Comparative Analysis of Doctoral Education in Europe

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Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

COMPARATIVE ANALYSIS OF DOCTORAL EDUCATION IN EUROPE

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Abstract (**Comparative Analysis of Doctoral Education in Europe**): Within the institutional and intellectual mindset of a knowledge-based society, universities are faced with demands to rethink their practices and procedures concerning doctoral education. Consequently, many universities established doctoral schools, engaged in a selective recruitment process, often on an international level, introduced a number of taught courses into their programs and defined clearly the steps in progressing through them, constantly tried to improve the process of supervision, and looked for new ways to support their students financially. All these trends point towards a more structured doctoral education in the future, one that goes beyond the traditional master-apprentice model. In light of these changes, I conducted a comparative assessment of doctoral education in the field of political science(s) and public policy across four prestigious higher education institutions was conducted. The analysis focused on three aspects of doctoral education, namely (i) recruitment of doctoral candidates, (ii) organization of the doctoral education, and the (iii) financial support provided to students. More specifically, the study evaluated the total number of accepted PhD candidates, the value of application fees, the amount of coursework, the structure of the third and fourth year of studies, the quality of doctoral supervision, the form of doctoral dissertation, and the attractiveness of the doctoral scholarships in a globally competitive environment, within the specific context these universities' unique organizational profile and mission.

Keywords: Doctoral education; Europe; recruitment; structure; financing.

Introduction

This study offers an overview of major developments in doctoral education, particularly with reference to European higher education. The outlined trends are the summary of several studies and policy documents that address changes in this area. In addition, the study provides a comparative assessment of standards and practices regarding doctoral education in the field of political sciences and public policy across four prestigious higher education institutions. These include the *European University Institute* (Political and Social Sciences Department), the *London School of Economics and Political Science* (Department of Government), the *Bremen International Graduate*

School of Social Sciences, and the *Harvard Kennedy School of Government* (PhD in Public Policy and PhD in Political Economy and Government). The comparison focuses on three aspects of doctoral education, namely (i) recruitment of graduates, (ii) organization of the doctoral education, and the (iii) financial support provided to students. Data for the comparative analysis has been obtained from various sources, with most of the information originating from the websites of these universities and their internal policy documents. The obtained data has been clarified and extended through several interviews with current and past students and via online questionnaires, which have been sent to the administrative units of this organization.

The first part of the document reflects on current trends in doctoral education. The section is organized into several subtopics, which represent major challenges in this area, as identified by scholars and European policy makers. In the following part, I introduce the four institutions that constituted the cases of this study, and later outline the characteristics of their doctoral studies programs. The final chapter summarizes the main learning points of the study by drawing parallels between these four programs.

1. Trends in European Doctoral Education

There are several recognizable trends in doctoral education. Some are region specific, i.e. European, whereas others have a more global character affecting many countries across the world. Several of these trends emerged as a consequence of shifting understanding about the purpose of doctoral education. As outlined by Gilbert (2009) there is a continuous disagreement whether a PhD is:

- part of the cycle of education in a mass education system,
- an apprenticeship in scholarship,
- a contribution to knowledge, with an emphasis on original research, or
- a research training program.

Without attempting to synthesize these perceptions or aligning to one of them, I describe the broader challenges in doctoral education currently faced by many universities. By doing this, I rely to a great extent on scientific publications and European policy documents and discuss separately issues related to the *production of doctoral students*, the *structure of doctoral programs*, *access to doctoral education*, the *content of doctoral programs*, *funding of doctoral studies*, as well the *internationalization of doctoral education*. While this structure makes the content more comprehensible, we have to keep in mind that many of these developments are greatly intertwined, and they might not be so easily separable in real life.

1.1. Growing Number of Doctoral Students

Across the world, as well in many European countries, the number of doctoral students (and hence the number of doctoral degrees awarded) has significantly increased over the last decade. This expansion has raised many issues about public funding of doctoral studies, the structure of doctoral programs, the status of doctoral students, as well about the employability of the growing number of graduates. The increase is visible across all regions of the world (See Figure 1), with China (400% increase between 1998 and 2008) and Brazil (100% increase between 2000 and 2009) being the frontrunners (Jorgensen 2012). However, Europe remains the region with the highest number of doctorates awarded, both in absolute terms and relative to the population (Jorgensen 2012). Among the members of the Union (but also in the world), Germany produces the highest proportion of doctoral degree holders in relation to the number of university graduates (Kehm 2006, 70). Despite the steadily growing numbers of doctoral graduates, the Bergen communiqué pursues further increases in this area, arguing that the future knowledge economy of Europe will need even more doctoral graduates who could take up research careers in the European Higher Education Area (Conference of European Ministers Responsible for Higher Education 2005).

