

International Cooperation in Research: Cooperative Doctorates in Finance

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Abstract: English

Research has gained in importance at universities of applied sciences in recent years. However, a lack of suitable doctoral opportunities for their own graduates can be observed. When looking for university partners for cooperative doctorates, graduates of university of applied sciences continue to be confronted with reservations or discrimination by German universities. On the other hand, international universities are generally unbiased and open for collaboration. The establishment of a joint doctoral program requires a certain level of commitment on the part of the participating universities, which is why the framework conditions for scientific networking with international universities in the field of research, including the possibilities of a cooperative doctorate, are evaluated and both the drivers and the barriers for the initiation of a cooperative doctorate in the field of finance are identified. The cooperative doctorate with international partners is a model that can ensure the continuity of doctoral education and promote research activities at the university of applied sciences.

Abstract: German

Die Forschung an Hochschulen für angewandte Wissenschaften hat in den letzten Jahren an Bedeutung gewonnen. Es ist jedoch ein Mangel an geeigneten Promotionsmöglichkeiten für die eigenen Hochschulabsolventinnen und -absolventen zu beobachten. Bei der Suche nach Partneruniversitäten für kooperative Promotionen sind Absolventinnen und Absolventen von Hochschulen für angewandte Wissenschaften weiterhin mit Vorbehalten durch deutsche Universitäten konfrontiert. Andererseits sind internationale Universitäten in der Regel unvoreingenommen und offen für Kooperationen. Die Etablierung einer gemeinsamen Doktorandenausbildung erfordert ein gewisses Engagement der beteiligten Universitäten, daher werden die Rahmenbedingungen für eine fachliche Vernetzung mit internationalen Universitäten im Bereich der Forschung einschließlich der Möglichkeiten einer kooperativen Promotion evaluiert und sowohl die Treiber als auch die Hürden für die Anbahnung einer kooperativen Promotion im Fachgebiet Finance identifiziert. Die gleichberechtigte kooperative Promotion mit internationalen Partnern ist ein Modell, das die Kontinuität der Doktorandenausbildung sicherstellen und die Forschungsaktivitäten an Hochschulen für angewandte Wissenschaften fördern kann.

Table of Contents

1	Introduction	6
2	Research at universities of applied sciences	7
2.1	Promoting and inhibiting factors for research.....	8
2.2	International orientation of research	9
3	Doctoral education at universities of applied sciences	10
3.1	Right to award doctorates	11
3.2	Cooperative doctoral studies.....	11
4	Object of the study: Frankfurt University of Applied Sciences.....	12
5	Methodology	13
5.1	Grounded Theory.....	14
5.2	Data.....	14
5.2.1	Theoretical sampling	15
5.2.2	Interview guidelines	15
5.2.3	Survey phase and approaching the experts	15
6	Results of the study	16
6.1	Mutual relationship between supervisor at Frankfurt UAS and partner university.....	18
6.1.1	Path to joint supervision	18
6.1.2	Cooperative doctoral programs as an alternative to the right to award doctoral degrees	21
6.1.3	Cooperative doctoral programs with foreign universities	22
6.1.4	Relevant content for cooperation agreements.....	23
6.2	Mutual relationship between supervisor at Frankfurt UAS and doctoral candidate	24
6.3	Mutual relationship between supervisor at Frankfurt UAS and internal university organizational units.	25
6.4	Initiation of cooperative doctoral degree programs with foreign universities	26
6.4.1	Short-term guest lectureships.....	27
6.4.2	Short-term programs.....	27
6.4.3	Joint teaching	28
6.4.4	Research stays	28
6.5	Consolidation of results: Confidence building and predictability.....	29
7	Conclusion	32
8	References	33
9	Supplementary Material.....	36
9.1	Interview guide: Status group of professors.....	36
9.2	Interview guide: Status group of employees/representatives in central organizational units	37
9.3	Interview guide: Status group of doctoral candidates.....	38
9.4	Interview guide: Status group of (former) doctoral students/successfully completed doctorate	39

List of Figures

Figure 1: Mutual relationship of the participants 17

Figure 2: Phases of promotion 18

Figure 3: Access to the cooperative doctorate..... 18

Figure 4: Intensity of cooperation 27

Figure 5: Confidence building and predictability (1) 29

Figure 6: Confidence building and predictability (2) 31

1 Introduction

Universities of Applied Sciences (UAS) have played an important role in the higher education landscape since their foundation. Through applied teaching and research, they fulfill an important task in the German higher education and science system. Since their foundation, the range of functions and requirements of this type of higher education institution has expanded considerably (Wissenschaftsrat 2010b). This process of change must be seen in the context of the differentiation process in the German higher education system and also in the context of the Bologna reform (Wissenschaftsrat 2010a).

