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How is a European phenomenon focussing on Governance to be studied? The case of Structured Doctoral Education

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ABSTRACT

In this paper, the research design for a study on structured doctoral education and university governance is presented and critically discussed. The design is based on the study's objectives as well as methodological and theoretical issues. The study's objectives are twofold: on the one hand, establishing and explaining the State of the Art structured doctoral education in Switzerland and Norway, and on the other hand, analysing the steering of structured doctoral education, using this example to observe university governance in these two countries. Due to the relatively recent character of the phenomenon "structured doctoral education" in continental Europe and its quality as an issue of multi-level governance, an exploratory, inductive study based on the comparison of case studies represented by four doctoral programmes per country is chosen. Covering four different disciplinary fields and two types of higher education institutions within two countries, these case studies take into consideration different potential structuring variables and, simultaneously, provide enough leeway for other potential explanations. At the same time, the contribution discusses the potential of the research to provide meaningful material, including a complete picture of involved actors at the different levels. Empirical work consists primarily of interviews with actors involved in doctoral programmes and includes an analysis of existing regulations as well as contextualisation in national and European policies.

INTRODUCTION

Higher Education studies often speak about *trends* shaping higher education (HE) in numerous countries. For instance, Goedegebuure et al. (1994) draw together several general trends, which have emerged in eleven countries: a move towards less state control, a strengthening of institutional autonomy and increased governance, competition between institutions, privatisation of funding, greater market orientation and growing institutional accountability for quality and service. Another – European – trend is the object of the underlying research, that is to say *organised or structured doctoral education*. This phenomenon spreads in many European countries. The study seeks to deal with it in two ways: on the one hand, it tries to understand *and explain* the way structured doctoral education exists today in Switzerland and Norway. On the other hand, it scrutinises the steering of structured doctoral education and uses it as a concrete example to learn about university governance in both countries. The principal question addressed in this contribution is *how* the phenomenon of *structured doctoral education in Europe* can be studied. Arguing on the foundations of the phenomenon as a "multilevel issue" (1), the chosen objectives of the research (2), theoretical and practical considerations (3) as well as concrete realisation (4), methodological issues and choices of research design choices are exposed and discussed. In the last part of this paper, reasons are provided why the proposed

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research design is not only a means to understand existing structured doctoral education better, but also a promising opportunity to learn about university governance. In this part, some tools in the discussion about governance are suggested (5). Finally, a conclusion estimates the strengths, weaknesses, opportunities and threats of the presented research design and exposes some more general observations about the study of higher education (6).

1. STRUCTURED DOCTORAL EDUCATION IN EUROPE: A MULTILEVEL ISSUE

In opposition to the informal "apprentice-ship model", s*tructured* or *organised* doctoral education includes certain formal rules, for instance, regarding the recruitment, supervision and education of doctoral students, which are often organised in the framework of so-called doctoral programmes.[1] Studying this (for continental Europe) relatively new phenomenon necessitates a closer look at its origin and development.

According to Teichler (2006), structured doctoral programmes have spread in many European countries since the 1980s. In 2003, the doctorate became part of a more formalised framework signed by 45 countries, the Bologna declaration. After the Bachelor and Master tiers, doctoral studies became the third tier. Two years later in Bergen (2005), the need for structured doctoral programmes, transparent supervision and assessment was underlined, when the workload of the third tier was made to correspond to 3-4 years full time. Moreover, the signing ministers "urge[d] universities to ensure that their doctoral programmes promote interdisciplinary training and the development of transferable skills, thus meeting the needs of the wider employment market" (2005: 4). This demand was also underlined by the Commission of the European Communities (2003) in the view of the European Research Area (ERA) and its related topics: "Postgraduates should be trained and prepared to enter not only the endogenous academic market but also a broader exogenous market" (2003: 14).

Regarding the discussed research design this means that, both levels, the national and international, must be considered. Concretely, the broader national context of HE, policies and rules of doctoral education as well as international issues like Bologna's European Higher Education Area (EHEA) and Lisbon's ERA must be studied in detail in order to understand the structured doctoral education, which exists today. However, it is unclear whether these international policies influence all European countries to the same extent. Therefore, it would be interesting to study this influence in at least two national HE systems.