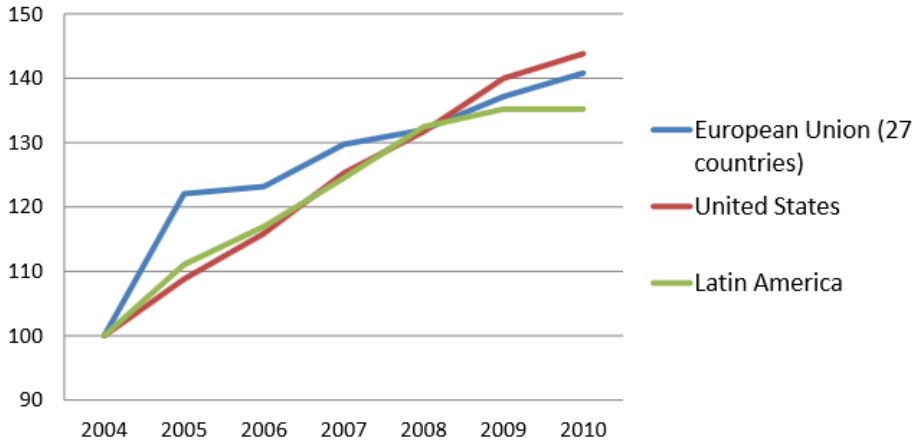

Fig. 1. Growth (%) in doctorates awarded in the EU, USA and Latin America. (*Source*: Jorgensen 2012)

There are both economic and social pressures influencing the growth of doctoral education. Under economic factors we can highlight the need for a better trained workforce, the need for more innovations, and the need to tackle the issue of aging population. Under social factors we can list the ‘massification’ of

higher education and the need to have better teaching on all levels of education (Jorgensen 2012, 8). However, the increase in the number of doctorates is coupled with many undesirable side effects. First of all, there is an unequal balance between subjects, which means that more doctoral graduates are produced in the humanities and social sciences than in engineering, technology or natural sciences. Secondly, the increased number of doctoral degrees awarded also prolongs the transition into an academic career. The 'overproduction' of doctoral degrees results in "a wide variety of postdoctoral fellowships and in-between positions where early career researchers stay in a waiting loop until proper employment is found" (Kehm 2006, 72).

It is clear that with the rise in the number of doctoral degree holders not all of them will be able to follow a career in academia. It is estimated that around 50% of current doctorate holders in Europe are employed outside academia, in the public and private sectors, holding both research and non-research positions (Sursock & Smidt 2010, 46). This trend increases the importance of capacity building, especially the exposure of doctoral candidates to other sectors and academic cultures, and sometimes even to the private sector. The DOC-CAREERS[1] project noted that collaborative doctoral programs, with their exposure to non-university environments, are an excellent way to improve candidates' ability to relate abstract thinking to practical applications and vice- versa (Borrell-Damian 2009, 103).

Completion rates remain an important challenge in Europe. It is estimated that only 50% of students actually finish their studies with a doctorate (Bitusikova 2009, 203). Consequently, many governments experiment with the introduction of thresholds to increase completion rates, while at the same time, universities argue that these mechanisms can compromise the objective of quality research (Park 2005). Nevertheless, completion rates are increasingly used as an indicator for the quality of the doctoral school. Six factors seem to be crucial for institutions to consider if they wish to increase the number of successful graduates. These are student financial support, family support, peer support, faculty support, supervisor support, and student motivation (Park 2005). Many of these factors relate directly to the university environment, and thus, if the appropriate support tools are adopted, could increase completion rates.

1.2. Changing Structure of Doctoral Education

Concerning the structure of doctoral studies the 'master– apprentice' model is still widespread in Europe. This traditional model of a doctorate – as

[1] Details about the project can be obtained one the European University Association's official webiste at http://www.eua.be/eua-work-and-policy-area/research-and-innovation /doctoral-education/doc-careers-ii.aspx

the production of a piece of original research under the supervision of one professor, with very little emphasis on taught courses – is being increasingly challenged (Sursock & Smidt 200, 43; Park 2005, 5). A major criticism states that the traditional model makes selection criteria and admission procedures frequently non-transparent and inconsistent, and some criticism has been formulated also regarding the quality of graduates.

As doctoral education shifts from 'research' towards 'training' more innovations are needed in the area of supervision to enhance the quality of graduates. A recent large scale study conducted by the Carnegie Foundation, which examined doctoral education in the US, argued that the positive aspects of apprenticeship, like frequent interaction, conscious modeling and mutual responsibility, need to be retained and merged with a framework where students are supervised by multiple mentors (preferably also from a non-academic setting) and where all members of the department take responsibility for the success of the student (Jones 2009). Innovations are also needed in the area of monitoring access, recruitment and selection, progress of doctoral student, including procedures for monitoring time to degree and completion rates, and tracking doctoral graduates after their studies (Sursock & Smidt 2010, 86). Some of these concerns underline the need for more structured doctoral programs with more reliable quality standards and procedures. Consequently, we can observe a trend towards establishing graduate or research schools (Sursock & Smidt 2010). These organizational bodies approach doctoral education and training in a more systematic way by offering structured programs, including codes of ethics, transparent regulations, and in some cases even contracts that define the rights and responsibilities of doctoral students, supervisors and the institution. Such contracts are in place for example in France and at some German, Lithuanian, Portuguese, and Austrian universities (EUA 2007).