In the past, the right to award research degrees was generally reserved for universities or equivalent institutions of higher education. However, recent developments have made it possible to open up the right to award research degrees to universities of applied sciences. In addition to universities, universities of applied sciences now also benefit from the opportunity to offer their own graduates the prospect of a doctoral degree. The number of doctoral students conducting research at a university of applied sciences has risen steadily over the last decades.

Nevertheless, universities of applied sciences have not yet been granted a general right to award doctoral degrees, but are currently reserved for selected research-intensive disciplines that meet the high requirements and that have provided the necessary proof. Thus, there is still no right to award doctoral degrees for many disciplines. Although a master's degree from a university of applied sciences entitles the holder to apply for a research degree program, there is a lack of suitable research degree program opportunities for the university's own graduates or academic staff at university of applied sciences, which could ensure continuous doctoral training. The doctorate in many cases of UAS graduates still requires a university that accepts these graduates into its doctoral program. A distinction must be made here between external doctoral degree programs and cooperative doctoral degree programs. While cooperative doctoral degree programs require joint research supervision by the university and the university of applied sciences - as equal partners and the certificate of award records the name of both collaborating institutions - the situation is different for external doctoral studies. Here, the doctorate is carried out at the university, and supervision and examination are carried out exclusively by professors at the university, who need not have any connection to the UAS. Quality assurance is the sole responsibility of the universities.

In principle, the cooperative doctorate can be carried out at a German university as well as at a foreign university with the right to award research degrees. When looking for university partners for cooperative doctorates, graduates of university of applied sciences continue to be confronted with reservations or discrimination by German universities (Geyer et al., 2016). Cooperation with foreign universities, on the other hand, is much easier, as universities abroad are generally unbiased and open for collaboration.

Taking this in account the paper studies the opportunities for joint doctoral education with international partner universities. Thus, the framework conditions for networking with international universities in the field of research, focusing on the possibilities of establishing a cooperation in doctoral degree programs, is evaluated. The drivers and the barriers for initiating a cooperative doctorate will be identified.

The research question will be investigated using the example of the Frankfurt University of Applied Sciences (Frankfurt UAS). Within the academic disciplines in finance and banking

doctoral opportunities for its own graduates are limited. In order to enable continuity in the doctoral training of own graduates in these disciplines, special attention is paid to the establishment of cooperative doctoral programs in the field of finance.

For the investigation of the research question the method "*Grounded Theory*" according to Strauss and Corbin (1996) was chosen and the research work was conducted in the summer term 2022 and winter term 2022/23 at the Frankfurt University of Applied Sciences (Frankfurt UAS). In order to collect data within the framework of Grounded Theory, guided interviews were conducted with experts. These included the perspectives of different groups at Frankfurt UAS, in particular professors, representatives from organizational units responsible for international cooperation and academic continuing education, as well as doctorates and other persons with their relevant perspectives. In addition, the interviews with doctoral candidates also made it possible to consider the perspective of the target group for the cooperative doctoral degree program. In this way, the mutual relationships of the participants in the process of such a collaboration could be examined.

In addition to the expert interviews, a qualitative document analysis was carried out. The basis for this was provided by documents from both external and internal sources. Data from a survey of lecturers in the Faculty of Business and Law conducted in February 2022 was also used. Finally, the results obtained from the collected data were consolidated into a theory according to the applied method.

The establishment of a cooperation in doctoral education requires a certain level of commitment from the universities involved, which can only be built up over time and through targeted interactions in advance. Therefore, the drivers for initiating a cooperative doctorate will be presented. Also, barriers are evident, which will be discussed.

The paper will show that the equal cooperative doctorate with international partners is a model that can ensure the continuity of doctoral education and promote research activities at the university of applied sciences.

The structure of the paper is as follows. After an introduction, chapters 2 and 3 addresses research as a task of universities of applied sciences and doctoral education at. Chapter 4 presents Frankfurt University of Applied Sciences as the object of study. Chapter 5 presents the methodology of the study as well as the approach, the sample and the data used. Chapter 6 is dedicated to the results and promoting conditions for initiating cooperative doctoral programs with foreign universities. The corresponding findings are consolidated into key statements and a theory. Chapter 7 concludes with a summary.