However, limiting the study to international and national levels would correspond to an oversimplification of the research problem. The implementation of international and/or national policies within Higher Education Institutions (HEI) happens rarely in a linear manner because HEI may be characterised by variation concerning mission, size, disciplinary composition, funding mechanisms, government forms, own interests and so on. In short, there may be a very complex diversity. These varying characteristics may also be sources of variation regarding doctoral education. Therefore, it is argued that a study with the ambition to understand doctoral education cannot neglect institutional and infra-

institutional levels. The consideration of these levels is even more important if we consider them as the "operational centre" of structured doctoral education: presumably, doctoral students work essentially, however not always exclusively, in universities, structured doctoral education is provided by university professors and other scientific staff, and doctorates are awarded by universities.

2. RESEARCH OBJECTIVES AND CHOICE OF METHODS

As mentioned in the introduction, the *first goal* of the study consists of the understanding and explanation of the structured doctoral education in Switzerland and Norway, which exists at this time. The following paragraphs develop how this objective can be dealt with.

Several elements plead for *exploratory research*: because of the relatively recent character of the phenomenon, few studies have been carried out about structured doctoral education in Europe until now. Although they partly include some explicative power for the phenomenon,[2] there is still a need for further clarification: on the one hand, regarding other countries than those observed until now, because there may be other explanations, and on the other hand, regarding the degree of depth, in particular in relation to institutional and infra-institutional levels.

Lijphart's (1975) typology of scientific methods helps to develop the methodological choice. It firstly distinguishes between the experimental and the non-experimental method. The former method is certainly not applicable to exploratory research because in opposition to research in natural sciences, the objective is not to test hypotheses in order to confirm or reject them. In the present case, hypotheses should rather help to define the empirical field and find relevant explanations. Among the non-experimental methods, Lijphart lists three types, that is to say the statistical, case study and comparative methods. The statistical method can be used if sufficient cases are available. In the *trade off* between breadth (large number of cases with limited depth) and depth (small number of cases with large depth), preference is given to depth. This choice can be justified by the phenomenon's multi-level character. Consequently, the statistical method is not appropriated. According to Lijphart, the case study is limited to one case. Limitation to one case would have the same effect as the statistical method, yet regarding breadth, namely too strong reduction of the problem's complexity. In both methods, statistical and case study, possible explicative variables would be eliminated in advance. In contrast, the *comparative method* makes it possible to broaden to a certain degree the empirical basis and deepen it as much as possible. In fact, the comparative method seems to be most appropriate to the research problem and objectives. This is confirmed by Teichler (1996: 431) writing about comparative studies on higher education: "They are indispensible [sic] for understanding a reality shaped by common international trends, reforms based on comparative observation, growing trans-national activities and partial supra-national integration in higher education". Structured doctoral education seems to resemble the type of reality described. Therefore, a comparative research method is adopted.

The next step consists in the decision upon *what* exactly is to be compared. As structured doctoral education is often organised in the framework of *doctoral programmes* or *doctoral*

schools, they are chosen to serve as units upon which comparison is carried out. In order to avoid choosing elements which do not correspond at all to the idea of structured doctoral education the following definition is applied: *a programme or school at the doctoral level, visible as such and applying certain minimal rules regarding issues concerning doctoral studies such as studies duration or recruitment, supervision and education of doctoral students*.

Given the adopted in-depth research design, an exhaustive study of all doctoral programmes in a given national HE system is impossible. Therefore, a limited number of *cases are chosen*. Gerring (2004) discusses several definitions of the *case study*. He is not satisfied by them and formulates his own definition, which fits quite well with the research objective: "As a substitute for these flawed definitions, I propose to define the case study as *an intensive study of a single unit for the purpose of understanding a larger class of (similar) units.* A unit connotes a spatially bounded phenomenon – *e.g.* a nation-state, revolution, political party, election, or person – observed at a single point in time or over some delimited period of time (2004: 342)." In the given study, a unit is one doctoral programme observed in its current state. However, its emergence and development is considered too, because it may be an explicative variable.

3. THEORETICAL AND PRACTICAL ASPECTS IN THE SELECTION OF CASE STUDIES

In an article about research in higher education, Tight (2004) asks the question whether the community of researchers in higher education is an *a-theoretical community of practice*. By analysing a large database of 17 specialist higher education journals, based outside North America, he notices that in the majority of cases, "any theoretical perspective is only implicit, and broader engagement with theory is absent." Therefore, it is legitimate to raise the question whether theory is helpful for research in higher education. Tight shows that regarding this question, *the* higher education research community of practice does not exist as one single community but is strongly divided. He argues that this is due to different disciplinary backgrounds and departmental location of researchers working on higher education. "Researchers who do make their theoretical perspectives explicit tend to be based more often in social science disciplines or academic development units, rather than education departments or higher education research centres (Tight 2004: 409)." Tight thinks that there is a need for more theoretical engagement because that would allow the field to develop further and to gain credibility and respect.