The growing number of doctoral schools has been also confirmed by EUA's biennial survey of European universities, which reported that in 2007 30% of universities said to have doctoral schools at their institution, while only three years later, in 2010, this number had risen to 65%. Out of this percentage, 49% are doctoral schools that include only PhD programs, while 16% include both Master and PhD studies (Sursock & Smidt 2010, 44). However, the term 'doctoral school' has never been completely well-defined in Europe. In many universities, it refers to individual doctoral programs with some level of institutional engagement, often in the form of taught courses. Other universities use the term 'doctoral school' to refer to a central unit concerned more with strategic issues relevant for doctoral education, such as quality assurance and the drafting of common guidelines (Sursock & Smidt 2010).

Besides ensuring common quality standards across doctoral programs, doctoral schools play also an important role in introducing various innovations.

For example, many of them are complementing the traditional one-to-one apprenticeship with multiple supervisors (Sursock & Smidt 2010, 20). Additionally, they seek to replace the individually-based intake with a more selective, competitive and restrictive selection process, which increases transparency (EUA 2007). A growing number of doctoral schools are also offering additional taught courses as part of their structured doctoral programs. In 2010, 72% of institutions reported to offer taught courses compared to a 49% in 2007 (Sursock & Smidt 2010, 44). All these facts underline why doctoral schools are seen as the best way to organize doctoral education at European universities.

1.3. Diversification of Access to Doctoral Education

Access to doctoral studies is usually regulated by law and requires a Master degree. However, this is not a general rule. Some universities do not identify a Master degree explicitly as the main requirement for access, although it still remains the most common road to doctoral education in many European countries (EUA 2007). In Spain, Portugal, Germany, and UK there are criteria's under which also holders of BA degrees can directly enroll in doctoral education (fast track PhD's). In addition, the emerging new forms of doctoral programs, such as Professional Doctorates, place a much higher value on the candidates work experience compared to his or her academic background.

Besides the growing diversity in accession criteria, there are visible differences between selection procedures as well. The size of accession committee's varies from two to twelve members and tends to include the director of the doctoral school or program, full professors (supervisors), heads of research teams, principal researchers and in some cases also student representatives (EUA 2007). Some universities experiment with more innovative approaches in the selection procedure of candidates. For example, at the University of Bergen in Norway, the first step before the admission is an informal pre-application process in which the candidate identifies a potential research group and meets its members, exchanges ideas with potential supervisors. Based on the evaluation of the pre-application process the research group decides whether to write an application with the candidate. Only after this process can the candidate submit the application and enter the admission process (EUA 2007).

While there is a growing diversification of admission criteria and procedures many European universities are still reluctant to become pro-active in the recruitment of doctoral candidates. Potential students are attracted based on individual contacts and not through a systematic, inter-institutional and international cooperation. In this regard, international recruitment remains a rare practice, which is very much discipline dependent as well. It is more common in the exact and life sciences than in social sciences and humanities (EUA 2007).

A positive example is the Medical University of Graz in Austria, which publishes the call for applications in English in numerous newspapers, scientific journals, scientific societies, relevant web databases, and via personal communication with researchers, universities, and so forth (EUA 2007).

1.4. Evolving Content of Doctoral Education

The content of doctoral programs is structured so as to emphasize original contribution to knowledge. However, traditional expectations in this area are also being challenged, especially due to the increasing number of new types of doctorates that rely more and more on taught courses. The introduction of taught courses and training elements is likely to broaden the perspectives and the competences of doctoral candidates. This should be accompanied by the use of credits as a way to demonstrate the student's preparation in different areas. However, many institutions oppose the use of credits, given that the major part of the doctorate is constituted by original research, which is difficult to be measured by credits. The Trends III study, which was published in 2005, reported that 47% of responding universities didn't find ECTS "applicable" at doctoral level. In 2007, when the Trends V report was published, 46% stated that they do not intend to apply credits at that level. In 2010, the percentage of institutions not using credits for doctoral education was still 42% (Sursock & Smidt 2010, 57). These data demonstrate a rather slow change in the introduction of ECTS at the doctoral level (only 5% increase in the last 8 years), which can limit the mobility of doctoral students as well.

