24%	From 25% to 49%	50% or more
Non-EU 27 countries	base category							
EU 15 countries	0,14 ***	0,14 ***	-0,01 ***		0,34 ***	-0,08 ***	-0,04 ***	-0,22 ***
EU 12 countries	0,01	0,01	0,00		0,05	-0,01	-0,01	-0,03
Innovation leader	base category							
Innovation followers	0,10 **	0,10 **	-0,01 **		0,06	-0,01	-0,01	-0,04
Moderate innovators	0,20 ***	0,20 ***	-0,02 ***		0,34 ***	-0,08 ***	-0,04 ***	-0,22 ***
Modest innovators	0,11 ***	0,11 ***	-0,01 **		0,30 ***	-0,08 ***	-0,04 ***	-0,19
RPO	base category							
University: Economics	0,10 ***	0,10 ***	-0,01 **		0,24 ***	-0,06 ***	-0,03 ***	-0,15 ***
University: Engineering	-0,06	-0,06	0,01		0,05	-0,01	-0,01	-0,03
University: Physics	0,23 ***	0,23 ***	-0,02 ***		0,29 ***	-0,08 ***	-0,04 ***	-0,18 ***

Source: MORE II research institution questionnaire, unit of observation = research institution, table reports marginal effects of a multinomial logit analysis. \*\*\* (\*\*) [\*] report significance at the 1%, (5%) or [10%] level respectively. RPO=Research performing organisation

Allowances are also more frequently used in EU 12 countries and (in particular for housing allowances) in non-EU 27 countries, than in EU 15 countries. While institutions located in countries which are innovation leaders provide more housing allowances than institutions located in other countries, innovation followers use commuting allowances more frequently - but use childcare and family allowances less frequently than other country groups. By contrast, differences between universities and RPO's as well as disciplines remain small.

The limited importance of allowances in the overall remuneration package of research institutions is also documented by the low share of institutions granting allowances to more than 50% of their staff and the low share of income accounted for by allowance. Only 34% of the research institutions interviewed pay more than 50% of their staff allowances and they account for more than 25% of total net wages in only 3% of the institutions.

In EU 15 countries, these shares are even lower, while they are of a similar magnitude in EU 12 countries and larger in the non-EU 27 countries. As a conse-

quence, regression results suggest that in EU 15 countries (but not in EU 12 countries) both the share of income received from allowances as well as the share of staff receiving such allowances is significantly lower than in non-EU 27 countries. Moreover, institutions in countries with less advanced innovation systems as well as institutions researching in economics and physics (not in engineering) give a significantly lower share of income to their staff through such allowances and also provide allowances to a significantly smaller share of their staff.

Summarizing therefore, the use of provisions, bonuses and allowances seems a main difference in the typical remuneration packages between research institutions located in EU 27 countries and research institutions located outside this region. Research institutions in the EU 27 as a rule grant fewer provisions and bonuses to their staff than research institutions located outside the EU 27, and when they do so they usually cover a smaller share of their employees and the value of these provisions and bonuses in percent of the gross salary is smaller.

The only exceptions to this are allowances, which are, however, much less frequently used than provisions and bonuses in all regions. Here, differences apply only to the EU 12 and the EU 15 and thus corroborate the result that among research institutions located in the EU 27 countries those located in the EU 12 are more likely to provide more such payments, cover a larger share of their personnel with such additional payments and pay a higher share of total gross wages through these payments than those located in EU 15 countries.

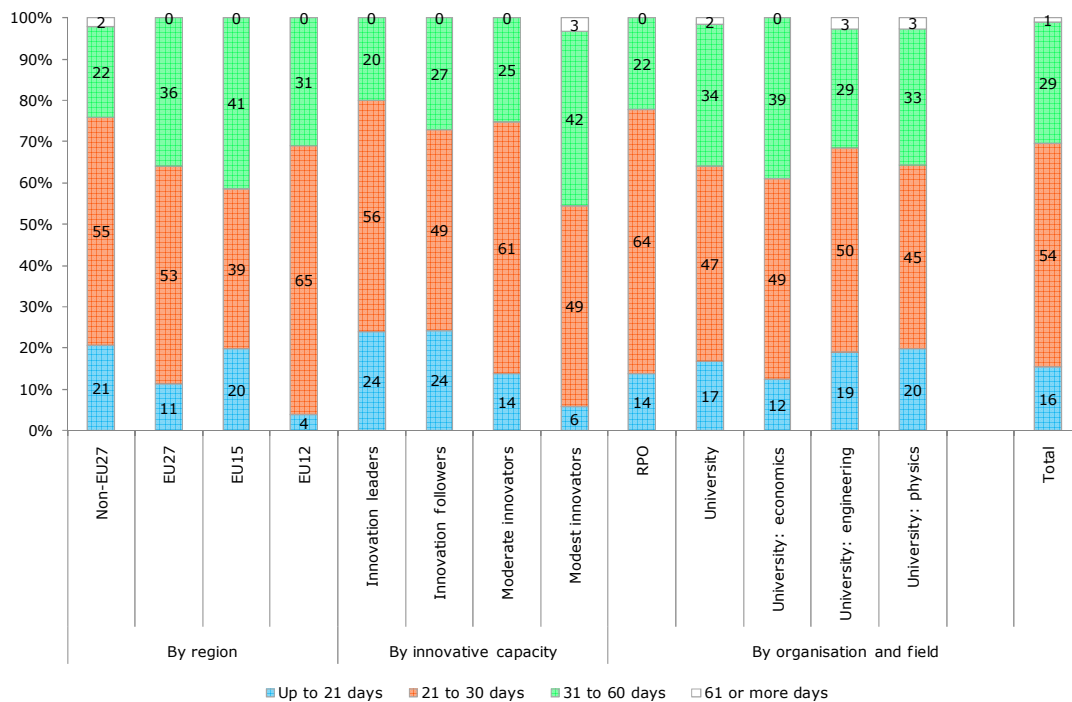
Similar observations - with the exception of allowances - apply to research institutions located in countries that are innovation leaders. They also pay more provisions and bonuses and when paying them cover a higher share of both the salary as well as their personnel with these payments.

Differences between types or research organizations and fields, by contrast, are somewhat smaller. Here the relevant difference seems to be that universities are more generous in providing additional health, pension and unemployment insurance to their employees than RPOs.

### 3.3.5 Holidays, free time and sabbaticals

A final part of the research institution questionnaire was devoted to holidays. In this part of the questionnaire, research institutions were asked about the duration of annual holidays for their staff and the conditions under which additional (sabbatical, study and further education) leave was granted to their personnel. The answers to this question suggest that in the majority of research institutions (54%) researchers have annual holiday leave of between 22 to 30 days. 16% have holiday leave of 21 days or less and a further 29% have leave of between 31 to 60 days. Only a very small part of the research institutions (1%) permit holiday leave in excess of 60 days (Figure 3.3.9). In less than half of the institutions (31%) taking such leave requires a minimum length of service (Figure 3.3.10).

Figure 3.3.9: How many days of annual leave/holidays is your research staff entitled to at most (% of institutions)



Source: MORE II research institution questionnaire, unit of observation = research institution, RPO=Research performing organization.

Not very surprisingly, research institutions located in the EU 27 have more generous holiday regulations than those in non-EU 27 countries. Among the respondents located in EU 27 countries, 89% have holiday leave that exceeds 21 days and this leave is conditional upon a minimum time of service at only 23% of the institutions. Among institutions located in non-EU 27 countries, only 79% have holidays of 21 days or more and in 41% of the cases obtaining leave requires a minimum time of service at the institution in question.

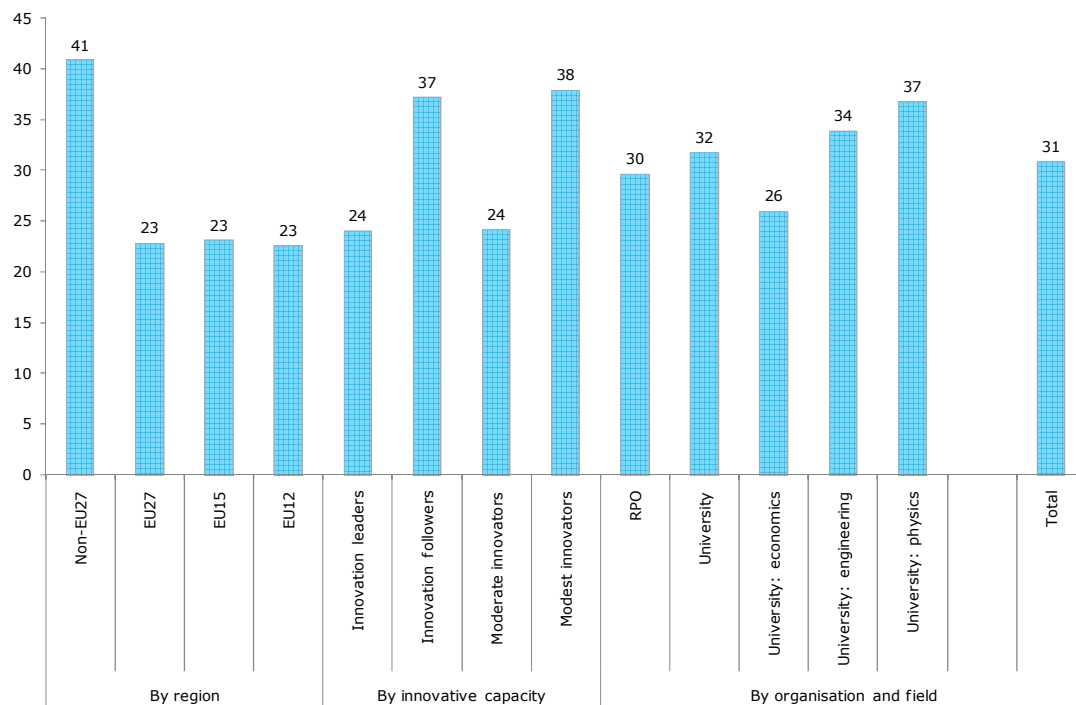
The more generous holiday regulations in the EU 27 countries apply to both institutions located in EU 15 and EU 12 countries. However, holiday regulations among institutions located in EU 15 countries seem to be even more generous than among institutions located in EU 12 countries. This applies in particular to the length of annual holidays. In the EU 15 countries, 96% of the institutions offer their staff annual holidays of 21 days or more. In the EU 12, only 80% of the institutions have holidays of 21 days or more, but a larger share than of the EU 15 based research institutions offers annual leave of 31 to 60 days (41% in the EU 12 countries versus 31% in the EU 15 countries). In both of these regions, however, 23% of the institutions require a minimum length of service at the institution before leave can be taken.

Holidays are usually longer in countries with lower innovative capacity (see Figure 3.3.9). Among institutions located in countries which are considered modest innovators, 94% offer their staff holidays in excess of 21 days and 22% offer holiday leave of 31 to 60 days per year. Among institutions located in countries that are innovation leaders, the equivalent percentages are 76% and 20%. By contrast, the rules governing to holidays seem to be largely independent of the innovative capacity of the country in which the research institution is located. Both institutions located in countries which are modest innovators and innovation followers more often require their staff to have a minimum tenure at their institution before they are eligible for holiday leave than do institutions located in innovation leaders and moderate innovators.



Long holidays exceeding a length of 30 days are also more common at universities than at RPOs, since 22% of the RPOs responding to the questionnaire reported holiday leave in excess of 30 days, with 36% for the universities.

Figure 3.3.10: Is a minimum length of service necessary to qualify for leave (percentage share of positive answers)



Source: MORE II research institution questionnaire, unit of observation = research institution, RPO=Research performing organization.

Finally research institutions were also asked under what conditions they were willing to grant additional sabbatical, research and study leave for their researchers. The responses to this question suggest that (Table 3.3.17):

- In most of the cases, additional leave is open to all researchers. 55% of the interviewed institutions stated that they were willing to grant such additional leave to all researchers.
- Additional leave for performance reasons, seniority and depending on the date of the last leave taken are less common. Between 26% (leave depending on date of last leave) and 24% (performance and seniority related leave) of the research institutions grant additional leave on such grounds.
- Leave granted for other reasons are the least common. Only 15% of the institutions stated that they were willing to grant leave for such other reasons.
- Research institutions located in EU 27 countries differ from research institutions located in non-EU 27 countries most obviously, through granting a higher share of their additional leave for unspecified other reasons and having a larger share of unpaid leave. Of the research institutions located in non-EU 27 countries only 6% grant additional leave for unspecified other reasons, while this share is 24% in the EU 12 countries. Furthermore the share of additional unpaid leave that can be granted is higher among institutions located in EU 27 countries than among those in non-EU 27 countries for each and every reason for granting the research leave.

Table 3.3.17: In which cases does your institution offer additional sabbatical, study and education leave (% of institutions)

	Non-EU27	EU27	EU12	EU15	Total
<b>Open to all researchers</b>					
Unknown	17	11	6	15	13
Paid	22	20	38	4	21
Paid and unpaid	24	18	12	25	21
Unpaid	5	20	19	20	13
Not granted	33	31	26	36	32
<b>Performance related</b>					
Unknown	26	22	26	17	24
Paid	21	6	13	0	13
Paid and unpaid	5	12	6	19	9
Unpaid	0	8	11	5	4
Not granted	48	52	43	59	50
<b>Seniority related</b>					
Unknown	36	25	29	21	30
Paid	13	5	4	5	8
Paid and unpaid	6	11	6	15	9
Unpaid	0	9	13	4	5
Not granted	45	51	47	54	48
<b>Depending on date of last leave</b>					
Unknown	31	26	37	16	28
Paid	21	8	11	6	14
Paid and unpaid	7	10	2	18	9
Unpaid	1	6	10	2	4
Not granted	39	50	40	58	45
<b>Other Reasons</b>					
Unknown	43	29	36	22	35
Paid	3	7	9	6	5
Paid and unpaid	2	9	4	15	6
Unpaid	1	7	11	3	4
Not granted	50	48	41	54	49

Source: MORE II research institution questionnaire, unit of observation = research institution,

- e) The higher share of unpaid leave in EU 27 countries is primarily due to a higher share of unpaid leave granted by research institutions located in the EU 12 countries. A higher share of these institutions offers unpaid leave in each category except for that open to all researchers.
- f) Research institutions located in EU 12 countries differ from those located in EU 15 countries due to a higher share of institutions granting additional leave both for all researchers as well as for performance reasons. 68% of the research institutions located in EU 12 countries state that they provide additional leave open to all researchers, while 30% state that they (also or exclusively) provide it for performance related reasons. Among institutions located in EU 15 countries, the respective shares are 49% and 24% respectively.

In sum, therefore, the responses to these questions suggest that, in general, EU 27 based research institutions are more generous than non-EU 27 based institutions in terms of annual holiday entitlement, but when it is granted, it is often more frequently permitted for unspecified other reasons when compared to institutions based outside the EU 27. Furthermore, there also seem to be some differences between institutions based in EU 15 countries and EU 12 countries. The latter are less generous with holidays than the former and also more often only provide unpaid additional leave for their staff.

In addition, results also suggest that research institutions based in countries that have a higher innovation potential are generally less generous with annual leave and that RPOs offer less annual holidays than universities.

### 3.3.6 Summary

In this chapter we wanted to know how remuneration schemes and the rules governing the remuneration of researchers differ between EU 27 and non-EU 27 countries as well as between the EU 15 countries and the EU 12 countries; between countries with different research capacities; between different research organizations and different research fields. To this end, we used the data from the MORE II research organizations questionnaire and compared:

- a) the wage setting and bargaining institutions governing remuneration,
- b) the wage levels and opportunities granted to earn additional income,
- c) the provisions, bonuses and allowances offered to the staff at research institutions
- d) the regulations with respect to holidays and sabbaticals as well as research and maternity leave.

With respect to the institutions governing remuneration, major differences in the setting of academics' salary levels and salary increases exist between countries of different innovative capacities. Among the institutions located in countries which are innovation leaders, salaries for academic positions are more often determined by the research institutions themselves rather than by law, and put a lower emphasis on seniority and a greater one on performance for pay increases as well as emphasizing individual negotiations more strongly than pre-determined wage scales when considering wage increases.

By contrast, and after controlling for compositional effects, research institutions located in EU 27 countries differ from institutions located outside the EU by giving a significantly lesser role to seniority and a significantly higher one to performance when determining wage increases; but also by apparently having less autonomy in setting wages as well as being less willing (or able) to negotiate over non-wage components of the remuneration packages such as provisions or allowances for exceptional candidates.

In addition, collective agreements play a significantly less important role in determining wage increases in EU 12 countries and individual negotiations are significantly more important in the EU 15 countries, with institutions in EU 12 countries generally being more willing (or able) to negotiate over aspects of remuneration packages other than wages than institutions in EU 15 countries. Furthermore, RPOs more frequently negotiate wages individually, are less often bound to remuneration schemes by law and more frequently provide performance-related wage increases than do universities.

With respect to gross wage levels, EU 27 countries do not generally pay lower gross wages than non-EU 27 countries. The central difference between EU 27 and non-EU 27 countries is the larger gross wage equality in EU 27 countries both with respect to the wage differences within individual positions (i.e. difference between maximum and minimum wages for a particular position) as well as with respect to disciplines.

Table 3.3.18: Most important results of differences in remuneration schemes

	wage setting and bargaining institutions governing remuneration	wage levels and opportunities to earn additional income	Provisions, bonuses and allowances	Holidays and sabbatical research, study and maternity leaves
EU 27 relative to Non EU27 countries	- seniority less important and performance more important for wage increases	- larger gross wage equality both with respect to the wage differences within individual positions and discipline	- grant fewer provisions and bonuses	- more generous with holidays
	- apparently lower autonomy in setting wages at the level of the individual research institution	- additional income more often through second job rather than contractwork	- cover smaller share of employees by provisions and bonuses	- more often grant additional holidays for unspecified other reasons
	- less willing (or able) to negotiate over non-wage components of the remuneration packages for exceptional candidates		- pay lower share of gross salary in provisions and bonuses	
EU 15 relative to EU12 countries	- individual wage negotiations less important, collective agreements more important	- substantially higher wage levels	-grant fewer provisions, bonuses and allowances	- less generous with holidays
	- less willing (or able) to negotiate over non-wage aspects of remuneration packages	- substantially lower importance for additional income	- cover smaller share of employees by provisions, bonuses and allowances	- more often grant only unpaid additional holidays
			- pay lower share of gross salary in provisions, bonuses and allowances	
Innovation leader relative to countries with lower innovative capacity	- wages more often determined by the research institutions rather than by law,	- pay slightly higher wage levels	-grant more provisions, and bonuses	- less generous with annual holidays
	- lower emphasis on seniority and a larger one on performance for pay increases	- have larger pay inequality within positions	- cover larger share of employees by provisions and bonuses	
	- emphasize individual negotiations more than pre-determined wage scales	- lower importance for additional income	- pay higher share of gross salary in provisions, and bonuses	
RPOs relative to universities	- more often negotiate wages individually,	- pay higher wage levels	- less generous in providing additional health, pension and unemployment insurances	- less generous with annual holidays
	- are less often bound by to remuneration schemes by law	- allow less additional income		
	-more often provide performance related wage increases			

Source: MORE II research institution questionnaire,

There is, however also substantial heterogeneity in gross wage levels within the EU 27 countries. Gross wages in most of the EU 12 countries (all but the two innovation followers among these countries – Cyprus and Slovenia) are substantially lower than in the EU 15. This also leads to additional income being much more important in EU 12 than in EU 15 countries, where earning such additional income is actually less preponderant than in non-EU 27 countries. Differences between the EU 27 and non-EU 27 countries, in this respect, are more subtle in that more of the research institutions in the EU 27 countries permit earning income through additional jobs, while institutions in non-EU countries emphasize contract work more often.

Salary schedules also vary substantially between countries with different innovative capacities and different organizations as well as research fields. Countries that are innovation leaders pay slightly higher wages but, more importantly, also allow more wage dispersion, i.e. larger differences between high and low wages, within positions than countries that have a lower innovative capacity. In these countries additional income is also less important for the researchers and institutions (although the income earned through such additional income is not necessarily lower in these countries). Moreover, RPOs generally pay higher wages and allow substantially fewer additional jobs than universities and among universities wages are lower in physics and economics than in engineering, with particular researchers in engineering earning more in additional jobs than researchers in other disciplines.

The use of provisions, bonuses and allowances is another main difference in the typical remuneration packages between research institutions located in EU 27 countries and research institutions located outside the EU 27. Research institutions in the EU 27 generally grant fewer provisions and bonuses to their staff than research institution outside the EU 27, and when EU 27 research institutions do

provide such payments they usually cover a smaller share of their employees and the monetary value of these provisions and bonuses in percent of the salary is smaller.

The only exceptions to this are allowances, which are, however, much less frequently used than provisions and bonuses in all regions and types of institutions. Here differences apply only to the EU 12 and the EU 15. The former are more likely to provide more provisions, bonuses and allowances as well as covering a larger share of their personnel with such additional payments and paying a higher share of total salaries through these payments than those located in EU 15 countries.

Similar observations - again with the exception of allowances - apply to research institutions located in countries that are innovation leaders. They also pay more provisions and bonuses and cover a higher share of both the salary as well as their personnel with these payments. By contrast, differences between types or research organizations and fields are somewhat smaller than could be expected. Here, the relevant difference seems to be that universities are more generous in providing additional health, pension and unemployment insurance to their employees than RPOs.

Finally, with respect to holiday regulations, EU 27 based research institutions are more generous than non-EU 27 ones with respect to their annual holidays. But when granting additional leave, it is more frequently given for unspecified reasons when compared to institutions based outside the EU 27. Furthermore, institutions based in EU 15 countries are less generous with holidays than institutions based in EU 12 countries and more often only provide additional unpaid leave for their staff. In addition, research institutions based in countries which have a higher innovation potential are generally less generous with annual leave and RPOs offer less annual holidays than universities.

### 3.4 Researcher remuneration in universities: Results from standardized CV's

Aside from asking research institutions about their typical remuneration schemes, a second part of the MORE II researcher remuneration questionnaire consisted of giving universities a set of standardized CV's and asking them about the typical contract that a fictitious researcher could expect to receive at interview. In contrast to the method proposed in the previous chapter – whereby research institutions might have rather different preconceptions on the (unobserved) qualifications a candidate has to have to take up a particular position – this form of questioning has the advantage that universities are faced with a standardized researcher, to which they can propose fictitious offers.

Two such standardized CV's were designed within the so-called 'standardized CV questionnaire' of the MORE2 project. The first was for a junior researcher which we hypothesized would be considered a good candidate for an R2 position (i.e. the position of a recognized researcher) at most top universities. The second was for a top level senior researcher that, according to our expectations, would fulfill the requirements necessary to qualify for the position of leading researcher (R4) in most good universities of the world.

To collect the data for this chapter we presented the universities (not the RPOs) sampled in the research institution questionnaire with both standardized CVs and asked respondents what kind of a contract the fictitious candidate could expect to obtain at the respective institution and what salaries and fringe benefits they might be offered. Using this method we were able to obtain responses from a total of 104 universities located in 41 countries across three disciplines (economics, engineering and physics), with interviewers being asked to provide one CV from one of the top universities of their respective countries in each of the fields for both a junior and a senior researcher, respectively. Unfortunately, however, no interviews for universities were sampled from the US, France, Germany and the U.K.<sup>29</sup> so in this chapter we have to omit these admittedly important countries from our analysis.

Figure 3.4.1 shows the structure of the responses to this standardized CV questionnaire. As can be seen from this figure, 56 of our 104 responses are from universities located in EU 27 countries (29 from EU 12 countries and a further 27 from EU 15 countries) and 48 were from universities located in non-EU 27 countries. Similarly, breaking down the data according to innovative capacity of the countries in which the interviewed universities were located, 22 of these universities were located in countries that are considered innovation leaders; 21 in innovation followers; 31 in moderate inventors and 30 in modest inventors. 40 of the interviews were conducted for positions in economics; 32 for positions in engineering and a further 32 in for positions physics.

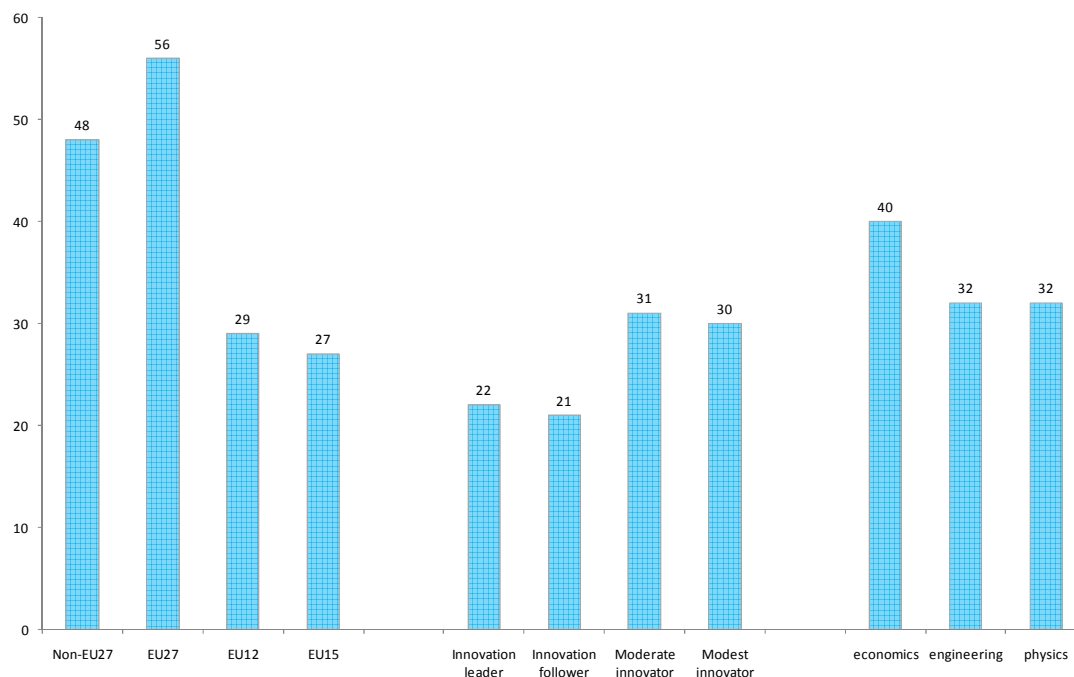
In light of this data, our aims in this chapter are to further investigate the differences in remuneration between a) universities located in EU 27 countries and non-EU 27 countries; b) universities located in different parts of the EU (i.e. in the EU 12 and the 15 respectively); c) universities located in countries with different innovation capacities and d) different fields of research. Thus, in the next section we first of all discuss what types of contracts the researchers described in the standardized CVs could have obtained, while in section 3.4.2 we focus on the average salaries as well as the typical kinds of fringe benefits that these candidates could have secured. Finally, in section 3.4.3 we consider the typical

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<sup>29</sup> Given time constraints it was not possible to collect responses from these countries although country experts repeatedly tried to contact several universities and RPOs.

holiday packages that these candidates could be expected to obtain and the last section summarizes our main findings.

Figure 3.4.1: Descriptive statistics on the data for standardized CVs (number of observations)



Source: MORE II standardized CV questionnaire.

### 3.4.1 Type of position offered

Moving first to the types of contracts offered to the candidates described in the standardized CVs, the information displayed in Tables 3.4.1 to 3.4.4 and Figures 3.4.2 and 3.4.3 suggests that the junior researcher described in the standardized CVs in the average of all institutions interviewed – as hypothesized - would typically have received a job offer as a recognized researcher (i.e. a position equivalent to R2 positions in the European Framework for Research Careers also used in the last chapter). 80.5% of the interviewed institutions stated that they would employ this fictitious candidate in such a position and only 10.4% stated that they would employ this candidate as a first stage researcher (R1 position), while a further 9.1% suggested that the candidate could work as an established researcher (R3-see Table 3.4.1).

This junior researcher would also typically receive a fixed term contract that, however, would allow her (or him) advancement to the level of a full professor. 59% of the universities interviewed stated that the junior candidate defined in the standardized CV would be eligible for a fixed term contract and 59% also stated that this contract would allow for advancement to the level of full professor (Table 3.4.2 and Figure 3.4.2). Furthermore the contract would also typically allow for flexi-time arrangements, since 51% of the respondents that the contract offered to such a candidate would allow for such an arrangement and a further 21% stated that this would depend on negotiations. Flexi-time arrangements would not be possible in only 13% of the universities interviewed (Table 3.4.3).

Typically the junior candidate would also be expected to work slightly over half of his/her time (51%) on research, while about one third of the time (34%) would have to go to teaching and the remainder to administrative (9% of the total time) and other tasks (6% of total working time) although in the majority of cases

(58.7%) this distribution of working time could be negotiated (Figure 3.4.3 and Table 3.4.4).

The senior candidate defined in the standardized CV, by contrast, would typically receive an offer as a leading researcher (R4) with a permanent contract. 85.7% of the interviewed universities stated that this researcher would be employed as a leading researcher and 52% stated that this researcher would receive a permanent contract (although almost a quarter – 24% - would have offered this researcher a temporary position only – see Table 3.4.2).

Table 3.4.1: What kind of position would you offer this person? (responses in %)

	Junior Researcher				Senior Researcher			
	First stage researcher	Recognised researcher	Established researcher	Leading researcher	First stage researcher	Recognised researcher	Established researcher	Leading researcher
By region								
Non-EU 27	17.1	68.6	14.3	0.0	0.0	3.2	9.7	87.1
EU 27	4.8	90.5	4.8	0.0	0.0	0.0	15.2	84.8
EU 12	10.0	85.0	5.0	0.0	0.0	0.0	18.2	81.8
EU 15	0.0	95.5	4.5	0.0	0.0	0.0	12.5	87.5
By innovative capacity								
Innovation leader	10.5	84.2	5.3	0.0	0.0	0.0	11.1	88.9
Innovation follower	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Moderate innovators	9.1	86.4	4.5	0.0	0.0	4.5	7.3	88.2
Modest innovators	2.2	70.0	27.8	0.0	0.0	0.0	11.1	88.9
By field								
Economics	12.5	81.3	6.3	0.0	0.0	3.2	12.9	83.9
Engineering	10.0	80.0	10.0	0.0	0.0	0.0	4.8	95.2
Physics	8.0	80.0	12.0	0.0	0.0	0.0	20.0	80.0
<b>Total</b>	<b>10.4</b>	<b>80.5</b>	<b>9.1</b>	<b>0.0</b>	<b>0.0</b>	<b>1.3</b>	<b>13.0</b>	<b>85.7</b>

Source: MORE II standardized CV questionnaire.

The senior candidate would likely be able to work in a flexi-time contract, although this would be accepted by a substantially lower number of the interviewed universities than for the junior candidate. Only 45% of the universities stated that a flexi-time arrangement would be possible and a further 17% stated that this would depend on negotiations, while 16% said that such an arrangement would not be possible for the senior researcher.

The senior researcher defined in the standardized CV would also spend slightly less time on research than the junior researcher (48% relative to 51% for the junior researcher) and also less time teaching (31%). She/he would, however, be expected to spend more time undertaking administration (14% of total time) than the junior researcher, but as with the junior researcher this time allocation could well be subject to negotiation, since 60.6% of the interviewed universities signaled a willingness to negotiate over the working time allocation for this researcher.

The types of jobs offered to both researchers would also be rather similar across regions, countries of different innovation capacities and across different fields of research. Thus, for instance, in the non-EU 27 countries the junior researcher would have a slightly higher than average chance of receiving a position as established researcher but also as first stage researcher, while in the EU 27 average (and even more so in the EU 12 average) the chances of working in positions other than a recognized researcher would be lower. This indicates a greater homogeneity within researcher careers among EU 15 countries than among non-EU 27 countries. This is, however, not surprising given the great variance of countries sampled among the non-EU countries in our interviews.