Concerning theory and related hypotheses, more specifically in comparative higher education research, Kogan (1996) has a clear opinion: "Whilst we can certainly look for juxtapositions and thematic comparisons, and attempt to find causal explanations, we will be tying ourselves into an unnecessary bed of nails if we try to direct our research on the basis of pre-structured hypotheses. Where there are usable hypotheses let us enjoy them. Otherwise there is plenty of good work done at the third level, of thematic comparison (…) (1996: 398)." Teichler goes in the same direction when he writes that "most theoretically demanding and empirically successful comparative research on higher education *starts off from a semi-structured set of* [theoretical] *assumptions* (1996: 449-450)." In his opinion,

the use of theory and hypotheses in combination with comparative studies is a strength that should not be missed. However, the adopted theoretical assumptions should not be handled too narrowly; otherwise, the study might arrive at simplistic conclusions ignoring the complex reality.

The introduction of theoretical aspects may also be useful in the study about doctoral education and university governance. Concerning variables, which may shape doctoral education, several hypotheses – partly built on theoretical foundations – emerge. Four variables appear in particular to be determinant for the features of doctoral programmes. The *first variable* consists in the *type of scientific discipline or field*. In their book called "Academic Tribes and Territories. Intellectual enquiry and the culture of disciplines", Becher and Trowler (2001) convincingly describe specific characteristics of twelve different scientific disciplines and their respective communities. Differences related to these disciplines and their communities are demonstrated in a varied range of categories: They run from the validation process of results, deviations in language and style, nature and incidence of collaboration, recruitment and initiation to – and that is especially important for the study – form of doctoral supervision. On this basis, the hypothesis that these differences among disciplines and their communities also create differences in the concrete design of doctoral programmes. Differences resulting from factors related directly to disciplines, like varying disciplinary needs and cultures in terms of supervision and education can be assumed.

This leads to a *second variable*, that is to say, *structural differences between disciplines and HEI*. Becher and Trowler (2001) distinguish between urban and rural disciplines. These terms relate to the density of researchers in a certain discipline, sub-discipline or speciality. Scientific domains with a high number of researchers are qualified urban, domains with a small number rural. Certainly, this difference can also be made regarding doctoral students and their respective scientific domains. However, what one has to add in the case of doctoral programmes, are structural differences between HEI. Regarding the politically and economically often evoked criterion of *critical mass*, not all HEI may probably have "enough" doctoral students in each domain in order to offer a specialised doctoral programme. Therefore, solutions like interdisciplinary or inter-institutional doctoral programmes may be expected. However, it can be assumed that such alternatives do not remain without consequences on content or steering aspects of doctoral programmes. In interdisciplinary programmes, content cannot be too specialised within a certain discipline, yet may be organised around a common thematic. In the case of inter-institutional programmes, implied institutions have to agree on elements like, programme content, (practical) organisation, funding and so on.

HEI differ not only regarding structure but may also be distinguished between different *types of HEI*. This *third variable* may refer to the distinction between academic and vocational HEI. From this point of view, once again the disciplinary variable may be of importance. However, there may also be other criteria related to the variable "type of HEI", like types of awarded degrees, degree of prestige, steering and/or funding mechanisms.

The *fourth variable* is related to differences of national *governance models*. Distribution of responsibilities in higher education on national and regional governments, funding agencies

and other intermediary bodies and actors vary from state to state, especially between unitary and federal states. Consequently, policies in higher education and their implementation through respective reforms may vary too. Hence, this variable may also have an impact on concrete doctoral programmes.

Some variables might explain diversity in existing doctoral programmes. The following points argue how these variables as well as other factors like feasibility, access to the field and existence of case studies are taken into account regarding the selection of the case studies: First, it appears to be preferable to choose cases on the base of certain variables rather than by ignoring theory and empirical reality. Taking into consideration these two factors allows the choice of "significant" rather than exceptional cases. Furthermore, diversity is preferred to similarity. Potential diversity can be achieved through the choice of national HE systems. However, this is not simple for two reasons: first, no exhaustive comparative information exists regarding all enumerated variables in all European HE systems, on which a choice could be based.[3] Second, the possibility is not excluded that other important variables were ignored until this research phase. Therefore, the choice of countries always remains a little ambiguous or uncertain. Consequently, uncertainty might be reduced by choosing countries according to the hypothetical importance given to each variable but also by the empirical existence of cases, feasibility in terms of working charge and access to the field. Finally, considering certain variables in the case selection does not necessarily exclude the discovery of others. Empirical work that is not only concentrated on the chosen variables but generally open should allow surprising discoveries.