The emphasis on institutional, societal and economic relevance of doctoral education is becoming more apparent. Much of the criticism that has been formulated states that doctoral students are educated and trained too narrowly, lack key professional skills, such as the ability to collaborate effectively and work in teams, lack organizational and managerial skills, and are ill-prepared to teach (Sursock & Smidt 2010). This pressure resulted in a trend towards interdisciplinary approaches in doctoral education, which is linked to the development of transferable skills (Kehm 2006). In line with this, the Bergen communiqué advises universities to (i) promote interdisciplinary training and the development of **transferable skills** in doctoral education, and also stresses the need to (ii) develop new types of doctoral programs, such as **professional doctorates** (Crosier *et al.* 2007, 31). Thus, the training of research-capable, reflexive and flexible graduates, with generic as well as discipline- or field specific knowledge and capabilities is increasingly recognized as means of improving graduates employment prospects in and outside academia (Sursock & Smidt 2010, Boud & Lee 2009).

While several trends and developments are reshaping European doctoral education, some things are bound to remain unchanged. This has been reaffirmed during the European Ministerial meeting in Bergen in 2005, where it was outlined that "The core component of doctoral training is the advancement of knowledge through original research" (Conference of European Ministers Responsible for Higher Education 2005). The statement suggests that there should be no doctorate without original research - the main component of all doctorates – no matter which type (Crosier *et al.* 2007, 31). In a UK study several doctoral programs have been examined in terms of their expected outcomes. The following table demonstrates that original contribution to the discipline's knowledge is still the main objective of many doctoral programs.

Table 1

Number of Institutional Specific Outcomes of Doctoral Education (Adapted from Gilbert 2009, 61)

Element of degree objectives or outcomes	Number of UK institutions referring to the element (n=25)
Original contribution	24
New facts	9
Reinterpreting data or ideas	7
Formulating theories	5
Implementing research project	11
Critical review of literature of field	8
Methodological techniques and skills	7
Independent critical thought	7
Communicating research findings	6
Relevance of scholarship in the field	6
Formulating problems	3
Research ethics	2
Personal development	2
Commercialisation and acquiring grants	1

The dominance of original contribution is also apparent in the examination criteria of many UK universities (*Table 2*). While there is considerable agreement in the use of this criteria across many universities, differences emerge as to what extent should critical and independent thinking, comprehensiveness of the work, or the formulation of clear hypothesis and research questions be assessed.

Table 2

Number of Institutional Specific Examination Criteria of Doctoral Education (Adapted from Gilbert 2009, 63)

Examination criteria	Number of UK institutions referring to criteria (n=19)
Original contribution to knowledge	19
Quality of writing and/or presentation	18
Demonstrated research skills and/or methodology	13
Use fo literature	12
Critical or independent thinking and analysis	9
Adequate for publication	8
Analysis of results	6
Comprehensiveness	6
Related to field	5
Evidence of independent planning and research	5
Develops clear hypotheses or questions	4
Shows knowledge of the filed or discipline	3

We find a high variation concerning the requirements for the award of the doctorate. Writing an essay and defending it is the rule, however, it is more and more common, that doctoral dissertations can be submitted in the form of a series of published articles. In contrast to the traditional research oriented doctoral programs, a new form known as 'Professional doctorates' or practice-related doctorates, have received particular attention. These programs are usually profession-specific and offered to mid-career professionals (Boud & Lee 2008). They ease the requirement to produce original research and instead emphasizes coursework which is designed to strengthen generic skills and interdisciplinary approaches to problem solving (Kehm 2006, 72). Moreover, the dissertation is often a joint projects carried out in conjunction with a company or potential employer. Two countries, namely the UK and the Netherlands, have already introduced professional doctorates, while there is an ongoing pilot project in Austria that seeks to develop professional doctorates (Sursock & Smidt 2010).

1.5. Challenges of Funding Doctoral Education

There is a great variety in terms of funding levels and mechanisms of doctoral students in Europe. We find tuition fees at the one end of the continuum and salaries at the other. In between are state loans, scholarships, part-time jobs and paid teaching positions (Kehm 2006). Funding is strongly related to how students are regarded by their host institution, namely to the status of doctoral student. The discussion is based on whether doctoral

education should be viewed as the continuation of one's studies, and hence it may require the payment of tuition fees, or as the beginning of a professional career, in which case a salary, together with employee benefits, needs to be provided. In most European countries, and also in North America, doctoral candidates are regarded as students, thus tuition fees have to be paid that provide an income for the institution. However, in some countries (e.g. in Norway, Sweden, and the Netherlands), the doctoral student is regarded as an early career researcher of the university with duties, rights and a regular salary (Kehm 2006). While the discussion is far from being settled there is increasing support for the latter approach, which is also apparent in the Salzburg conclusions and recommendations concerning European doctoral education (EUA 2005).

In countries where doctoral education is considered as the continuation of ones studies, scholarships, fellowships, and grants are the main sources of student funding. In addition, in many European countries these funds are supplemented with income from engagement in research projects or teaching assistantships. Funding obtained through these sources range between 5.000 to 30.000 Euros annually (Bitusikova 2009, 208). It is interesting to note that doctoral candidates in social sciences and the humanities constitute the highest percentage of doctoral students without a scholarship or salary (Kehm 2007).