2 Research at universities of applied sciences

In Germany, universities and universities of applied sciences form the basis of the science system alongside research institutions. The universities of applied sciences (UAS) have played an important role in the higher education landscape since their founding.

Research has gained in importance at universities of applied sciences in recent years. Since the foundation of UAS, the range of functions and requirements of this type of higher education institution has expanded considerably (Wissenschaftsrat 2010b). This process of change must be seen against the background of the differentiation process in the German higher education system and the Bologna reform (Wissenschaftsrat 2010a).

Universities of applied sciences are obliged by their legal mandate to conduct research. Section 2 of the Framework Act for Higher Education (HRG) defines the tasks of universities in general terms.

"In accordance with their mission, institutions of higher education shall serve the cultivation and development of the sciences and the arts through research, teaching, study, and continuing education in a free, democratic, and social state governed by the rule of law. They prepare students for professional activities that require the application of scientific knowledge and scientific methods or the ability to create art." (HRG, § 2)

Further specifications of these tasks are contained in the Hessian Higher Education Act (HessHG). It states:

"The University of Applied Sciences shall, by means of application-oriented teaching, research and development, provide a scientific or artistic education enabling the independent application of scientific and artistic knowledge and methods in professional practice. It may be granted a limited and conditional right to confer a doctorate by special act of the Ministry for those disciplines in which it has demonstrated sufficient research strength; the time limit may be waived after successful evaluation. It shall participate in the training of young scientists within the framework of the right to confer doctoral degrees conferred upon it or of cooperative doctoral programs with universities and art colleges." (§ 4 para. 3 HessHG)

Universities of applied sciences are charged with conducting applied research. Applied research can be understood as *"original work undertaken for the acquisition of new knowledge but directed primarily toward a specific practical goal or outcome"* (OECD, 2018).

The increasing importance of research at universities of applied sciences is also reflected in the fact that professors consider research to be part of their range of duties and carry it out. The Federal Statistical Office states in its study that on average, approximately 15 percent of the activities of professors at UAS are research activities (Destatis, 2018). Warnecke (2016) comes to a similar conclusion, identifying 60 percent for teaching, 20 percent for research, and 20 percent for other activities, for example in self-administration. The proportion of professors supervising cooperative doctorates and continuously employing academic staff is still relatively low at less than 10 percent, even at research-intensive UAS (Greyer, et al., 2016). Furthermore, it can be noted that the third-party funding income of UAS more than doubled from the year 2006 to the survey period in 2015 (Destatis, 2018). Since a considerable part of research at UAS is financed by third-party funding, this is another indication of the growing importance of research activities at UAS.

2.1 Promoting and inhibiting factors for research

Universities of applied sciences are obliged by their legal mandate to conduct research. According to a study conducted on behalf of the Federal Ministry of Education and Research, almost all professors and university administrators surveyed see the high teaching load as a major obstacle to more research at UAS and therefore call for basic funding for research in the form of permanent academic positions (Geyer et al., 2016).

Hachmeister et al. (2015b) explore the question of what barriers exist to research tasks and third missions and what funding opportunities are seen. This study is based on a survey of

199 universities of applied sciences. Presidents, research officers as well as professors participated in the survey. In the following, the results of this study are summarized, as they can provide important clues for the present study.

The inhibiting factors were divided into internal and external factors. It is not surprising that professors cite the lack of time due to the high teaching load as an inhibiting factor for research. A teaching load of 18 SWS (teaching unit per week during semester) is significantly higher than the teaching load of university professors. The HIB (Hochschul-lehrerbund/ association of university lecturers) therefore calls for a maximum teaching load of 12 SWS for all professors and one core-funded staff position per professorship (hbl, 2019).

Factors such as the lack of academic mid-level faculty (i.e. research assistants) and the lack of doctoral opportunities are conspicuous, pointing to the inadequate conditions for doctoral education at UAS and thus limiting research at the UAS.