Table 3.4.2: What type of contract would you give the person characterized in the CV? (responses in %)

	Junior Researcher				Senior Researcher			
	Unknown	Fixed term contract	Other	Perma- nent	Unknown	Fixed term contract	Other	Perma- nent
By region								
Non-EU 27	25	56	6	13	33	29	6	31
EU 27	9	61	16	14	13	21	5	61
EU 12	11	52	11	26	19	41	7	33
EU 15	7	69	21	3	7	3	3	86
By innovative capacity								
Innovation leader	14	82	5	0	18	18	5	59
Innovation follower	5	71	24	0	10	33	5	52
Moderate innovators	10	58	13	19	16	26	6	52
Modest innovators	33	33	7	27	40	23	7	30
By field								
Economics	13	63	10	15	18	28	5	50
Engineering	25	47	13	16	31	13	3	53
Physics	13	66	13	9	19	34	9	38
<b>Total</b>	<b>16</b>	<b>59</b>	<b>12</b>	<b>13</b>	<b>19</b>	<b>24</b>	<b>6</b>	<b>52</b>

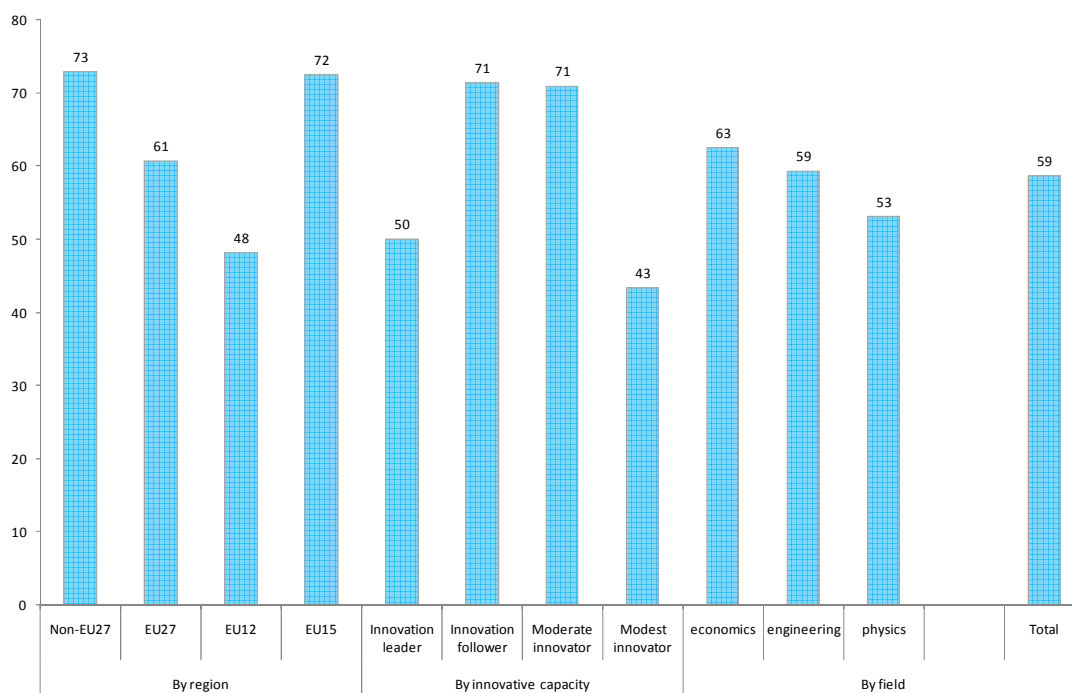
Source: MORE II standardized CV questionnaire.

The junior researcher would also be substantially more likely to receive a permanent position but this would less likely be a fixed term contract in the EU 12 countries but substantially less likely to receive a permanent position (but more likely to receive a fixed term contract) in the EU 15 countries, so that in the EU 27 average differences to universities located in non-EU 27 countries remain limited. Despite the higher chance of obtaining a permanent position, the junior researcher would, however, be less likely to receive a position that would allow for advancement to full professor in the EU 12 countries and more likely to receive such a position in the EU 15 so, again, the EU 27 average does not differ much from that of the average of the non-EU 27 countries.

The junior researcher would also be more likely to be allowed flexi-time arrangements in the contract and could expect to work more time in research and less time teaching when working in an EU 27 university than when working outside the EU 27. 59% of the EU 27 universities (and 62% of the EU 15 universities) would allow the junior researcher a flexi-time arrangement while only 42% of the universities based outside the EU 27 would allow such an arrangement. Similarly, the junior researcher would spend 55% of the working time in research (on average) at an EU 27 based university and 29% teaching. In universities located outside the EU 27, 45% of the time would typically be spent on research and 39% on teaching.

Furthermore, the junior researcher could also expect EU 27 universities to be more willing to negotiate on these working time arrangements than universities located outside the EU 27, since 62.5% of the EU 27 based universities but only 54.2% of the universities located outside the EU 27 signaled a willingness to negotiate on working time allocation.

Figure 3.4.2: Would the position offered allow for career advancement to the level of full professor at your institution? (only junior researcher, % of positive responses)



Source: MORE II standardized CV questionnaire.

The senior researcher, by contrast, would have a greater likelihood of being employed in the less senior position of an established researcher in the EU 27 countries than in universities located outside the EU 27, since 15.2% of the EU 27 based universities (but only 9.7% of the universities located outside the EU 27) stated that they would offer this researcher such a contract. She/he would also be more likely receive a permanent contract in the EU 15 countries than both in the EU 12 or non EU 27 countries and would also have a higher chance of receiving flexi-time arrangements in the EU 27 than in countries not in the EU 27. 86% of the universities located in EU 15 countries (as opposed to 31% of those located outside the EU 27 and 33% of those located in EU 12 countries) stated that they would offer the fictitious senior researcher a permanent contract and 57% of the EU 27 based institutions (as opposed to 31% of the institutions based outside the EU 27) stated that the senior researcher could expect to get a flexi-time arrangement.

With respect to allocation of working time and the willingness to negotiate over working time allocation, the senior researcher would, however, experience much smaller differences between the EU 27 and non-EU 27 institutions. Here, differences are more significant between the EU 15 and EU 12 countries, since the researcher would spend 46% of their working time on research, 34% teaching and 16% on administration in EU 12 based universities; but 52% of the time on research, 28% on teaching and 13% on administration in EU 15 based universities.

Table 3.4.3: Would this contract allow flexi-time? (%)

	Junior Researcher				Senior Researcher			
	Unknown	Depends on negotiation	No	Yes	Unknown	Depends on negotiation	No	Yes
By region								
Non-EU 27	23	15	21	42	33	13	23	31
EU 27	9	27	5	59	11	21	11	57
EU 12	11	33	0	56	15	26	4	56
EU 15	7	21	10	62	7	17	17	59
By innovative capacity								
Innovation leader	14	23	18	45	23	32	23	23
Innovation follower	5	43	0	52	10	19	5	67
Moderate innovators	10	13	16	61	13	6	23	58
Modest innovators	30	13	13	43	37	17	13	33
By field								
Economics	10	20	10	60	20	23	13	45
Engineering	25	25	9	41	28	13	16	44
Physics	13	19	19	50	16	16	22	47
<b>Total</b>	<b>15</b>	<b>21</b>	<b>13</b>	<b>51</b>	<b>21</b>	<b>17</b>	<b>16</b>	<b>45</b>

Source: MORE II standardized CV questionnaire.

Table 3.4.4: What share of her (his) working time would an employee in such a position usually have to spend on the following activities? (%)

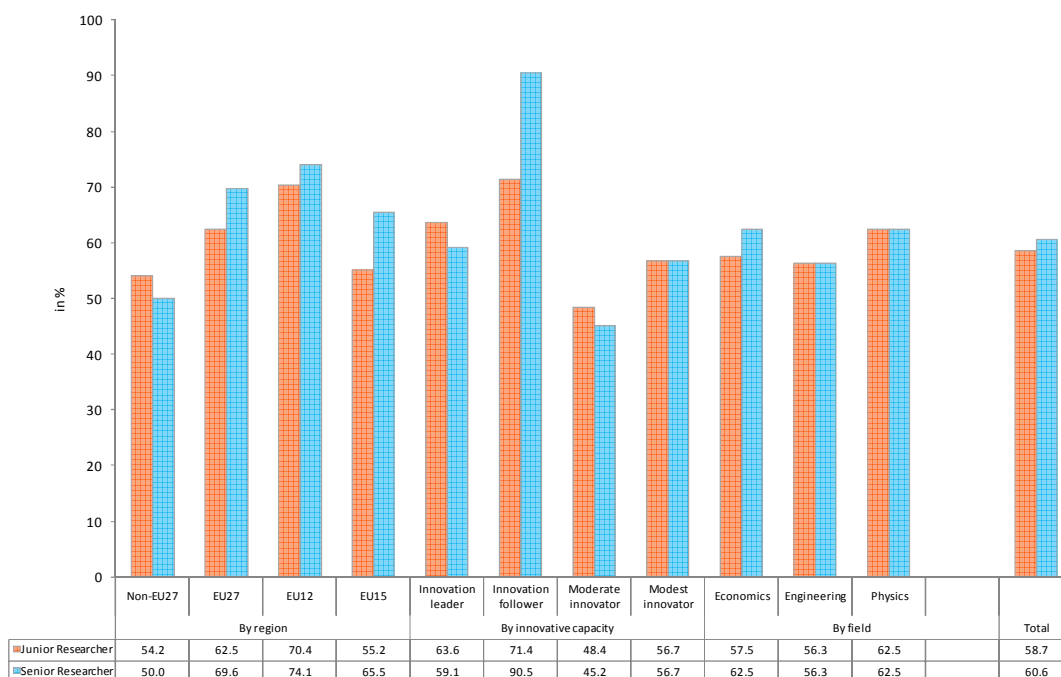
	Junior researcher				Senior Researcher			
	Research	Teaching	Administration	Other	Research	Teaching	Administration	Other
By region								
Non-EU 27	45	39	8	8	47	32	12	9
EU 27	55	29	10	6	49	31	15	6
EU 12	57	28	11	4	46	34	16	5
EU 15	52	31	10	7	52	28	13	7
By innovative capacity								
Innovation leader	56	32	7	5	49	33	13	6
Innovation follower	52	35	9	3	43	35	18	3
Moderate innovators	48	33	11	8	47	33	12	8
Modest innovators	47	35	10	7	56	25	10	8
By field								
Economics	49	34	10	8	44	34	15	8
Engineering	47	37	10	6	46	35	13	6
Physics	56	30	8	5	55	26	12	6
<b>Total</b>	<b>51</b>	<b>34</b>	<b>9</b>	<b>6</b>	<b>48</b>	<b>31</b>	<b>14</b>	<b>7</b>

Source: MORE II standardized CV questionnaire.

Similar differences also apply to the type of position that the researchers defined in the standardized CV would receive in countries with different innovative capacities. Here, the junior researcher working in countries that are modest innovators would have a better chance of receiving a more senior (established researcher) position, while those working in countries which are innovation leaders have a higher probability of working in more junior (first stage researcher) positions. The chances of receiving a permanent position for this researcher would, by contrast, be substantially lower in universities located in countries that are moderate innovators than in other countries, while the chance of receiving a contract that allows for advancement to a full professorship would be lowest in countries that are innovation leaders or modest innovators. Flexi-time arrangements are also the least likely in these countries.

With respect to allocation of working time, the junior researcher would be spending more time on research (and less on teaching and administration) in countries with a higher innovative capacity, but could expect universities in countries that are innovation followers to be substantially more willing to negotiate on working time allocation than universities located in other countries.

Figure 3.4.3: Would your institution be willing/able to negotiate on the allocation of working time across tasks? (% positive responses)



Source: MORE II standardized CV questionnaire.

The senior researcher would face around an equal chance of being employed as a leading researcher, irrespective of the innovative capacities of a country, but the chances of obtaining a permanent contract would decrease with decreasing innovative capacity of the country in which the university is located. Chances of obtaining a flexi-time arrangement would, by contrast, be highest in universities located in countries that are innovation followers (where 68% of the universities would allow for such an arrangement) but lowest in countries that are innovation leaders (with 23% of the universities allowing such an arrangement). With respect to working time, this researcher would spend the highest share of their time (56%) on research and the lowest in teaching (25%) and administration (10%) in countries that are modest innovators; but the lowest share of time on research (43%) and the highest in both teaching (35%) and administration (18%) in countries that are innovation followers.

By contrast, differences between disciplines are somewhat smaller. For example, the junior researcher defined in our standardized CV would face about an equal chance of being employed in a recognized researcher position in all disciplines and be likely to receive a more senior or junior position. This is reflected across disciplines, with perhaps a more senior position being more likely in physics and a more junior one being more likely in economics. The chances of obtaining a permanent position for this candidate, as well as of obtaining a position that allows him/her to proceed to full professorship are lowest in physics (with 9% and 53%); while the chances for a fixed term contract are highest in physics (63%) and economics (66%). Candidates in economics have the highest chance (63%) of obtaining a position which allows for advancement to a full professorship. Similarly the share of universities that would grant this candidate a flexi-time arrangement is also highest (60% each) if the candidate applied in economics or physics.

With respect to working time, the junior researcher would typically spend the highest share of their working time undertaking research (56%) and the lowest when teaching (30%) if she/he applied in physics -but the highest share for teaching (37%) and the lowest in research (47%) if she/he applied in engineering. The

share of working time spent in administration as well as on other activities, by contrast, is rather similar across disciplines as is the willingness to negotiate on working time allocation for our fictitious researcher.

The senior researcher defined in our CV, on the other hand side, would face higher chances of being offered a less senior position in physics and economics than in engineering, since in these two fields of research 20% or respectively 12.9% of the universities would only offer a position as established researcher. For the junior researcher, this candidate would also be less likely to receive a permanent position if working in physics and would have about equal chances of obtaining a flexi-time arrangement in all disciplines. Also in accordance with the patterns found for the junior researcher, the senior researcher would spend the highest share of working time in research (55%) and the lowest in teaching (26%) as a physicist; but the highest share in teaching (37%) and the lowest in research (47%) as an engineer. The proportion of working time spent on administration as well as other activities is rather similar across disciplines, as is the willingness to negotiate on working time allocation.

Therefore, these results suggest some important differences between the jobs offered, particularly to junior researchers between universities located in the EU 27 and outside the EU 27. Universities located in EU 27 countries seem to offer more flexibility with respect to arranging flexi-time agreements for junior researchers and also give their junior staff a higher portion of time for research and smaller teaching loads. The differences between universities in the EU 27 and outside the EU 27 with respect to senior staff remain limited to a higher willingness to negotiate over working time allocations and flexi-time arrangements in the EU 27.

However, there are again disparities in the type of job offered to the researchers defined in the standardized CVs within the EU 27. In the EU 12 countries, the junior researcher defined in our CV would have a higher chance to obtain a permanent position and the senior researcher would be required to do less teaching and would spend more time undertaking research than in universities located in EU 15 countries.

Furthermore, for junior researchers in particular, the share of time spent undertaking research would be higher in countries with higher innovative capacities. In physics, this also implies fewer permanent positions and fewer positions which offer the opportunity to continue a career as a full professor but teaching loads are smaller. In economics (although also many temporary positions are offered), positions are often associated with the possibility to continue one's career to full professor.

### 3.4.2 Salaries and fringe benefits

In contrast to the results of the research institution questionnaire, where researcher institutions were only asked about gross salaries, the standardized CV questionnaire asked universities on both gross and net salaries as well as the percentage of the net salary that has to be deducted for mandatory contributions. Thus, from the questionnaire it is possible to calculate three measures of wages for researchers: the gross wage, the net wage and the net wage after mandatory deductions.

As can be seen from Table 3.4.5, where we display the results for these three wage measures, the average junior researcher defined in the standardized CV would earn a gross salary of € 27,245 at purchasing power parities, which compares rather well with the average gross wages for recognized researchers reported in the research institution questionnaire of between € 26,000 and € 39,000. This amount is equivalent to a net salary of € 19,554 and to € 19,154 after deduction of mandatory deductions. The average senior researcher defined in the

standardized CV, by contrast, would earn € 52,227, which is in the upper range of the wage scale for leading researchers (of between € 39,000 and € 58,000) reported in the research institution questionnaire. On net this would amount to € 32,653 and after mandatory deductions € 31,964 would remain.

Table 3.4.5: Salaries offered (Euro at Purchasing Power Parities 2011)

	Junior Researcher			Senior Researcher		
	Gross Salary	Net Salary	Net Salary after mandatory deductions	Gross Salary	Net Salary	Net Salary after mandatory deductions
By region						
Non-EU 27	28922	22091	21454	51084	35444	34358
EU 27	26116	17656	17443	53013	30542	30154
EU 12	20620	15395	15133	50251	27774	27342
EU 15	31393	20513	20361	55555	33749	33410
By innovative capacity						
Innovation leader	33818	26363	25284	61603	43477	41724
Innovation follower	30656	21725	21555	57135	36425	36022
Moderate innovators	28374	19957	19739	60875	34827	34474
Modest innovators	16470	11246	10966	26901	17982	17420
By field						
Economics	28593	21291	20758	52353	36692	35682
Engineering	27133	18406	18018	50775	31056	30303
Physics	25634	18250	18030	53358	29035	28787
<b>Total</b>	<b>27245</b>	<b>19549</b>	<b>19154</b>	<b>52227</b>	<b>32653</b>	<b>31964</b>

Source: MORE II standardized CV questionnaire. Values in Brackets are strongly influenced by individual outliers.

The differences between country groups and fields of research for gross wages also accord closely to the stylized facts found in the research institutions questionnaire: On average the junior researcher earns a lower gross salary in universities located in the EU 27 than in universities located outside the EU 27 and the senior researcher earns a higher gross salary. The lower gross salary for junior researchers is, however, solely due to the low wages in universities located in EU 12 countries, since in the average university located in the EU 15 both junior and senior researcher have a higher gross salary than at non-EU 27 universities, and both senior and junior researchers earn substantially less in the EU 12 countries than in the non-EU 27 countries.

Furthermore, gross wages for both the senior and junior researcher decline with lower innovative capacity of the country. The only exception to this is that net salaries of senior researchers are higher among moderate innovators than among innovation followers. This result is, however, primarily due to one US run economics university operating in Hungary, which pays exceptionally high salaries for a university located in a country that is a moderate innovator. This effect also leads to gross wages for both the senior and junior researchers being highest in economics and lowest in physics in the standardized CV questionnaire, while in the institution questionnaire wages in engineering were at their highest.

The results from the standardized CV questionnaire, however, add to the previous results by also showing that once net salaries are considered and when mandatory deductions are also considered, both the junior and the senior researcher earn less in both the typical EU 15 and the typical EU 12 university than in universities located outside the EU 27. For the junior researcher, net salaries in the average EU 15 university are 7.1% lower in the EU 15 and 30.4% lower in the EU 12 countries than in the non-EU 27 countries. For the senior researcher, this difference amounts to a 4.8% lower net wage in EU 15 countries and a 22.6% lower net wage in the EU 12 countries than in the non-EU 27 countries. Furthermore although these differences reduce when taking into account mandatory contributions (to 5.1% respectively 29.5% for junior researcher and 2.7% respectively 21.4%

for senior researchers), they remain sizeable even after considering this adjustment.

The lower net wages in the EU 27 countries are, however, also associated with a much higher coverage by compulsory insurance in the EU 27 countries and even more strongly in the EU 15 countries. As shown in Table 3.4.6, the coverage by compulsory health, pension and unemployment insurance is substantially higher in the EU 27 countries than in non-EU 27 countries. In the EU 27 countries, both the junior and senior researchers would be covered by compulsory health insurance in 72% and 68% of the universities, respectively. For compulsory pension insurance, this percentage would be 85% for the junior and 89% for the senior researchers and for compulsory pension insurance 81% of the junior and 78% of the senior researchers.

By contrast, in the non-EU 27 countries compulsory health and unemployment insurance would be included in the remuneration package of both senior and junior researchers in less than 60% of the universities and only 76% of the universities would cover compulsory pension insurance for junior researchers and 84% for senior researchers. These differences are also not compensated for by a higher share of the universities located in non-EU 27 countries offering such insurance by contract or company agreement than in EU 27 countries. The share of such insurance is only slightly higher among universities located in non-EU 27 countries in the case of health insurance for both junior and senior researchers and of unemployment insurance for senior researchers. As a consequence, therefore, the share of universities at which applicants would not receive health, pension or unemployment insurance is between 6 percentage points (for health insurance) and 29 percentage points (unemployment insurance) for junior researchers and between 6 percentage points (pension insurance) and 18 percentage points (unemployment insurance) for senior researchers higher in universities located in non-EU 27 countries than in the EU 27 countries.

Table 3.4.6: Does this remuneration package cover health, pension or unemployment insurance? (%)

	Junior Researcher			Senior Researcher		
	No	Yes, compulsorily	Yes, by contract or company agreement	No	Yes, compulsorily	Yes, by contract or company agreement
<b>Health insurance</b>						
Non-EU 27	26	53	21	24	56	18
EU 27	20	72	17	16	68	16
EU 15	22	70	9	22	70	13
EU 12	10	71	19	10	67	19
Total	21	63	17	19	63	17
<b>Pension insurance</b>						
Non-EU 27	21	76	3	13	84	3
EU 27	11	85	4	7	89	5
EU 15	4	88	8	4	88	8
EU 12	18	82	0	11	89	0
Total	15	81	4	9	87	4
<b>Unemployment insurance</b>						
Non-EU 27	48	52	0	40	57	3
EU 27	19	81	0	22	78	0
EU 15	24	76	0	28	72	0
EU 12	14	86	0	15	85	0
Total	31	69	0	29	69	1

Source: MORE II standardized CV questionnaire.

Table 3.4.7: What is covered in health care? (%)

	Junior Researcher				Senior Researcher			
	Ambulant treatment	Hospital treatment	Rehabilitation	Medication	Ambulant treatment	Hospital treatment	Rehabilitation	Medication
By region								
Non-EU 27	52	52	29	35	54	52	27	35
EU 27	57	52	52	43	54	48	45	38
EU 12	52	38	45	38	48	34	41	34
EU 15	63	67	59	48	59	63	48	41
By innovative capacity								
Innovation leader	55	41	32	36	55	41	32	41
Innovation follower	57	57	52	48	57	52	33	33
Moderate innovators	71	71	61	61	68	68	58	58
Modest innovators	37	37	20	13	37	37	20	13
By field								
Economics	60	55	45	40	55	50	38	40
Engineering	50	50	38	38	53	53	38	34
Physics	53	50	41	41	53	47	34	34
<b>Total</b>	<b>55</b>	<b>52</b>	<b>41</b>	<b>39</b>	<b>54</b>	<b>50</b>	<b>37</b>	<b>37</b>

Source: MORE II standardized CV questionnaire.

Aside from receiving their salaries, the researchers defined in the standardized CVs would, however, also be eligible for bonuses and various fringe benefits. For example, the junior researchers would receive an appointment bonus at 5%, a function bonus at 28%, a research bonus in 35%, a teaching bonus at 29% and other bonuses at 18% of the universities interviewed (Table 3.4.8). The majority of those receiving bonuses could expect that the bonuses would account for between 1% to 24% of their income while at 10% of the universities interviewed these bonuses would account for over 25% of the gross annual salary (Table 3.4.9).

Table 3.4.8: Does the job position you would offer this applicant include the following cash bonuses (% positive answers)

	Junior researcher					Senior Researcher				
	Appointment	Function	Research	Teaching	Other	Appointment	Function	Research	Teaching	Other
By region										
Non-EU 27	3	29	42	30	17	18	34	57	29	31
EU 27	6	27	30	29	18	12	39	43	44	26
EU 12	8	24	20	20	17	13	35	38	42	29
EU 15	5	30	41	39	19	10	43	50	48	24
By innovative capacity										
Innovation leader	18	24	17	12	20	31	25	41	19	44
Innovation follower	0	18	41	24	17	6	19	44	25	15
Moderate innovators	4	21	33	33	13	8	46	56	54	24
Modest innovators	0	53	50	47	20	17	53	50	47	29
By field of research										
Economics	3	27	32	28	16	11	39	50	39	18
Engineering	10	50	41	41	21	19	48	57	48	41
Physics	4	8	32	21	17	13	25	40	29	29
<b>Total</b>	<b>5</b>	<b>28</b>	<b>35</b>	<b>29</b>	<b>18</b>	<b>14</b>	<b>37</b>	<b>49</b>	<b>38</b>	<b>28</b>

Source: MORE II standardized CV questionnaire.

In addition to this, the junior researcher would also be eligible to a number of other fringe benefits such as additional insurance and allowances and also a number of in kind transfers (such as parking lots, company housing, a public transport ticket or childcare facilities). In general, between 10% and 25% of the universities interviewed would grant the junior researcher one or more of these fringe benefits, with the most popular being parking lots at the universities (which would be provided to the junior researcher at 41% of the institutions) and the least popular being vehicle allowances (5% of the universities – see Table 3.4.10). The monetary value of these benefits, however, seems to be limited, since it amounts to more than 25% of the gross salary of the applicant in only 3% of the institutions.

The senior researcher defined in the standardized CVs, by contrast, would receive bonuses more frequently and would be eligible for an appointment bonus at 14%, a function bonus at 37%, a research bonus at 49%, a teaching bonus at 38% and other bonuses at 28% of the interviewed universities. She/he would also be more likely to receive a higher share of the gross annual salary in the form of such bonuses, which would amount to more than 25% of the total gross salary in 17% (or almost a fifth) of the interviewed universities. The frequency of receiving other fringe benefits of the senior researcher is, however, about comparable to that of the junior researcher. As for the junior researcher, the senior researcher would



receive most fringe benefits at between 10% and 25% of the universities, with again parking lots being the most popular and vehicle allowances the least popular fringe benefits. The monetary value of these fringe benefits would, however, be higher for the senior researcher than for the junior researcher and would amount to more than 25% of the annual gross salary in 5% of the universities interviewed.

Table 3.4.9: Please indicate the approximate annual value of the offered bonuses in relation to the gross salary (%)

	Junior Researcher				Senior Researcher			
	0%	From 1% to 24%	From 25% to 49%	50% or more	0%	From 1% to 24%	From 25% to 49%	50% or more
<b>By region</b>								
Non-EU 27	71	21	4	4	63	19	8	10
EU 27	68	21	9	2	70	16	11	4
EU 12	76	21	3	0	76	21	3	0
EU 15	59	22	15	4	63	11	19	7
<b>By innovative capacity</b>								
Innovation leader	77	9	9	5	41	18	18	23
Innovation follower	57	43	0	0	71	29	0	0
Moderate innovators	65	26	10	0	68	16	13	3
Modest innovators	77	10	7	7	80	10	7	3
<b>By field</b>								
Economics	70	18	8	5	63	20	10	8
Engineering	63	28	6	3	63	19	9	9
Physics	75	19	6	0	75	13	9	3
<b>Total</b>	<b>69</b>	<b>21</b>	<b>7</b>	<b>3</b>	<b>66</b>	<b>17</b>	<b>10</b>	<b>7</b>

Source: MORE II standardized CV questionnaire.

The frequency of the use of bonuses and fringe benefits granted to the fictitious candidates as well as their monetary value, however, varies across country groups and research fields. In general, the junior researcher defined in the standardized CV is most likely to receive bonuses at universities located in EU 15 countries and least likely to receive such bonuses at universities in EU 12 countries, while universities located in non-EU 27 countries would grant this researcher bonuses more often than EU 12 universities but less often than the EU 15 universities. The monetary value of these bonuses would, in all likelihood, also be highest at universities located in EU 15 countries followed by non-EU 27 countries and EU 12 countries, since in 19% of the EU 15 universities such bonuses would account for more than 25% of the annual gross salary, while at the non-EU 27 universities and at the EU 12 universities this would be the case only in 8% or 3% of the universities, respectively. With respect to fringe benefits the junior researcher would, however, generally be more often eligible at non-EU 27 universities followed by EU 12 universities, with the income share of these fringe benefits also being highest in the non-EU 27 countries, where at 4% of the universities fringe benefits would account for more than 25% of annual gross income.

Table 3.4.10: Does the position include the following fringe benefits at your institution (% of positive responses)

	Junior Researcher					Senior Researcher				
	Non-EU 27	EU 27	EU 12	EU 15	Total	Non-EU 27	EU 27	EU 12	EU 15	Total
Accident Insurance	21	26	40	9	24	25	24	40	5	25
Nursing care insurance	18	8	8	8	12	16	11	8	14	13
Death benefit insurance/Life insurance	24	13	16	9	18	19	16	24	5	17
Housing Allowance	27	0	0	0	11	28	5	4	5	14
Company Housing	18	0	0	0	8	19	2	4	0	9
Relocation allowance	26	17	28	5	21	31	22	36	5	26
Vehicle Allowance	12	0	0	0	5	9	2	0	5	5
Parking lot at Institution	44	38	48	27	41	44	42	44	40	43
Commuting allowance	33	13	12	14	22	38	11	8	16	22
Public transport ticket	16	24	20	29	21	24	25	20	32	25
Tuition allowance	21	13	4	25	16	21	7	4	11	13
Family allowance	18	13	13	14	15	21	11	12	11	16
Childcare	24	20	20	19	22	25	16	20	11	20
Childcare allowance	48	11	4	19	27	50	11	8	16	28
Others	19	16	19	13	17	27	11	10	13	18

Source: MORE II standardized CV questionnaire.

Table 3.4.11: Please indicate the approximate annual value of the fringe benefits in relation to gross salary (% of positive responses)

	Senior Researcher				Senior Researcher			
	0%	From 1% to 24%	From 25% to 49%	50% or more	0%	From 1% to 24%	From 25% to 49%	50% or more
By region								
Non-EU 27	69	27	2	2	65	29	4	2
EU 27	71	27	0	2	70	27	4	0
EU 12	72	24	0	3	66	31	3	0
EU 15	70	30	0	0	74	22	4	0
By innovative capacity								
Innovation leader	55	41	5	0	59	36	5	0
Innovation follower	71	29	0	0	67	33	0	0
Moderate innovators	65	29	0	6	65	26	6	3
Modest innovators	87	13	0	0	77	20	3	0
By field								
Economics	65	33	0	3	65	33	3	0
Engineering	63	31	3	3	56	34	6	3
Physics	84	16	0	0	81	16	3	0
<b>Total</b>	<b>70</b>	<b>27</b>	<b>1</b>	<b>2</b>	<b>67</b>	<b>28</b>	<b>4</b>	<b>1</b>

Source: MORE II standardized CV questionnaire.

Similar observations also apply to the senior researcher. She/he too would be most likely to receive bonuses at universities located in EU 15 countries and least likely to receive such bonuses at universities in EU 12 countries. The monetary value of these bonuses would in all likelihood be at their highest at universities located in the EU 15 followed by the non-EU 27 countries and the EU 12 countries. However, for the senior researcher, a larger share of the universities would offer a substantial part of the income in the form of bonuses, since at 26% of the EU 15 and 17% of the non-EU 27 universities (but at only 3% of the EU 12 universities) such bonuses would account for more than 25% of the annual gross salary. Similarly fringe benefits are also more often paid to the senior researcher at non-EU 27 universities followed by EU 12 universities, with the value of fringe benefits accounting for more than 25% of the income at 6% of the non-EU universities, 4% of the EU 15 universities and 3% of the EU 12 universities.

In addition to this, bonuses are also generally most rarely granted to both the senior as well as the junior researcher defined in the standardized CV in countries which are modest innovators, while they are most often granted in countries that are innovation leaders. Particular at universities located in countries that are moderate innovators, the few candidates receiving such bonuses among junior researchers may receive a substantial part of their income from such bonuses, since in these countries at 14% of the universities more than 25% of the income is earned through bonuses for researchers at this level.

With respect to disciplines, by contrast, both junior and senior researchers in economics are most likely to receive bonuses and also are most likely to receive a substantial share of their income from such bonuses. Fringe benefits, by contrast, are of a rather minor importance in all types of countries with differing innovative capacities, but slightly more important in engineering than in the other disciplines for both senior and junior researchers.