The insecure financial state of doctoral students contributes to high drop-out rates and also is the main factor for a long time to graduation. In the US, students need between six and nine years to complete a doctorate, depending on the subject as well as on the institution. In Canada, the average time for completion of a doctorate is more than five years in all subjects (an average of 5 years and 10 months across all disciplines), with students in the humanities and social sciences requiring more than 6 years. In Europe a doctoral degree takes longest in the humanities and shortest in medicine, engineering and some of the natural sciences (Kehm 2006). However, insecure funding is only one of the reasons for prolonged graduation time. Another important factor is the previously mentioned lack of supervision and insufficient quality assurance mechanisms (Kehm 2006).

1.6. Internationalization of Doctoral Education

Due to increasing mobility of students and staff doctoral programs are becoming more and more internationalized. A stronger emphasis is being placed on temporary mobility (a limited period of study and research abroad) and exchanges within the framework of institutional collaboration and networks (Crosier *et al.* 2007). In this regard, several European policy documents, including the Leuven/Louvain-la-Neuve Communiqué and the ERAB report, set the target of 20% of doctoral candidates doing part of their studies outside of

their home country. The trend in North America differs somewhat from Europe, as institutions try to attract doctoral students for the whole duration of their studies, and even provide attractive conditions to keep international doctoral degree holders in the country (Kehm 2006). The percentage of doctoral degrees earned by foreign students on a global scale is the largest in UK (39%), the US (30%), in Germany (13%), and in Japan (13%) (Tennant 2009).

Within Europe, there is a noticeable concern for the development of joint doctoral degrees and to conceptualize a European doctorate (Crosier *et al.* 2007). Such programs are delivered by a consortium of universities that award the graduate a joint diploma, or in some cases a separate diploma from each institution. The Erasmus Mundus Joint Doctorates funded only a handful of such programs, but nevertheless enabled universities to develop considerable know-how in setting up cross-border collaborations and integrate joint doctorates into their internationalization strategy (Jorgensen 2012, 23).

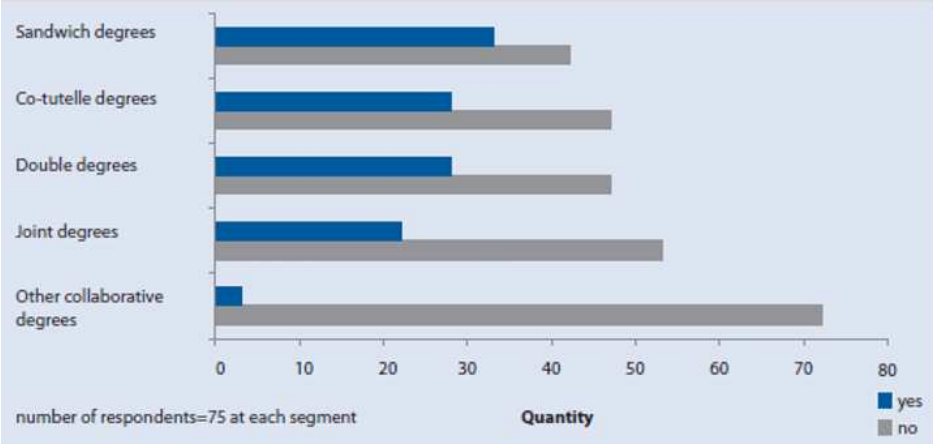

Fig. 2. Forms of collaborative doctoral education at European universities (*Source*: CODOC, 2012)

Besides promoting mobility and setting up joint doctorates, internationalization can be promoted, for example, through the recruitment of international staff, the organisation of international workshops, conferences and summer schools, and co-tutelle arrangements (i.e. arrangements that involve two institutions who agree on the joint supervision of a doctoral candidate – they regulate the candidates enrolment, supervision, and evaluation – and grant two separate diplomas to the individual). The use of new technologies, such as online lectures, is likely to foster the internationalisation of doctoral programs as well (Crosier *et al.* 2007, 32).

Introduction of cases

Bremen International Graduate School of Social Sciences, Germany

Germany is the biggest provider of doctoral education in Europe with about 26,000 doctorates awarded in 2011 (Eurostat 2013). However, the majority of their doctoral candidates are not participating in 'structured' doctoral education, rather study in a traditional way, where the candidate is directly recruited by a professor. Because of that, many doctoral students remain relatively isolated from the institution, until the formal thesis defense (Jorgensen 2012).

The Bremen International Graduate School of Social Sciences (BIGSSS) was founded in 2008 as an inter-university institute of the University of Bremen (UB) and Jacobs University Bremen. The school offers structured doctoral programs in several interdisciplinary areas, across the core disciplines of political science, sociology and psychology. Their programs have a strong international focus and recruit students from all around the world.

