LABOR MARKET BRIEFINGS SERIES

LABOR MARKET INFORMATION FOR RESEARCHERS

THE HIGHER EDUCATION SECTOR IN EUROPE
As part of the Labor Market Briefings Series, this report will give an overview of the Higher Education sector in Europe and will provide insight as to how European researchers can begin making their career in the sector. While providing a general overview of the Higher Education sector, this report will focus on the Higher Education sector in Germany, France, and the U.K. of which all three boast strong Higher Education sectors. It should be noted that this is a general overview of the Higher Education sector in Europe and does not seek to give specific information, rather a glimpse of the sector.

**WHAT?**

Higher Education- “The Higher Education sector or Academia can be defined as comprising both students studying in the tertiary education system as well as the employees of tertiary level institutions.”

Europe has over 19.5 million students, 1.5 million academics, and 500,000 researchers participating in the Higher Education sector.

The sector is worth over 1.9 trillion.

- Germany has one of the largest and most successful HE sectors in the world, with over 415 officially-recognized institutions of higher education.
- France has the fourth most desirable Higher Education sector in the world for international students after only the U.S., U.K., and Australia.
- The U.K. Higher Education sector is one of the oldest and most prominent globally. The sector is also the most desirable national sector for International Students after only the U.S.

**Researchers in the Sector**

- **Occupations**: most researchers work as professors or academic researchers.
- **Research fields**: the HE sector conducts research in every field.
- **Skills**: project management skills, budget handling, team leading/management, data management, and IT skills.
In this brief we define higher education as the tertiary level of education, meaning the level of education after secondary school. Higher Education (HE) is often defined as Academia incorporating both the students studying the tertiary education system as well as the employees (Professors, researchers, and high-level administration) of the tertiary level institutions. While hard to accurately quantify, estimates have put the value of the Global HE sector north of $1.9t1 making it one of the largest single economic sectors worldwide. The world population is exploding, coupled with the fact that today more students are attending HE institutions than ever before means that the HE sector is set to see substantial growth in the decades to come.

Europe has one of the leading HE sectors in the world. Currently, Europe has over 19.5 million students, 1.5 million academics, and 500,000 researchers participating in the Higher Education sector. Globally speaking, Europe has more world-class universities than any other region in the world. With 42 of the top 100 universities in the world and 104 universities in the top 200. This is compared to 39 and 63 in the U.S. which has the second Higher Education sector after Europe. Nearly half of the World’s Top 400 universities reside in Europe.

Aside from housing some of the world’s most prestigious universities, The University of Oxford, The University of Cambridge, The Karolinska Institute, and Ludwig Maximilians Universität Munchen, Europe’s Higher Education sector is the global leader in a number of disciplines such as Clinical, Pre-Clinical and Health, Engineering and Technology, Life Sciences, Arts and Humanities, and Social Science all of which it ranks in the top three globally. Europe’s research and technical facilities are also ranked amongst the World’s best, it is also well known for its strong bond between academia and industry.

Overall, Europe has over 4,000 higher education institutions which range from high-level research establishments to teaching colleges. Annually over 4.7 million students graduate from HE institutions. With the majority of European students graduating in the fields of social sciences, journalism, information, business, administration, and law. Engineering, Manufacturing, and Construction come in at a distant second.

The European HE sector employs more than 1.4 million teachers and professors, with millions of additional employees in faculty roles. The majority of HE sector employees in Europe are male, furthermore, over 58.3% of teachers/professors are male. It is unclear exactly how many researchers are employed by European HE but estimates put the number of researchers in Europe at over 1.5 million with the majority (54%) working in the public sector.
Germany