The supportive measures or drivers for research are divided into soft factors, structural factors, internal resource allocation and external support. The listed support options for research are largely a reflection of the barriers. In this, it can be seen that everything that serves to reduce the barriers is listed as promoting measures. It is apparent that a reduction in teaching load is seen as a support measure for high teaching loads. While the lack of suitable doctoral opportunities is among the obstacles, improved doctoral opportunities as well as strategic cooperation with universities are listed as promoting measures. Furthermore, the survey makes it clear that research activities are seen as having a strong cross-relation to teaching and, in particular, to the master's program.

The study by Hachmeister et al. (2015b) investigates a similar question to the investigated research question of the paper. However, both studies differ in their respective focus. Accordingly, the present study primarily addresses the lack of suitable doctoral opportunities at universities of applied sciences. It adopts the findings of Hachmeister et al. (2015b) and supplements and extends them with new insights.

2.2 International orientation of research

In recent years, the number of international collaborations at universities and higher education institutions has increased significantly. The internationalization of science and higher education is understood as a process of cross-border activities and collaborations (Wissenschaftsrat, 2018). The Council of Science and Humanities attributes the increasing international networking to the growing complexity of issues, specialization in the research system, the increased use of resources, and the development of digital means of communication (Wissenschaftsrat, 2020).

An increasing international orientation is emerging in research at universities of applied sciences. According to a survey conducted by the German Academic Exchange Service (DAAD), the motivation for internationalization at UAS can be attributed in particular to improving the international and intercultural skills of graduates, increasing international visibility and reputation, and enhancing competitiveness vis-à-vis other universities (Leifgen and Burkhart, 2019). For 54.9 percent of UAS, expanding international research collaborations also has a high or very high priority (Leifgen and Burkhart, 2019). It is interesting to note that UAS cite the European Union as the most important region for their

internationalization activities at 91.2 percent, followed by South and East Asia and North America (Leifgen and Burkhart, 2019).

The German Council of Science and Humanities recommends that suitable incentives and funding instruments be used to ensure that more UAS employees from all staff groups complete teaching-, research-, or transfer-related stays abroad (Wissenschaftsrat, 2018).

International orientation in research and doctoral training is significant in Germany. An analysis based on the "*National Academics Panels Study*" at the German Center for Research on Higher Education and Science indicates that in Germany, a proportion of 27 percent of domestic doctoral students undertake a temporary stay abroad during the doctoral phase (Willige and Dölle, 2021). In the survey, the doctoral researchers indicate the following main motives for the temporary research stays abroad: (1) acquiring research competence, (2) entering into collaborations with foreign scientists, and (3) improving foreign language skills (Willige and Dölle, 2021). On the other hand, the obstacles cited are (1) family or partnership situation, (2) lack of funding, and (3) lack of counselling and support services (Willige and Dölle, 2021).

All these discussed above underscores the importance of international networking in research.

3 Doctoral education at universities of applied sciences

Doctoral education is a central component of the science system in Germany. Master's degrees at universities and universities of applied sciences entitle students to pursue a research degree. The completed doctoral studies, which entitles the holder to use the title of doctor, documents the ability to independently carry out scientific projects. Through the independent and original research performance, a competence is acquired that is not only of interest for the academic field. The acquired competence also plays a significant role in non-academic areas such as politics, business or administration.

In business, academics with a doctorate are in particularly high demand, for example in ministries, consulting firms, or leading positions in business. "*Of the top managers in major German companies, about two-thirds of those who have a degree in economics hold a doctorate*" (Leopoldina, 2017). Thus, doctoral students are increasingly perceived as researchers outside academia - as highly qualified "knowledge workers" (Hasgall et al., 2018).

The number of doctoral graduates has been increasing over the last decades. The doctoral graduation rate for 2015 to 2017 is 1.2 percent at UAS, while the doctoral graduation rate at universities is 15.4 percent (excluding human and veterinary medicine) (HRK, 2019a). Among UAS graduates who successfully completed a doctorate, the share of women was 32 percent (36 percent in business and economics) during the survey period (HRK, 2019a).

Parallel to this, the number of research projects financed by third-party funding has increased. Since these third-party funds can be used to finance additional doctoral positions, the increase in completed doctorates correlates with the increase in third-party funds. The data were collected in 2015 and cover the years 2009 to 2012. The data show a continuous increase in third-party funding per capita/professor from 20,400 euros to 27,100 euros. However, the analysis also reveals that professors at German universities

have on average ten times as much third-party funding per capita as professors at universities of applied sciences (Hachmeister et al., 2015a).