Graduate education at BIGSSS is organized around three thematic fields, namely *Global Governance and Regional Integration*, *Welfare State, Inequality and Quality of Life*, and *Changing Lives in Changing Socio-Cultural Contexts*. These themes are integrated under the umbrella term *Changing Patterns of Social and Political Integration*. A specialized curriculum is dedicated to each of these research fields and students are expected to specialize in one of them. In addition, the school covers a broad spectrum from quantitative to qualitative methods and combinations thereof.

London School of Economics and Political Sciences, United Kingdom

Doctoral training in the UK is largely concentrated in research-intensive universities, where doctoral education in most of the cases is coordinated through doctoral schools. In line with the general European trend, the number of doctorates awarded in the UK rose by about 20% between 2004 and 2010, making the UK the second largest country in terms of PhD production (20.000 PhD's awarded in 2011) (Jorgensen 2012, 50). One particular aspect of the British doctoral education is the existence of different kinds of doctorate, and especially the professional doctorate.

Established in 1895, the London School of Economics and Political Sciences (LSE) is one of Europe's largest and oldest universities focusing entirely on social sciences. The university is organized into 24 academic departments and 19 research centres which provide teaching and research across a range of social sciences, from history to mathematics. The study analyzed the doctoral training at the Department of Government, which is one of the largest political science departments in the UK. Their activities cover a comprehensive range of approaches to the study of politics, including the history of political

thought, normative political theory, comparative politics, political economy, nationalism, and so forth. Both, in terms of their student body and their faculty, the department can be described as highly international.

European University Institute, Italy

The doctoral degree (PhD) was introduced in Italy as recently as 1980 (Jorgensen 2012). Despite its recent adoption, from 2000 onwards the number of PhD's awarded rose spectacularly from 3.500 in 2000 to 11.000 in 2011, making Italy today the third largest country awarding PhD's. As in other European countries, Italian universities began establishing doctoral schools in 2000, but many of them preferred to set up small and highly specialized schools, corresponding to the academic subject of one particular professor.

The European University Institute (EUI), set up in 1976 in Florence, can be hardly considered as a typical Italian university. It is a specialized post-graduate institution established by six European countries with a particular interest in the study of the development of Europe. Today, the university is supported by 20 member states and offers for their candidates doctoral and post-doctoral programs in the fields of economics, law, history, and political and social sciences. The latter department constituted the primary focus of this study. The Department of Political and Social Sciences focuses on contemporary political and social phenomena, mainly but not exclusively within Europe. Their research interests include comparative politics, international relations, sociology, and social and political theory and train their international body of graduate students in various methodologies.

Harvard Kennedy School, United States[2]

Doctoral education in the United States (US) is frequently perceived as the model that other countries aspire to imitate. However, there is no clear US model of doctoral education, rather it is characterized by a high level of diversity and stratification (Altbach 2004). US universities have awarded 73.000 PhD degrees in 2011 compared to the 114.000 PhD's in Europe (27 countries). The majority of the degrees is awarded only by a handful of institutions (about 12% of all graduate degree awarding institutions accounts for about 50% of all doctoral degrees awarded) (Altbach 2004).

Set up in 1936, the Harvard Kennedy School (HKS) is an exceptional school dedicated to the training of public leaders and addressing the most challenging public problems. Hence, the core of its teaching and research activities is in the field of public policy and public administration. Presently, the school houses 15 research centers and institutes, and it offers four doctoral

[2] I cover only the PhD programs in Public Policy and Political Economy and Government, excluding the programs in Health Policy and Social Policy, which have a special character.

programs with a worldwide reach. These are: PhD in Public Policy, PhD in Political Economy and Government, PhD in Health Policy, and PhD in Social Policy. Doctoral education in the first two programs has been analyzed in depth by this study.

1.7. Recruitment of Doctoral Students

All four universities select doctoral candidates through a structured application procedure. A crucial element of the application is the candidates previous degree, which as a rule should be minimum a one year master degree in a related field of science. Concerning the content of the application, most of the universities require similar documents. Students need to submit their transcripts, a CV, proof of their language proficiency, a research proposal, and recommendation letters from two, or as in the case of HKS, three references. At EUI and BIGSSS students can submit an application only to one program, at LSE they can indicate a primary and an alternative program, while at HKS they are free to apply to several programs simultaneously. Also, in the case of the latter two institutions (LSE and HKS) an application assessment fee of about 70 Euros is payable.

In most cases, universities publish only one call for their doctoral programs (except LSE, which has three call periods). They usually open between October and December, and close between December and February. The selection of candidates takes place through several stages in which designated committees prepare a list of short-listed candidates with whom an interview is conducted. Final decisions are made by designated committees involving professors of the department/school in charge of the discipline.