Germany, the most populous country in the European Union, has one of the largest and most successful HE sectors in the world, with over 415 officially-recognized institutions of higher education: 106 universities, 6 colleges of education, 16 colleges of theology, 51 colleges of art, 207 universities of applied sciences, and 29 colleges of public administration. Of these universities, nine ranks in the global top 100. German HE institutions are split down the middle between Universities and Universities of Applied Sciences. The main difference between the two is that while regular universities are dedicated to basic research and award regular doctoral degrees, the universities of applied sciences are more industry-oriented and focus on practical knowledge application. German HE offers more than 13,500-degree programs to over two million students enrolled students, of which 250,000 are international students. Additionally, German HE sector has seen significant growth over the last decade with a growth rate of 34% in overall student enrollment. The German HE sector is also one of the most valued abroad, as it ranks in the top five globally in most desired places to study. This has increased the sectors prominence abroad, which can be evidenced by an increase in of 14% in International Student Enrollment in the last five years. The majority of this increase is from Chinese nationals and to a lesser extent Russian and Indian. The German HE sector employs over 242,200 people as full-time HE staff which is an increase of over 1.2% from previous years. This number has been rising as the HE sector has been seeing extended growth. The majority of full-time Academic staff in Germany are employed either in the field of Medicine and Health Sciences or Mathematics and the Natural Sciences.

France

France, one of the birthplaces of modern HE boasts one of the most significant in the EU and in Europe in general. While France’s HE sector is not often thought of with those of Germany and the UK, the French HE sector stands its own and is amongst the best in Europe, boasting some of Europe’s oldest and most prestigious institutions. The French HE sector differs slightly from the rest of Europe, there are three main categories of higher education institutions in France: the public universities (baccalaureate), the grandes écoles, and the schools of art and architecture. All students graduating from secondary school are eligible to attend a state-funded baccalauréat (assuming they have finished the corresponding coursework), while the Grandes Ecoles are more prestigious and are cater to outstanding baccalauréate graduates, where the schools of art and architecture resemble the specialized private school found in other countries. There are over 83 public universities in the French HE sector (baccalauréats) of which over 80% of Frances 2.2 million students attend. The other 20% of students attend Grande Ecoles or specific specialized private schools. Of France’s 2.2mil HE students over 287,000 are from abroad making it the fourth most desirable HE sector in the world after the US, UK, and Australia. The majority come from China followed by Morocco and Algeria. The French HE sector employs over 91,800 teachers, of which 57,000 are teacher-researchers accounting which accounts for 62% of all employees in the French HE sector. Whereas, general HE staffs, and non-tenured teachers represent the rest of the employees in the HE sector.
The UK HE education sector is one of the oldest and most prominent in the world which is evidenced by its world-class HE institutions such as Oxford and Cambridge. Currently, there are over 162 higher education institutions in the UK servicing over 2.28 million students. Of which 1.9 million are either UK or EU nationals and 300,000 foreign students. Of the 1.9 million UK nationals the majority are from England (1.1mil) followed by Scotland (235k). Overall, student enrollment in the UK has seen consistent growth over the last decade. This is driven mainly by increased enrollment by students from England, despite this Northern Ireland and Wales have seen an overall decrease in student enrollment in the same decade. The UK’s HE maintains a strong reputation abroad, where it ranks in the top ten globally, and as such attracts a large number of foreign students (300,000). The majority of these students come from China (22%) followed by Malaysia (4%) and the United States (4%). The most popular field of study amongst English students in Medicine and Biology for undergraduates and Business and Education for postgraduates. The UK HE sector employs over 410,100 workers of which over 208,700 are non-academic staff and 201,300 are academic staff. Making the HE sector one of the UK’s most prominent employers as well as one of its most prestigious.
Europe has the strongest HE sector in the world after the United States and provides millions of significant employment opportunities on the European continent. Employment opportunities in the European HE sector are some of the most desired in the world, especially regarding teaching and research jobs. This can be attributed to large salary opportunities and strong prestige factors. Most new European graduates embarking on a career in Academia and the HE sector look first to Europe for employment. While, ‘high-end’ employment opportunities in the HE sector such as senior teaching and researchers positions are not as abundant in Europe as in other HE sectors such as in the U.S., European employment opportunities are often preferred to the alternatives due to prestige and visibility factors. While, HE sectors throughout the EU and the European continent are quite diverse the lack of borders and free movement has allowed teachers and researchers in European states to easily move to stronger HE sectors. While a controversial issue in some circles, this has allowed already strong HE sectors in certain European countries to attract top talent from across Europe. A by-product of this, is that HE sectors in certain European countries have been drained of talent by countries with stronger sectors.