### 3.4.3 Leave

Finally, both junior and senior researchers defined in the standardized CVs could also expect to have access to sabbaticals and maternity leave as well as annual holidays. The results of the standardized CV questionnaire of the MOREII project suggest that 33% of the universities interviewed would grant the junior researcher defined in the standardized CV a paid sabbatical and a further 16% such a sabbatical could be either paid or unpaid; while at 12% of the universities the junior researcher would have access to unpaid sabbaticals and at only 19% of the universities no sabbatical would be granted (Table 3.4.12). Typically for those who have access to a sabbatical, its length of would be between 6 months and 1 year while

at 25% of the universities, where the junior researcher is eligible for a sabbatical, this would last for less than 6 months and at 8% more than 1 year (Table 3.4.13).

In addition, 54% of these junior researchers would have access to paid maternity leave and for 20%, paid or unpaid maternity leave would be possible. Only 2% would have access to unpaid maternity leave only or no maternity leave at all (Table 3.4.12). The typical length of such leave would be 6 months or less, while at 29% of the universities interviewed, this leave would be for between 6 months and one year and at 10% longer than 1 year. Paid holiday leave would be accessible for junior candidates at 63% of the universities, while for an additional 5% such leave could be either paid or unpaid. At 7% of the universities no holiday leave would be available and at a further 2% such leave would be unpaid. The typical length of this kind of leave would be 21 to 30 days although a rather large share of 40% of the universities would grant a junior applicant a holiday for 31 to 60 days. By contrast, shorter holiday leave (of less than 21 days) is foreseen at 11% of the universities and longer ones (of more than 60 days) at only 5% of the universities.

For the senior researcher defined in the standardized CVs, the regulations with respect to sabbaticals would generally be more generous than for the junior researcher but regulations with respect to maternity and holiday leave would be less so. 39% of the universities would offer the senior candidate a paid sabbatical and at a further 25%, this sabbatical could be paid or unpaid. Only unpaid sabbaticals would be available at 8% of the universities and none at all at for 6% of them. Moreover, the sabbaticals offered to the senior candidate would be longer than those offered to the junior researcher: 76% of them would last for between 6 months and a year, 27% for less than half a year and 5% for a year or longer.

Paid maternity leave would, however, be available at only 48% of the interviewed universities for senior researchers, unpaid or paid ones at 21% and unpaid ones at 2% of the universities. No maternity leave would be available for the senior applicant at 4% of the interviewed universities. As for junior candidates, maternity leave would generally last for less than 6 months for senior researchers, with 30% of the universities being willing to allow for maternity leave lasting for 6 months to a year and 17% for longer than a year. Paid holiday leave for senior researchers would be available at 57% of the universities and paid or unpaid ones at 9% of the universities. 6% of universities would offer no holiday leave at all to the senior candidate. Furthermore, the typical holiday leave of senior researchers would last for between 21 to 30 days, although here the share of leave lasting 31 to 60 days is also 43%. However, only 5% of the universities interviewed would offer a more than 60 day holiday leave for senior researchers and 10% for a holiday leave lasting longer shorter than 21 days.

At universities located in EU 27 countries more junior researchers would not be eligible for sabbaticals and maternity leave as well as holiday leave than at universities located outside the EU 27. Particularly for sabbaticals, this difference is substantial. At 25% of the EU 27 universities the junior researcher defined in standardized CV would not be eligible for a sabbatical irrespective of whether this is paid or not, at non-EU 27 countries - by contrast this percentage would be 13%. Furthermore, 11% of the universities in the EU 27 would not foresee holiday leave for the junior candidate and 4% would not allow for maternity leave. At universities located outside the EU 27, all junior researchers could expect to have access to maternity leave and annual leave would not be provided at only 2% of the universities. The duration of sabbaticals and maternity leave for those junior researchers that are eligible would, however, be longer in the EU 27 based universities than at universities located outside the EU, since a larger share of the universities offer sabbaticals and maternity leave that last longer than one year and fewer offer such leave that last less than 6 months in EU 27-countries. Similarly, annual holiday leave would also be longer for junior researchers working at a

EU 27 based university than in non-EU 27 countries, since the typical holiday leave would last for between 31 to 60 days in the EU 27. Therefore - as was also shown in the last chapter - EU 27 universities are more generous with their annual holiday regulations than universities located outside the EU 27.

Table 3.4.12: Would your institution offer sabbatical, study or further education leave, maternity leave or annual leave for this job position? (%)

	Junior Researcher					Senior Researcher				
	Unknown	Yes, paid	Yes, paid and unpaid	Yes, unpaid	No	Unknown	Yes, paid	Yes, paid and unpaid	Yes, unpaid	No
<b>Sabbatical</b>										
Non-EU 27	25	44	13	6	13	27	46	15	4	8
EU 27	16	23	20	16	25	20	34	32	11	4
EU 12	14	14	31	14	28	17	21	48	14	0
EU 15	19	33	7	19	22	22	48	15	7	7
Total	20	33	16	12	19	23	39	24	8	6
<b>Maternity leave</b>										
Non-EU 27	27	58	15	0	0	29	54	15	2	0
EU 27	18	50	25	4	4	21	43	27	2	7
EU 12	14	45	38	3	0	17	45	38	0	0
EU 15	22	56	11	4	7	26	41	15	4	15
Total	22	54	20	2	2	25	48	21	2	4
<b>Annual leave</b>										
Non-EU 27	27	65	4	2	2	31	58	6	2	2
EU 27	21	61	5	2	11	23	55	11	2	9
EU 12	17	55	10	3	14	21	52	14	3	10
EU 15	26	67	0	0	7	26	59	7	0	7
Total	24	63	5	2	7	27	57	9	2	6

Source: MORE II standardized CV questionnaire.

By contrast, more of the senior researchers would be eligible for sabbaticals, but less for both maternity and holiday leave at EU 27 universities. At EU 27 universities, more senior researchers (32% as opposed to 15% in non-EU 27 countries) would be eligible for paid and unpaid sabbaticals and less (8% as opposed to 15% in non-EU 27 countries) would not be eligible. Once more, however, for those researchers eligible for such leave, it would last longer in the EU 27 countries than in the non-EU 27 countries, since a larger share of the EU 27 based universities offer sabbaticals and maternity leave that over one year and fewer offer leave that last less than half a year. Typical holiday leave in the EU 27-countries lasts between 31 to 60 days for a senior researcher.

Table 3.4.13: Duration of sabbaticals and maternity leave (% positive responses)

	Junior Researcher			Senior Researcher		
	Maximum 1/2 year	1/2 a year to 1 year	More than 1 year	Maximum 1/2 year	1/2 a year to 1 year	More than 1 year
<b>Sabbatical leaves</b>						
Non-EU 27	30	65	5	19	76	5
EU 27	21	68	11	31	63	6
EU 15	33	53	13	30	60	10
EU 12	8	85	8	33	67	0
Total	25	67	8	27	68	5
<b>Maternity leaves</b>						
Non-EU 27	59	28	14	60	27	13
EU 27	47	31	22	47	33	19
EU 15	48	43	10	50	45	5
EU 12	47	13	40	43	14	43
Total	52	29	18	53	30	17

Source: MORE II standardized CV questionnaire.

Table 3.4.14: Duration of annual holiday leave (% positive responses)

	Up to 21 days	21 to 30 days	31 to 60 days	61 or more days
<b>Junior Researcher</b>				
Non-EU 27	26	48	19	7
EU 27	0	42	56	3
EU 15	0	63	32	5
EU 12	0	18	82	0
Total	11	44	40	5
<b>Senior Researcher</b>				
Non-EU 27	21	46	25	7
EU 27	0	40	57	3
EU 15	0	60	35	5
EU 12	0	13	87	0
Total	10	43	43	5

Source: MORE II standardized CV questionnaire.

### 3.4.4 Summary

The results of the standardized CV's questionnaire thus corroborate many findings in the last chapter. However, they also add to the insights gained from the research institution questionnaire by firstly pointing to some important differences in the jobs offered, particularly to junior researchers between universities located in the EU 27 and outside the EU 27. Universities located in EU 27 countries seem to offer more flexibility with respect to arranging flexi-time agreements for junior researchers and also give their junior staff a higher portion of time for research and smaller teaching loads. The differences between universities in the EU 27 and outside the EU 27 with respect to senior staff, by contrast, are more limited and consist of a higher willingness to negotiate over working time allocations and flexi-time arrangements in EU 27 countries.

Once more there are also disparities in the type of job offered to the researchers defined in the standardized CVs within the EU 27. In the EU 12 countries, the junior researcher defined in our standardized CV would have a higher chance to obtain a permanent position and the senior researcher would be required to do less teaching and would spend more time undertaking research than in universities located in EU 15 countries.

Furthermore, the result of the standardized interview also suggests that, particularly for junior researchers, the share of time spent doing research would be higher in countries with higher innovative capacities. Moreover, in physics fewer permanent positions and fewer positions with a chance to continue a career as a full professor are offered to candidates, although teaching loads are smaller. In economics, although also many temporary positions are offered, these are often associated with the possibility of continuing one's career to full professor.

Secondly, the results of the standardized CV questionnaire add to the previous results by showing that once net salaries are considered and when mandatory deductions are also borne in mind, both the junior and the senior researcher defined in the standardized CV would, as a rule, earn less at both the typical EU 15 and the typical EU 12 university than at universities located outside the EU 27. For the junior researcher, net salaries at the average EU 15 university are lower by 7.1% in the EU 15 and by 30.4% lower in the EU 12 countries than in the non-EU 27 countries. For the senior researcher, this difference amounts to a 4.8% lower net salary in EU 15 countries and a 22.6% lower net salary in the EU 12 countries than in the non-EU 27 countries. Furthermore, although these differences reduce when taking into account mandatory contributions (to 5.1% respectively 29.5% for junior researcher and 2.7% respectively 21.4% for senior researchers), they remain sizeable even after considering this adjustment.

These lower net wages in the EU 27 countries are, however, also associated with a much higher coverage by compulsory insurance and a more generous health insurance system in the EU 27 countries. This suggests that - at least in part - researchers in the EU 27 countries are compensated for the lower net wages through a more generous compulsory social security system. Although with the data at hand we cannot quantify the value of this better social security system to the researchers, this implies that comparing researcher salaries on the basis of net wages may overestimate the salary disadvantage of the EU 27 countries relative to the non EU 27-countries.

### 3.5. Excursus: Remuneration of researchers outside academia

The main rationale of this chapter is to provide insights into remuneration of researchers in the private sector. We will show that it is difficult to identify comparable career stages and therefore adequate groups of comparison for university researchers. We will therefore first characterise the factors that hamper a comparison of salaries, but also career paths as such, across sectors.

In a next step we will focus on the permeability between the academic and the private sector to identify potential outside options for academic researchers. As we do not know the equivalents of university job positions in private companies<sup>30</sup>, our idea is to investigate the job positions university researchers can take up in the private sector. Knowing which positions a researcher can take up given his individual skills and work experience might allow one to assess whether the researcher earns more or less in academia than at private companies. We therefore carried out explorative interviews with human resource managers and CEOs who are responsible for the recruitment of researchers in order to assess the circumstances allowing university researchers to move to the private sector. The results of these interviews are summarised in the second part of this chapter.

Nonetheless, the interviews do not deliver representative data on salaries in private companies where a university researcher might take up a post. We therefore analyse, in the third and final step, the Structure of Earnings Survey which is the only representative data source allowing one to identify researchers in private companies while also providing salary data. This data source allows us to give representative statistics on remuneration for the population of researchers in the private sector. However, the analysis is also limited by a broad set of caveats.

#### 3.5.1 Company apples and university oranges

The most important problem when comparing the remuneration packages in the academic sector with those in companies is how to identify meaningful comparison groups. The most important problems are (1) identifying the researchers in the non-academic sector, and (2) identifying comparable career stages.

##### 3.5.1.1 Who are 'the researchers' in the non-academic sector?

In one of the preceding studies of this report (see Huber et al., 2010) it turned out to be rather difficult to find a definition or a corresponding notion of a researcher<sup>31</sup> working for companies. When asking employees who are involved in research or development, they themselves have very different perceptions of their own activities. They might identify themselves as researchers, scientists, development engineers or something else, but they are all involved in the creative production of innovations or new knowledge. Although there are some cases where it is not clear whether a university employee should be classified as researcher or not, in most cases the university researchers can be distinguished from other supporting or administrative staff etc. This discrimination is less clear for companies.

Probably the clearest case of a researcher in a company might be one working in a chemical or biotechnology laboratory, for example<sup>32</sup>. However, employees that fulfil research

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<sup>30</sup> Although the Euro research career framework is meant to be sector neutral, it is difficult to identify equivalents across sectors without extensive preparatory work.

<sup>31</sup> In this chapter we will use the term researcher for all employees that are carrying out or supervising research, improve or develop (new) products or processes or supervise these activities. This definition therefore includes e.g. researchers, scientists and development engineers.

<sup>32</sup> These two sectors are examples of a broad range of research positions in the private sector. Many large companies have research labs with full time researchers outside these two sectors, for instance the car industry, electronics, or aerospace are the best known ones but it is also the case in food industries and even textiles etc. Restricting the definition of researchers to job positions in R&D labs would



tasks might also be working on the production site, marketing or quality control but are involved (probably only temporarily) in the development of new products or processes using their experience. The closer a research and development activity is to the market the more difficult it becomes to distinguish standard engineering activities from research activities. Although it is possible to define rather clear concepts of who is a researcher or rather what tasks define a researcher, it is quite difficult to collect the relevant data for them. Furthermore, it is often not possible to precisely identify the group of researchers when using existing databases. As we will discuss below, when presenting the results using the Structure of Earnings Survey (SES) data, a sharp distinction between research staff and other employees is nigh impossible.

### 3.5.1.2 Career stages and modes of innovation in the non-academic sector

Companies, but also other research performing organisations, differ strongly in their innovation modes and how they undertake research or development. It strongly depends on the technological field or field of science they are acting in but also on the size and research strategies of individual companies. Although several studies have already tried to identify the different modes of innovation and classified industrial sectors by innovation intensity or the modes of innovation, see e.g. Malerba (2004), Hollanders (2007), Peneder (2007), less is known about how the different modes of innovation influence the employment patterns of these companies.

However, there obviously exist a lot of different career paths in the private sector and each company is completely free in setting up career tracks (in research) within the company. Big companies with large research departments might have PhD or master students working on their theses, junior researchers, group leaders, department leaders, etc. On the other hand, small companies might only employ one or two researchers, rely on time dedicated from employees from other departments to complement the small-sized research team or rather pay only stipends for one or two PhD students working on their thesis. While in the case of the smaller company, the researchers have only limited promotion prospects along the career ladder - salaries might increase - but in the larger companies there might exist clearly defined career paths from the junior researcher to the department leader or the human resource strategy of firms may aim at involving researchers gradually into other areas of their business.

Although companies may provide similar career prospects to the researchers they employ, the preconditions of advancing up the career ladder might strongly differ. While in one company, junior researchers automatically become senior researchers after e.g. 5 years, in another this advancement might require good performance and does not happen automatically. It might also happen only after being employed for 10 years in the company.

Concerning promotion prospects, researchers in companies often switch into management positions after some years in the research department. The management positions might still include supervisory tasks for research but it is also possible that the previous researcher ends up in pure management. On the other hand, researchers might stay in research (or supervising research) positions till their retirement. Moreover, companies often adapt their research departments depending on their strategic decisions. New departments or research groups might be created and employees might change their positions within a company. A straight line of career advancement as "from PhD student to a full professorship" in the academic sector is therefore rarely observed in private companies<sup>33</sup>. It is therefore not clear how the appropriate pendant of a full professor at the university

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ease any comparison with the academic sector. Nonetheless it would neglect a very large share of researchers (or equivalent) in the private sector.

<sup>33</sup> It has to be noted that only a minority of the university researchers follows this straight line of career advancement. Those who stay in academia may remain researchers all their professional lives without progressing to a position leading to full professorship. They may become research managers in research groups or take up various functions in university research. However, the interviews with company representatives affirmed that the research careers are much more diverse in the private research sector than at universities.

could be defined for the private sector. In the early stages of a researcher's career a comparison might be reasonable. For example, it is possible to compare the salaries of a PhD candidate or a PhD holder starting to work at the university and a PhD candidate or a PhD holder starting to work in industry. However, the longer the researchers work in the different fields, the more diverse their tasks and also the more heterogeneous the career stages and career models.

Finally, similar career stages and positions may be defined or named differently across companies. For example, a 'junior researcher' in the first company might have similar tasks as a 'researcher' in the second, or a 'scientist' in the third company. Similarly, the position of a 'senior researcher' may involve completely different tasks and responsibilities as one moves from one company to another. This heterogeneity is likely to be mirrored in remuneration packages offered across companies that are often tailored for a specific employee.

Summarising, companies strongly differ from academia but also from other companies in:

- the career stages they offer
- the naming of these career stages
- the tasks and remuneration packages related to these career stages
- the promotion prospects within the company
- the requirements for promotion within the company.

Concluding the discussion above, career stages and positions are extremely heterogeneous in the non-academic sector. All the issues raised above hamper the identification and comparison of similar career stages across firms and therefore complicate a meaningful comparison with the academic sector.

### 3.5.2 Insights into the world of researchers in the non-academic sector

As discussed above, a direct comparison of remuneration packages and salaries between the academic and the non-academic sector is difficult to reach, if not impossible. Furthermore, the longer researchers are active in a specific scientific field, company or institute, the more specialised they become and therefore the more difficult it is to change career path, e.g. from a university to a company or vice versa. In the following, we will concentrate on potential outside options for university researchers in the non-academic sector. The underlying idea is that although it is not possible to identify comparable career stages in the non-academic sector to e.g. a full-professor at the university, it might be possible to compare the salary of a professor with the salaries of the adequate outside options, i.e. positions the full-professor might be offered in a company.

The research team contacted companies which are involved in research and carried out explorative interviews with HR managers or chief executive officers that are responsible for the recruitment of researchers (Table 3.5.1<sup>34</sup>). The interviews have been conducted using an interview guideline (see IDEA et al. 2013) developed to ensure that the interviews cover all relevant topics and that the interviews deliver comparable information. Nonetheless, the interviews were as informal as possible and interviewees have been encouraged to report any additional information that might be relevant. Therewith it was possible to avoid influencing the interviewees with the previous knowledge and views gained from the research team. The main rationale behind these interviews was not presenting representative data but giving first insights into the topic.

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<sup>34</sup> The research team strongly acknowledges the valuable input and the time the interviewees provided to this study. The hypotheses and conclusions presented here have been derived by the research team and do not necessarily reflect the opinion of all of the interviewees.

Table 3.5.1: Interviewees of the explorative non-academia interviews

Company	City	Interviewee	Position	Date	Homepage
Baxter Innovations GmbH	Vienna	Mag. Katharina Tomek-Jäger	HR Manager	2012/06/04	baxter.at
Knowles Electronics Austria GmbH	Vienna	Mag. Birgit Pfeiffer	HR Generalist	2012/06/08	www.knowles.com
Intercell AG	Vienna	Mag. Gerald Strohmaier	Head of Human Resources	2012/06/13	intercell.com
VRVis Zentrum für Virtual Reality und Visualisierung Forschungs-GmbH	Vienna	Dipl.-Ing. Georg Stonawski	Chief Executive Officer	2012/06/14	www.vrvis.at
Polymeric GmbH	Berlin	Dr. Aniela Leistner and Dipl.-Ing. André Leistner	Chief Executive Officer (Senior) and Chief Executive Officer (Junior)	2012/07/3	www.polymeric.de
Acticom mobile networks GmbH	Berlin	Dr. Frank Fitzek	Chief Executive Officer	2012/07/12	www.acticom.de
AutoUni - Volkswagen AG	Wolfsburg	Dr. Peter Tropschuh	Head	2012/07/16	www.autouni.de
Grundfos	Aarhus	Ebbe Kruse Vestergaard	Research Manager	2012/08/22	www.grundfos.com
Martin Professional A/S	Aarhus	Niels Jørgen Rasmussen	Head of Innovation	2012/07/10	www.martin.com
CLC bio	Aarhus	Roald Forsberg	Director of Research and Development	2012/08/24	www.clcbio.com

### 3.5.2.1 Intersectoral mobility and outside options for university researchers in private companies

The more experienced the university researchers, the less often they switch to the non-academic sector...

A very important and robust result which can be derived from the interviews is a clear relationship between experience and mobility. The older the university researchers - or more precisely, the longer the researchers have stayed on the academic career path - the less often they switch to the private sector. The companies report that the recruitment of university researchers that already worked for several years at the university occurs only rarely. This holds particularly for the case of researchers who still undertake research at their new workplace. The interviewees could not name one case where a researcher holding a full professorship at the university switched to a company to work there 'at the bench'. Whenever professors or other experienced university researchers become mobile working in the non-academic sector, they become members of the management board or found their own companies. Their new field of activity is then prevalently management, sometimes supervision of research, but not undertaking research themselves.

Most of the researchers recruited by companies are young graduates. However, there are differences across sectors and technology fields, but also across companies. In some industries or companies it is not even necessary to have a university degree to undertake research, while in other industries a few years experience as a post-doc at the university are a precondition for working in industry research. The more similar the tasks in academic and non-academic research (for example working in a biotechnology laboratory), the higher the value of academic work experience for companies. However, as we will discuss below, too much academic experience is not considered to be beneficial by the companies. Moreover, companies highly value newly recruited researchers who have already gained some work experience in industry. On the other hand, the companies interviewed maintained that they usually do not head-hunt researchers from competitors or other companies because this is too expensive. For this reason the interviewees were not aware of such a case. It might be expected that this occurs in cases where there exist only a few experts worldwide in a specialised technology field. Companies are, however, bound by their financial resources. Hence we might expect that company size might also play a role here.

... because they are (1) path dependent in terms of job security and remuneration, ...

One of the most important reasons for long-serving university researchers, particularly (full) professors not to switch to the non-academic sector is that over their career they have acquired privileges which they do not want to relinquish. Most important is the job security offered by a tenured position. At a younger age they had often accepted low salaries and insecure job prospects in order to struggle through to become a professor. Those who have been able to reach higher levels in the academic hierarchy after being exposed to heavy competition also achieved job security, societal recognition and higher levels of remuneration. Becoming mobile and leaving this quite secure environment somehow means denying themselves the fruits of their labour. Furthermore, it has been noted that university researchers often do not start to work for companies because they cannot return into the university once they left it. Or a return is often strongly impeded. Research experience in private industry is not highly appreciated at universities. There might be two reasons for this. First, academic research hardly benefits, if at all, from skills acquired in industry research. Second, those who have struggled through the race to a chair as professor at the university are not willing to open

up the field for industry researchers that, as one interviewee provocatively stated, 'had fun with dirty money'.

On the other hand, younger researchers are often willing to switch to companies just because they want to escape this tough competition in the academic career path<sup>35</sup>. The contract duration in the early stages of academic careers is often shorter than in companies and the promotion prospects are less favourable. There are only few professorial positions available and it is very uncertain whether a young researcher will end up as a professor from an a-priori point of view. In private companies there exist many possibilities to move forward in the career ladder (but probably related to switches into management positions). However, if researchers already have secure or permanent contracts at a younger age, their willingness to move to the non-academic sector is reduced. Nonetheless, most of the interviewees criticised the working conditions and the tough competition (i.e. forcing the young university researchers to frequently work more than 60 hours a week) they observe at universities in their countries. The statements of the interviewees suggest that it is a difficult tightrope to walk between how to motivate researchers to improve their performance on the one hand, and discourage other highly skilled researchers from starting to work at the university. It is important to verify that researchers decide to work in companies because they can better bring in their skills there than to a university, and not because they are discouraged by the environment. The interviewees also highlighted the lack of career/job fairs for post-docs or more experienced researchers in Europe in order to increase the intersectoral mobility of researchers. While in the US it is common that more senior researchers attend these fairs (probably related to the more prevalent alumni culture), there only exist a few job fairs for graduates in Europe. Furthermore, programmes to foster partnerships between industry and academia (e.g. Industry-Academia Partnerships and Pathways – IAPP) have been stressed as being important to filter out reasonable chances for switching jobs across sectors.

... (2) have different interests and ways of thinking than required in companies, ...

Beyond the incentives related to job security and remuneration, the interests of the researchers strongly influence their career decisions. In the view of the interviewees, researchers decide to work at a university precisely because the kind of work and the related tasks reflect their way of thinking. While the nature of basic research at universities requires attention to detail and patience in developing research results often over many years, companies frequently require more flexibility in switching between research projects and the ability to adapt to new developments resulting from clients' requests. Being too intellectual and doubtful about one's own research might be counterproductive for an industry researcher, while on the other hand, overly pragmatic thinking might hamper detailed academic research<sup>36</sup>. The interviewees highlighted that university researchers are often willing to renounce the higher salaries they might earn in companies simply because they want to be able to spend more time on exploring their research field at greater depth. They provided examples where young researchers who started their careers in their company realised after one or two years that they prefer to work in an academic environment. They then shifted to a university and also accepted a loss in remuneration. On the other hand, the interviewees also reported cases

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<sup>35</sup> The interviewed company representatives clearly stated that competition and pressure on researchers is similarly intense in companies as at universities. However, the second best promotion prospects (i.e. when not becoming a full professor) have been assessed less favourably at universities and therefore the competition is expected to be perceived as more intense for university researchers.

<sup>36</sup> It has to be mentioned that the interviewees did not assess the different types of thinking and the different skills required at universities on the one hand and companies on the other hand. They only stated that different tasks require different skills and interests.

where newly recruited employees that have been working at the university for a few years left their jobs because they were interested in obtaining results that have tangible effects in daily life. Nonetheless, the reported cases occurred only after a few years of working life, as soon as they recognised their work preferences more clearly.

... and (3) companies require different skills than universities.

Next to the differences in the working conditions between academia and non-academia there are also differences with respect to the performance requirements. While academic work requires frequent publications, researchers in companies have to deliver results of commercial value. These diverse settings also require different skills and competences. The representatives of the companies interviewed reported that their researchers have to deal with short-term every day work life (depending on the industry sector) requiring specific communication skills, flexibility, but also capabilities in dealing with customer enquiries. Furthermore, researchers in private companies have to be able to think commercially, i.e. they have to consider in their daily research practice which of their results may survive a proof of market. Researchers who climb up the career ladder in the company have also to take over management tasks. Many companies provide specific training programmes to educate their future management staff. These researchers can grow into more responsible positions using the experience they have accumulated in the company, such as knowledge about firm internal dynamics and operational sequences. Experienced researchers coming from the university, e.g. a full professor, do not have these skills and so only rarely take over management positions in companies.

The longer researchers work at a university, the more their skills and experience differ from an industry researcher because with the duration of employment the career trajectories increasingly diverge between the academic and the private company sector, although there are some differences across technologies and sectors<sup>37</sup>. From the company's point of view, young researchers are also more favourable than specialised university seniors because they are more flexible. This asset is mainly important because of the short-term dynamics the companies face in their research projects. The flexible researchers can more easily shift from one project to a new one whenever clients or internal strategies ask. This holds in particular for larger companies where new departments or project teams recruit their team members from other departments within the company. In smaller companies the researchers often have to leave the company when a project expires or the company closes down a department. In this case, it is often unlikely that the small company has a new field of activity for the researcher. If the company engages in a new technology or science field they often recruit new experts. Younger researchers are more flexible in this environment and are often more interested in shifting the workplace to meet a new professional challenge.

Moreover, the pure research positions in private companies<sup>38</sup> are most often less favourably paid than a professorship at the university. As pointed out above, the university researchers at the level of a professor are not willing to take up a position in the private sector as this would come at the cost of losing the job security and other job privileges related to senior academic positions.

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<sup>37</sup> The methodology of some fields of science is more similar in some technologies than in others. Therefore the decrease in permeability to become mobile from the academic sector to private companies is slower with increasing employment durations.

<sup>38</sup> The responses from the interviewees suggest that research positions are mainly at the bottom of the career ladder. The older the researchers the more often they take up (research) management tasks. However, some of the researchers in private companies stay in pure research for the whole of their working life but salary increases are often lower than for those taking up (research) management positions.

Companies prefer collaboration instead of offering dual positions to university researchers.

The interviewed companies reported that they do not employ researchers with dual positions, i.e. working part-time as a researcher at a university and part-time in the company. There are some professors who are either part of the scientific advisory board, the executive board or the supervisory board, but they are not directly involved in the research activities of the company. Although some of the researchers in the companies investigated are lecturers at the university<sup>39</sup>, dual research positions are not feasible due to their workload. Some of the companies reported that their researchers do not even have the time to hold classes and the companies are therefore not in favour of any dual research position. Collaboration with academia does occur, but in terms of research cooperation only. The university academics carrying out the research then stay at the university. However, both the research cooperation and particularly the teaching assignments of its employees – if feasible – have strong positive effects on the company. The contacts with universities provide the possibility either to become acquainted with the cooperation partners or gain access to the pool of young students. The personal relationships and face-to-face contact eases the recruitment of talented researchers. In this context, some of the companies mentioned problems with the universities' intellectual property rights (IPR) policies<sup>40</sup>. Therefore, some of the collaboration projects do not materialise which also impacts the companies' recruiting of university researchers.

Salaries increase faster in the non-academic than in the academic sector.

The interviews indicate that lifetime earnings are higher for researcher careers in the non-academic sector. Although it is quite difficult to directly compare salaries and remuneration packages between the academic sector on the one hand and the non-academic sector on the other, the interviewees reported that they would expect financial gains for (full) professors shifting to a private company. However, this premise is based on the assumption that the professor has the skills to take over the management tasks as described above. If this premise is not fulfilled – and a professor would start to work as a researcher 'at the bench' this would come with considerable income losses<sup>41</sup>.

The interviews do not provide a clear picture with regard to differences in remuneration between the private and academic sector on the low end of the career ladder. For researchers at early career stages, such as PhD candidates or post-graduates, some companies reported that they pay less than what is paid for comparable positions at universities. Whereas others claimed that their pay levels were higher than at university. However, researchers can expect faster increases in their salaries when they work in companies as their seniority increases. Furthermore, companies often offer better promotion prospects and faster promotion. All in all, from a monetary point of view, it is beneficial for researchers to start working in private industry and stay in the same company. This observation is in

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<sup>39</sup> The responses of the interviewees suggest that companies are not in favour of dual positions in research (the employee does research both at the university and the company). Nonetheless, teaching is often seen positively if it is compatible with the workload the employee faces at the company.

<sup>40</sup> Some projects that provide fruitful potential for research cooperation between company and university are blocked if universities strive to commercialise their results. From the point of view of the companies, universities are less capable of commercialising new innovations than a company as they most often lack market experience and are less able to receive feedback from clients. If the universities follow the IPR policies too strictly every contract on research collaboration with the university is a potential conflict.

<sup>41</sup> Compare footnote 38.

line with (1) the above stated premise that university professors would increase their remuneration when they become mobile to the non-academic sector, and (2) the pattern that companies do not head-hunt for researchers from competitors or other companies because they are too expensive.

Finally, some of the companies reported advanced bonus schemes which are more sophisticated and provide better endowed premiums than those offered by universities. This might include monthly monetary bonuses, performance fees, additional health care or retirement pension insurance, but also company cars for senior researchers or those researchers that became members of the management board. Although some universities also have (or start to implement) remuneration schemes that reward outstanding research performance, companies still outperform the academic sector in this respect.

### 3.5.2.2 Summarising the main results from the explorative interviews...

- University researchers are less likely to move to non-academic research positions the older they are or, more precisely, the longer they have been working at the university. Those researchers who were able to become top level university researchers (i.e. full professors) are not often willing to give up their positions. If university professors move they most often take over management positions or become members of an advisory board or similar.
- The workflows and type of work strongly differ between universities and companies (see also Kalpazidou Schmidt, 2008). Although there are differences across fields of science and sectors, university researchers need different skills and capabilities to be successful in academic research than their counterparts in research performing companies. Furthermore, the different types of work also require different types of personal qualifications. Researchers often decide to work at a university (or at a company) because the workflows are as they are and suit their character/expectations better. Other motives such as remuneration may often be secondary.
- Moreover, university researchers would most often need additional education in management or business activities in order to be able to move to companies<sup>42</sup>. Researchers that start in younger years in a company are able to take over the management tasks and better know the business environment because they grow up in this environment.
- Dual positions are seldom used. Companies most often prefer either to cooperate with universities in order to outsource research activities or to recruit researchers full-time. Dual positions come along with problems related to the extensive workload but also potential problems with intellectual property rights.
- It is not clear whether researchers in the early stages of their careers earn more at a university or in a company. Sometimes they are better paid at companies, sometimes better at universities. However, on average it might be expected that those researchers who start to work at a company and stay there have better promotion prospects and therefore better chances to improve their salaries over their careers.