1.8. Organization of Doctoral Education

EUI and LSE offer only one doctoral program in political science, while BIGSSS has 3 and HKS 4 specialized programs. Most of the programs have taught elements, except the MPhil/PhD ones offered at LSE. In terms of the structure of the offered programs, most universities offer specialized tracks, themes, or thematic fields, from which the students can or have to choose one (except at LSE, where no such specializations exist at the program level). It should be noted as well, that in the case of EUI and LSE, the doctoral program is organized by a department, while BIGSSS and HKS are independent schools. This difference can account for the bigger diversity in terms of tracks available at these two latter institutions, compared to the ones at EUI and LSE.

EUI accepts the largest number of doctoral students every year (40), followed by HKS (27), BIGSSS (15), and LSE (12). Most universities offer only residential full-time degree programs (with the exception of LSE where part-time studies are also available) and students are expected to live during the entire duration, or at least a larger part of it, in the residence of the institution. The formal duration of the doctoral programs varies between 3 and 4 years. The strictest regulation concerning study time is applied at EUI where students lose their right to defend their dissertation after the fifth year of their studies. At the other institutions we see a somewhat greater variety in terms of time to degree (TTD). The average TTD at BIGSSS, LSE, and HKS is between 4 and 6 years. These universities don't have an official final deadline until which the dissertation needs to be submitted.

As a general rule, coursework is expected to be finished in the first and second year of the studies, while the subsequent years are devoted to the student's research project. In the case of BIGSSS, students are expected to attend preparatory sessions in social science methodologies before the beginning of their formal studies. The most substantial coursework is required by HKS (approximately 32 ECTS – 16 half courses), followed by BIGSSS (20 ECTS – 60 credits), EUI (20 ECTS – 200 credits), and LSE (16 ECTS – 4 units). The credits are accumulated on various field specific courses, methodology courses, and sometimes also on research preparatory courses (prospectus seminars, workshops, colloquiums). Normally a research prospectus needs to be submitted at the end of the first year and it should be around 15-20 pages. The only exceptions are BIGSSS, where the prospectus defense takes place after the first semester and HKS where the prospectus defense, together with an oral examination (including a separate research paper regarding the coursework) takes place during the third year of the studies (in December). EUI is the only institution which has neither an oral examination nor a formal prospectus defense.

Some universities enforce continuous progress assessments. Students at BIGSSS participate in a Progress Assessment Colloquium, before they can continue to the second and third year of their studies. During the second year, students at EUI are required to present a more detailed project proposal which should account for about 25% of their dissertation. In the third year they are required to present another substantial work in progress (2/3 of their dissertation). At the same time, students at HKS undergo a comprehensive oral examination and a prospectus defense.

Examinations for courses are organized in various ways and sometimes even in several steps. Students usually submit a written research paper/essay up to 5.000 words (as in the case of EUI and LSE). In some cases students need to pass a more formal in-class written examination, while in-class oral examinations are not practiced. Grading exams is neither a common practice, because it is used only at LSE and HKS. A formal defense of the prospectus is a

tradition at LSE and BIGSSS, while the other universities rely instead on a written evaluation of the student's supervisor or other faculty members. The only institution that conducts a general oral examination is HKS. The oral examination serves to test the student's mastery in two fields (major and minor) and for the assessment of the student's methodological skills.

Students are assigned a supervisor during their first years of studies, which often takes on a more permanent form following the prospectus defense. BIGSSS is the only institution, where students need to indicate possible supervisors during their application process. Supervisors can usually supervise between 8 and 15 doctoral students. In most cases, a single supervisor is responsible for the doctoral student, except in the case of LSE where the student has both a lead supervisor and a specialist mentor. Dissertation committees have a formal role in supervising student's work only at BIGSSS and HKS and they are usually set up in the second or third year of studies. Formal agreements between student and supervisors exist only at BIGSSS and EUI.

Doctoral programs at the studied institutions offer short term (up to six months) mobility options for their students, but participation in them is not mandatory. Most of the mobility programs are offered based on institutional/ departmental partnership agreements with other higher education institutions and adequate financial assistance is provided. International mobility programs, like Erasmus and Fulbright are also available to their students. However, institutions vary to a great extent whether they offer or require their students to obtain teaching/research experience. At EUI students, don't have the possibility to engage in teaching activities, whereas at LSE, BIGSSS, and HKS teaching assistantship is possible or even mandatory (as in the case of BIGSSS and LSE if the student receives a scholarship). Students can become TAs from the second or third year onwards and are compensated financially for their teaching engagement.

1.9. Financing Doctoral Education

Tuition fees have to be paid almost at all institutions, except at BIGSSS, where only a small semester fee is required. Because of its special character, tuition fees at EUI are payable by national bodies or private foundations but not by students. In comparison, HKS has the highest level of tuition fees (30.669 EUR), followed by LSE (17.400 EUR), and EUI (12.000 EUR). In addition, some institutions use progressive tuition fees, meaning that its amount is decreasing with every subsequent year of studies, or apply differentiated tuition fees based on the student's country of origin (LSE).