A first question within the tension between variables, existence of cases, feasibility and access to the field concerns the disciplines. As there are numerous different disciplines, it is impossible to consider all of them. Becher and Trowler (2001) demonstrate in their study one way of categorising disciplines. They distinguish between hard pure (e.g. physics), hard applied (e.g. mechanical engineering), soft pure (e.g. history) and soft applied disciplines (e.g. law). Although these distinctions are not that clear for all disciplines, they put some "landmarks" allowing the choice of doctoral programmes in each of these four categories. This pragmatic way is a first possibility to reduce complexity somehow without ignoring it completely. Therefore, four doctoral programmes per higher education system, one programme in each of the four distinguished categories are chosen. In order to simplify comparison between countries, the chosen disciplines must be the same in both countries.

A next step consists of identifying HE systems within which doctoral programmes are chosen. Again, there is the question of the number of HE systems to consider. Here, it is important to underline that what is compared are not HE systems as such but doctoral programmes (within different HE systems). Thus, higher education systems and the policies existing within them are not the compared object but a variable, hence, a potential source to explain diversity. Consequently, the *N-question* must be asked first at the level of the doctoral programmes. Since four programmes per HE system are suggested, this number is multiplied with the number of national systems. The hypothesis related to the fourth variable supposes differences in doctoral programmes due to varying governance models. The distinction between unitary and Federal states, respectively centralised and decentralised higher education systems requires *two* different higher education systems. However, this is not the only variable to consider as regards the choice of HE systems. If

further diversity is introduced with the second and third variables, that is to say the number of doctoral students per discipline and HEI as well as types of HEI, HE systems offering the possibility to choose doctoral programmes varying also from these points of view must be chosen.

Considering the four crucial factors in the selection of the cases, that is to say, first, hypothetical importance given to each potential variable, second, feasibility in terms of working charge, third, access to the field and forth, empirical existence of cases, HE systems of *Switzerland and Norway* are chosen. The following elements support this choice:

1. As regards variables:
    a. *Governance models (4th variable):* They differ regarding the distribution of responsibilities among central and decentralised governments. The Swiss HE system is strongly shaped by Switzerland's federal character. Hence, the three types of HEI are legally related to different types of authorities. Each of the ten cantonal universities has its own cantonal law and, in addition, is subject to a federal law (LAU)[4], whereas the two Federal Institutes of Technology (Zurich and Lausanne) are subject to only one federal law (LEPF).[5] Differences also exist regarding funding of these two types of HEI. In opposition to these existing differences in Switzerland, all Norwegian HEI types are put on the same legal and financial footing (Tjeldvoll 1999; NHEA 2005). Legally and financially speaking only the central government is competent.
    b. *HEI types (3rd variable):* both HE systems possess several types of HEI. In Switzerland, Federal Institutes of Technology and cantonal universities are allowed to award doctorates, in Norway, apart from the seven universities and six specialised universities, university colleges do award doctorates in certain fields. However, compared to (general and specialised) universities, university colleges award only a very small number of doctorates. Hence, in both countries two types of institutions mainly award doctorates and distinguish themselves more or less between generalised vs. specialised universities. However, Norwegian specialised universities have different disciplinary profiles to the Swiss ones.
    c. *Structural differences (2nd variable):* Given the existing differences between "rural" and "urban" disciplines as well as differences concerning doctoral students' numbers in HEI, the structural question may play a role in both national systems.
    d. *Disciplinary differences (1st variable):* A closer look at doctoral programmes makes it clear that a distinct choice according to Becher and Trowler's typology is quite difficult. Doctoral programmes do not always necessarily respect these categories and are not always simply allocable. Reasons may be that a programme often embraces both theoretical and applied courses; doctoral students following the same courses (even if they are for instance exclusively theoretical) may do their PhD in differently oriented laboratories (pure or applied) and, hence, orient their thesis work correspondingly, independently from course work; a doctoral programme may be interdisciplinary. For all these reasons, the suggested categories act rather as an orientation point, rather than as

a strict typology. The choice of disciplines and related doctoral programmes is addressed below.