Finally, we would like to emphasise again that the interviewees proposed that job fairs are established for researchers at later career stages, and not just for PhD candidates. Increasing knowledge of other spheres of the research world for both academic and industry researchers would also improve the probability of intersec-

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<sup>42</sup> Many universities already recognised that career development training is an important issue and activities to improve training are rapidly expanding. However, the chapter is based on interviews with company representatives and they were not aware of these activities yet. Time is needed so that companies can see the results gained from these activities.



toral mobility. Both university researchers and industry researchers should be aware of opportunities outside their own research world and on the requirements in terms of (additional) skills for changing the career paths.

### 3.5.3 Analysis of remuneration patterns of researchers in the non-academic sector using Structure of Earnings Survey (SES) data

In this chapter of the report of the MORE II project, we focus on the information which can be obtained from official EUROSTAT data (taken from the Structure of Earnings Survey SES) to give some insights into remuneration patterns of non-academic researchers. However, the following analysis is based on already existing data and therefore the scope for the analysis is limited. In particular, we use the following proxy for defining researchers: we focus on persons with tertiary education defined by the ISCED codes 5 ("First stage of tertiary education") and 6 ("Second stage of tertiary education") who are employed in research occupations, which in accordance with the Frascati manual (see OECD, 2002, p 239) we define as the occupations in the major groups 2 ("Professionals") and 3 ("Technicians and Associate Professionals") of the ISCO classification in which researchers work. The used proxy implies that we are focusing on a much larger number of persons than those working as researchers, because – as pointed out by the OECD (2002) – the correspondence between persons employed as researcher and the ISCO occupations is only one way (i.e. it should be interpreted only as implying that researchers are found among these occupational groups but not all those employed in these occupations are researchers). As will be shown below this overestimation is indeed sizeable, with the European Labour Force Survey indicating that the number of persons employed in research occupations is higher than the number of researchers by a factor of 9. We think that despite this substantial overestimation and the important caveats involved in the use of these indicators, this exercise is important for this study because it is the only available representative data source providing information on salaries of researchers in the non-academic sector for a larger set of EU countries.

Table 3.5.2: Country coverage and number of observations analysed using Structure of Earnings Survey data

EU15*		EU12	
Country	Observations	Country	Observations
ES	43236	CY	7521
FR	35869	CZ	305402
IE	12671	HU	222688
IT	16715	LT	33432
LU	5538	LV	64964
NO	280136	PL	158299
PT	27052	RO	45263
SE	78161	SI	43068
		SK	102800

Source: Eurostat SES. Own calculations; \* EU15 includes Norway.

The data we use are taken from the Structure of Earnings Survey (SES) for the year 2006 – the second wave of this survey – for 17 EU countries (see Table 3.5.2<sup>43</sup>). The objective of this survey is to provide accurate and harmonised data

<sup>43</sup> The research team had access to SES data for the following countries at the EUROSTAT Safe Centre in Luxembourg: Cyprus (CY), the Czech Republic (CZ), Spain (ES), France (FR), Hungary (HU), Ireland (IE), Italy (IT), Lithuania (LT), Luxembourg (LU), Latvia (LV), Norway

on earnings in EU Member States and Candidate Countries and the survey therefore gives detailed and comparable information on relationships between the level of remuneration, individual characteristics of employees (sex, age, occupation, length of service, highest educational level attained, etc.) and their employer (economic activity, size and location). The SES collects the earnings actually received by an employee of a business in the reference month and year. The information collected relates to the earnings paid to each "job holder". It does not cover earnings by the same employee elsewhere in a second or third job (see Eurostat, 2006). In combination with the definition of researchers mentioned above, it is therefore possible to derive some conclusions on the remuneration of Europe's non-academic researchers. The analyses have been carried out at Eurostat's safe centre in Luxembourg in order to comply with regulations on anonymity of the data and the protection of individuals' data.

In the following, we will focus on (1) gross annual earnings, (2) the gross hourly earnings in the reference month, and (3) annual days of holiday leave. The presented results (except days of holiday leave) are shown in purchasing power parities using the PPP conversion rate based on GDP (prc\_ppp\_ind) provided by EUROSTAT. We use the grossing up factors (i.e. sample weights) in order to calculate representative means for the investigated population. However, the presented percentiles are based on the unweighted sample. In order to verify the anonymity rules of EUROSTAT, percentiles are only displayed in the tables in the appendix and illustrated in the figures below if enough observations per investigated subgroup are available. If less than 10 observations lie above or below the calculated descriptive statistics (e.g. the 1% percentile), the corresponding value is set to missing. Therefore the following rules have been applied:

Table 3.5.3: Verifying anonymity of SES participants. Guideline for dropping descriptive statistics based on the number of observations

Number of observations in the investigated subsample	Dropped statistics
< 1000	1% and 99% percentiles
< 200	5% and 95% percentiles
< 40	25% and 75% percentiles
< 10	All statistics

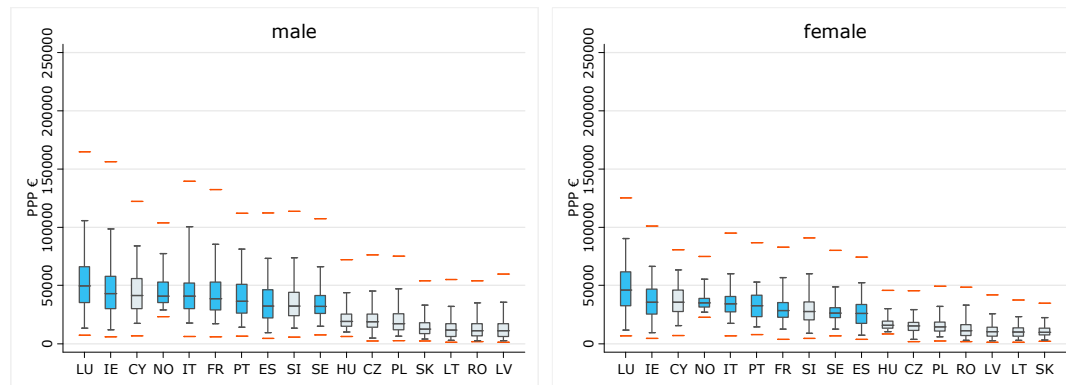
### 3.5.3.1 The remuneration of researchers in the non-academic sector by gender

Figure 3.5.1 presents the distribution of gross annual salaries for the investigated 17 countries. The figures show the percentiles for salary distribution. The horizontal, red lines at the bottom and the top represent the 1% and the 99% percentiles respectively. The lines at the end of the whiskers stand for the 5% and 95% percentiles, and the lower / upper end of the boxes show the 25% / 75% percentiles respectively. Therefore, the boxes contain 50 percent of the observations. The box plots are sorted by the median value (the middle line within the boxes) in descending order. The boxes are differentiated by colour depending on the country. The countries that joined the European Union before 2004 (incl. Norway as high

(NO), Poland (PL), Portugal (PT), Romania (RO), Sweden (SE), Slovenia (SI), and the Slovak Republic (SK)

income country) are coloured blue, those that joined the EU in 2004 or later (“new member states”) are coloured in bluish gray. The underlying data are tabulated in appendix 8 by country.

Figure 3.5.1: Gross annual earnings of male and female non-academic researchers 2006 (full-time equivalents in PPP €)

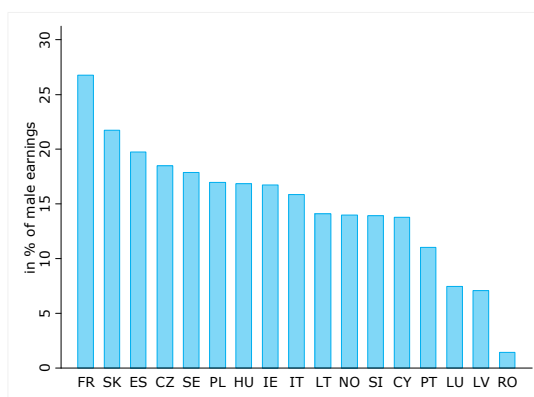


Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year

Figure 1 shows that gross annual earnings of male non-academic researchers (in PPP €) lie on average (in terms of the median) between €50,000 in Luxembourg (LU) and around €6,950 in Latvia (LV). Moreover, the figure reflects expected differences in earnings between the new Member States and the other countries. Except Cyprus (CY, placed fourth) and Slovenia (SI, placed ninth), the median earnings of male researchers in all the new Member States are fairly below the median earnings in the rest of the analysed countries. The ranking of countries is quite similar for female researchers. The levels of earnings of female researchers are lower for all of the countries (reaching on average (median) from around 46,000 PPP € in Luxembourg (LU) to 9 765 PPP € in Slovakia (SK)). The distribution of earnings is quite dispersed for both male and female researchers. The highest earnings in terms of the highest 1% percentile for males are above 150,000 PPP € in Luxembourg and Ireland, while the 1% percentile of lowest annual salaries is below 1,500 PPP €. The percentiles at the bottom of the distribution have to be interpreted with caution. The data also includes those researchers that did not work the full year. However, it is hardly possible to gross up the corresponding salaries or to filter out these observations as there are several reasons why the stated working time does not equal one year. For instance, there are cases of either unpaid or paid absence. In the first case, the respective actually earned annual salary would have to be corrected upwards in order to come up with the contractual annual income, i.e. if the employee had worked the full year. In the second case, the actual earned salary fits the contractual income and no adjustment is necessary. As we cannot distinguish between these two cases, a grossing up to contractual annual incomes is not possible<sup>44</sup>.

<sup>44</sup> During the analyses, we tried to scale up the annual salaries in cases with working time less than one year. However, this yielded extreme outliers that were not manageable without further information.

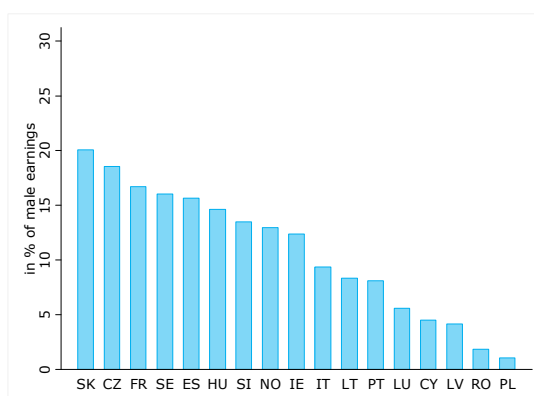
Figure 3.5.2: Gender gap in gross annual earnings of median male and female non-academic researchers 2006 (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year;

Figure 3.5.2 illustrates the observed unadjusted gender gap in gross annual earnings. The countries are sorted (in ascending order) by the relative gap between male and female researchers. While the relative gap in earnings between males and females in Romania (RO, the gap is 1.5% relative to the median earnings of male researchers) and Latvia (LV, 7.1%), but also Luxemburg (LU, 7.1%) is comparably low, while the gap is largest in France (FR, 26.8%) and Slovakia (SK, 22.7%).

Figure 3.5.3: Gender gap in average gross hourly earnings in the reference month of median male and female non-academic researchers 2006 (full-time equivalents in PPP €)



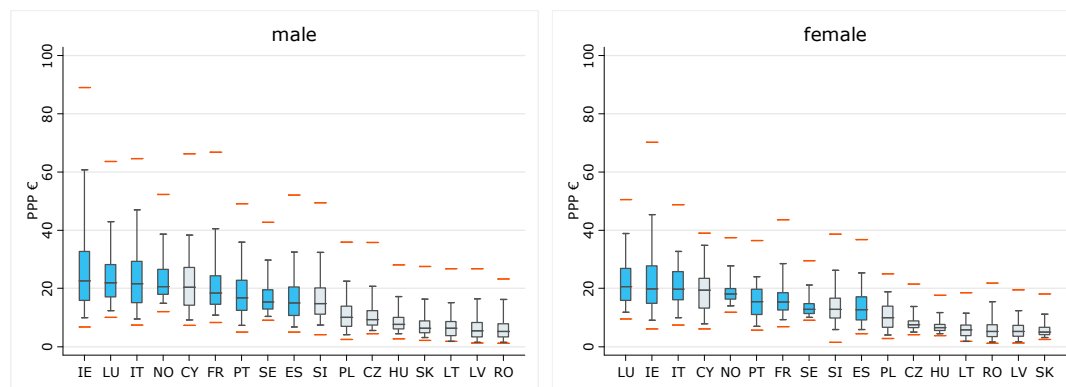
Source: Eurostat SES. Based on Q4.3 Average gross hourly earnings in the reference month;

When looking at average (median) hourly earnings, the relative gender wage gap is comparably smaller. The gap is lowest Poland (PL, 1.1%), Romania (RO, 1.8%) and Latvia (LV, 4.2%) and largest in Slovakia (SK, 20.1%), the Czech Republic (CZ, 18.5%) and France (FR, 16.7%). While the gap based on gross annual earnings might be biased due to e.g. gender differences in terms of working time (i.e. full-time vs. part-time) or the job positions men and women are usually employed, the gap is less biased by external factors when looking on hourly earnings. Nonetheless, the gender gap is statistically significant in all countries<sup>45</sup>. The distribution for the subsamples male and female researchers are presented in Figure 3.5.4. Again, the median hourly earnings are highest for Luxemburg (LU) and Ire-

<sup>45</sup> We calculated three different statistics (Mann Whitney U-Test, t-Test, Kruskal-Test) in order to test whether the observed samples show different distributions. All of the tests turned out significant differences between males and females.

land (IE) whereas the new Member States (except CY) show the lowest hourly earnings. Hourly earnings of male researchers in the new member states lie around or below 10 PPP € on average, while in the other countries it is twice as high. The 99% percentile is highest in Ireland (IE, 89 PPP € for males, and 70.3 PPP € for females), whereas the difference between Ireland and the other countries is quite high in terms of the 99% percentile. The data show a more equal distribution of hourly earnings in Norway and Sweden. In these two countries the range of earnings between the 1% and 99% percentiles is comparably low.

Figure 3.5.4: Average gross hourly earnings in the reference month of male and female non-academic researchers 2006 (full-time equivalents in PPP €)

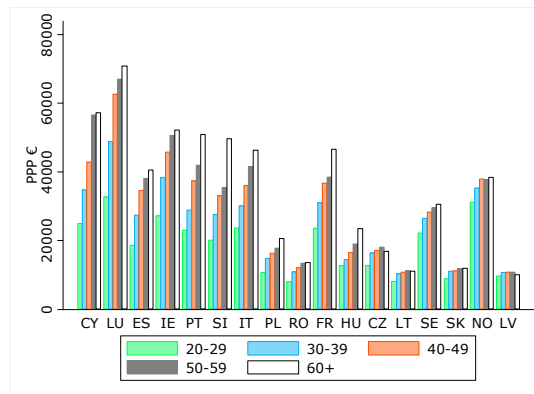


Source: Eurostat SES. Based on Q4.3 Average gross hourly earnings in the reference month

### 3.5.3.2 The remuneration of researchers in the non-academic sector by age groups

When looking at differences of earnings by age groups, the SES data show that the gross annual earnings increase, the older the researchers are. Figure 3.5.5 plots the median gross annual earnings of the age groups (20-29, 30-39, 40-49, 50-59, and 60+) in ascending order by country. Countries are sorted by the relative difference between the oldest group of researchers (60+) and the youngest group (20-29). The figure shows that the age-related increase of annual earnings is highest in Cyprus, Luxembourg and Spain, where the annual earnings of the median researcher of the 60+ group is twice as high as the corresponding earnings of the 20 to 29 year old median researcher. On the other hand, in Latvia, Norway, Slovakia, and Sweden the age-related increase of median annual earnings is below one third. Again Norway and Sweden show quite equally distributed annual earnings. Moreover, comparing the new Member States with the rest of the sample, the former transition countries show generally less increase in annual earnings over the working life time. Only the aforementioned Nordic countries and, to some extent, France break with this pattern.

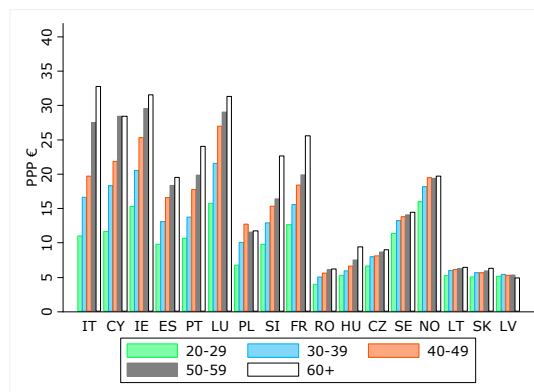
Figure 3.5.5: Differences in median gross annual earnings of non-academic researchers 2006 by age groups (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year

The picture looks quite similar in the case of gross hourly earnings (see Figure 3.5.6). The former transition countries again show the lowest increase in hourly earnings across age groups, while on the other end of the scale Italy has the highest growth of hourly earnings. Interestingly Italy only ranked 7<sup>th</sup> when using the gross annual earnings indicator but is now at the top, leading before Cyprus. Again Norway and Sweden are comparable with the group of Eastern European countries.

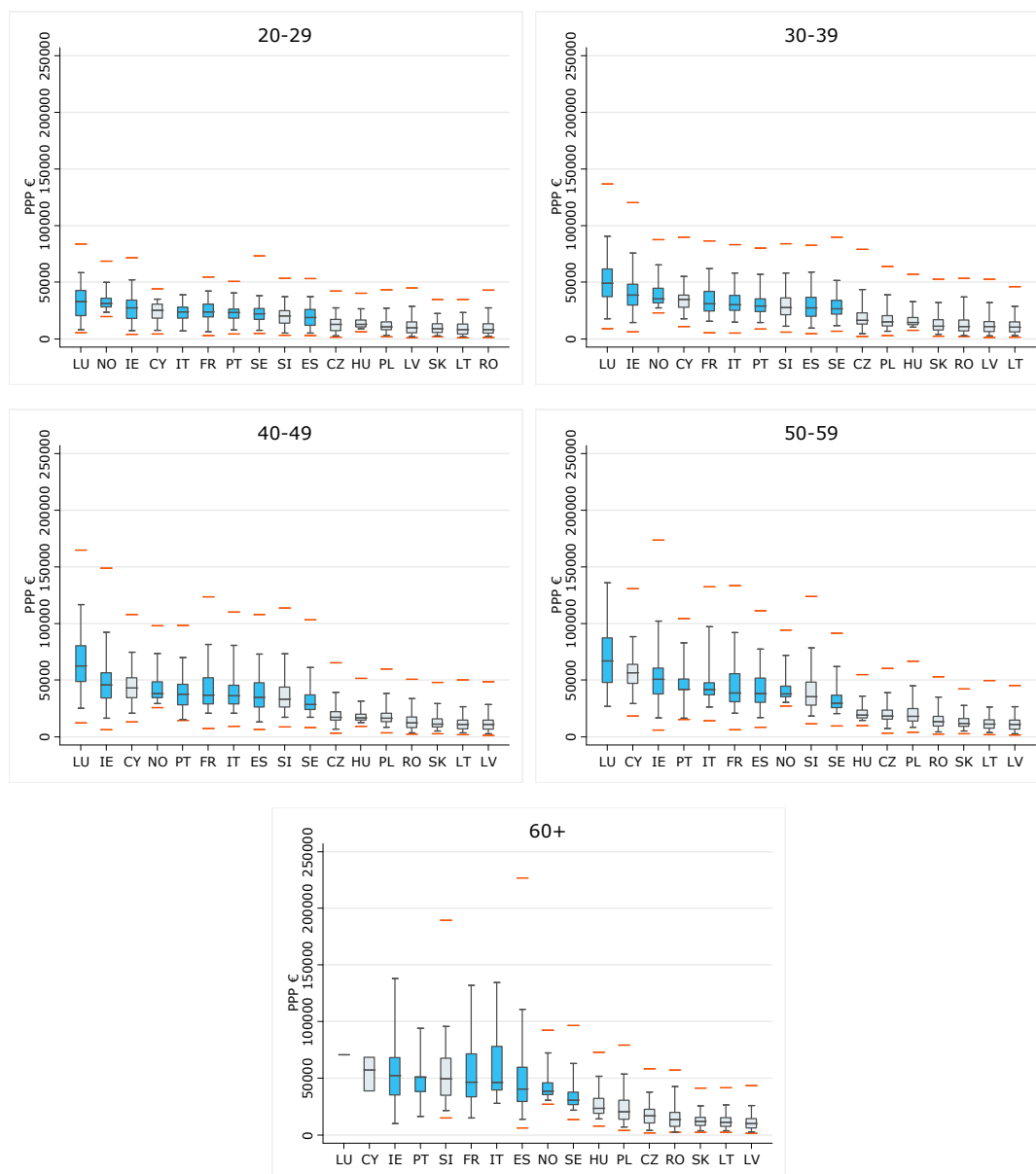
Figure 3.5.6: Differences in median gross hourly earnings of non-academic researchers 2006 by age groups (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.3 Average gross hourly earnings in the reference month

When looking on the distribution of earnings within each country (see Figure 3.5.7), the variation of earnings is again comparably small in Sweden and Norway. This holds for all of the country groups, and also for the average gross hourly earnings that are presented in Figure 3.5.8. Interestingly, the highest value of annual earnings in the 1% percentile can be found in Spain for the 60+ age group. In Spain, the 1% of researchers with the highest income earn above 200,000 PPP €. However, the corresponding values are not available due to anonymity reasons for Luxembourg, Ireland and Cyprus which are (among) the top performers in the younger age groups. In these subsamples the number of observations is too low and we therefore do not present the corresponding results.

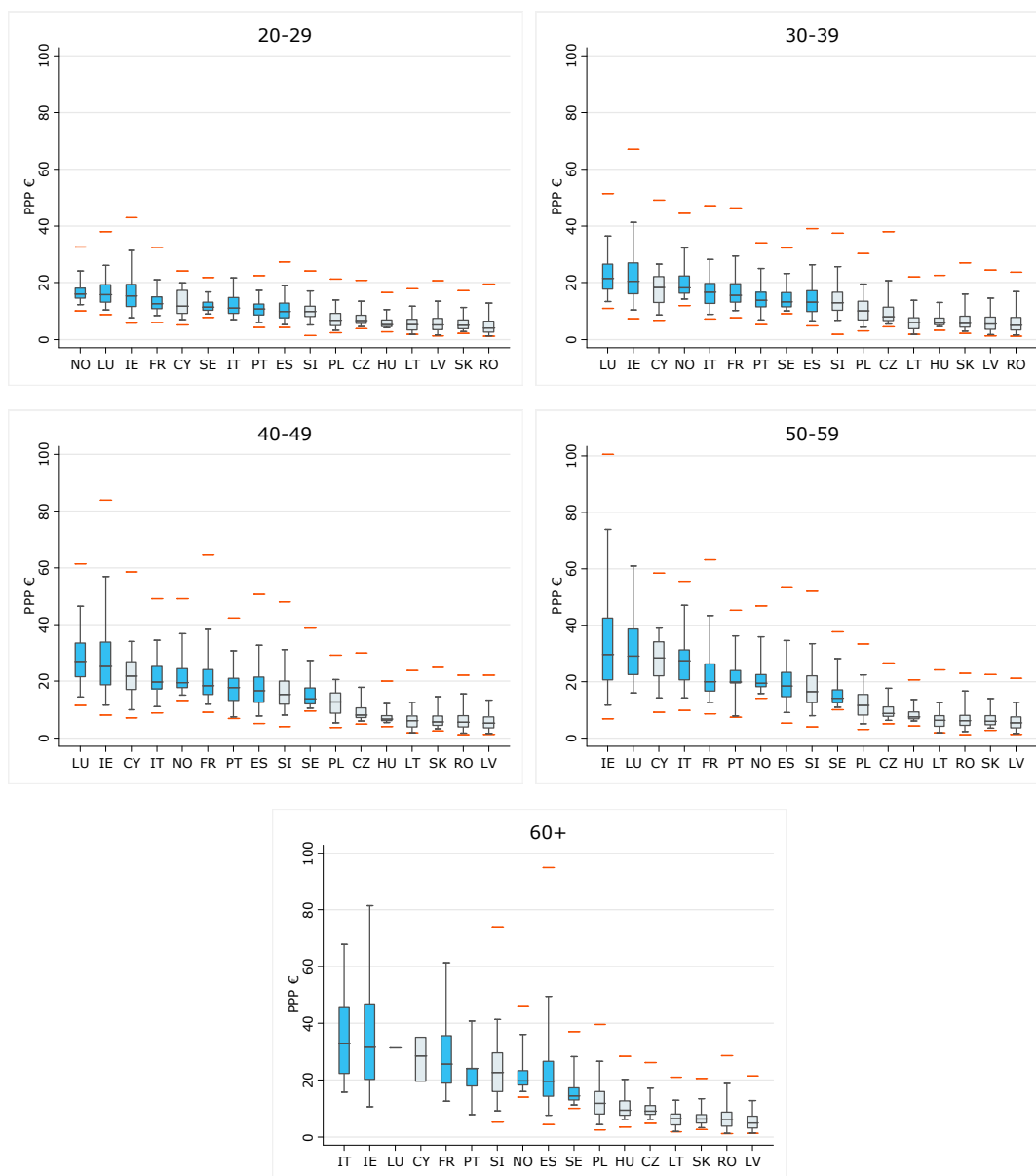
Figure 3.5.7: Gross annual earnings of non-academic researchers 2006 by age groups (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year

The ranking of countries by the median researcher is a bit more heterogeneous across age groups when considering average hourly wage rates in PPP € (see Figure 3.5.8). While in the group of the youngest researchers (20-29 years), Norway ranks highest followed by Luxembourg and Ireland, Luxembourg has the highest median hourly earnings in the 30-39 and 40-49 year olds. Ireland - ranked second in both these two groups but also in the 60+ group - ranks highest in the age group of 50 to 59 year old researchers. On the top end, Italy has the best earning median researcher in the 60+ group in terms of hourly wage rates. On the bottom of the ranking, Latvia, Romania and Slovakia show the lowest levels of hourly earnings of their median researchers in all of the age group subsamples. Furthermore, all of the new Member States (except Cyprus, and to some extent Slovenia) are at the bottom of the ranking below the rest of the countries.

Figure 3.5.8: Gross average hourly earnings of non-academic researchers 2006 by age groups (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.3 Average gross hourly earnings in the reference month

The distribution of average hourly earnings within the countries and the analysed age groups is quite different across countries. Ireland shows a high variance in hourly wage rates showing the highest values for the top 1% percentile<sup>46</sup>. Interestingly, the differences in hourly wage rates in the top 1% percentile in the youngest age group is quite similar for most of the countries. Except the four leading countries Norway, Luxembourg, Ireland, and France, the top earning researchers receive around 20 PPP € per working hour. The older the age groups the higher are the differences in the top earning 1% of researchers.

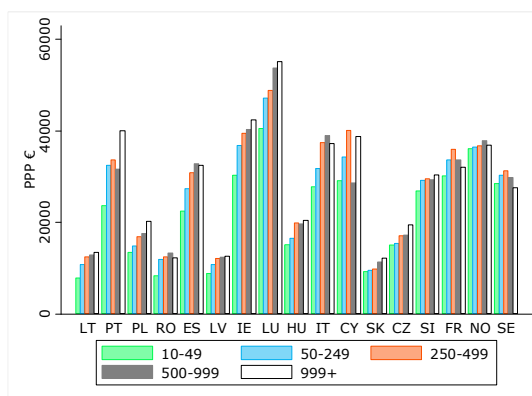
<sup>46</sup> Except the group of 60+ where the corresponding value is missing due to anonymity reasons.



3.5.3.3 The remuneration of researchers in the non-academic sector by company size

Figure 3.5.9 shows the median gross annual earnings of non-academic researchers in PPP € across countries by company size. In this graph it can be clearly seen that in almost all countries the earnings of the median researcher in the subsamples is higher the larger the companies. This also holds when looking on gross hourly earnings (see Figure 3.5.10). In both figures, countries are sorted in descending order by the relative difference between small (10-49 employees) and large (999+) companies. In terms of gross annual earnings, in Lithuania (41.9%), Portugal (41%) and Poland (33.7%) the median researcher in a small company with 10 to 49 employees receives one third less than the medium researcher in the large company with more than 1000 employees. On the other hand, in Norway the difference between these two groups is almost zero and in Sweden the small companies pay more than the largest. Moreover, in these two countries, but also in France and Cyprus, the medium sized companies provide the highest annual salaries within the country.

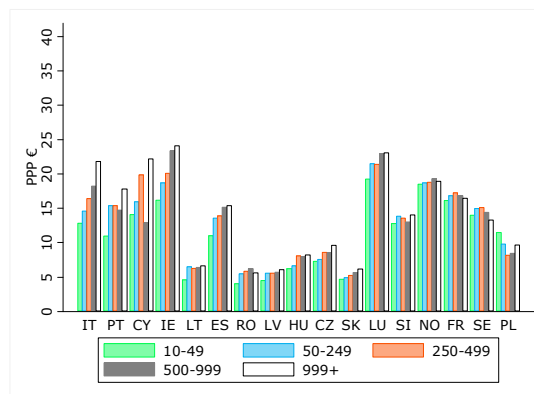
Figure 3.5.9: Differences in median gross annual earnings of non-academic researchers 2006 by company size (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year

When looking at hourly wage rates, large companies in Sweden again provide less favourable financial remuneration than the smaller companies. The difference is higher in Poland when looking at this indicator. In Sweden, France, Norway, but also in Romania, medium sized company remunerate their researchers most favourably. At the other end, in Italy, Portugal, Cyprus and Ireland the large companies provide much higher hourly earnings than their smaller counterparts. In Italy, the median researcher receives 41.4% less per hour in the group of small companies (10-49 employees) than in the corresponding median researcher in the group of companies with more than 1000 employees.