There are many ways in which students can cover their tuition fees, which is apparent in the available amount of student aid. In general, scholarships cover the costs of the tuition fee and provide also a monthly

stipend. Based on the amount of the monthly stipend, student at LSE receive the most financial support (1.770 EUR)[3], followed by HKS (1.566 EUR), BIGSSS (1.300 EUR) and EUI (1.180 EUR). However, in the case of EUI, where sending countries provide the scholarship for students, we can observe a large variety in the amounts of monthly stipends, that range from 1.050 (Greece) to 3.058 (Denmark). Beside monthly stipends students are also eligible to obtain other forms of funding (teaching fellowships, travel grants, etc.). In the case of all four universities, applicants to the doctoral programs are automatically considered for a scholarship, and the majority of accepted students also receives it.

Scholarships are usually provided for the entire duration of the program. The only exception is HKS, where stipends are available for two years only (after which students are expected to secure funding through engagement in teaching assistantships or research activities). At the other institutions, stipends are provided for three (BIGSSS) to four years (LSE, EUI). Except HKS, all other institutions provide a stipend for the entire duration of the year (12 months).

Most of the universities offer additional grants to their students during their studies. These grants are usually earmarked for mobility purposes (attending conferences, field work, teaching and research). EUI provides annually around 700 Euros for students to attend conferences or summer schools. Conference grants at LSE are a combination of departmental and school support, and their amount varies depending on the number of occasions the student participated in them. They are supplemented with yearly travel grants approved by the supervisor. Grants for attending conferences at BIGSSS are determined on an individual basis, and there is no pre-set limit. HKS offers automatically to each fourth year student a summer research grant of 3.600 EUR. The grant can be used to attend conferences, summer schools, or to conduct field research. Completion grants are available at EUI and HKS (around 18.000 EUR) but not at LSE. BIGSSS offers a transition grant (three months of stipend on top of the three years). Additional grants for research activities are offered only at LSE for selected students (1.200 EUR). Graduate Teaching Assistants at LSE receive 1.180 EUR for teaching one class and one group of students, while HKS offers 25.000 USD for TAs that teach at least two courses in one academic term.

Conclusions

In line with the rapid expansion of the number of doctoral students many European universities established doctoral schools. This seems to point to the conceptualization of doctoral education as research training programs, with a structured curricula including several thought courses (both field specific ones

[3] Not counting ESRC grants.

and courses in research methodology), examination procedures, formal supervision agreements, and tighter progress requirements. While the production of original research, remains the core component of doctoral education, the submission of three publishable articles are more and more widespread as an accepted form of dissertation. Hands on experience in teaching and research projects is another important aspects of training future doctoral students, to which numerous courses, workshops, but also funding opportunities are linked. On the other hand, the recognition of doctoral candidates as early career researchers is a somewhat unrealized idea. Many universities consider their doctoral candidates as students rather than employees.

Recruitment procedures are very similar across all institutions. They rely on a centralized selection procedure, require similar application documents, and promote their programs in various ways and through different platforms. They are also flexible in terms of the applicant's background and accept both one and two year master degrees. Based on the major trends in doctoral education, we can expect further increases in the number of applicants in the coming years, which can justify the introduction of application fees. However, the introduction of application fees can hinder access for applicants from poorer countries and regions.

It is common to structure doctoral programs by specialised tracks especially when they are organized by doctoral schools. The number of admitted doctoral students largely depends on the profile of the institution. EUI which provides education only on the third circle accepts the most doctoral candidates, while LSE, which offers education on all three levels, accepts the least number of doctoral candidates per year. Coursework is expected to be finished in the first and second year of the studies, while the subsequent years are devoted to the student's research project. It is noticeable, that programs with larger coursework tend to have somewhat longer time to degree (TTD). In most cases the TTD is between 4 to 6 years, while only EUI enforces a strict submission deadline, which is within 5 years from the start of the program.

Formal assessment of subjects and grading, as well as organizing a prospectus defence or final oral examination in front of a committee are not a common practice across all institutions. While some seem to enforce such exercises, others rely more on the individual judgement of the supervisor. Supervisors are assigned to each student from the beginning of their program, but the supervision process is rarely regulated by formalized agreements (despite the recommendations from the Ministerial meeting in Salzburg). The third and fourth years of the programs are comparatively less structured than the first two years. The only exception is EUI, which enforces strict progress requirements also in the last two years.

The collected evidence counsels us to consider the total number of accepted PhD candidates, the possibility to become more pro-active in recruiting doctoral candidates, the amount of coursework and the structure of the doctoral program, the quality of doctoral supervision and the attractiveness

of the doctoral scholarships in a globally competitive environment. Nonetheless, this report is not intended to offer an impetus for imitating the practices and standards of some of the best universities, rather to enable other institutions to revise those in light of their unique organizational profile and mission.

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