2. Limitation of the study to two HE systems allows in-depth research. Furthermore, two systems permit covering potential differences related to the de/centralisation of responsibilities in higher education. The integration of a third national system with again (at least) four doctoral programmes would be certainly a gain for research about doctoral education and university governance in the given system. It might also be a gain in terms of the objective to find other explicative variables. However, it is difficult to say whether it would go beyond the feasibility limits of a doctoral thesis. Therefore, the research is limited to two HE systems.
3. In principle, the access to the field should be assured in both cases. Good knowledge of the Swiss higher education system as well as support from a Norwegian research team[6] facilitates the realisation of the research project. Of course, usual insecurity regarding availability of interview partners remains. Due to geographical reasons (long distances between certain HEI), case studies in Norway are limited to two or maximally three "university cities".
4. The last and most practical criterion to be considered is the existence of cases. The cases must cover simultaneously the same four disciplines (being part of the respective disciplinary category) in both national HE systems, the two HEI types (principally) awarding doctorates and structural differences between HEI in terms of doctoral students' numbers. Doctoral students in the following scientific disciplines are chosen: molecular biology (hard pure category), materials science (hard-applied category), interdisciplinary programme in humanities (soft pure category) and finance (soft-applied category). Doctoral programmes of these four disciplines exist in both countries; however, due to different HEI profiles, they are not distributed equally in the two HEI types.

Table 1 summarises these choices and details them further, in particular regarding concrete doctoral programmes. Besides the above-mentioned criteria a personal database of Swiss doctoral programmes as well as a desk research about Norwegian programmes helped in the concrete choice:

Swiss HE system:

	Hard	**Soft**
Pure	PhD programme in Biomolecular Structure and Mechanisms[1]	Doktorandenprogramm Intermediale Ästhetik, Spiel – Ritual - Performanz[2]
Applied	PhD programme in Materials Science and Engineering[3]	SFI PhD programme in Finance[4]

= Federal Institutes of Technology (EFPs)

= Cantonal Universities

= Cantonal Universities and Federal Institute(s) of Technology

1: Federal Institute of Technology Zurich and University of Zurich.

2: University of Bern and University of Basel.

3: Federal Institute of Technology Lausanne (EPFL).

4: University of Lugano, University of Zurich, University of Geneva and University of Lausanne.

Norwegian HE system:

	Hard	**Soft**
Pure	Molecular and Computational Biology Research School[5]	National Research Training Programme - Text, Image, Sound and Space[6]
Applied	PhD programme in Material Sciences[7]	PhD programme in Finance[8]

= Universities

= Specialised University

= Universities and university college

5: University of Bergen, Bergen Centre for Computational Science and Sars International Centre for Marine Molecular Biology.

6: University of Tromsø, University of Bergen, Norwegian University of Science and Technology Trondheim and Agder University College.

7: University of Oslo.

8: Norwegian School of Business and Economics.

4. CONCRETE REALISATION

In order to realise the suggested research design, the following steps are proposed: the *first step* consists of establishing a *State of the Art of existing doctoral education* in Switzerland and Norway. Special attention is paid to institutional organisation, involved actors as well as regulation and funding of doctoral education.

The *second step* seeks to understand the emergence of *doctoral education as policy object*. It focuses on actors who put doctoral education on the political agenda and the arguments put forward. Means to realise these two first steps are the analysis of existing scientific and grey literature, desk research and, where necessary, interviews.

Case studies build the *third step.* According to the suggested exploratory inductive method, this study is realised in a systematic procedure. If, after for instance two case studies, one or several suggested variables turn out to be completely insignificant or if other important variables appear, it is still possible to change concrete case studies. Thereby, premature conclusions about decisive structuring factors may be avoided. From a practical point of

view, each case study begins with the analysis of the doctoral programme's regulation documents and grey literature about its development and current organisation. Then, interviews are carried out with actors closely related to each doctoral programme; for example, scientific and administrative leaders of the given doctoral programme, professors teaching in the framework of the doctoral programme and supervising doctoral students who participate in the programme, doctoral students, in addition to actors, who are related to the programme (perhaps) in a wider sense like (vice-)rectors and (vice-)deans for doctoral education, administrators responsible for doctoral education at the central university or faculty/department level. Questions are principally oriented around the programme's *development, steering*, *objectives and practices*. Precise choice of interview partners and questions depend also on the accumulated information through the preceding document analysis.