Figure 3.5.10: Differences in median gross hourly earnings of non-academic researchers 2006 by company size (full-time equivalents in PPP €)

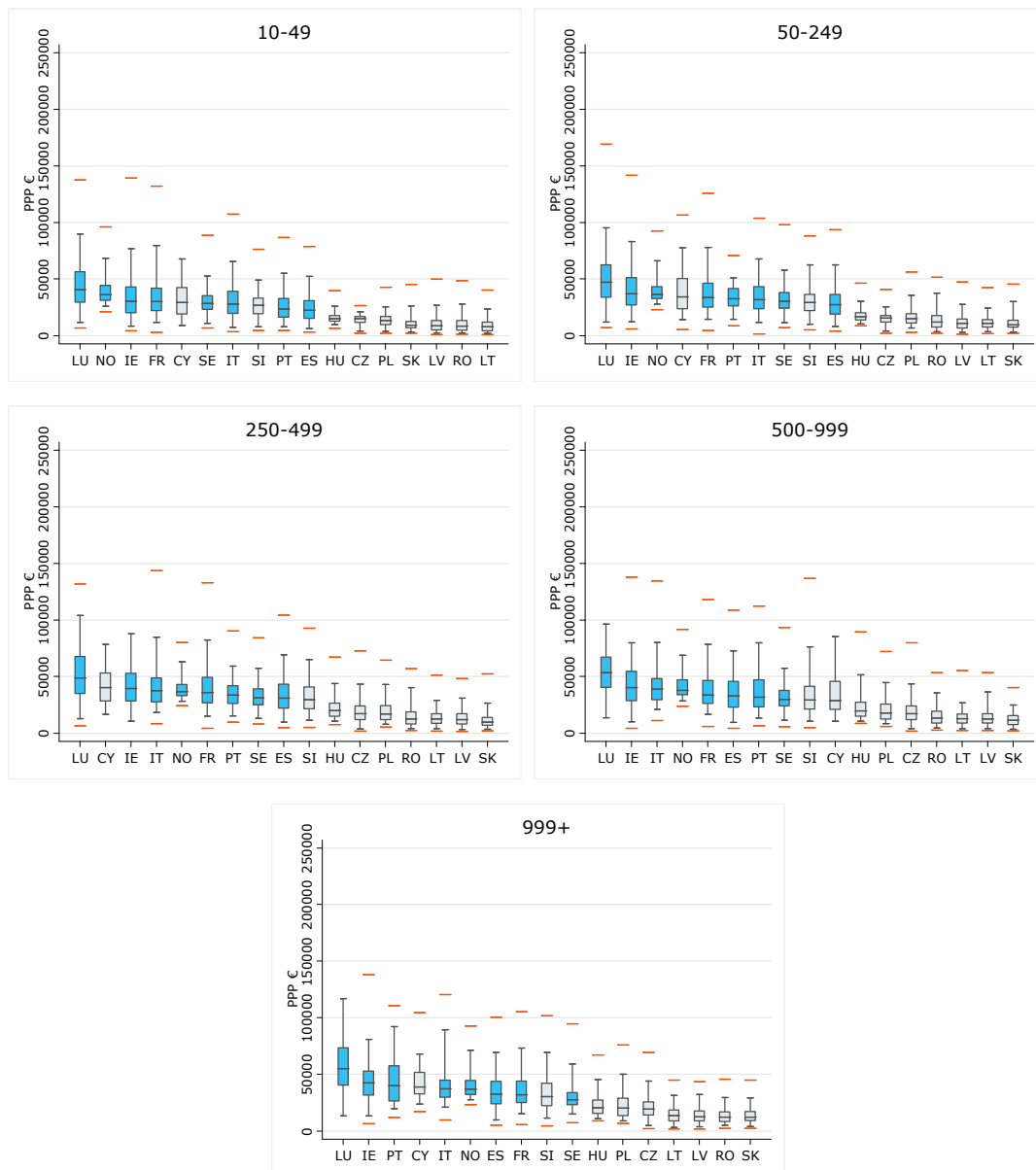


Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year

In Figure 3.5.11 and Figure 3.5.12 we display the distribution of gross annual earnings and average hourly wage rates respectively by company size for the countries investigated. The countries are sorted in descending order by earnings of the median researcher within the given subsample. The highest PPP adjusted annual earnings are paid in Luxembourg in all of the subsamples. Again, the new Member States (excl. Cyprus) have lower gross annual earnings than the rest of the countries. While the earnings of the median researcher most often increases with company size, the differences seem to disappear when looking at the best earning 1% percentile. In all groups of company size there exist cases where the top 1% earns around 150,000 PPP € per year. However, the picture is not stable within single countries. For instance, in Slovenia the top 1% percentile comes close to 150,000 PPP € only in the group of companies with 500 to 999 employees. In the rest of groups the top earners receive much less per year.

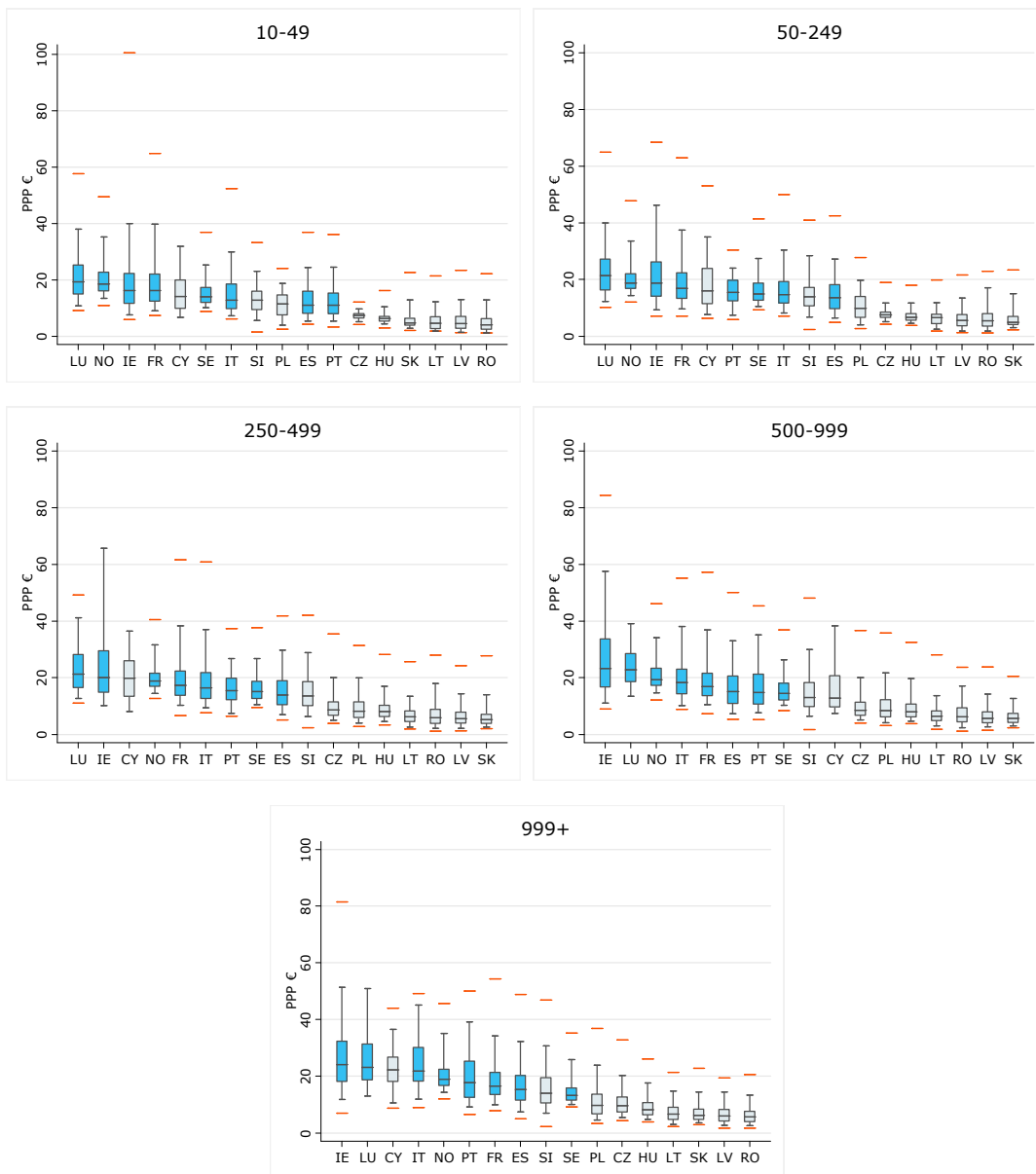
In the case of hourly earnings (see Figure 3.5.12), the top earners can be found in Luxembourg, Norway and Ireland almost irrespective of company size. The top 1% percentiles come up to 80 PPP € and in case of the small sized companies even more than 100 PPP € in Ireland. On the other hand, the median researchers in the new member states receive below 10 PPP € per hour and the top earners above 20 PPP €.

Figure 3.5.11: Gross annual earnings of non-academic researchers 2006 by company size (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year

Figure 3.5.12: Gross hourly earnings of non-academic researchers 2006 by company size (full-time equivalents in PPP €)



Source: Eurostat SES. Based on Q4.1 Gross annual earnings in the reference year

### 3.5.3.4 Conclusions

This chapter provides first insights into the remuneration of researchers in the private research sector based on analyses of remuneration data of the Structure of Earnings Survey (SES). The analyses of SES data show that:

- Purchasing power parity adjusted salaries are lower in the new Member States, particularly in the transition countries than in the remaining countries available in the data set.
- The older the researchers the more they earn on average.
- In most of the countries large companies pay more than smaller or medium sized companies.
- The relative dispersion in remuneration within the group of researchers is lower in the new Member States, but also in Norway and Sweden. This also holds for the differences across age groups.
- The gender wage gap is substantial for most of the countries.

The above mentioned conclusions do nevertheless face a set of caveats. First, any analysis of remuneration in the non-academic research sector is hardly comparable with remuneration in the academic sector. The most important reasons are related to (1) the unclear definition of the researcher in the non-academic sector; and more important related to (2) the different career paths of researchers that lead to problems in establishing meaningful comparison groups, i.e. what is the equivalent of e.g. a university professor in a private company?<sup>47</sup>

When considering the analyses of SES data, we are limited on data availability. On the one hand, we are able to define the researchers only via broad categories of occupation and education. Therefore, we have to accept that we also have employees in the sample that are not researchers. On the other hand, data for large and / or innovative EU countries (e.g. Germany, UK, Netherlands, Finland, Austria or Denmark) are not available. The comparison with the data on remuneration of university researchers surveyed for this report is hampered – in addition to the points above – as the available data refer to the year 2006, while the data on remuneration at universities are mainly from 2011/2012. And any conclusions that try to compare the remuneration by age groups, e.g. the salaries of a full professor might be somehow comparable with those of the researchers in the 40+ age groups, are not reliable. The age groups do not differ between those who moved up the career ladder and those who did not.

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<sup>47</sup> We therefore did not compare the numbers presented here with the results from the experts' survey on salaries in this project.

## 4 METHODOLOGY LIMITATIONS, CAVEATS AND LESSONS LEARNT FOR FUTURE STUDIES

Finally, we discuss the lessons learnt during the inception phase of preparing the questionnaires and templates, the data collection and the preparation of this report. First of all we would like to highlight the extensive workload required to collect data for about 50 countries via a network of country experts. In order to collect valid and reliable data, experts have to be in close contact during the data collection process. The closer the contact with the experts and the better the network management, the better the results will be. This requires checks of the data during the field phase and frequent follow up calls whenever the collected data are questionable or ambiguous. We therefore highlight the importance of setting up a well functioning network management system in order to guarantee the success of such a project.

Furthermore, in this project it was possible only to assign one expert per country. Making use of more than one expert per country would be preferable in order to improve the quality and the validity of the data. Personal biases in the perception of qualitative information can be better avoided and data gaps can be filled more easily in case one of the experts in charge does not have access to required data or is not able to complete the required information for other reasons. Given that the focus of this study is to survey a large set of countries (i.e. requiring a large number of experts) and include both the academic and non-academic sector (i.e. increasing the workload for the experts), and considering the budget constraints it was not possible to make use of more than one expert per country.

Second, the collection of a huge amount of data as in this study requires time consuming data cleaning before it is possible to start the analysis. The quality of data cleaning is crucial in order to obtain plausible results. The amount of time required to clean the data is difficult to foresee and was critical in this study. This report has focused on summarizing the main results of the data collection. In a parallel survey, university researchers have been asked in a stated choice experiment, which factors of a university system determine their decision to take up a job. This information will be used at a later stage of the project to identify the most important institutional factors (i.e. related to the university system) to become mobile. Hence this analysis can potentially provide yardsticks against which the attractiveness of a country's university system for university researchers could be evaluated. These results will be presented in the final report of this project.

Third, the analysis of university data (see chapter 3.3) focused on best performing universities and key players in research. Due to budget constraints, representativity could not be reached as it was not possible to survey a broad set of universities or research performing organizations. However, the main aim of the analyses was on examining whether different strategies across countries or country groups regarding remuneration in the best performing research institutions exist.

We would like to highlight that the experiment collecting information on which job positions the universities would offer to a researcher with a standardized CV profile could be an effective way to procure comparable data across countries in future data collection exercises. The feedback of universities on the CVs was positive, i.e. the universities had no difficulties assessing the value of the standardized CV from their point of view. As the universities contacted by the country correspondents were asked also a set of additional university-specific questions the response rate on the standardized CVs questionnaire was not as good as we hoped for. Without the university-specific parts the questionnaire is, however,

short enough to allow the respondent to complete the questionnaire in a short time. Therefore, we would like to recommend this experiment for further studies in order to construct an index on remuneration of university researchers. The major advantage of this index is its comparability across countries and the index could be easily reconstructed every year (or with another frequency). When the survey includes a broad set of universities, the index can easily become representative and other research fields could also be included. In this study we focused on three fields of science (physics, mechanical engineering, and economics), but these fields of course do not reflect the full spectrum of scientific disciplines. More specifically, we did not consider the humanities due to budget constraints. However, the experiment using standardized CVs carried out in this report has been a good pilot exercise for a potential future indicator on the comparability of researcher remuneration across countries.

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## 6 COUNTRY PROFILES

**The country profiles are available for download at XXX.**

## 7 APPENDIX: SOURCES AND COUNTRY SPECIFIC NOTES ON COUNTRY PROFILES

Table 7.1: Country profiles - Sources of used databases

Indicator	
Tax rate	Source: OECD; 2011: <a href="http://www.oecd.org/tax/taxpolicyanalysis/oecdtaxdatabase.htm#pir">http://www.oecd.org/tax/taxpolicyanalysis/oecdtaxdatabase.htm#pir</a> (Personal income tax rates and thresholds for central governments )
	Note: The marginal statutory rates are expressed as a percentage of taxable income and exclusive of surtax (if any). Sub-central tax rates are not included. The marginal income tax rate (shown in the third row) applies to taxable income in the range given by the threshold in the first row (lower band range) and the threshold in the second row (upper band range). More recent data are available, but not integrated in the report.
Tax wedges in % of labour costs	Source: OECD; 2010: <a href="http://www.oecd.org/ctp/taxpolicyanalysis/taxburdens2011estimates.htm">http://www.oecd.org/ctp/taxpolicyanalysis/taxburdens2011estimates.htm</a> (Average tax wedge as % of total labour costs; Table I.1)
	Note: The tax wedge – a measure of the difference between labour costs to the employer and the corresponding net take-home pay of the employee – which is calculated by expressing the sum of personal income tax, employee plus employer social security contributions together with any payroll tax, minus benefits as a percentage of labour costs. Employer social security contributions and – in some countries – payroll taxes are added to gross wage earnings of employees in order to determine a measure of total labour costs. More recent data are available, but not integrated in the report.
Dismissal of University Researcher	Source: OECD; 2008: <a href="http://www.oecd.org/employment/protection">www.oecd.org/employment/protection</a> (Detailed information on employment protection)
Duration of Compensation in case of Unemployment (in Months):	Source: OECD; 2010: <a href="http://www.oecd.org/els/benefitsandwagespolicies.htm">http://www.oecd.org/els/benefitsandwagespolicies.htm</a> (Unemployment benefits) / <a href="http://www.oecd.org/els/social/workincentives">www.oecd.org/els/social/workincentives</a>
	Note: For a 40-year old (where benefits are conditional on work history, the table assumes a long and uninterrupted employment record); Maximum proportion is set with reference to average wages in the preceding year.
Average Net Replacement Rate in case of Unemployment (in % of previous income for a 40 year old)	Source: OECD; 2010: <a href="http://www.oecd.org/els/benefitsandwagesstatistics.htm">http://www.oecd.org/els/benefitsandwagesstatistics.htm</a> (During the initial phase of unemployment, 2001-2010) / <a href="http://www.oecd.org/els/social/workincentives">www.oecd.org/els/social/workincentives</a>
	Note: Initial phase of unemployment but following any waiting period. Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (i.e. monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. For married couples the percentage of AW relates to the previous earnings of the "unemployed" spouse only; the second spouse is assumed to be "inactive" with no earnings and no recent employment history. Where receipt of social assistance or other minimum-income benefits is subject to activity tests (such as active job-search or being "available" for work), these requirements are assumed to be met. Children are aged four and six and neither childcare benefits nor childcare costs are considered. Family does not qualify for cash housing assistance or social assistance "top ups": After tax and including unemployment benefits and family benefits. No social assistance "top-ups" or cash housing benefits are assumed to be available in either the in-work or out-of-work situation. More recent data are available, but not integrated in the report.

Note: Country-specific comments can be found at the original databases.

Table 7.1 continued

Indicator	
Public social spending	Source: OECD; 2007: OECD.Stat - Social and Welfare Statistics - Social Expenditure - Public and Private Social Expenditure by country
	Note: Total public social spending in % of GDP; The Social Expenditure Database generally excludes administration costs, i.e. the costs incurred with the provision of benefits, as these expenditures do not go directly to the beneficiary. Administration costs cover expenditure on the general overheads of a social expenditure programme: registration of beneficiaries, administration of benefits, collection of contributions, controls, inspection, evaluation and reinsurance. More recent data are available, but not integrated in the report.
Public social health spending	Source: OECD; 2007: OECD.Stat - Social and Welfare Statistics - Social Expenditure - Public and Private Social Expenditure by country
	Note: Total public health spending in % of GDP; All public expenditure on health is included (not total health expenditure): current expenditure on health (personal and collective services and investment). Expenditure in this category encompasses, among other things, expenditure on in-patient care, ambulatory medical services and pharmaceutical goods. Individual health expenditure, insofar as it is not reimbursed by a public institution, is not included. As already noted, cash benefits related to sickness are recorded under sickness benefits. More recent data are available, but not integrated in the report.
GDP per capita (in PPPs)	Source: Worldbank; 2011: Worldbank Database; GDP per capita, PPP (current international \$) (Indikator: NY.GDP.PCAP.PP.CD)
	Note: Original Database: GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates; Country-fiche Template: converting the amount to Euros using data from Eurostat ( <a href="http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&amp;lang=en">http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&amp;lang=en</a> ) 1,3920\$ = 1EURO
GDP per capita	Source: Worldbank; 2011: Worldbank Database: GDP per capita (current US\$) (Indicator: NY.GDP.PCAP.CD)
	Note: Original Database: GDP per capita is gross domestic product divided by midyear population; Country-fiche Template: converting the amount to Euros using data from Eurostat ( <a href="http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&amp;lang=en">http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&amp;lang=en</a> ) 1,3920\$ = 1EURO; Farore Islands & Liechtenstein: year 2009 - conversion factor 1.3948\$=1Euro.
Human Development Index	Source: Human Development Report; 2011: <a href="http://hdr.undp.org/en/statistics/">http://hdr.undp.org/en/statistics/</a>
	Note: The components of the human development index are: Life expectancy at birth; Mean years of schooling; Expected years of schooling; Gross national income per capita. More recent data are available, but not integrated in the report.
Life expectancy	Source: UNDESA, 2011: <a href="http://hdrstats.undp.org/en/indicators/69206.html">http://hdrstats.undp.org/en/indicators/69206.html</a> (Life expectancy at birth (years))
	Note: Number of years a newborn infant could expect to live if prevailing patterns of age-specific mortality rates at the time of birth stay the same throughout the infant's life. More recent data are available, but not integrated in the report.
Net childcare costs	Source: OECD; 2004: <a href="http://www.oecd.org/social/family/database">www.oecd.org/social/family/database</a> (PF3.4 Childcare support (.pdf) (.xls))
	Note: Net childcare costs for a dual earner family with full-time arrangements of 167% of the average wage; Net childcare costs include fees minus cash benefits, rebates and tax concessions. Subtracting the latter from the gross fee charged by the childcare provider gives the net cost to parents, i.e. the "out-of-pocket" expenses resulting from the use of a formal childcare facility. Calculations of net childcare cost relate to full-time care for two children aged 2 and 3 in a typical childcare facility. The results presented do account for tax reductions, childcare benefits and "other benefits", which are not primarily childcare-related (e.g. family or housing benefits) but nonetheless, influence household income position.

Note: Country-specific comments can be found at the original databases.

Table 7.1 continued

Indicator	
Childcare fees	<p>Source: OECD; 2004: <a href="http://www.oecd.org/els/social/family/database">www.oecd.org/els/social/family/database</a>; (F3.4 Childcare support (.pdf) (.xls))</p> <p>Note: Childcare fees per two-year old attending accredited early-years care and education services; Parents pay childcare fees to childcare institutions (e.g. day-care centres, family day care) for the services they provide to them and their children. The data presented here concerns the amount payable for a two-year old and a three-year old, for one month of full-time care not accounting for periods where childcare may not be available or required (e.g. vacation). Where fee information is provided per hour of care, full-time care is assumed to cover 40 hours per week. 'Fees' are gross amounts charged to parents, regardless of the subsidy that providers may receive from public authorities or private donations. Gross fee payments also do not reflect the amount of childcare-related cash benefits, tax advantages or refunds/rebates that may be available to parents. Where prices depend on income of family characteristics, the maximum applicable fee is shown. Unless fees are rule-based or uniform across institutions, averages or "typical" fees are shown.</p>
Public spending on childcare and early education	<p>Source: OECD; 2007: <a href="http://www.oecd.org/els/social/family/database">www.oecd.org/els/social/family/database</a> (PF3.1 Public spending on childcare and early education (.pdf) (.xls))</p> <p>Note: Expenditure on childcare and pre-primary, 2007; Total spending as a % of GDP Public expenditure on childcare and early educational services is all public financial support (in cash, in-kind or through the tax system) for families with children participating in formal daycare services (e.g. crèches, day care centres and family day care for children under 3) and pre-school institutions (including kindergartens and day-care centres which usually provide an educational content as well as traditional care for children aged from 3 to 5, inclusive). More recent data are available, but not integrated in the report.</p>
Public spending on family benefits	<p>Source: OECD; 2007: <a href="http://www.oecd.org/social/family/database">www.oecd.org/social/family/database</a> (PF1.1 Public spending on family benefits (.pdf) (.xls))</p> <p>Note: Public spending on family benefits in cash, services and tax measures, in per cent of GDP; Public support accounted here only concerns public support that is exclusively for families (e.g. child payments and allowances, parental leave benefits and childcare support). Spending recorded in other social policy areas as health and housing support also assists families, but not exclusively, and is not included here. More recent data are available, but not integrated in the report.</p>
Public spending on pre school	<p>Source: OECD; 2007: <a href="http://www.oecd.org/els/social/family/database">www.oecd.org/els/social/family/database</a> (PF3.1 Public spending on childcare and early education (.pdf) (.xls))</p> <p>Note: Public expenditure on pre-school services, in % of GDP; More recent data are available, but not integrated in the report.</p>
Ratio of child to carer	<p>Source: OECD; 2009: <a href="http://www.oecd.org/els/social/family/database">www.oecd.org/els/social/family/database</a> (PF4.2 Quality of childcare and early education services (.pdf) (.xls))</p> <p>Note: A shows the average child-to- carer/educator ratio for children not yet 4 years of age who attend licensed day care facilities; -) further information: <a href="http://www.oecd.org/dataoecd/45/30/37864559.pdf">http://www.oecd.org/dataoecd/45/30/37864559.pdf</a></p>
Ratio of children to teaching staff	<p>Source: OECD; 2009: <a href="http://www.oecd.org/els/social/family/database">www.oecd.org/els/social/family/database</a> (PF4.2 Quality of childcare and early education services (.pdf) (.xls))</p> <p>Note: For children attending pre-school, certified teacher-to-child ratios are calculated by dividing the number of full-time equivalent children enrolled in pre-school programmes by the number of full-time equivalent teachers at that level. Where information is available, the ratio of contact staff (teachers and classroom and teacher assistants) is also shown.</p>

Note: Country-specific comments can be found at the original databases.

Table 7.1 continued

Indicator	
Governance indicators	Source: The worldwide governance indicators; 2012: www.govindicators.org (2012 Update; Aggregate Indicators of Governance 1996-2011)
	Note: The Worldwide Governance Indicators (WGI) are a research dataset summarizing the views on the quality of governance provided by a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms.
Average Years of Schooling	Source: OECD; 2012, Education at a Glance 2012: OECD Indicators;(Table C1.7b. (Web only) Expected years in education
	Note: Expected years of education under current conditions, by gender and mode of enrolment; All levels of education combined above the age of 5; Full and part time; It includes adult persons of all ages who are enrolled in formal education. School expectancy is calculated by adding the net enrolment rates for each single year of age. Data by single year of age are not available for ages 30 and above. For 30-39 year-olds, enrolment rates were estimated on the basis of five-year age bands, and for persons 40 and over, enrolment rates were estimated on the basis of the cohort size of 35-39 year-olds.
	Source: Eurostat Database: Education indicators - non-finance - Context (Indicator: educ_igen); -) Erwartete Schulleben der Schüler und Studenten (ISCED 0-6)
	Note: School expectancy (ISCED 0-6); The indicator is calculated by adding the net enrolment percentages for each single year of age and age band. The net enrolment rates are calculated by dividing the number of students of a particular age or age group (ISCED 0 to 6) by the number of persons in the population in the same age or age band. For students whose age is 'unknown' the net enrolment rate has been estimated by dividing these students by the total population aged 5-64 and multiplying by 60 (years). More recent data are available, but not integrated in the report.
	Source: Unesco Database: (School life expectancy (approximation method))
	Note: The total number of years of schooling which a child of a certain age can expect to receive in the future, assuming that the probability of his or her being enrolled in school at any particular age is equal to the current enrolment ratio for that age; -) For a child of a certain age, the school life expectancy is calculated as the sum of the age specific enrolment rates for the levels of education specified. The part of the enrolment that is not distributed by age is divided by the school-age population for the level of education they are enrolled in, and multiplied by the duration of that level of education. The result is then added to the sum of the age-specific enrolment rates. More recent data are available, but not integrated in the report.
PISA Scores	Source: PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science (Volume I) - © OECD 2010; Table I.A
	Note:

Note: Country-specific comments can be found at the original databases.

Table 7.1 continued

Indicator	
Public expenditures on education (% of GDP)	Source: OECD; 2012: Education at a Glance 2012: OECD Indicators, (Table B2.3. Expenditure on educational institutions as a % of GDP); Note: Total all levels of education; Including public subsidies to households attributable for educational institutions, and direct expenditure on educational institutions from international sources.
	Source: Eurostat database: Indicators on education finance - Expenditure on education as % of GDP or public expenditure [educ_figdp]; Note: Total public expenditure on education as % of GDP, for all levels of education combined ; Generally, the public sector funds education either by bearing directly the current and capital expenses of educational institutions (direct expenditure for educational institutions) or by supporting students and their families with scholarships and public loans as well as by transferring public subsidies for educational activities to private firms or non-profit organisations (transfers to private households and firms). Both types of transactions together are reported as total public expenditure on education. More recent data are available, but not integrated in the report.
	Source: Unesco database: Public expenditure on education as % of GDP Note: Total public expenditure (current and capital) on education expressed as a percentage of the Gross Domestic Product (GDP); Total public expenditure on education should include those incurred by all concerned ministries and levels of administration. It refers to all expenditure on education by the central or federal government, state governments, provincial or regional administrations and expenditure by municipal and other local authorities. Central government includes ministerial departments, agencies and autonomous institutions which have education responsibilities. The statistics on expenditure should cover transactions made by all departments or services with responsibility for education at all decision-making levels. More recent data are available, but not integrated in the report.
	Source: OECD; 2012: Education at a Glance 2012: OECD Indicators (Table B2.3. Expenditure on educational institutions as a % of GDP); Note: Total all levels of education; Net of public subsidies attributable for educational institutions.
Private expenditures on education (% of GDP)	Source: Eurostat database: Indicators on education finance - Expenditure on education as % of GDP or public expenditure [educ_figdp]; Note: Expenditure on educational institutions from private sources as % of GDP, for all levels of education combined ; Expenditure on educational institutions from private sources comprises school fees; materials such as textbooks and teaching equipment; transport to school (if organised by the school); meals (if provided by the school); boarding fees; and expenditure by employers on initial vocational training. More recent data are available, but not integrated in the report.
	Source: Unesco database: Total expenditure on educational institutions and administration as a % of GDP. Private sources. All levels) Note: The expenditure coming from public, private and international sources spent on a given level of education expressed as a % of GDP.
	Source: World Bank (World Development Indicators and Global Development Finance <a href="http://databank.worldbank.org/data/Views/VariableSelection/SelectVariables.aspx?source=World%20Development%20Indicators%20and%20Global%20Development%20Finance#S_P">http://databank.worldbank.org/data/Views/VariableSelection/SelectVariables.aspx?source=World%20Development%20Indicators%20and%20Global%20Development%20Finance#S_P</a> ); Eurostat ( <a href="http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&amp;lang=en">http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&amp;lang=en</a> )
	Note: Salaries and Stipends (and GDP per capita) in national currency are converted into PPP US-Dollar (2011) and the resulting PPPs are converted into EURO using the currency exchange rate of Eurostat 1,3920\$ = 1EURO; if the year of the salary or the stipend is not 2011, the amount was grossed up to 2011 using the unit labour costs index of the AMECO database.

Note: Country-specific comments can be found at the original databases.

Table 7.2: Country specific notes on taxes

Country-specific notes	
Bosnia and Herzegovina	Personal income tax (PIT) is regulated at the entities level. Generally, both entities (the FBiH and the RS) exercise the source rule to their residents and non-residents: each entity exercises the right to tax all individuals, whether resident in that entity or not, on income arising in that entity, while residents are also taxed under the residence rule (residents are taxed on income that arises outside that specific entity). In order to work in BiH, a foreign citizen must have a work permit. Work permits are based on employment in BiH and therefore upon issuance of a work permit a foreign citizen must enter into a labour agreement with a local (that is BiH) company. This applies to both entities. Issuance of work permits in both entities is subject to quotas (i.e. each entity prescribes on annual level a specific number of available new work permits that may be issued per specific sector of industry). Please note that there are some exceptions from the quota system, most importantly issuance of work permits for directors and key personnel of companies in BiH do not fall under the quota system (although a work permit and a labour agreement with a local company is required). The tax rate applicable on personal income is 10 percent, and it applies to both residents and non-residents. All resident taxpayers who source any type of income from abroad may be required to submit an annual personal income tax return, if such income is subject to PIT in the FBiH/RS. Only FBiH/RS sourced income of non-residents is subject to PIT in the FBiH/RS. A taxpayer is not obliged to submit an annual personal income tax return if he/she has realized income from only one source (such as, employment), but the taxpayer can submit an annual tax return if he/she is entitled to a tax refund. Individuals receiving income directly from abroad are obliged to calculate income tax on a monthly basis and to pay it within seven days from the receipt of income .
Brazil	All civil servants also pay 12.0% of the gross income as a mandatory contribution for retirement/pension.
Bulgaria	Flat rate tax - 10% for everyone
Canada	The income tax rates provided are for 2012. In addition to these taxes, all employees must pay provincial income taxes (these taxes are also deducted from gross salary by the employer and are dealt with in the same annual tax process as the federal government taxes). Provincial taxes for the province of Ontario (the province with the largest population) for 2012 are 5.05% on the first 39020 of taxable income, 9.15% on the next 39023 of income, and 11.16% on income over 78041. Total income taxes will include the sum of federal taxes plus provincial incomes taxes. Details on both federal and provincial taxes can be found on <a href="http://www.cra-arc.gc.ca/tx/ndvdl/fq/txrts-eng.html">http://www.cra-arc.gc.ca/tx/ndvdl/fq/txrts-eng.html</a>
China	When the researcher's gross income is higher than 120,000 Yuan a year, he/she must pay an extra tax.
Croatia	In Croatia part of annual gross income called basic personal deduction is exempted from tax. Individual basic deduction amounts 2200 HRK and can be increased depending on number of supported persons in the family: children while in regular education (the deduction rate increases progressively with each child), unemployed spouse or handicapped family member.
Denmark	There is a special taxation scheme for researchers and key employees who are recruited abroad and who are employed by a Danish company or research institution. Researchers who are recruited from abroad have, under certain circumstances, and for a period of five years, the possibility of being taxed 26 % (plus 8% labour market contribution) of their income. Branding Denmark as an attractive country to work in is the main objective for offering low tax rates to researchers who are recruited from abroad. According to the Job Structure for Academic Staff at Danish Universities (Stillingsstrukturen) positions at postdoc, assistant professor, associate professor or full professor qualify for low tax rates. This requires a PhD degree. Employees as research assistants and PhD Fellows do not qualify for low tax rates. The duration of employment can range from one month to open-ended and can be full-time or part-time.
Estonia	Estonia has a flat income tax of 21%, tax-exempt income is 144 € per month
Faroe Islands	The tax rates do not include a regional tax (20,75% in Torshavn) and Church tax (0,6%).
France	The level of taxation depends on the number of children.