This is clearly evidenced between HE sectors in Western European and Central/Eastern European states. While Central and Eastern European may have suffered from this development the European HE sector, as a whole, has benefited from top European Universities gaining access to top talent pools across Europe. Additionally, much has been said about the European ‘brain drain’ in recent years, in terms of top researchers and teachers going abroad. While the ‘brain drain has slightly weakened the HE sector, it has done so largely in weaker and struggling national HE sectors. Europe’s top HE sectors and HE institutions are not lacking in terms of potential talent pools and demand for positions.

The European HE sector is composed of a variety of public, private, and hybrid institutions. There is no one clear form of the institution throughout the continent, which can be attributed to the diverse nature of HE sectors throughout the continent. Significant employment opportunities can be found in all three forms of institutions.
Here are some examples of the largest and most prestigious places of employment in the European HE sector,

**In Europe**

ETH Zurich (Swiss Federal Institute of Technology), Delft University of Technology, and KU Leuven

**In Germany**

Technische Universität München, Ludwig-Maximilians-Universität München, and Ruprecht-Karls-Universität Heidelberg

**In France**

Ecolé Normale Supérieure, Paris, Ecolé Polytechnique, and Université Pierre et Marie Curie

**In the U.K.**

the University of Cambridge, University of Oxford, and University College London
The HE sector is by far the most desired sector by researchers looking to begin their careers. This is for obvious reasons, as new researchers have just completed lengthy study periods in HE institutions and the HE sector to them is both comfortable and familiar. This coupled with the fact that almost all HE institutions invest heavily in research and offer an abundance of researcher positions, guarantees that almost all new researchers consider the HE sector as a career path. Outside of ‘pure’ research positions, the HE sector and HE institutions offer additional career opportunities for non-research staff. The most obvious position is as a lecturer to HE students or as a research supervisor/advisor. Aside from this, HE institutions also need researchers to fill such jobs as educational managers, administrative staff, project managers as well as library and resource administrators. Overall, HE institutions are the largest source of employment positions for researchers. While HE research, teaching, and non-research/teaching staff positions are not always as well paid as research positions outside HE they are by far more prestigious and more suitable to the skillsets new researchers have.

The HE sector is exceptional in that it conducts research in every field. Therefore, finding a research position has almost nothing to do with specific degree attainment or field of expertise. Rather it is almost purely dependent on what the current demand/focus is in HE institutions. HE institutions train graduates/new researchers to work within the research field of HE. Making new researchers by far the best candidates to work in HE research. While this is an advantage for researchers pursuing a career in HE research, it can often be a disadvantage for researchers pursuing careers outside HE, as they may not have the necessary skills. The skills required researchers looking to work in HE research are, project management skills, budget handling, team leading/management, data management, and IT skills.
Overall, the HE sector remains one of Europe's strongest economic sectors. The sector retains a prominent position worldwide and continues to host top HE institutions as well as to attract top students from all over the world. Employment opportunities in the sector have never been better. New researchers looking to pursue a career in HE research can find that there are a number of positions and opportunities available to them.

Other useful sources of information and links

Higher Education in the EU -

Higher Education statistics in Germany -

Higher Education in the UK, facts and figures -

Higher Education in France -
https://publication.enseignementsup-recherche.gouv.fr/eesr/8EN/EESR8EN_RESUME-higher_education_and_research_in_france_facts_and_figures_summary.php

Employment in HE -

Skills you need to become a researcher -
http://www.jobs.ac.uk/careers-advice/working-in-higher-education/1203/5-skills-you-need-to-become-a-researcher