In parallel and according to empirical results, further theoretical literature and especially scientific literature about HE systems and policies of Switzerland and Norway are exploited.

5. DOCTORAL EDUCATION AND UNIVERSITY GOVERNANCE

The following paragraphs explain the interest of scrutinising the steering of doctoral education as a concrete example to learn about university governance. At least four arguments can be put forward: *first*, doctoral education is a recent phenomenon, which has received attention on the political agenda only for a short time. "The doctoral level of training, learning and work has been a stepchild for many countries as well as for European policies until recently. In recent years, a sense of urgency emerged as far as expansion, institutionalization and financial support for doctoral study are concerned" (Teichler 2006: 36). Due to this recent characteristic, it seems to be particularly suitable to observe how and with which arguments and means different actors occupy this relatively "new" field.

Secondly, university governance can be analysed through different topics or "entry points". For instance, one may raise the question about the steering of curricula or certain types of research projects within universities. However, both topics, curricula and research projects, cover principally one of the universities' core activities, that is to say respectively teaching or research. Yet, doctoral education has the advantage of being connected more clearly with both of them. On the one hand, it affects teaching on the highest possible level. On the other hand, it also relates to research to the extent that it may influence in a certain manner thesis projects, and hence, research projects of universities and more generally the quality of the new generation of researchers – or in other words – highly qualified workforce. Furthermore, doctoral education relates to research when thesis research projects are part of a broader research project.

Thirdly, the character of doctoral education may be oriented in different directions, representing varying interests of different actors inside and outside of academia: rectors, deans, professors, doctoral students, European and national political actors, representatives of industry, finance, etc. The main question here is whether doctoral education should be oriented towards the required skills for an academic career (see Austin 2002, Shambaugh 2000) or the wider employment market requiring more general skills (see Harmann 2002,

Campell et al. 2005, Golde et al. 2006), *like* managerial skills. In some countries, doctorates are adapted to the required competencies of the non-academic labour market by creating "Professional Doctorates". According to Kehm (2004: 292), professional doctorates "are often related to projects carried out within an enterprise and jointly supervised by the home university and the according enterprise and the course work emphasizes more generic skills and interdisciplinary approaches." Behind these different options of doctoral education's content lie varying, for instance economical and strategic interests (Kehm 2006). Case studies allow disclosing different actors' configurations and related interests.

Finally, as demonstrated above, doctoral education is a multi-level issue. Enders (2004) underlines that, in the light of Europeanization and globalisation, features of governance theory and its application in HE studies must be rethought. Among others, he points to deficits like the "concentration on the single nation state (even where international comparisons are made), and a selective concern with domestic politics". Moreover, he indicates, "the concern with macro level policy-making and meso level organisational adaptation, neglecting to some extent the micro dynamics and effects in the actual practices and performances of academic work" (2004: 373). From this point of view, a study about the multi-level issue doctoral education represents a good opportunity to respond to the challenges of the integration of neglected levels.

CONCLUSION

The end of this contribution consists of an evaluation of the developed research design by a SWOT[7] analysis and some more general observations about the study of higher education. A first *strength* is made of the in-depth study of a European phenomenon. The research does not settle for an analysis of a European policy nor a comparison of national policies, but, seeks to understand concrete examples of structured doctoral education and the practices related to them. It takes into consideration statements of different actors at different levels in order to provide a most complete picture.

At the same time and to a certain extent, this strength may be considered a *weakness* because the price of this depth relies in the loss of breadth: a European phenomenon is scrutinised, yet, limited to two national HE systems. Consequently, hopes for generalisation regarding the European level might be exaggerated. The choice of two contrasted systems with respect to governance models brings some diversification; moreover, it might nevertheless be meaningful for other European countries. Contrast between other systems might be even bigger. Yet, first, opinions about the "necessary" extent of contrast within comparisons vary and, second, the impact of differences in governance models regarding doctoral education is currently unknown. Moreover, although one objective consists of the observation of governance mechanisms by the example of structured doctoral education, governance models are not the only variable that leads to the choice of these two national systems. Another weakness may consist of the fact that suggested case studies are not easy to categorise in Becher and Trowler's typology. Nevertheless, the suggested four case studies seem to be sufficiently different in order to observe potential differences in doctoral programmes due to the disciplines' respective characteristics. Finally, the big number of potential structuring variables may also be considered a weakness. However, the goal

consists not of examining systematically each of these potential variables. This would require too many case studies, especially because there may be further variables to those suggested in this research design. By choosing case studies that consider a certain number of them, the potential variables' premature elimination is avoided. At the same time, this does not necessarily exclude the discovery of other (perhaps even more) structuring variables. This exploratory inductive approach can be justified by the small number of studies carried out in this domain and the resulting necessity to illuminate the field of European structured doctoral education further.