Source: MORE II expert survey



Table 7.2 continued

Country-specific notes	
Germany	There exist tax allowances for dependent children (Kinderfreibeträge) in the amount of about 3.500 Euros per parent. Moreover, married couples can profit from the taxation of their total income on the basis of equal halves (Ehegattensplitting, §§ 26b, 32a Abs. 5 EStG).
Greece	In Greece, employees and civil servants receive additional amounts handled as a part of a taxable income (holidays, Christmas and Easter allowances), which until the implementation of the austerity measures were equal to two monthly salaries in total. Due to the austerity, however, these amounts have been significantly decreased and may possibly be further decreased in the near future. For this reason, we have not included these amounts when calculated minimum, maximum and average gross salaries for the academic positions in universities in the Question D.0.2. Part of the annual gross income of the permanent academic staff is exempted from tax (such as fixed monthly compensation for the creation and update of a library and participation in conferences as well as the special research allowance for carrying out post-graduate research).
Hungary	No specifics. The total income of researchers can be modified by the fact that a large share of them has additional jobs or contract-related incomes. In some cases (and to a larger extent in the private sector) researchers are working as self-employed entrepreneurs thus they fall under the effect of corporate tax system.
Ireland	With effect from April 6th 2001 tax credits replaced tax-free allowances. Under the tax credit system, you are entitled to tax credits depending on your personal circumstances, e.g. married persons tax credit, employee (PAYE) tax credit, etc. These tax credits are used to reduce the tax calculated on your gross pay. Tax credits are non-refundable. However, any unused tax credits in a pay week or month are carried forward to subsequent pay period(s) within the tax year. Employee tax credit entitlement is for a full tax year. So whether he/she starts work in the first week of the tax year or six months into the tax year, they still qualify for a full years tax credits. As tax deductions are spread evenly throughout the year under the PAYE system, the total tax due is divided into 52 weekly/12 monthly amounts, depending on frequency of pay. The employer calculates the tax due in respect of each pay period by applying the information on the certificate of tax credits, against the gross pay as follows: (1) The standard rate of tax is applied to gross pay, up to the standard rate cut-off point for that week or month (in 2012 that is 32800 for the whole year). (2) Any balance of pay over that amount in that pay period is taxed at the higher rate of tax. The sum of these two figures gives the gross weekly/monthly tax. This gross tax is reduced by your tax credits to arrive at the net tax payable. PAYE stands for Pay As You Earn. The PAYE system is a method of tax deduction under which a person's employer calculates the tax due and deducts it each time a payment of wages, salary, etc. is made to an employee, and a method of collecting PRSI (Pay-Related Social Insurance). Source Revenue Office: <a href="http://www.revenue.ie">http://www.revenue.ie</a>
Italy	Employees with children have specific tax deductions.
Japan	In Japan employees receive in addition to the 12 monthly salaries additional bonuses of four months that are handled tax-deductible. Employees with children do not pay taxes for a defined amount of the salary (per child).
Latvia	There are no specifics of the national tax system relevant to an evaluation of researcher's gross and net salaries as there is a flat rate 25 % of income tax according to the law. The Personal Income Tax shall be paid by natural persons who are non-residents and who have obtained income in Latvia during the taxation period. Between the taxable income of the foreign taxpayer (non-resident) shall be: employment income, income from professional activities, payment for intellectual property (author fees (royalty) for the creation of works of science, literature ). The fellowships shall not be mentioned as the annual taxable income for non-residents. The rate of Personal Income Tax to be paid from the annual taxable income shall be 25% (except a Mandatory State Social Insurance Contributions). Payroll tax deduction and payment (transfer to the budget) is performed by employers of employees (tax payers). The definite expenditures shall be deducted from the amount of annual taxable income both the residents and non-residents. In addition to income tax there is a Mandatory State Social Insurance Contributions as a payment, which gives the right to a socially insured person to receive social insurance services: state pension insurance; social insurance in case of unemployment; social insurance in respect of accidents at work and occupational diseases; invalidity insurance; maternity and sickness insurance; parents insurance. The object of mandatory contributions of an employer and employee shall be all calculated employment income from which personal income tax must be deducted. If an employee has been insured for all types of social insurance, the mandatory contribution rate shall be 33,09% from which an employer shall pay 24,09% and an employee shall pay 9%. Employees make statutory contributions through employers: employers shall deduct the contributions that employees must pay and transfer these amounts to a special budget account.

Source: MORE II expert survey

Table 7.2 continued

Country-specific notes	
Lithuania	The flat tax rate is the same for all salary levels and all institutional types. Academics work also on a contract/consultancy basis - the tax rates are the same as to normal work contracts.
Netherlands	The gross annual salary as calculated in this survey includes: (1) 8% holiday allowance of the salary (2) 8.3% Year-end bonus of the salary. The health insurance is two-sided: (1) the employer covers disability insurance/ salary continues to be paid; (2)for health costs as such the employee is individually responsible
Poland	The tax regulations that apply to researchers are the same as in the case of other workers. However, it is common for Polish researchers, who are employed e.g. at a university, to take up additional jobs / assignments, that are performed on the basis of a commission agreement (pl. umowa zlecenia) or a contract for specific work (pl. umowa o dzieło) rather than a contract of employment. In the latter case, although the tax rate is the same (18%), the tax base is equal to 80% of the contract value (the remaining 20% counting as tax deductible revenue) or even 50% of the contract value (the tax deductible revenue raises to 50% in the case of assignments where copyright ownership is transferred onto the contractor, e.g. whenever the assignment involves preparing articles, reports etc.).
South Korea	Same tax criteria and system applies to everyone depending on their annual gross income. However, if there are extra property incomes, extra tax should be paid.
Sweden	Sweden has comparatively high national income taxes, a welfare state, implying that many things are collectively financed, such as health insurance, schools, higher education (no tuition fees at any cycle), roads and motorways (only the bridges to Denmark and Norway are paid for by the users). The tax paid to municipalities (kommuner och landsting) includes a well developed subsidised childcare, cultural activities, hospitals and other health services etc.
Switzerland	Foreign academics with a B permit (the first 5 years) have their income tax automatically deducted from their gross salary. Once they shift to a C permit, taxes are to be paid every month and once a year an annual tax declaration allows to calculate if too much or too little has been paid.
United Kingdom	National insurance is deducted at source.
United States	Researchers are able to deduct from their total tax liability all professional expenses including expenses for conference attendance and those related to conducting research (that are not reimbursable by institution or external sources). Researchers can consider themselves as small businesses and deduct business expenses including automobile payments, mileage, home office expenses, etc. Researchers can deduct principal residence and second home mortgage interest and property taxes from their annual income tax liabilities.

Source: MORE II expert survey

## 8 APPENDIX: DESCRIPTIVE STATISTICS ON REMUNERATION OF NON-ACADEMIC RESEARCHERS USING SES DATA

Table 8.1: Gross annual earnings and hourly earnings of non-academic researchers in Cyprus (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	3258	40,500	6,763	17,349	30,119	41,215	56,221	84,304	122,469	19.9	7.31	9.16	14.2	20.36	27.27	38.43	66.34	27	
female	4263	32,005	6,968	15,634	27,501	35,531	46,064	63,590	80,880	16.61	6.1	7.83	13.23	19.44	23.57	34.92	39.05	29	
<b>Age</b>																			
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20-29	1376	21,251	4,369	7,640	18,295	25,015	30,555	34,888	44,026	11.63	5.08	6.93	9.18	11.68	17.28	19.96	24.26	21	
30-39	2419	31,890	10,961	17,780	27,792	34,764	38,663	55,429	89,818	16.11	6.79	8.63	13.03	18.31	22.23	26.63	49.15	24	
40-49	2077	41,143	12,981	20,857	34,432	42,972	52,327	74,710	107,986	20.45	7.07	10	17.07	21.91	26.95	34.16	58.63	29	
50-59	1528	52,725	18,335	29,388	47,164	56,643	64,134	88,657	130,746	25.96	9.12	14.2	22.12	28.47	34.18	39.05	58.45	29	
60+	121	45,844	-	-	38,846	57,237	68,423	-	-	23.25	-	-	19.64	28.47	35.06	-	-	29	
<b>Contract</b>																			
indefinite duration	6984	36,335	7,008	16,507	29,341	38,025	51,761	74,670	107,528	18.19	6.45	8.31	13.7	20.24	25.96	36.48	52.09	29	
temporary	537	25,894	-	12,949	24,300	28,786	31,188	37,754	-	16.06	-	9.16	14.96	17.15	18.45	22.23	-	60	
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Company Size</b>																			
<10	198	22,465	-	-	15,184	20,726	29,589	-	-	11.12	-	-	8.39	10.53	14.38	-	-	21	
10-49	517	28,163	-	8,988	18,997	29,165	42,506	68,086	26,414	14.06	-	6.71	9.92	14.1	20	31.97	-	21	
50-249	1255	35,222	5,272	14,244	23,877	34,284	50,371	77,842	106,789	17.11	6.37	7.65	11.47	15.96	23.97	35.06	53.09	24	
250-499	759	44,552	-	16,558	28,439	40,139	53,532	78,804	-	21.26	-	8.11	13.45	19.84	26.1	36.48	-	24	
500-999	743	35,390	-	10,616	21,100	28,645	45,671	85,661	-	16.54	-	7.45	9.74	12.85	20.8	38.43	-	21	
>999	4049	43,814	17,194	23,832	32,928	38,761	51,751	68,068	104,383	23.18	8.77	10.6	18.21	22.23	26.77	36.48	44.05	60	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.2: Gross annual earnings and hourly earnings of non-academic researchers in the Czech Republic (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month									Annual days of holiday leave	
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50			
<b>Gender</b>																					
male	143633	21,937	2,297	4,912	14,183	18,827	25,509	45,319	76,402	10.99	4.44	5.52	7.38	9.24	12.37	20.79	35.82	24			
female	161769	16,043	1,785	3,794	11,469	15,347	18,373	29,172	45,487	8.41	4.11	5	6.5	7.53	8.84	13.8	21.64	25			
<b>Age</b>																					
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
20-29	67278	13,785	1,434	2,714	7,194	12,777	17,132	27,413	42,162	7.81	3.77	4.52	5.63	6.63	8.51	13.46	20.88	21			
30-39	77826	20,839	2,217	4,638	12,958	16,406	23,031	43,610	79,288	10.55	4.45	5.41	6.68	7.99	11.39	20.85	38.01	25			
40-49	74249	21,123	3,076	6,679	14,853	17,150	22,251	39,031	65,501	10.33	4.89	6.02	7.23	8.11	10.64	17.88	30.1	27			
50-59	62459	21,035	3,134	7,379	15,607	18,164	23,392	38,979	60,606	10.24	5.01	6.27	7.71	8.67	11.01	17.59	26.65	26			
60+	23590	18,985	1,851	3,995	10,558	16,866	22,552	37,702	58,316	10.2	4.77	6.27	7.95	9.04	11.05	17.17	26.22	23			
<b>Contract</b>																					
indefinite duration	235477	20,265	2,537	5,850	14,153	17,293	22,681	40,008	67,151	10.12	4.51	5.55	7.1	8.33	11.03	18.65	31.29	25			
temporary	69925	14,679	1,450	2,673	6,530	12,647	17,379	30,009	46,206	8.35	3.83	4.66	5.93	7.18	8.85	13.4	20.56	21			
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
<b>Company Size</b>																					
<10	1655	16,762	1,736	3,340	8,408	13,240	16,498	24,104	55,405	8.65	2.67	3.72	5.47	6.82	8.02	11.52	21.40	24			
10-49	42933	16,690	1,979	4,038	11,626	15,013	16,886	20,905	26,414	8.57	4.19	5.12	6.52	7.33	8.06	9.68	12.15	40			
50-249	78798	18,677	1,954	4,061	11,876	15,410	17,806	25,537	40,692	9.53	4.24	5.16	6.62	7.53	8.51	11.73	18.99	35			
250-499	31259	20,781	1,776	3,736	11,903	17,117	23,978	43,194	73,001	10.7	3.93	5.01	6.71	8.6	11.52	20.1	35.53	22			
500-999	38153	20,245	1,856	3,953	12,006	17,201	24,001	43,546	80,170	10.35	4.07	5.11	6.77	8.54	11.37	20.05	36.70	23			
>999	112604	21,591	2,126	4,784	14,272	19,459	25,820	43,965	69,479	10.88	4.4	5.41	7.42	9.62	12.66	20.31	32.77	24			

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.3: Gross annual earnings and hourly earnings of non-academic researchers in Spain (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	21694	35,827	4,612	9,539	22,137	32,318	46,188	73,418	112,321	16.69	4.98	6.82	10.7	15.05	20.48	32.56	52.1	23	
female	21542	26,726	3,618	7,410	17,480	25,934	33,794	52,676	74,464	13.71	4.45	5.92	9.22	12.7	17.03	25.48	36.8	23	
<b>Age</b>																			
<20	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20-29	9277	19,584	2,931	5,079	12,066	18,743	25,961	37,163	53,353	10.69	4.18	5.26	7.63	9.83	12.83	18.95	27.39	22	
30-39	17551	29,527	4,598	9,381	19,877	27,468	36,604	59,283	82,687	14.26	4.78	6.57	9.83	13.08	17.19	26.45	39.17	23	
40-49	10009	38,006	6,379	12,996	26,260	34,641	47,547	73,295	107,922	17.86	5.11	7.73	12.55	16.63	21.56	32.75	50.65	24	
50-59	5179	42,648	8,432	17,006	30,318	38,151	51,960	77,605	111,471	20.15	5.29	9.02	14.64	18.37	23.37	34.6	53.62	25	
60+	1211	50,211	6,297	13,778	29,576	40,585	59,652	110,790	226,576	24.03	4.37	7.66	14.37	19.57	26.66	49.52	94.91	22	
<b>Contract</b>																			
indefinite duration	32485	33,950	6,425	12,184	22,861	31,296	42,494	69,058	100,098	15.78	5.03	6.86	10.59	14.67	19.47	30.37	45.43	23	
temporary	10751	22,141	2,925	4,935	11,530	19,871	29,018	48,240	79,276	13.14	4.24	5.27	8.24	11.3	15.68	26.66	45.38	22	
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Company Size</b>																			
<10	1393	21,071	3,229	5,313	12,225	17,878	25,105	44,980	69,477	10.47	3.75	4.44	6.66	8.98	11.77	20.84	33.05	21	
10-49	7878	25,808	3,303	6,198	15,184	22,420	31,014	52,667	26,414	12.77	4.28	5.38	8.11	11.02	15.94	24.48	36.90	21	
50-249	11174	31,439	4,091	8,187	19,183	27,330	36,345	62,648	93,853	15.44	4.91	6.49	9.72	13.59	18.23	27.25	42.53	22	
250-499	4035	33,788	4,793	9,655	22,054	30,863	43,286	69,253	104,439	15.47	5.11	6.95	10.46	13.9	18.92	29.87	41.96	23	
500-999	4617	36,531	4,346	9,487	22,974	32,828	45,623	73,033	108,832	17.16	5.31	7.27	10.96	15.13	20.74	33.07	50.17	24	
>999	14139	36,124	5,036	9,756	24,094	32,518	43,927	69,425	100,348	17.62	4.99	7.4	11.56	15.36	20.29	32.28	48.79	25	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.4: Gross annual earnings and hourly earnings of non-academic researchers in France (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	19199	40,804	5,821	17,273	29,123	38,690	53,032	85,561	132,620	20.02	8.26	10.79	14.56	18.41	24.42	40.58	66.85	35	
female	16670	29,969	3,829	12,483	22,671	28,339	35,280	56,970	83,108	15.82	6.87	9.33	12.62	15.33	18.52	28.58	43.61	39	
<b>Age</b>																			
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20-29	6248	24,227	2,900	6,239	19,396	23,649	30,570	42,125	54,880	12.67	5.97	8.45	10.82	12.63	15.05	21.17	32.61	32	
30-39	12599	32,468	5,312	15,469	24,500	31,050	41,854	62,207	86,602	16.44	7.67	10.15	13.16	15.57	19.66	29.52	46.36	36	
40-49	9543	40,046	7,362	20,634	29,032	36,772	52,271	81,634	123,807	20.03	9.05	11.9	15.33	18.41	24.2	38.36	64.5	37	
50-59	6681	43,158	6,329	20,794	30,879	38,590	55,780	92,204	133,541	21.81	8.58	12.63	16.59	19.9	26.39	43.51	63.25	39	
60+	798	53,920	-	14,895	33,690	46,649	71,659	132,033	-	27.93	-	12.56	19	25.6	35.68	61.33	-	39	
<b>Contract</b>																			
indefinite duration	32998	35,890	5,874	17,308	25,988	33,505	45,918	76,806	118,145	18.02	8.13	10.37	13.62	16.93	21.94	36.11	58.17	36	
temporary	2614	29,139	1,778	4,533	16,814	23,784	31,509	61,543	91,988	16.64	6.31	8.12	10.82	14.43	18.24	35.67	55.16	45	
apprentice	257	17,942	-	3,128	10,326	17,983	20,723	25,713	-	10.43	-	4.51	7.25	10.78	11.85	16.36	-	30	
<b>Company Size</b>																			
<10	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10-49	3106	33,593	2,998	11,601	22,131	30,113	41,942	79,785	26,414	17.27	7.33	9.05	12.42	16.16	22.18	39.78	64.85	25	
50-249	5382	36,963	4,617	14,370	25,078	33,615	46,212	78,218	125,917	18.29	7.12	9.62	13.34	16.87	22.47	37.48	62.99	30	
250-499	2453	37,697	4,328	15,063	26,737	35,961	49,229	82,423	132,936	17.96	6.68	10.26	13.76	17.3	22.52	38.43	61.71	31	
500-999	5702	36,696	5,863	16,511	26,233	33,594	46,474	78,787	118,114	18.09	7.34	10.44	13.73	16.84	21.67	36.91	57.25	33	
>999	19226	34,618	5,532	15,380	25,119	32,043	43,999	73,204	105,428	17.85	7.86	9.95	13.53	16.49	21.33	34.27	54.35	43	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.5: Gross annual earnings and hourly earnings of non-academic researchers in Hungary (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	59980	24,977	6,084	10,142	14,905	19,115	25,407	43,841	72,413	10.15	2.76	4.46	6.09	7.61	10.08	17.24	28.13	30	
female	162708	18,815	8,517	10,198	13,372	15,895	19,425	30,196	45,857	7.69	3.76	4.47	5.6	6.5	7.68	11.71	17.65	32	
<b>Age</b>																			
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	35961	16,819	6,084	8,913	10,718	12,672	16,731	26,617	40,338	7.08	2.76	4.13	4.62	5.25	6.86	10.46	16.53	24	
30-39	59127	21,479	7,501	10,192	12,440	14,481	18,833	32,817	57,391	8.82	3.28	4.51	5.24	5.91	7.56	13.04	22.7	30	
40-49	64248	21,311	9,197	12,524	14,583	16,544	20,036	31,399	51,874	8.6	3.99	5.4	6.06	6.62	7.87	12.11	20.08	34	
50-59	52861	23,124	9,674	14,326	16,584	19,043	23,564	35,846	55,202	9.25	4.25	6.07	6.78	7.51	9.19	13.68	20.64	36	
60+	10491	27,603	7,922	14,233	19,018	23,573	32,209	51,808	72,931	11.12	3.51	6.19	7.64	9.45	12.66	20.25	28.41	36	
<b>Contract</b>																			
indefinite duration	213091	21,384	7,927	10,386	13,807	16,616	21,004	34,209	55,107	8.69	3.48	4.53	5.75	6.72	8.31	13.19	21.26	32	
temporary	9597	17,443	6,259	8,816	10,644	13,058	18,513	35,469	54,661	7.43	2.76	4.13	4.67	5.62	7.75	14.47	22.25	28	
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Company Size</b>																			
<10	3170	16,815	4,753	5,891	10,784	13,636	16,760	28,898	53,174	7.17	2.15	2.52	4.75	5.83	6.95	12.05	22.73	30	
10-49	53917	16,359	6,495	9,660	12,747	15,108	17,718	25,956	26,414	6.81	2.94	4.32	5.38	6.24	7.08	10.49	16.20	32	
50-249	114533	19,475	8,701	10,429	13,757	16,509	20,303	30,457	46,268	7.89	3.85	4.52	5.68	6.66	7.95	11.75	18	33	
250-499	14706	24,725	7,605	10,571	15,027	19,858	26,490	43,827	67,537	10.05	3.37	4.62	6.3	8.05	10.33	16.97	28.25	31	
500-999	15044	26,046	8,604	10,647	15,070	19,676	27,265	51,874	89,793	10.45	3.76	4.69	6.26	7.94	10.76	19.67	32.54	30	
>999	21318	25,580	8,828	10,948	15,481	20,454	27,286	45,410	67,269	10.44	3.95	4.8	6.47	8.23	10.67	17.63	26.07	30	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.6: Gross annual earnings and hourly earnings of non-academic researchers in Ireland (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month									Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50		
<b>Gender</b>																				
male	5517	50,243	5,791	11,903	30,026	42,895	58,012	98,618	156,484	29.86	6.73	9.9	15.91	22.66	32.75	60.8	89	-		
female	7154	39,244	4,620	9,510	25,429	35,720	46,808	66,653	101,190	24.19	6.11	9.04	14.87	19.85	27.81	45.42	70.29	-		
<b>Age</b>																				
<20	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
20-29	3131	28,594	3,931	7,375	18,087	27,298	34,346	52,256	71,799	18.04	5.79	7.61	11.55	15.3	19.36	31.53	42.96	-		
30-39	4492	41,613	6,065	14,355	29,799	38,513	48,225	75,902	120,327	23.85	7.29	10.42	16.07	20.55	27.13	41.37	67.01	-		
40-49	2791	50,131	6,063	16,402	34,259	45,747	56,741	92,457	149,072	30.04	8.07	11.63	18.73	25.31	33.85	56.99	83.84	-		
50-59	1864	54,989	5,956	16,645	37,662	50,661	60,821	102,210	173,727	35.31	6.83	11.69	20.64	29.61	42.63	73.97	100.58	-		
60+	372	58,503	-	10,046	35,295	52,244	68,211	138,021	-	37.64	-	10.56	20.32	31.58	46.86	81.45	-	-		
<b>Contract</b>																				
indefinite duration	12063	44,379	5,276	11,892	28,371	39,257	52,009	81,900	138,837	26.82	6.87	9.84	15.65	21.33	30.21	50.71	81.45	-		
temporary	449	25,515	-	6,444	13,766	23,680	31,101	49,956	-	17.69	-	7.64	11.95	15.91	18.8	29.78	-	-		
apprentice	158	15,836	-	-	8,531	13,107	18,279	-	-	11.18	-	-	6.69	8.56	10.52	-	-	-		
<b>Company Size</b>																				
<10	796	33,138	-	6,611	17,374	27,446	39,815	74,455	-	18.19	-	6.97	10.92	14.86	21.14	39.67	-	-		
10-49	2015	36,873	4,409	8,277	20,288	30,249	43,084	77,159	26,414	19.53	5.88	7.61	11.66	16.17	22.34	40.07	100.58	-		
50-249	1958	39,994	5,840	12,125	26,953	36,837	51,282	83,316	141,840	21.34	7.12	9.27	14.11	18.72	26.28	46.29	68.51	-		
250-499	944	43,739	-	10,608	28,465	39,460	53,060	87,981	-	24.76	-	10.2	14.94	20.09	29.56	65.73	-	-		
500-999	1733	42,610	4,415	10,127	28,609	40,327	54,730	80,154	138,021	27.44	9.01	11.02	16.77	23.39	33.75	57.63	84.41	-		
>999	5225	44,620	6,383	13,457	31,670	42,373	52,794	80,807	137,909	27.03	6.99	11.83	18.21	24.12	32.35	51.31	81.45	-		

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).



Table 8.7: Gross annual earnings and hourly earnings of non-academic researchers in Italy (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year								Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50
<b>Gender</b>																		
male	7476	44,502	6,258	17,856	30,058	40,658	52,381	100,668	139,635	23.62	7.43	9.52	15.07	21.74	29.42	47.12	64.69	28
female	9239	35,524	6,711	17,349	27,307	34,219	40,651	60,222	95,279	21.5	7.4	9.91	16.11	19.7	25.89	32.8	48.87	29
<b>Age</b>																		
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	807	21,884	-	6,912	18,212	23,749	27,974	38,943	-	11.37	-	7	9.14	11.02	14.75	21.79	-	21
30-39	4867	29,977	4,993	14,584	25,206	30,106	38,248	58,395	83,214	16.82	7.16	8.88	12.71	16.66	19.67	28.33	47.23	26
40-49	5500	38,601	9,325	20,659	29,097	36,090	45,368	80,826	110,218	21.61	8.84	11.05	17.31	19.76	25.35	34.51	49.14	29
50-59	4814	45,940	14,039	26,337	36,903	41,605	47,618	97,474	132,627	27.08	9.74	14.16	20.65	27.49	31.32	47.11	55.59	29
60+	727	53,348	-	27,825	39,688	46,387	78,231	134,532	-	31.9	-	15.76	22.39	32.76	45.55	67.87	-	29
<b>Contract</b>																		
indefinite duration	15425	40,171	9,009	19,479	29,634	37,315	45,810	87,096	123,286	22.73	7.73	10.04	15.95	20.38	28.23	43.17	52.8	29
temporary	1271	24,907	1,166	6,417	19,879	25,146	28,453	45,914	80,940	17.58	5.84	7.77	13.63	17.9	21.85	27.63	38.14	25
apprentice	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Company Size</b>																		
<10	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-49	1219	27,413	3,338	7,163	19,581	27,788	39,070	65,751	26,414	13.46	6.17	7.21	9.82	12.81	18.49	30.04	52.44	21
50-249	1591	33,541	1,602	11,796	23,846	31,744	43,390	68,059	103,880	15.93	7.12	8.19	11.66	14.64	19.29	30.49	50.09	23
250-499	1525	41,988	8,420	18,404	27,612	37,381	48,782	84,997	143,670	18.67	7.69	9.36	12.68	16.42	21.9	37.05	60.87	25
500-999	1239	42,634	11,113	21,047	29,597	38,978	48,257	80,359	134,784	20.07	8.84	10.19	14.29	18.26	23.08	38.13	55.18	26
>999	11141	39,519	9,669	21,151	29,776	37,219	44,916	89,370	120,471	23.32	8.92	11.91	18.27	21.85	30.19	45.11	49.2	29