Thanks to its relation to many varying issues, the chosen topic includes many *opportunities* and thus a rich potential from the point of view of HE studies. First, the issue of the universities' missions is concerned. Until recently, doctoral education was almost exclusively an issue at the micro level, between the doctoral student and his or her thesis director. Given its gain in importance on the political agenda and its transversal character related to education and research, it might be expected to occupy permanently a more important and even stable place in universities' missions. Second, the question of its orientation towards the academic and/or wider employment market opens the debate about the university's role in the production of academic and/or non-academic workforce. Therefore, it is, thirdly, also connected to the relation between universities and economy or society. Finally, it is also an opportunity to enlarge studies about relatively small HE systems with partly distinguished institutions. These issues remain for the moment all potential. The study will show which issue plays a role and to what extent. However, their diversity seems to be promising.

Mainly due to its exploratory character, the *threats* of this research may be as numerous as the aforementioned opportunities. They are at least twofold: on the one hand related to the topic as such, since its interest may be overestimated, and on the other hand, due to the research design. Based on the study's objectives a comparative case study method is chosen. Of course, the selection of cases also implies the danger of choosing exceptional cases that are not very meaningful regarding the totality of doctoral programmes of the given national systems. However, with the decision to cover each of the four disciplinary types with a doctoral programme and to consider the different types of HEI regarding their disciplinary profile and (more or less) their importance in terms of doctoral students' number, this threat should be reduced, at least to a certain extent.

The study of European higher education is somehow ambiguous. On the one hand, common developments or *trends*, often shared by most, if not all, European higher education systems can be observed at a macro level. These trends may be a consequence of a common policy formally established at European level, of informal idea diffusion, mutual influence and imitation or of a mixture of all these elements. On the other hand, especially when it comes to the meso and micro levels, that is to say the levels of individual HEI and their scientific disciplines, one does not talk anymore about common trends but *diversity*. Heterogeneity between and within national higher education governance systems as well as between scientific disciplines represents potential explanations for this diversity, which is particularly visible in practices. This tension between common trends and diversity, existing also in the case of structured doctoral education, seems to be somehow trivial. Nevertheless, it raises large challenges concerning the concrete research design.

Structured doctoral education is put in place within an institutional, national and even European framework. However, the infra-institutional level can be considered the "operational centre". Therefore, a multi-level approach that considers not only the supra-national, national and institutional levels but also the infra-institutional level appears appropriate. This should take into account *diversity from a vertical point of view*. Starting from this assumption, *theoretical and practical considerations* help designing the study further. Becher and Trowler's study (2001), pointing out varying disciplinary characteristics, helps illuminating potential *diversity from a horizontal point of view*. Consequently, the consideration of the infra-institutional level, often neglected in higher education studies interested in governance, seems particularly worthy of being integrated in the study, both from the point of view of vertical and horizontal diversity. Subsequently, the choice of case studies is carried out at this level. However, it is precisely at this level, that one has to go on from theoretical considerations to practical ones. As in the case of structured doctoral education, it is not always easy to find theoretically defined cases in empirical reality. However, theory helps to orient more precisely the choice of the empirical field, which turns out to be particularly useful when the object of study is a recent and therefore under-investigated phenomenon.

As a conclusion, we underline our agreement with Tight (2004) concerning the need of theoretical considerations in higher education studies. The developed research design shows, on the one hand, how useful theory may be to become conscious of the (at least potentially) existing diversity within a common trend and, on the other hand, how this hypothesised diversity together with practical considerations may be integrated into a concrete research design without pre-structuring it too strongly.

REFERENCES

Austin, A.E. (2002) 'Preparing the Next Generation of Faculty. Graduate School as Socialization to the Academic Career'. In *The Journal of Higher Education,* 73 (1), 94-122.

Becher, T. and Trowler, R. (2001) *Academic Tribes and Territories. Intellectual Enquiry and the Culture of Disciplines* (2nd Ed). Buckingham: Open University Press.