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.8: Gross annual earnings and hourly earnings of non-academic researchers in Lithuania (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	10448	13,340	1,268	2,821	6,197	11,584	17,204	32,058	55,336	7.02	1.82	1.84	3.79	6.31	8.57	15.15	26.89	19	
female	22984	10,902	1,338	2,873	6,430	9,949	13,613	23,097	37,548	6.11	1.82	1.84	3.82	5.78	7.46	11.47	18.51	20	
<b>Age</b>																			
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	6674	9,731	924	1,812	4,354	8,123	13,065	23,195	34,747	5.76	1.82	1.84	3.32	5.21	7.09	11.69	17.81	10	
30-39	8587	11,875	1,416	2,892	6,323	10,338	14,916	28,731	46,024	6.48	1.82	1.84	3.79	5.96	7.68	13.79	22.16	20	
40-49	9302	12,064	1,730	3,445	6,966	10,792	14,665	26,489	50,036	6.49	1.82	1.84	3.94	6.1	7.73	12.64	23.93	20	
50-59	6324	12,384	1,828	3,691	7,586	11,227	15,016	26,103	49,457	6.66	1.82	1.87	4.14	6.27	7.85	12.55	24.27	21	
60+	2543	12,444	2,370	3,697	7,561	11,084	15,232	26,642	41,659	6.75	1.82	1.95	4.21	6.45	8.11	12.87	21.02	20	
<b>Contract</b>																			
indefinite duration	31423	11,647	1,299	3,002	6,461	10,377	14,496	26,247	44,910	6.36	1.82	1.84	3.76	5.95	7.67	12.65	21.64	20	
temporary	2007	11,638	1,118	2,034	4,111	9,044	14,926	27,665	43,878	6.8	1.82	2.33	4.21	5.94	8.04	13.41	22.95	14	
apprentice	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Company Size</b>																			
<10	3116	7,756	863	1,624	3,679	4,831	8,935	22,738	45,521	4.38	1.82	1.82	1.84	2.91	5.09	12.11	23.61	0	
10-49	7272	9,774	1,057	2,224	4,415	7,833	11,882	23,567	26,414	5.63	1.82	1.83	2.76	4.6	6.91	12.26	21.51	15	
50-249	12855	11,723	1,750	3,455	7,453	10,795	14,027	24,234	42,501	6.69	1.83	2.45	4.44	6.52	7.76	11.78	19.83	20	
250-499	3530	14,623	1,727	4,117	8,669	12,428	17,109	29,076	51,506	7.59	1.91	2.61	4.54	6.26	8.34	13.46	25.73	20	
500-999	2773	14,019	2,343	4,068	8,985	12,868	17,018	26,688	55,590	7.13	1.84	2.98	4.85	6.41	8.26	13.7	28.14	20	
>999	3886	14,811	1,715	3,254	9,058	13,472	18,635	31,475	44,910	7.43	2.21	3.08	4.8	6.62	9.09	14.76	21.4	20	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.9: Gross annual earnings and hourly earnings of non-academic researchers in Luxembourg (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	3469	54,712	7,301	13,429	35,324	49,659	66,350	105,909	165,025	24.45	10.06	12.35	17.07	21.98	28.28	42.97	63.68	25	
female	2069	48,911	6,733	11,572	32,589	45,951	61,917	90,357	125,374	22.7	9.56	11.84	15.87	20.76	26.99	38.92	50.58	25	
<b>Age</b>																			
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20-29	1295	32,905	5,446	8,112	20,546	32,743	42,619	58,542	83,852	17.17	8.75	10.41	13.19	15.79	19.31	26.19	38.09	25	
30-39	2608	52,594	8,836	17,840	37,123	48,898	61,935	90,816	136,784	23.44	10.95	13.38	17.75	21.63	26.68	36.54	51.47	25	
40-49	1247	66,162	12,130	25,272	48,640	62,691	80,522	116,815	165,025	28.47	11.53	14.44	21.66	27.04	33.54	46.5	61.5	25	
50-59	354	73,403	-	26,872	47,887	67,027	87,427	136,190	-	32.82	-	15.97	22.62	29.06	38.71	61	-	25	
60+	34	78,870	-	-	-	70,830	-	-	-	36.33	-	-	-	31.36	-	-	-	25	
<b>Contract</b>																			
indefinite duration	5310	53,059	7,793	13,868	35,324	49,085	65,345	99,221	149,100	23.75	10.02	12.28	16.77	21.66	28	41.08	58.86	25	
temporary	222	41,834	-	6,678	13,294	25,071	39,947	88,638	-	25.1	-	10.29	14.41	17.25	22.39	41.18	-	25	
apprentice	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Company Size</b>																			
<10	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10-49	1213	45,648	6,733	11,636	29,498	40,553	56,587	89,859	26,414	21.36	9.13	10.73	15.01	19.3	25.41	38.09	57.74	25	
50-249	1643	52,651	7,044	11,917	34,059	47,156	62,645	95,528	169,262	24.18	10.18	12.21	16.34	21.51	27.28	39.99	64.95	25	
250-499	1030	53,568	6,355	12,773	34,939	48,826	67,882	104,257	132,042	23.49	11.04	12.71	16.49	21.41	28.34	41.28	49.29	25	
500-999	898	54,666	-	13,674	40,425	53,692	67,477	96,642	-	24.29	-	13.41	18.63	22.94	28.63	39.18	-	25	
>999	754	59,087	-	13,294	40,425	55,120	73,357	116,759	-	26.31	-	13.04	18.7	23.07	31.32	50.96	-	27	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.10: Gross annual earnings and hourly earnings of non-academic researchers in Latvia (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	18515	14,442	1,172	2,655	6,117	11,142	17,077	35,499	59,998	6.97	1.27	1.45	3.37	5.4	8.25	16.47	26.9	20	
female	46449	11,584	1,300	2,685	6,427	10,355	14,249	25,713	41,933	5.93	1.27	1.67	3.55	5.17	7.3	12.32	19.52	21	
<b>Age</b>																			
<20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	12754	11,709	1,005	2,125	5,275	9,727	15,010	28,754	44,973	6.1	1.27	1.62	3.47	5.12	7.37	13.42	20.8	20	
30-39	16085	13,086	1,300	2,700	6,542	10,750	15,217	32,014	52,825	6.51	1.27	1.67	3.57	5.4	7.82	14.55	24.6	20	
40-49	17713	12,621	1,382	2,702	6,707	10,782	14,746	28,411	48,461	6.2	1.27	1.57	3.55	5.25	7.47	13.35	22.27	23	
50-59	12282	12,213	1,520	2,740	6,857	10,836	14,692	26,494	45,243	6.14	1.27	1.6	3.55	5.32	7.47	12.65	21.25	23	
60+	6125	12,055	1,489	2,710	6,267	10,022	14,517	25,999	43,641	6.08	1.27	1.42	3.12	4.95	7.27	12.77	21.50	23	
<b>Contract</b>																			
indefinite duration	60806	12,381	1,400	2,700	6,590	10,690	14,949	28,831	48,203	6.14	1.27	1.6	3.55	5.22	7.45	13.37	21.72	20	
temporary	4126	12,939	675	1,500	3,777	7,500	13,314	28,261	51,404	7.61	1.27	1.42	3.1	5.62	8.37	16.42	30.00	20	
apprentice	32	4,709	-	-	-	2,147	-	-	-	3.50	-	-	-	1.70	-	-	-	0	
<b>Company Size</b>																			
<10	2602	7,634	759	1,575	2,740	4,455	8,750	21,327	43,428	4.1	1.25	1.27	1.42	2.5	4.97	11.25	22.15	20	
10-49	15767	11,196	1,088	2,362	5,000	8,790	13,357	26,911	26,414	5.73	1.27	1.42	2.85	4.5	7.02	12.97	23.45	20	
50-249	33123	12,867	1,335	2,779	6,857	10,832	14,809	27,656	47,473	6.52	1.27	1.85	3.72	5.55	7.67	13.45	21.7	21	
250-499	5204	14,482	1,670	3,270	8,220	12,073	17,224	31,039	48,137	6.96	1.32	2.15	3.97	5.55	7.82	14.3	24.30	21	
500-999	3411	15,383	2,327	4,132	8,900	12,387	17,229	36,429	53,580	6.98	1.52	2.72	4.17	5.67	7.92	14.2	23.92	22	
>999	4857	14,082	1,860	3,700	8,830	12,632	17,667	32,201	43,493	7.09	1.7	2.75	4.25	6.05	8.35	14.45	19.42	25	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.11: Gross annual earnings and hourly earnings of non-academic researchers in Norway (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	122681	46,221	23,211	28,850	35,187	40,875	53,131	77,671	103,830	23.39	12.05	14.88	17.97	20.76	26.64	38.69	52.38	25	
female	157455	37,141	22,646	27,010	31,522	35,158	38,936	55,637	75,197	19.03	11.77	14.03	16.28	18.07	19.96	27.89	37.5	25	
<b>Age</b>																			
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	33716	33,482	19,553	23,582	28,291	31,112	35,901	49,911	68,705	16.96	10.11	12.22	14.6	16.02	18.08	24.2	32.67	25	
30-39	90421	40,706	22,869	27,414	31,719	35,359	44,533	65,394	87,688	20.72	11.89	14.21	16.34	18.17	22.44	32.36	44.59	25	
40-49	70334	44,490	25,568	29,220	34,394	38,021	48,501	73,679	98,135	22.65	13.27	15.15	17.69	19.51	24.51	36.81	49.19	25	
50-59	62297	43,488	27,099	30,392	35,273	37,801	44,626	72,121	94,364	22.17	14.06	15.76	18.14	19.4	22.6	35.99	46.88	25	
60+	23368	44,036	27,054	30,702	35,562	38,467	46,006	72,327	92,466	22.47	14.04	15.99	18.26	19.74	23.34	36.07	45.87	25	
<b>Contract</b>																			
indefinite duration	262054	41,654	23,147	27,808	32,818	36,908	44,414	69,261	92,214	21.21	12.02	14.38	16.88	18.92	22.48	34.55	46.19	25	
temporary	16759	38,938	20,191	25,119	29,975	34,662	43,636	68,340	88,867	19.65	10.54	13.11	15.63	17.88	21.85	32.7	42.16	25	
apprentice	1300	46,565	25,799	30,551	38,587	45,402	53,576	69,054	78,887	23.13	13.28	15.67	19.69	22.85	26.43	32.36	36.06	25	
<b>Company Size</b>																			
<10	4299	39,476	18,459	24,122	29,842	35,173	43,408	66,669	96,175	20.41	9.46	12.40	15.39	18.08	22.36	34.62	50.00	23	
10-49	22954	41,469	21,125	26,028	31,150	36,104	44,351	68,652	26,414	21.29	10.92	13.41	16.05	18.54	22.81	35.34	49.55	23	
50-249	54623	41,774	23,085	27,822	32,921	36,496	43,320	66,211	92,748	21.38	12	14.38	16.9	18.72	22.12	33.66	47.83	25	
250-499	29218	40,492	24,456	28,198	33,113	36,789	43,009	63,292	80,461	20.56	12.65	14.5	16.93	18.81	21.69	31.71	40.62	25	
500-999	38033	43,119	23,702	28,573	33,979	37,809	47,137	69,137	91,968	21.74	12.18	14.69	17.33	19.31	23.49	34.17	46.17	25	
>999	131009	41,525	23,090	27,681	32,342	36,871	44,534	71,239	92,788	21.03	12.05	14.32	16.77	18.94	22.47	35.13	45.63	25	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.12: Gross annual earnings and hourly earnings of non-academic researchers in Poland (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year								Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50
<b>Gender</b>																		
male	59178	20,749	2,661	6,491	12,083	17,242	25,630	46,976	75,347	11.24	2.52	4.12	6.95	10.04	13.92	22.61	35.93	25
female	99121	15,879	2,363	5,851	10,746	14,314	18,444	32,045	49,408	10.65	2.76	4.02	6.67	9.93	13.91	18.85	25.09	28
<b>Age</b>																		
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	34036	12,936	1,928	3,168	8,130	10,717	14,937	27,083	43,301	7.58	2.34	3.22	4.92	6.78	9.18	13.87	21.39	20
30-39	52392	18,081	2,866	6,878	11,452	14,865	20,358	38,771	64,245	10.91	3.01	4.38	6.9	10.07	13.52	19.5	30.33	27
40-49	40143	18,797	3,510	8,401	13,296	16,362	20,860	38,388	59,981	12.69	3.64	5.3	8.76	12.71	15.85	20.74	29.32	32
50-59	25609	20,826	3,993	8,445	13,800	17,890	24,840	45,049	66,878	12.28	3.01	5.06	8.09	11.6	15.47	22.48	33.46	28
60+	6098	23,245	4,046	6,947	13,895	20,578	30,748	53,632	79,319	12.68	2.51	4.39	8.11	11.79	16.02	26.64	39.60	26
<b>Contract</b>																		
indefinite duration	121617	19,040	5,283	8,269	12,449	15,997	21,725	40,530	64,171	11.41	3.01	4.43	7.26	10.66	14.54	20.67	31.18	28
temporary	36682	13,384	1,882	2,670	7,606	11,139	16,401	31,547	51,126	9.11	2.38	3.36	5.55	8.12	11.98	17.66	25.38	17
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Company Size</b>																		
<10	1888	14,019	1,987	3,533	8,476	12,752	17,312	28,868	45,167	9.41	2.26	2.76	5.74	9.03	13.54	18.48	23.70	24
10-49	54315	14,287	2,058	3,739	9,811	13,439	16,768	25,325	26,414	11.05	2.50	3.96	7.63	11.49	14.6	18.68	24.18	32
50-249	47288	17,062	2,828	6,614	11,225	14,896	19,422	35,636	56,571	10.84	2.71	3.97	6.61	9.83	14.02	19.68	27.85	27
250-499	11946	20,135	5,299	7,739	12,037	16,878	24,243	43,091	64,646	9.61	2.85	3.97	6.03	8.17	11.52	19.95	31.50	25
500-999	13024	21,240	6,040	8,319	12,490	17,609	25,784	44,649	72,279	10.26	3.11	4.14	6.17	8.46	12.22	21.81	35.87	24
>999	29838	24,356	6,636	8,994	13,649	20,248	28,982	50,112	76,013	11.64	3.31	4.53	6.72	9.7	13.63	23.84	36.82	26

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.13: Gross annual earnings and hourly earnings of non-academic researchers in Portugal (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year									Average gross hourly earnings in the reference month									Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50		
<b>Gender</b>																				
male	59178	20,749	2,661	6,491	12,083	17,242	25,630	46,976	75,347	11.24	2.52	4.12	6.95	10.04	13.92	22.61	35.93	25		
female	99121	15,879	2,363	5,851	10,746	14,314	18,444	32,045	49,408	10.65	2.76	4.02	6.67	9.93	13.91	18.85	25.09	28		
<b>Age</b>																				
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
20-29	34036	12,936	1,928	3,168	8,130	10,717	14,937	27,083	43,301	7.58	2.34	3.22	4.92	6.78	9.18	13.87	21.39	20		
30-39	52392	18,081	2,866	6,878	11,452	14,865	20,358	38,771	64,245	10.91	3.01	4.38	6.9	10.07	13.52	19.5	30.33	27		
40-49	40143	18,797	3,510	8,401	13,296	16,362	20,860	38,388	59,981	12.69	3.64	5.3	8.76	12.71	15.85	20.74	29.32	32		
50-59	25609	20,826	3,993	8,445	13,800	17,890	24,840	45,049	66,878	12.28	3.01	5.06	8.09	11.6	15.47	22.48	33.46	28		
60+	6098	23,245	4,046	6,947	13,895	20,578	30,748	53,632	79,319	12.68	2.51	4.39	8.11	11.79	16.02	26.64	39.60	26		
<b>Contract</b>																				
indefinite duration	121617	19,040	5,283	8,269	12,449	15,997	21,725	40,530	64,171	11.41	3.01	4.43	7.26	10.66	14.54	20.67	31.18	28		
temporary	36682	13,384	1,882	2,670	7,606	11,139	16,401	31,547	51,126	9.11	2.38	3.36	5.55	8.12	11.98	17.66	25.38	17		
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Company Size</b>																				
<10	1888	14,019	1,987	3,533	8,476	12,752	17,312	28,868	45,167	9.41	2.26	2.76	5.74	9.03	13.54	18.48	23.70	24		
10-49	54315	14,287	2,058	3,739	9,811	13,439	16,768	25,325	26,414	11.05	2.50	3.96	7.63	11.49	14.6	18.68	24.18	32		
50-249	47288	17,062	2,828	6,614	11,225	14,896	19,422	35,636	56,571	10.84	2.71	3.97	6.61	9.83	14.02	19.68	27.85	27		
250-499	11946	20,135	5,299	7,739	12,037	16,878	24,243	43,091	64,646	9.61	2.85	3.97	6.03	8.17	11.52	19.95	31.50	25		
500-999	13024	21,240	6,040	8,319	12,490	17,609	25,784	44,649	72,279	10.26	3.11	4.14	6.17	8.46	12.22	21.81	35.87	24		
>999	29838	24,356	6,636	8,994	13,649	20,248	28,982	50,112	76,013	11.64	3.31	4.53	6.72	9.7	13.63	23.84	36.82	26		

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.14: Gross annual earnings and hourly earnings of non-academic researchers in Romania (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year								Average gross hourly earnings in the reference month								Annual days of holiday leave	
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	20987	13,744	1,845	2,727	6,817	11,271	17,151	35,045	54,331	6.4	1.19	1.48	3.33	5.28	7.82	16.18	23.4	22	
female	24276	12,936	1,875	2,920	7,043	11,108	16,322	33,216	48,582	6.08	1.19	1.61	3.42	5.18	7.49	15.4	21.95	24	
<b>Age</b>																			
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20-29	10394	10,418	1,180	2,409	5,126	8,082	13,302	27,375	43,129	5.08	1.19	1.29	2.61	3.98	6.43	12.76	19.47	21	
30-39	14930	13,099	2,184	3,033	7,038	10,863	16,734	36,904	53,654	6.09	1.19	1.61	3.37	5.03	7.76	16.91	23.77	22	
40-49	9794	13,914	2,301	3,407	8,103	12,171	17,343	33,538	50,782	6.48	1.19	1.74	3.86	5.6	7.84	15.53	22.23	25	
50-59	8797	14,951	2,431	4,289	9,432	13,457	18,011	34,969	53,088	6.94	1.19	2.26	4.44	6.1	8.07	16.6	23.02	25	
60+	1348	17,210	2,250	2,623	7,710	13,653	19,801	42,743	57,316	7.82	1.19	1.29	3.75	6.19	8.71	18.90	28.58	25	
<b>Contract</b>																			
indefinite duration	44515	13,426	1,902	2,802	7,009	11,250	16,796	34,158	50,822	6.27	1.19	1.61	3.41	5.26	7.66	15.93	22.76	23	
temporary	748	7,775	-	1,809	4,576	6,805	10,818	22,544	-	4.07	-	1.39	2.65	3.58	5.62	11.91	-	21	
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Company Size</b>																			
<10	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10-49	12538	8,893	1,218	2,409	4,772	8,315	13,412	27,769	26,414	4.34	1.19	1.19	2.54	4.04	6.27	12.91	22.28	21	
50-249	15584	13,414	2,130	3,374	7,470	11,861	17,779	37,409	51,870	6.23	1.19	1.79	3.55	5.47	7.96	17.13	23.02	22	
250-499	5397	15,846	2,431	3,988	8,163	12,440	18,853	40,117	57,317	7.44	1.19	2.14	3.9	5.83	8.84	17.98	28.02	24	
500-999	2832	15,955	2,522	4,663	9,052	13,341	19,411	35,439	53,654	7.65	1.19	2.38	4.42	6.23	9.44	17.13	23.75	24	
>999	8912	13,391	2,429	5,181	8,451	12,273	16,769	29,624	45,723	6.2	1.77	2.6	4.04	5.62	7.59	13.35	20.55	28	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).



Table 8.15: Gross annual earnings and hourly earnings of non-academic researchers in Sweden (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year								Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50
<b>Gender</b>																		
male	31890	36,665	7,710	14,889	25,903	31,899	41,286	66,233	107,464	17.55	9.04	10.42	12.88	15.27	19.52	29.77	42.76	-
female	46271	28,766	6,756	12,624	22,486	26,197	30,932	48,817	80,321	13.98	9.02	10.03	11.38	12.83	14.76	21.29	29.62	-
<b>Age</b>																		
<20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	7863	23,535	4,713	7,708	17,101	22,242	26,851	37,943	73,554	12.28	7.73	9.01	10.3	11.37	13.1	16.74	21.87	-
30-39	20996	30,520	6,780	11,768	21,942	26,475	33,888	51,662	89,806	15.02	9.05	10.05	11.44	13.25	16.48	23.33	32.4	-
40-49	21303	34,426	7,990	17,096	23,976	28,433	37,025	61,310	103,434	16.37	9.55	10.47	11.99	13.8	17.59	27.45	38.87	-
50-59	20756	34,428	9,625	20,556	25,716	29,593	36,671	62,137	91,547	16.29	10.05	10.89	12.55	14.11	17.1	28.23	37.74	-
60+	7242	35,487	13,646	21,767	26,934	30,561	37,709	63,066	96,586	16.42	10.07	11.22	13	14.48	17.28	28.33	37.12	-
<b>Contract</b>																		
indefinite duration	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
temporary	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
apprentice	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Company Size</b>																		
<10	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-49	10642	32,795	6,865	10,911	23,340	28,459	35,307	52,965	26,414	16.34	8.76	10.07	12.01	14.01	17.3	25.39	36.92	-
50-249	3849	34,582	7,151	11,486	24,252	30,274	37,966	58,024	98,220	17.29	9.24	10.46	12.66	14.94	18.7	27.5	41.49	-
250-499	3146	34,480	8,110	12,991	25,101	31,258	39,165	57,579	84,368	16.94	9.51	10.49	12.73	15.08	18.77	26.88	37.70	-
500-999	5731	32,826	5,781	11,472	23,911	29,766	37,737	57,545	93,615	16.04	8.44	10.28	12.13	14.42	18.08	26.43	36.96	-
>999	54793	31,493	7,230	15,034	23,309	27,583	34,063	59,287	94,534	14.91	9.13	10.1	11.63	13.29	15.92	25.92	35.2	-

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.16: Gross annual earnings and hourly earnings of non-academic researchers in Finland (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year								Average gross hourly earnings in the reference month								Annual days of holiday leave
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50
<b>Gender</b>																		
male	19226	33,783	5,602	13,452	23,920	32,148	44,151	74,104	113,877	15.77	4.11	7.43	11.13	14.79	20.19	32.46	49.52	29
female	23842	27,813	4,490	9,052	20,483	27,671	35,971	60,161	91,089	13.25	1.52	5.92	9.81	12.8	16.7	26.31	38.71	29
<b>Age</b>																		
<20	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-29	6888	18,387	3,265	5,083	13,888	20,120	24,969	37,193	53,560	9.65	1.34	5.08	8.08	9.82	11.73	17.11	24.19	24
30-39	15206	28,167	5,807	11,170	21,277	27,585	36,048	58,442	84,207	13.36	1.86	6.74	10.23	12.91	16.65	25.74	37.48	27
40-49	12383	34,016	8,785	17,098	26,111	33,127	43,935	73,465	113,764	15.76	3.97	8.04	11.96	15.36	20.04	31.21	48.09	30
50-59	7576	36,286	11,430	18,357	27,829	35,426	48,085	78,589	124,035	16.76	3.94	7.96	12.6	16.42	22.12	33.5	52.06	36
60+	1015	48,049	15,110	21,509	35,026	49,633	67,658	95,576	189,448	21.58	5.20	9.20	16.01	22.67	29.57	41.32	73.97	37
<b>Contract</b>																		
indefinite duration	34863	32,298	7,813	15,098	23,669	31,217	41,841	70,341	105,130	15.01	2.78	7.28	10.96	14.39	19.15	30.5	45.82	30
temporary	7501	22,364	3,814	6,442	16,851	22,877	30,197	52,329	80,337	11.41	1.50	5.71	9.2	11.13	14.39	22.84	33.82	26
apprentice	704	9,489	-	3,194	4,976	8,601	13,150	21,025	-	6.89	-	1.74	5.90	6.86	8.01	11.98	-	21
<b>Company Size</b>																		
<10	144	22,464	-	-	11,259	16,666	25,756	-	-	10.89	-	-	5.53	8.41	13.67	-	-	24
10-49	1577	27,350	4,578	7,973	19,263	26,846	33,028	48,976	26,414	13.22	1.46	5.54	9.5	12.75	15.99	23.14	33.36	29
50-249	11403	30,218	5,180	10,164	22,144	29,178	36,414	62,752	88,267	14.46	2.38	6.75	10.72	13.86	17.16	28.48	41.02	29
250-499	8725	32,601	5,143	11,302	21,444	29,538	40,810	65,268	93,087	15.11	2.41	6.37	10.15	13.59	18.6	28.9	42.07	29
500-999	8820	33,314	4,933	10,536	21,430	29,314	41,370	76,555	137,003	14.72	1.69	6.49	9.84	13.02	18.28	30.06	48.21	29
>999	12399	33,490	4,542	11,424	22,537	30,353	42,281	69,343	101,692	15.72	2.22	7.01	10.6	14.04	19.46	30.66	46.86	30

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

Table 8.17: Gross annual earnings and hourly earnings of non-academic researchers in Slovakia (2006, in PPP €)

Subsample	Number of Observations	Gross annual earnings in the reference year								Average gross hourly earnings in the reference month								Annual days of holiday leave	
		Mean	p1	p5	p25	p50	p75	p95	p99	Mean	p1	p5	p25	p50	p75	p95	p99	p50	
<b>Gender</b>																			
male	51436	13,869	2,252	3,993	8,697	12,478	17,934	33,053	54,157	7.25	2.2	3.09	4.75	6.31	8.85	16.34	27.65	23	
female	51364	10,216	2,032	3,287	7,454	9,765	13,233	22,303	34,715	5.49	2.43	3.11	4.13	5.05	6.62	11.2	18.08	25	
<b>Age</b>																			
<20	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20-29	22632	9,662	1,718	2,544	5,764	8,910	13,204	22,424	34,815	5.46	2.11	2.84	3.83	5.04	6.83	11.32	17.21	18	
30-39	29760	12,735	2,257	3,988	7,981	11,125	16,836	32,057	52,998	6.66	2.2	2.97	4.3	5.63	8.24	15.95	27.1	23	
40-49	25525	12,644	2,605	5,078	8,665	11,227	15,838	29,205	47,802	6.51	2.5	3.29	4.49	5.64	7.79	14.51	25.01	26	
50-59	20442	12,204	2,698	5,059	9,141	11,736	15,991	27,503	42,233	6.38	2.76	3.55	4.72	5.94	7.86	13.95	22.57	27	
60+	4436	11,233	2,464	3,847	8,278	11,959	15,561	25,577	41,220	6.19	2.57	3.27	4.87	6.3	7.86	13.50	20.63	26	
<b>Contract</b>																			
indefinite duration	91768	12,222	2,257	4,004	8,176	11,201	16,028	29,098	46,664	6.39	2.32	3.12	4.41	5.68	7.88	14.53	23.95	24	
temporary	10977	8,818	1,661	2,427	5,392	8,884	11,914	18,900	30,261	5.36	2.30	2.95	4.04	5.06	6.46	10.17	16.89	21	
apprentice	55	4,386	-	-	3,083	3,767	5,186	-	-	4.75	-	-	3.61	4.41	5.60	-	-	7	
<b>Company Size</b>																			
<10	279	12,725	-	3,290	6,503	9,530	15,191	33,616	-	6.39	-	2.19	3.58	4.71	7.14	15.78	-	20	
10-49	4234	11,523	2,020	3,094	7,043	9,219	12,491	26,102	26,414	6.11	2.02	2.79	3.94	4.7	6.32	12.91	22.72	24	
50-249	20410	10,981	1,948	3,181	7,481	9,562	13,601	29,962	45,502	5.92	2.24	3.08	4.1	4.93	6.95	14.95	23.42	25	
250-499	18169	11,645	1,979	3,548	6,958	9,798	13,916	26,525	52,559	6.26	2.04	2.62	3.91	5.21	7.09	13.97	27.88	23	
500-999	16701	12,462	2,074	3,412	7,483	11,307	15,460	25,001	40,309	6.47	2.36	2.97	4.28	5.64	7.39	12.73	20.63	22	
>999	43007	14,086	2,332	4,083	9,165	12,163	17,114	29,391	44,957	7.27	2.9	3.56	4.84	6.16	8.41	14.46	22.83	24	

Source: Eurostat - Structure of Earnings Survey 2006, own calculations. Table displays mean and percentiles (p1-p99).

## 9 APPENDIX: SALARY DATA OF UNIVERSITY RESEARCHERS BY COUNTRY – A LITERATURE SURVEY

Table 9.1: Salary data of university researchers by country – A literature survey

Australia					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Lecturer	3810	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Professor	6570	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Lecturer	59000	PPP US\$	Average annual salary 2008	Coates et al. (2009)	
Senior lecturer	71200	PPP US\$	Average annual salary 2008	Coates et al. (2009)	
Associate Professor	83700	PPP US\$	Average annual salary 2008	Coates et al. (2009)	
Professor	102300	PPP US\$	Average annual salary 2008	Coates et al. (2009)	
Associate Lecturer	45000	PPP US\$	Average annual gross salary 2005-08	Deloitte (2008)	
Lecturer	59000	PPP US\$	Average annual gross salary 2005-08	Deloitte (2008)	
Senior Lecturer	71200	PPP US\$	Average annual gross salary 2005-08	Deloitte (2008)	
Associate Professor	83700	PPP US\$	Average annual gross salary 2005-08	Deloitte (2008)	
Professor (minimum)	102300	PPP US\$	Average annual gross salary 2005-08	Deloitte (2008)	
Assistant Lecturer	31136	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Assistant Lecturer	37007	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	middle of scale
Assistant Lecturer	41997	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	maximum
Lecturer	44198	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Lecturer	48255	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	middle of scale
Lecturer	52446	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	maximum
Senior Lecturer	54093	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Senior Lecturer	58134	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	middle of scale
Senior Lecturer	61595	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	maximum
Associate Professor	65067	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Associate Professor	68084	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	middle of scale
Associate Professor	71651	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	maximum
Professor	83463	PPP US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Lecturer A (Assistant/Associate Lecturer)	43177	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	maximum
Lecturer A (Assistant/Associate Lecturer)	32252	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	minimum
Lecturer A (Assistant/Associate Lecturer)	37715	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	average
Lecturer B (Lecturer)	53867	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	maximum
Lecturer B (Lecturer)	45426	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	minimum
Lecturer B (Lecturer)	49647	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	average
Senior Lecturer	63989	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	maximum
Senior Lecturer	55555	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	minimum
Senior Lecturer	59772	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	average
Associate Professor	73546	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	maximum
Associate Professor	66800	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	minimum
Associate Professor	70173	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	average
Professor	85916	PPP US\$	Average annual salary 2006-07	Kubler & Lennon (2007)	minimum
Associate Lecturer/Lecturer A	46657	AU\$	Average annual salary 2003	Robinson (2006)	
Lecturer/Lecturer B	61256	AU\$	Average annual salary 2003	Robinson (2006)	
Assistant Professor/Senior Lecturer	73706	AU\$	Average annual salary 2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader	86462	AU\$	Average annual salary 2003	Robinson (2006)	
Professor	105375	AU\$	Average annual salary 2003	Robinson (2006)	
Associate Lecturer/Lecturer A	34428	AU\$	Average annual salary 2003	Robinson (2006)	
Lecturer/Lecturer B	45201	AU\$	Average annual salary 2003	Robinson (2006)	
Assistant Professor/Senior Lecturer	54387	AU\$	Average annual salary 2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader	63800	AU\$	Average annual salary 2003	Robinson (2006)	
Professor	77756	AU\$	Average annual salary 2003	Robinson (2006)	
Associate Professor	5918	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Associate Professor	6519	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	maximum
Professor	7623	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Lecturer	4012	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Lecturer	4463	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	average
Lecturer	4764	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	maximum
Senior Lecturer	4914	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Senior Lecturer	5365	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	average
Senior Lecturer	5666	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	maximum
Associate Lecture	2808	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Associate Lecture	3290	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	average
Associate Lecture	3811	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	maximum

Table 9.1 continued

Australia (continued)					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Level A	4323	AU\$	Monthly salary	2010	Altbach et al. (2012) bottom
Level A	5067	AU\$	Monthly salary	2010	Altbach et al. (2012) middle
Level A	5811	AU\$	Monthly salary	2010	Altbach et al. (2012) top
Level B	6119	AU\$	Monthly salary	2010	Altbach et al. (2012) bottom
Level B	6683	AU\$	Monthly salary	2010	Altbach et al. (2012) middle
Level B	7248	AU\$	Monthly salary	2010	Altbach et al. (2012) top
Level C	7482	AU\$	Monthly salary	2010	Altbach et al. (2012) bottom
Level C	8046	AU\$	Monthly salary	2010	Altbach et al. (2012) middle
Level C	8611	AU\$	Monthly salary	2010	Altbach et al. (2012) top
Level D	8998	AU\$	Monthly salary	2010	Altbach et al. (2012) bottom
Level D	9446	AU\$	Monthly salary	2010	Altbach et al. (2012) middle
Level D	9894	AU\$	Monthly salary	2010	Altbach et al. (2012) top
Level E	11546	AU\$	Monthly salary	2010	Altbach et al. (2012) top
Rank 5	3930	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 4	5183	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 3	6240	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Top rank	7499	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities

Austria					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Assistant	2862	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) minimum
Assistant	3216-3570	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) average
Assistant	3761	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) maximum
Assistant Professor	3270	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) minimum
Assistant Professor	4578-5014	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) average
Assistant Professor	5887	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) maximum
Professor	4360	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) minimum
Professor	4796-5232	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) average
Professor	6105	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) maximum
Seniors at universities	66038	€	Annual salary	2010	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Juniors at universities	39381	€	Annual salary	2010	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL

Belgium					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Post Doc	3600	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) minimum
Post Doc	4494-4654	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) average
Post Doc	5611	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) maximum
Associate Professor	4967	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) minimum
Associate Professor	6274	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) average
Associate Professor	7581	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) maximum
Professor	5563	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) minimum
Professor	6737	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) average
Professor	8498	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) maximum
Lecturer	3704	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) minimum
Lecturer	4582	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) average
Lecturer	5460	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) maximum
Senior Lecturer	4242	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) minimum
Senior Lecturer	5453	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) average
Senior Lecturer	6664	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) maximum
Associate Professor	4976	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) minimum
Associate Professor	5851-6725	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) average
Associate Professor	7599	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) maximum
Professor	5574	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) minimum
Professor	6,752	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) average
Professor	8519	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) maximum
Lecturer	4249	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) minimum
Lecturer	4857-5464	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) average
Lecturer	6679	€	Monthly gross salary	2009	Academic Careers Observatory (ACO) maximum

Table 9.1 continued

Brazil					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Auxiliary	2814.48 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Graduation
Auxiliary	3001.8 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Training
Auxiliary	3190.3 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Specialization
Assistant	3275.82 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Graduation
Assistant	3525.01 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Training
Assistant	3730.17 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Specialization
Assistant	4985 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	MA
Adjunct	3945.91 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Training
Adjunct	4241 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Specialization
Adjunct	5793.14 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	MA
Adjunct	7913.3 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Doctoral degree
Associate	7448.09 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	MA
Associate	11424.45 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Doctoral degree
Full Professor	789.62 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Graduation
Full Professor	5221.96 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Training
Full Professor	5580.63 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Specialization
Full Professor	7818.69 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Graduation
Full Professor	11755.05 R\$	R\$	Monthly salary 2010	Altbach et al. (2012)	Doctoral degree
Rank 5	1858 PPP US\$	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 4	2073 PPP US\$	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	3190 PPP US\$	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	4226 PPP US\$	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Top rank	4550 PPP US\$	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Canada					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant Professor	5206 PPP\$	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Full Professor	7992 PPP\$	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Lecturer	65500 PPP US\$	US\$	Average annual salary 2008	Coates et al. (2009)	
Associate Professor	80500 PPP US\$	US\$	Average annual salary 2008	Coates et al. (2009)	
Professor	100100 PPP US\$	US\$	Average annual salary 2008	Coates et al. (2009)	
Assistant Professor	65500 PPP US\$	US\$	Average annual gross salary 2005-06	Deloitte (2008)	
Associate Professor	80500 PPP US\$	US\$	Average annual gross salary 2005-06	Deloitte (2008)	
Professor (minimum)	100100 PPP US\$	US\$	Average annual gross salary 2005-06	Deloitte (2008)	
Lecturer	28949 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Lecturer	34264 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	middle of scale
Lecturer	39337 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	maximum
Senior Lecturer	35076 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Senior Lecturer	43048 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	middle of scale
Senior Lecturer	50952 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	maximum
Associate Professor	43183 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Associate Professor	54151 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	middle of scale
Associate Professor	65326 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	maximum
Professor	54006 PPP US\$	US\$	Average annual salary 2001-02	Horsley et al. (2005)	minimum
Lecturer (Assistant/Associate Lecturer)	49248 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	maximum
Lecturer (Assistant/Associate Lecturer)	34790 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	minimum
Lecturer (Assistant/Associate Lecturer)	42019 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	average
Assistant Professor (Lecturer)	61453 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	maximum
Assistant Professor (Lecturer)	42089 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	minimum
Assistant Professor (Lecturer)	51771 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	average
Associate Professor	77814 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	maximum
Associate Professor	52690 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	minimum
Associate Professor	65252 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	average
Professor	65342 PPP US\$	US\$	Average annual salary 2006-07	Kubler & Lennox (2007)	minimum
Lecturer/Lecturer B	64886 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	
Assistant Professor/Senior Lecturer	69886 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader	87509 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	
Professor	109258 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	
Lecturer/Lecturer B	53892 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	
Assistant Professor/Senior Lecturer	58045 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader	72682 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	
Professor	90746 CA\$	CA\$	Average annual salary 2003	Robinson (2006)	