Campbell, S.P., Fuller, A.K., Patrick, D.A.G. (2005) 'Looking Beyond Research in Doctoral Education'. In *Front Ecol Environ,* 3(3), 153-63.

Commission of the European Communities (2003) 'Research in the European Research Area: One Profession, Multiple Careers'. In *Brussels, 18.7.03. COM 436 final 2003*.

Conference of European Ministers responsible for Higher Education (2005) 'The European Higher Education Area - Achieving the Goals'. Paper presented at the *Bologna Process*, Bergen.

Conference of European Ministers responsible for Higher Education (2003) 'Realising the European Higher Education Area'. Paper presented at the *Bologna Process*, Berlin.

Enders, J. (2004) 'Higher Education, Internationalisation, and the Nation-State: Recent Developments and Challenges to Governance Theory'. In *Higher Education,* 47, 361-82.

Gerring, J. (2004) 'What Is a Case Study and What Is It Good For?' In *American Political Science Review,* 98 (2) 341-54.

Goedegebuure, L., et al. (1994) 'International Perspectives on Trends and Issues in Higher Education Policy'. In L. Goedegebuure et al. (Eds) *Higher Education Policy: An International Comparative Perspective*. Oxford: Pergamon Press.

Golde, C. M., Walker, G. E. (2006) *Envisioning the Future of Doctoral Education. Preparing Stewards of the Discipline*, *Carnegie Essays on the Doctorate*. San Francisco: Jossey-Bass.

Harman, K. (2002) 'The Research Training Experiences of Doctoral Students Linked to Australian Cooperative Research Centres'. In *Higher Education,* 44, 469-92.

Kehm, B. M. (2004) 'Developing Doctoral Degrees and Qualifications in Europe: Good Practice and Issues of Concern - a Comparative Analysis'. In J. Sadlak (Ed) *Studies on Higher Education*. Bucharest: UNESCO. pp279-98.

Kehm B.M (2006) 'Doctoral Education in Europe: New Structures and Models'. In G. Krücken et al (Ed) *Towards a Multiversity? Universities between Global Trends and National Tradition.* pp132-53.

Kogan, M. (1996) 'Comparing Higher Education Systems'. In *Higher Education* 32, 395-402.

Lijphart, A. (1975) 'The Comparable-Cases Strategy in Comparative Research'. In *Comparative Political Studies,* 8(2), 158-77.

NHEA (2005) Norwegian Act Relating to Universities and University Colleges.

Shambaugh, R. N. (2000) 'Reframing Doctoral Programs: A Program of Human Inquiry for Doctoral Students and Faculty Advisors'. In *Innovative Higher Education,* 24 (4), 295-308.

Swiss Confederation (2003) *Loi Fédérale sur les Écoles Polytechniques Fédérales*. 1991

Teichler, U. (1996) 'Comparative Higher Education: Potentials and Limits'. In *Higher Education,* 32, 431-65.

Teichler, U. (2006) 'Future Challenges for Doctoral Studies in Germany'. In G. Gorzka (Ed) *Europeanising Doctoral Studies. The Russian Federation and Germany on the Way to Bologna*. Lanzendorf, Ute, 25-37. Kassel: Kassel University Press.

Tight, M. (2004) 'Research into Higher Education: An a-Theoretical Community of Practice?' In *Higher Education Research & Development* 23(4), 395-411.

Tjeldvoll, A. (1999) 'Five Suggestions for the Newly Elected Rector of the University of Oslo'. In *International Higher Education,* Winter.

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1 Other denominations, like Doctoral Schools, Research Schools and Research Programmes are also in use.
[2] See for instance Kehm (2004), who compares 13 mostly European countries and identifies economic (for Europe and States) and strategic (for HEI) interests explaining the increased concern about more structured doctoral education in Europe.
[3] Otherwise, the interest of the study would be reduced to some extent.
[4] LAU: in French: "Loi d'aide aux universités".
[5] LEPF: in French: "Loi fédérale sur les écoles polytechniques fédérales". Cantonal universities and federal institutes of technology are the two HEI types awarding doctorates. In the third type of HEI, the Universities of Applied Sciences are legally submitted to both, federal and cantonal, levels. As they do not award doctorates, they do not dispose of any doctoral programmes.
[6] The designed study is part of a European research project, comprising six research teams, among which one Norwegian and one Swiss.
[7] Strengths, Weaknesses, Opportunities, Threats.