Table 9.1 continued

Canada (continued)					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant Professor	3887	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Assistant Professor	4856	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Assistant Professor	6382	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Associate Professor	4937	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Associate Professor	6096	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Associate Professor	7440	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Professor	5997	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Professor	7145	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Professor	9250	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Assistant Professor	6928	CA\$	Monthly salary 2010	Altbach et al. (2012)	entry level
Associate Professor	8377	CA\$	Monthly salary 2010	Altbach et al. (2012)	
Associate Professor	9190	CA\$	Monthly salary 2010	Altbach et al. (2012)	with administrative duties
Associate Professor	8415	CA\$	Monthly salary 2010	Altbach et al. (2012)	without administrative duties
Full Professor	10704	CA\$	Monthly salary 2010	Altbach et al. (2012)	
Full Professor	11578	CA\$	Monthly salary 2010	Altbach et al. (2012)	with administrative duties
Full Professor	10567	CA\$	Monthly salary 2010	Altbach et al. (2012)	without administrative duties
Rank 4	5733	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	6140	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	7424	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Top rank	9458	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
China					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant lecturer/lecturer	682	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Full Professor	1845	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Full Professor	8992	RMB	monthly salary 2010	Altbach et al. (2012)	including subsidies
Rank 4	259	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	712	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	803	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Top rank	1107	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Czech Republic					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Scientific worker	29421	CZK	monthly average salary 2009	Altbach et al. (2012)	public higher education institutions
Lecturer	25161	CZK	monthly average salary 2009	Altbach et al. (2012)	public higher education institutions
Assistant	24585	CZK	monthly average salary 2009	Altbach et al. (2012)	public higher education institutions
Senior assistant	31309	CZK	monthly average salary 2009	Altbach et al. (2012)	public higher education institutions
Associate professor	45902	CZK	monthly average salary 2009	Altbach et al. (2012)	public higher education institutions
Professor	60800	CZK	monthly average salary 2009	Altbach et al. (2012)	public higher education institutions
Top rank	3967	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	3058	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	2087	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 4	1642	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 5	1655	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 6	2562	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Denmark					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
PhD candidate/student	2942	€	Monthly gross salary	Academic Careers Observatory (ACO)	average
PhD candidate/student	3152	€	Monthly gross salary	Academic Careers Observatory (ACO)	maximum
Post Doc	4104	€	Monthly gross salary	Academic Careers Observatory (ACO)	average
Post Doc	4560	€	Monthly gross salary	Academic Careers Observatory (ACO)	maximum
Professor	5658	€	Monthly gross salary	Academic Careers Observatory (ACO)	average
Professor	6974	€	Monthly gross salary	Academic Careers Observatory (ACO)	maximum
Lecturer	4963	€	Monthly gross salary	Academic Careers Observatory (ACO)	average
Lecturer	5499	€	Monthly gross salary	Academic Careers Observatory (ACO)	maximum
Senior Lecturer	6974	€	Monthly gross salary	Academic Careers Observatory (ACO)	maximum

Table 9.1 continued

Estonia					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant	610	€	Monthly gross salary 2008	Academic Careers Observatory (ACO)	minimum
Associate Professor	1085	€	Monthly gross salary 2008	Academic Careers Observatory (ACO)	minimum
Professor	1446	€	Monthly gross salary 2008	Academic Careers Observatory (ACO)	minimum
Lecturer	723	€	Monthly gross salary 2008	Academic Careers Observatory (ACO)	minimum
Finland					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant	2290	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Research Assistant	1772	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Post Doc	3220	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Professor	5218	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Lecturer	3420	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Full Time Teacher	2520	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Seniors at universities	48387	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
Juniors at universities	26533	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
France					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant/Associate Professor (maître de conférence)	3259	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Professor (professeur des universités)	4551	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Post Doc	3100	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Assistant Professor	2329	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Assistant Professor	2329	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	after 2 years
Assistant Professor	3741-4388	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	maximum
Professor	2998	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	minimum
Professor	3345	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	after 2 years
Professor	4388-6015	€	Monthly gross salary 2009	Academic Careers Observatory (ACO)	maximum
nontenured faculty (PhD student/new PhD holder)	1699	€	monthly 2011	Altbach et al. (2012)	full-time position
PhD student	1650	€	monthly 2011	Altbach et al. (2012)	national fellowship; contract includes teaching
PhD student	1350	€	monthly 2011	Altbach et al. (2012)	national fellowship; without teaching
Junior tenured faculty position	1764	€	monthly 2011	Altbach et al. (2012)	initially
Junior tenured faculty position	3190	€	monthly 2011	Altbach et al. (2012)	middle of the scale
Junior tenured faculty position	3742	€	monthly 2011	Altbach et al. (2012)	top of the scale
Professor	2557	€	monthly 2011	Altbach et al. (2012)	initially
Professor	4111	€	monthly 2011	Altbach et al. (2012)	middle of the scale
Professor	5129	€	monthly 2011	Altbach et al. (2012)	top of the scale
Rank 3	1973	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	3705	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Top rank	4755	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	2228	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	private universities
Top rank	13939	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	private universities
Germany					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Junior Professor	3683	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Full Professor	5108	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Assistant Professor	3149.94-3405.34	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Associate Professor	3598.28-3890.03	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Professor	4369.34-4723.61	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Seniors at universities	67179	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
Juniors at universities	40307	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
Junior Professor	3405	€	Average gross monthly salary 2008	Altbach et al. (2012)	
Associate Professor	3890	€	Average gross monthly salary 2008	Altbach et al. (2012)	
Full Professor	6108	€	Average gross monthly salary 2008	Altbach et al. (2012)	
Full Professor	4724	€	Average gross monthly salary 2008	Altbach et al. (2012)	
Rank 5	4885	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 4	4927	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	4326	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	5184	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Top rank	6383	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities



Table 9.1 continued

Greece					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Assistant Professor	1127	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Associate Professor	1332	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Professor	1537	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Lecturer	1025	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Assistant Lecture	992	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
India					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Lecturer	1151	PPP\$	Average monthly salary	2005-06	Altbach et al. (2008) Academic year
Professor	2071	PPP\$	Average monthly salary	2005-06	Altbach et al. (2008) Academic year
Assistant Professor	1825	US\$	Gross monthly salary	2010	Altbach et al. (2012) top of pay band
Assistant Professor	1400	US\$	Gross monthly salary	2010	Altbach et al. (2012) middle of pay band
Assistant Professor	945	US\$	Gross monthly salary	2010	Altbach et al. (2012) bottom of pay band
Associate Professor	3055	US\$	Gross monthly salary	2010	Altbach et al. (2012) top of pay band
Associate Professor	2485	US\$	Gross monthly salary	2010	Altbach et al. (2012) middle of pay band
Associate Professor	1905	US\$	Gross monthly salary	2010	Altbach et al. (2012) bottom of pay band
Professor	3095	US\$	Gross monthly salary	2010	Altbach et al. (2012) top of pay band
Professor	2625	US\$	Gross monthly salary	2010	Altbach et al. (2012) middle of pay band
Professor	2160	US\$	Gross monthly salary	2010	Altbach et al. (2012) bottom of pay band
Ireland					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Associate Professor	6579	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) minimum
Associate Professor	9172	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) maximum
Professor	8997	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) minimum
Professor	12169	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) maximum
Lecturer	2802	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) minimum
Lecturer	6788	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) maximum
Senior Lecturer	5336	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) minimum
Senior Lecturer	7836	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) maximum
Israel					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Associate Professor	3597	€	Monthly gross salary	2007	Academic Careers Observatory (ACO) average
Professor	4733	€	Monthly gross salary	2007	Academic Careers Observatory (ACO) average
Lecturer	2650	€	Monthly gross salary	2007	Academic Careers Observatory (ACO) average
Senior Lecturer	3029	€	Monthly gross salary	2007	Academic Careers Observatory (ACO) average
Lecturer	13920	NIS	Monthly salary	2009	Altbach et al. (2012) top of scale
Lecturer	13065	NIS	Monthly salary	2009	Altbach et al. (2012) middle of scale
Lecturer	12946	NIS	Monthly salary	2009	Altbach et al. (2012) bottom of scale
Senior Lecturer	16279	NIS	Monthly salary	2009	Altbach et al. (2012) top of scale
Senior Lecturer	16024	NIS	Monthly salary	2009	Altbach et al. (2012) middle of scale
Senior Lecturer	14487	NIS	Monthly salary	2009	Altbach et al. (2012) bottom of scale
Associate Professor	19621	NIS	Monthly salary	2009	Altbach et al. (2012) top of scale
Associate Professor	17648	NIS	Monthly salary	2009	Altbach et al. (2012) middle of scale
Associate Professor	16802	NIS	Monthly salary	2009	Altbach et al. (2012) bottom of scale
Full Professor	28183	NIS	Monthly salary	2009	Altbach et al. (2012) top of scale
Full Professor	23634	NIS	Monthly salary	2009	Altbach et al. (2012) middle of scale
Full Professor	20431	NIS	Monthly salary	2009	Altbach et al. (2012) bottom of scale
Rank 4	3525	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 3	4323	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 2	4762	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Top rank	6377	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities

Table 9.1 continued

Italy					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
PhD candidate/student	820	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Post Doc	1500	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Associate Professor	3004	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Associate Professor	6232	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) maximum
Professor	3969	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Professor	8522	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) maximum
Researcher	1685	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Researcher	4622	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) maximum
Seniors at universities	56950	€	Annual salary	2007-08	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Juniors at universities	28958	€	Annual salary	2007-08	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Tenured Lecture (Ricercatore)	3800	€	Average monthly salary	2010	Altbach et al. (2012) average
Tenured Lecture (Ricercatore)	4875	€	Average monthly salary	2010	Altbach et al. (2012) top of the scale
Tenured Lecture (Ricercatore)	4094	€	Average monthly salary	2010	Altbach et al. (2012) middle of the scale
Tenured Lecture (Ricercatore)	2709	€	Average monthly salary	2010	Altbach et al. (2012) bottom of the scale
Associate Professor (Professore associato)	5500	€	Average monthly salary	2010	Altbach et al. (2012) average
Associate Professor (Professore associato)	6562	€	Average monthly salary	2010	Altbach et al. (2012) top of the scale
Associate Professor (Professore associato)	5468	€	Average monthly salary	2010	Altbach et al. (2012) middle of the scale
Associate Professor (Professore associato)	3523	€	Average monthly salary	2010	Altbach et al. (2012) bottom of the scale
Full Professor (Professore ordinario)	7000	€	Average monthly salary	2010	Altbach et al. (2012) average
Full Professor (Professore ordinario)	9460	€	Average monthly salary	2010	Altbach et al. (2012) top of the scale
Full Professor (Professore ordinario)	7423	€	Average monthly salary	2010	Altbach et al. (2012) middle of the scale
Full Professor (Professore ordinario)	4678	€	Average monthly salary	2010	Altbach et al. (2012) bottom of the scale
Rank 3	5029	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 2	6717	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Top rank	9118	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Japan					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Assistant	2979	PPP\$	Average monthly salary	2005-06	Altbach et al. (2008) Academic year
Professor	5546	PPP\$	Average monthly salary	2005-06	Altbach et al. (2008) Academic year
Lecturer	4766	US\$	Average monthly salary		Altbach et al. (2012) National university
Lecturer	4713	US\$	Average monthly salary		Altbach et al. (2012) Public university
Lecturer	4796	US\$	Average monthly salary		Altbach et al. (2012) Private university
Lecturer	4782	US\$	Average monthly salary		Altbach et al. (2012) school teachers survey
Lecturer	6038	US\$	Average monthly salary		Altbach et al. (2012) basic survey on wage structure
Assistant Professor	4073	US\$	Average monthly salary		Altbach et al. (2012) National university
Assistant Professor	4340	US\$	Average monthly salary		Altbach et al. (2012) Public university
Assistant Professor	3566	US\$	Average monthly salary		Altbach et al. (2012) Private university
Associate Professor	6321	US\$	Average monthly salary		Altbach et al. (2012) National university
Associate Professor	5432	US\$	Average monthly salary		Altbach et al. (2012) Public university
Associate Professor	5744	US\$	Average monthly salary		Altbach et al. (2012) Private university
Associate Professor	5530	US\$	Average monthly salary		Altbach et al. (2012) school teachers survey
Associate Professor	6567	US\$	Average monthly salary		Altbach et al. (2012) basic survey on wage structure
Professor	6613	US\$	Average monthly salary		Altbach et al. (2012) National university
Professor	6688	US\$	Average monthly salary		Altbach et al. (2012) Public university
Professor	7062	US\$	Average monthly salary		Altbach et al. (2012) Private university
Professor	6891	US\$	Average monthly salary		Altbach et al. (2012) school teachers survey
Professor	8217	US\$	Average monthly salary		Altbach et al. (2012) basic survey on wage structure
Rank 5	2897	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 4	2837	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 3	3322	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 2	3704	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Top rank	4604	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 5	2438	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Rank 4	2481	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Rank 3	3339	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Rank 2	4001	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Top rank	4919	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities

Table 9.1 continued

Latvia					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Assistant	338	LVL	Minimum monthly salary	2010-2011	Altbach et al. (2012) minimum salary
Lecturer	423	LVL	Minimum monthly salary	2010-2011	Altbach et al. (2012) minimum salary
Reader (Docent)	529	LVL	Minimum monthly salary	2010-2011	Altbach et al. (2012) minimum salary
Associate professor	661	LVL	Minimum monthly salary	2010-2011	Altbach et al. (2012) minimum salary
Professor	826	LVL	Minimum monthly salary	2010-2011	Altbach et al. (2012) minimum salary
Rank 5	1087	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 4	1359	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 3	1699	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 2	2124	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Top rank	2654	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 5	815	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Rank 4	1036	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Rank 3	1302	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Rank 2	1615	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities
Top rank	2169	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) private universities

Netherlands					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Professor	4830	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Professor	8259	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) maximum
Lecturer	2279	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Lecturer	5670	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) maximum
Senior Lecturer	4242	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) minimum
Senior Lecturer	6841	€	Monthly gross salary	2004	Academic Careers Observatory (ACO) maximum
Seniors at universities	66667	€	Annual salary	2010	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Juniors at universities	44444	€	Annual salary	2010	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Professor	5983	€	Median monthly salary	2008	Altbach et al. (2012) university
Lector	5864	€	Median monthly salary	2008	Altbach et al. (2012) universities of applied sciences
Associate Professor	4939	€	Median monthly salary	2008	Altbach et al. (2012) university
Assistant Professor	4011	€	Median monthly salary	2008	Altbach et al. (2012) university
Lecturer	4123	€	Median monthly salary	2008	Altbach et al. (2012) universities of applied sciences
Instructor	2888	€	Median monthly salary	2008	Altbach et al. (2012) universities of applied sciences
Doctoral candidate	2386	€	Median monthly salary	2008	Altbach et al. (2012) university
Rank 4	3472	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 3	4775	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 2	5880	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Top rank	7123	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities

Norway					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
PhD researcher	2817	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) minimum
PhD researcher	3203	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) average
Post Doc	3090	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) minimum
Post Doc	3950	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) average
Professor	4657	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) minimum
Professor	5297	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) average
Lecturer	4017	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) minimum
Lecturer	4330	€	Monthly gross salary	2005	Academic Careers Observatory (ACO) average
Seniors at universities	38378	€	Annual salary	2007-08	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Juniors at universities	26593	€	Annual salary	2007-08	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Rank 4	4491	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 3	4755	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Rank 2	4667	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities
Top rank	5847	PPP US\$	Average monthly salary	2010	Altbach et al. (2012) public universities

Table 9.1 continued

Norway (continued)					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Professor	9300	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, average
Professor	15000	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, top of scale
Professor	8900	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, median
Professor	7500	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, bottom of scale
Associate professor	7300	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, average
Associate professor	9200	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, top of scale
Associate professor	7100	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, median
Associate professor	6400	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, bottom of scale
Senior lecturer	7200	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, average
Senior lecturer	9200	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, top of scale
Senior lecturer	7300	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, median
Senior lecturer	6400	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, bottom of scale
Lecturer	6800	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, average
Lecturer	8000	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, top of scale
Lecturer	6900	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, median
Lecturer	5300	US\$	Monthly salary 2008	Altbach et al. (2012)	public higher education institution, bottom of scale

Poland					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant Professor	1127.5	€	Monthly gross salary 2006/07	Academic Careers Observatory (ACO)	maximum
Professor	1758.75	€	Monthly gross salary 2006/07	Academic Careers Observatory (ACO)	maximum
Lecturer	586.25	€	Monthly gross salary 2006/07	Academic Careers Observatory (ACO)	maximum
Seniors at universities	32078	€	Annual salary 2010	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
Juniors at universities	17375	€	Annual salary 2010	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL

Portugal					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Junior Assistant	1557.98	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Assistant (without agregação)	1557.98	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Assistant (without agregação)	2259.07-2414.87	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Assistant Professor (without agregação)	3038.06	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Assistant Professor (without agregação)	3271.76-3583.35	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Assistant Professor (without agregação)	3817.05	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Assistant Professor (without agregação)	3427.56	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Assistant Professor (without agregação)	3583.35-3926.11	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Assistant Professor (without agregação)	4050.75	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Assistant Professor (with agregação)	3427.56	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Assistant Professor (with agregação)	3583.35-3926.11	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Assistant Professor (with agregação)	4050.75	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Assistant Professor (with agregação)	3817.05	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Assistant Professor (with agregação)	3972.85-4128.65	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Assistant Professor (with agregação)	4440.24	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Professor	4440.24	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum
Professor	4673.94-4829.74	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Professor	5141.33	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum
Seniors at universities	67178	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
Juniors at universities	34341	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL

Russia					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
PhD candidate/student	250	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Professor	900	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Lecturer	600	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Chair holder	1100	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average
Rank 4	433 PPP	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	476 PPP	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	650 PPP	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Top rank	910 PPP	US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities

Table 9.1 continued

Singapore					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Senior Lecturer	55385	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005) minimum
Senior Lecturer	83077	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005) middle of scale
Senior Lecturer	110769	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005) maximum
Associate Professor	83077	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005) minimum
Associate Professor	120000	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005) middle of scale
Associate Professor	156923	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005) maximum
Professor	129231	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005) minimum

Slovenia					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
PhD candidate/student	700	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) min/max
Post Doc	1500	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) min/max
Assistant Professor	2472	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) minimum
Assistant Professor	3008	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) maximum
Associate Professor	2781	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) minimum
Associate Professor	3383	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) maximum
Professor	3253	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) minimum
Professor	3958	€	Monthly gross salary	2010	Academic Careers Observatory (ACO) maximum

Spain					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
Post Doc	1584	€	Monthly gross salary	2003	Academic Careers Observatory (ACO) average
Associate Professor	2750	€	Monthly gross salary	2003	Academic Careers Observatory (ACO) average
Professor	3584	€	Monthly gross salary	2003	Academic Careers Observatory (ACO) average
Lecturer	2250	€	Monthly gross salary	2003	Academic Careers Observatory (ACO) average

Sweden					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
PhD candidate/student	2180	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) minimum
PhD candidate/student	2365	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) average
PhD candidate/student	2740	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) maximum
Post Doc	3086	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) minimum
Post Doc	3317	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) average
Post Doc	3795	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) maximum
Assistant Professor	4470	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) minimum
Assistant Professor	5145	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) average
Assistant Professor	6488	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) maximum
Lecturer	2819	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) minimum
Lecturer	3142	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) average
Lecturer	3653	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) maximum
Senior Lecturer	3413	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) minimum
Senior Lecturer	3800	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) average
Senior Lecturer	4580	€	Monthly gross salary	2006	Academic Careers Observatory (ACO) maximum

Switzerland					
Position	Salary (Range)	Currency	Reported salary	Year	Source Note
PhD candidate/student	40410	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) first year
PhD candidate/student	46724	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) third year
Post Doc	51396	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) first year
Post Doc	56700	€	Monthly gross salary	2008	Academic Careers Observatory (ACO) third year
Seniors at universities	91034	€	Annual salary	2010	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL
Juniors at universities	40459	€	Annual salary	2010	Ates & Brechelmacher (2012 forthcoming) median; at adjusted CPL

Table 9.1 continued

Turkey						
Position	Salary (Range)	Currency	Reported salary	Year	Source	Note
Instructor	1020	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; basic
Instructor	2424	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; minimum
Instructor	2619	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; maximum
Lecturer	1020	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; basic
Lecturer	2437	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; minimum
Lecturer	2626	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; maximum
Research Assistant	802	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; basic
Research Assistant	2275	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; minimum
Research Assistant	2342	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; maximum
Assistant Docent	1233	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; basic
Assistant Docent	2769	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; minimum
Assistant Docent	2782	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; maximum
Docent	1343	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; basic
Docent	2953	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; minimum
Docent	3500	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; maximum
Professor	1818	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; basic
Professor	4137	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; minimum
Professor	4744	TL	Gross monthly salary	2010	Altbach et al. (2012)	state universities; total; maximum
Rank 6	2173	PPP US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Rank 5	2216	PPP US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Rank 4	2027	PPP US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Rank 3	2436	PPP US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Rank 2	2832	PPP US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Top rank	3898	PPP US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
United Kingdom						
Position	Salary (Range)	Currency	Reported salary	Year	Source	Note
Associate lecturer A	3345	PPP\$	Average monthly salary	2005-06	Altbach et al. (2008)	Academic year
Professor	5589	PPP\$	Average monthly salary	2005-06	Altbach et al. (2008)	Academic year
Lecturer	50500	PPP US\$	Average annual salary	2008	Coates et al. (2009)	
Senior lecturer	60400	PPP US\$	Average annual salary	2008	Coates et al. (2009)	
Associate Professor	74200	PPP US\$	Average annual salary	2008	Coates et al. (2009)	
Professor	82200	PPP US\$	Average annual salary	2008	Coates et al. (2009)	
Lecturer	50500	PPP US\$	Average annual gross salary	2006-09	Deloitte (2008)	
Senior Lecturer	60400	PPP US\$	Average annual gross salary	2006-09	Deloitte (2008)	
Principle Lecturer	74200	PPP US\$	Average annual gross salary	2006-09	Deloitte (2008)	
Professor (minimum)	82200	PPP US\$	Average annual gross salary	2006-09	Deloitte (2008)	
Lecturer	24955	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	Bottom of scale
Lecturer	29865	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	middle of scale
Lecturer	37141	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	maximum
Senior Lecturer	32348	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	Bottom of scale
Senior Lecturer	36740	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	middle of scale
Senior Lecturer	43436	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	maximum
Associate Professor	43457	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	Bottom of scale
Associate Professor	47004	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	middle of scale
Associate Professor	51908	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	maximum
Professor	54158	PPP US\$	Average annual salary	2001-02	Horsley et al. (2005)	Bottom of scale
Lecturer A (Lecturer)	53409	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	maximum
Lecturer A (Lecturer)	44343	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	Bottom of scale
Lecturer A (Lecturer)	48876	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	average
Senior Lecturer (Lecturer B)	69534	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	maximum
Senior Lecturer (Lecturer B)	53628	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	Bottom of scale
Senior Lecturer (Lecturer B)	61581	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	average
Reader/Senior/Principal Lecturer (Associate Professor)	81140	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	maximum
Reader/Senior/Principal Lecturer (Associate Professor)	67083	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	Bottom of scale
Reader/Senior/Principal Lecturer (Associate Professor)	74111	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	average
Professor	80995	PPP US\$	Average annual salary	2006-07	Kubler & Lennon (2007)	Bottom of scale
Associate Lecturer/Lecturer A	24115	GBP	Average annual salary	2003	Robinson (2006)	
Lecturer/Lecturer B	32367	GBP	Average annual salary	2003	Robinson (2006)	
Assistant Professor/Senior Lecturer		GBP	Average annual salary	2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader	39833	GBP	Average annual salary	2003	Robinson (2006)	
Professor	53774	GBP	Average annual salary	2003	Robinson (2006)	
Associate Lecturer/Lecturer A	37888	GBP	Average annual salary	2003	Robinson (2006)	
Lecturer/Lecturer B	50853	GBP	Average annual salary	2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader	62583	GBP	Average annual salary	2003	Robinson (2006)	
Professor	84486	GBP	Average annual salary	2003	Robinson (2006)	

Table 9.1 continued

United Kingdom (continued)					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Post Doc	3364	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum; Essex University
Post Doc	3813	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; Essex University
Post Doc	4263	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; Essex University
Professor	6075	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum; Essex University
Professor	6353	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; Essex University
Professor	6632	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; Essex University
Lecturer	4135	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum; Essex University
Lecturer	4766	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; Essex University
Lecturer	5398	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; Essex University
Senior Lecturer	5259	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; Essex University
Senior Lecturer	6002	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; Essex University
Reader	5240	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	minimum; Essex University
Reader	5842	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; Essex University
Reader	6445	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; Essex University
Post Doc	3520	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; London School of Economics
Professor	7061	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; London School of Economics
Professor	9780	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; London School of Economics
Lecturer	4407	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; London School of Economics
Lecturer	5087	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; London School of Economics
Reader	6181	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	average; London School of Economics
Reader	6436	€	Monthly gross salary 2007	Academic Careers Observatory (ACO)	maximum; London School of Economics
Seniors at universities	55886	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
Juniors at universities	43467	€	Annual salary 2007-08	Ates & Brechelmacher (2012 forthcoming)	median; at adjusted CPL
Lecturer A	30870	GBP	Annual salary 2007-08	Altbach et al. (2012)	minimum
Lecturer A	35646	GBP	Annual salary 2007-08	Altbach et al. (2012)	maximum
Lecturer B	36715	GBP	Annual salary 2007-08	Altbach et al. (2012)	minimum
Lecturer B	43840	GBP	Annual salary 2007-08	Altbach et al. (2012)	maximum
Lecturer	38105	GBP	Annual salary 2007-08	Altbach et al. (2012)	average
Senior Lecturer	46319	GBP	Annual salary 2007-08	Altbach et al. (2012)	average
Professor	69870	GBP	Annual salary 2007-08	Altbach et al. (2012)	average
Rank 4	4077	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 3	5276	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Rank 2	6050	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
Top rank	8369	PPP US\$	Average monthly salary 2010	Altbach et al. (2012)	public universities
United States					
Position	Salary (Range)	Currency	Reported salary Year	Source	Note
Assistant Professor	4589	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Full Professor	7385	PPP\$	Average monthly salary 2005-06	Altbach et al. (2008)	Academic year
Lecturer	70700	PPP US\$	Average annual salary 2008	Coates et al. (2009)	
Associate Professor	83000	PPP US\$	Average annual salary 2008	Coates et al. (2009)	
Professor	113900	PPP US\$	Average annual salary 2008	Coates et al. (2009)	
Assistant Professor	70700	PPP US\$	Average annual gross salary 2006-08	Deloitte (2008)	
Associate Professor	83000	PPP US\$	Average annual gross salary 2006-08	Deloitte (2008)	
Professor (minimum)	113900	PPP US\$	Average annual gross salary 2006-08	Deloitte (2008)	
Lecturer (Private Doctoral)	62799	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Assistant	82295	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Professor (Private Doctoral)	151403	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Lecturer (Public Doctoral)	51827	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Assistant	68048	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Professor (Public Doctoral)	115509	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Lecturer (Private Masters)	54408	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Assistant	61986	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Professor (Private Masters)	99555	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Lecturer (Public Masters)	49159	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Assistant	59416	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Professor (Public Masters)	88357	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Assistant	58014	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Professor (Private Bachelors)	58886	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Lecturer (Private Bachelors)	98808	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Assistant	49708	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Professor (Public Bachelors)	56997	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Lecturer (Public Bachelors)	84488	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Assistant	50415	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Professor (2-Year Colleges)	53427	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	
Lecturer (2-Year Colleges)	74933	US\$	Average annual salary 2008-2009	Ehrenberg (2010)	

Table 9.1 continued

United States (continued)						
Position	Salary (Range)	Currency	Reported salary	Year	Source	Note
Lecturer/Lecturer B (public 4-year)	42627	US\$	Average annual salary	2003	Robinson (2006)	
Assistant Professor/Senior Lecturer (public 4-year)	52626	US\$	Average annual salary	2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader (public 4-year)	62545	US\$	Average annual salary	2003	Robinson (2006)	
Professor (public 4-year)	85843	US\$	Average annual salary	2003	Robinson (2006)	
Lecturer/Lecturer B (private 4-year)	47643	US\$	Average annual salary	2003	Robinson (2006)	
Assistant Professor/Senior Lecturer (private 4-year)	52098	US\$	Average annual salary	2003	Robinson (2006)	
Associate Professor/Senior Lecturer/Reader (private 4-year)	62894	US\$	Average annual salary	2003	Robinson (2006)	
Professor (private 4-year)	91439	US\$	Average annual salary	2003	Robinson (2006)	
Assistant Professor	4690	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Men
Associate Professor	5445	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Men
Professor	7851	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Men
Lecturer	3667	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Men
Instructor	3103	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Men
Assistant Professor	4334	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Women
Associate Professor	5068	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Women
Professor	7107	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Women
Lecturer	3296	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Women
Instructor	2963	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Public universities; Women
Assistant Professor	5723	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Men
Associate Professor	6564	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Men
Professor	10270	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Men
Lecturer	4372	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Men
Instructor	3878	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Men
Assistant Professor	5211	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Women
Associate Professor	6003	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Women
Professor	9458	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Women
Lecturer	3775	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Women
Instructor	3747	€	Monthly gross salary	2009/10	Academic Careers Observatory (ACO)	average Private/independent universities; Women
Assistant	68072	US\$	Average salary	2009	Altbach et al. (2012)	Doctoral, public institution
Assistant	79915	US\$	Average salary	2009	Altbach et al. (2012)	Doctoral, private institution
Assistant	59397	US\$	Average salary	2009	Altbach et al. (2012)	Master, public institution
Assistant	60069	US\$	Average salary	2009	Altbach et al. (2012)	Master, private institution
Assistant	56883	US\$	Average salary	2009	Altbach et al. (2012)	Baccalaureate, public institution
Assistant	54945	US\$	Average salary	2009	Altbach et al. (2012)	Baccalaureate, private institution
Associate	80013	US\$	Average salary	2009	Altbach et al. (2012)	Doctoral, public institution
Associate	93317	US\$	Average salary	2009	Altbach et al. (2012)	Doctoral, private institution
Associate	70233	US\$	Average salary	2009	Altbach et al. (2012)	Master, public institution
Associate	72522	US\$	Average salary	2009	Altbach et al. (2012)	Master, private institution
Associate	68121	US\$	Average salary	2009	Altbach et al. (2012)	Baccalaureate, public institution
Associate	66703	US\$	Average salary	2009	Altbach et al. (2012)	Baccalaureate, private institution
Professor	115553	US\$	Average salary	2009	Altbach et al. (2012)	Doctoral, public institution
Professor	147286	US\$	Average salary	2009	Altbach et al. (2012)	Doctoral, private institution
Professor	88298	US\$	Average salary	2009	Altbach et al. (2012)	Master, public institution
Professor	94760	US\$	Average salary	2009	Altbach et al. (2012)	Master, private institution
Professor	84502	US\$	Average salary	2009	Altbach et al. (2012)	Baccalaureate, public institution
Professor	88092	US\$	Average salary	2009	Altbach et al. (2012)	Baccalaureate, private institution
Rank 3	4950 PPP	US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Rank 2	5853 PPP	US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Top rank	7358 PPP	US\$	Average monthly salary	2010	Altbach et al. (2012)	public universities
Rank 3	5006 PPP	US\$	Average monthly salary	2010	Altbach et al. (2012)	private universities
Rank 2	6044 PPP	US\$	Average monthly salary	2010	Altbach et al. (2012)	private universities
Top rank	7897 PPP	US\$	Average monthly salary	2010	Altbach et al. (2012)	private universities