3.1 Right to award doctorates

In the past, the right to award doctorates was generally given for universities or equivalent institutions of higher education. However, recent developments have made it possible to open up the right to award doctoral degrees to universities of applied sciences. In Hesse, for example, several universities have been granted the right to award doctorates in selected disciplines. Hesse was the pioneer in this respect, and in the meantime other federal states have followed Hesse's example, and other federal states have announced that they are preparing to implement it.

Since 2016, the award of a doctoral degree right for those disciplines in which sufficient research strength has been demonstrated has been regulated in the Hessian Higher Education Act (HessHG) in Section 4 (3). According to this, the Ministry can award a limited and conditional doctoral right for disciplines with a proven sufficient research strength; the time limit can be dropped after successful evaluation. The criteria for determining or evaluating sufficient research strength are decisive here.

The right to award doctoral degrees has so far been granted to the following Hessian universities of applied sciences in selected disciplines, which are organized in inter-university doctoral centres or university-internal doctoral centers: Frankfurt University of Applied Sciences, Darmstadt University of Applied Sciences, Fulda University of Applied Sciences and RheinMain University of Applied Sciences, Technische Hochschule Mittelhessen

3.2 Cooperative doctoral studies

In Hesse, cooperative doctoral studies are regulated by the Hessian Higher Education Act (HessHG). Section 29 (3) of the HessHG states *"in the development and implementation of doctoral studies in which doctoral candidates are jointly supervised by universities and universities of applied sciences, universities and universities of applied sciences shall cooperate [...] professors from universities of applied sciences may also be appointed to supervise and assess the dissertation."*

For the doctorate of UAS graduates, a university is necessary, which accepts the doctoral candidates into its doctoral program. But here a distinction must be made between external doctoral studies and cooperative doctoral studies. While cooperative doctoral studies require joint supervision by the university and the university of applied sciences - as equal partners who are also admitted for review/examination - the situation is different for external doctoral studies. Here, the doctorate is carried out at the university and supervision and review are carried out exclusively by professors at the university, who do not have to have any connection to the UAS.

According to the statement of the National Academy of Sciences Leopoldina, the cooperative doctorate links two legitimate interests: *"that of highly qualified UAS graduates in a doctorate on the one hand and the quality assurance of the doctorate by universities or universities equivalent to them on the other"* (Leopoldina, 2017).

Such a cooperation with German universities is not as strait forward as the Leopoldina's statement suggests at first glance. In fact, German universities still have major reservations.

"When looking for university partners for cooperative doctorates, candidates from universities of applied sciences are still confronted with reservations [discriminations] on the part of [German] universities or doctoral committees about cooperating with universities of applied sciences" (Geyer et al., 2016). Cooperation with foreign universities, on the other hand, is much easier, as universities abroad are generally unbiased and open for collaboration.

Despite the fact that the number of successfully completed doctorates by UAS graduates at German universities has risen continuously since the 1990s (HRK, 2019b) still many German universities have failed to clear the way for cooperative doctoral studies and the strategic cooperation between universities and universities of applied sciences in research.

4 Object of the study: Frankfurt University of Applied Sciences

The Frankfurt University of Applied Sciences is a state university which was founded in 1971 and is located in Frankfurt (am Main). Approximately 15,000 students study at four faculties in over 70 degree programmes. The faculties are (1) Architecture, Civil Engineering and Geomatics, (2) Computer Science and Engineering (3) Business and Law and the faculty of (4) Social Work and Health.

The Frankfurt University of Applied Sciences is characterized by its urban location and its internationality. Students from more than 100 nations study at the university. The international orientation of the university becomes apparent through its broad network of international partner universities with extensive exchange opportunities for students and academic staff as well as through the international orientation of teaching e.g. through double degrees with foreign partner universities and international degree programs.

At the faculty of business and law around 3,500 students study in 18 Bachelor's and Master's degree programs in the fields of business administration, business law, business informatics and industrial engineering. The faculty has a large network of European partner universities from 22 countries¹ while the entire university has approximately 200 partnerships with universities from 51 countries on six continents.²

The research priorities at Frankfurt UAS are divided into three areas³ : Care, Health and Diversity; Digitalization and Information/Communication Technologies; Mobility and Logistics. Though, the research activities of the academic staff are not limited to these areas, individual research areas are widespread.

The Frankfurt UAS is represented in inter-university doctoral centres with different disciplines with the right to award doctoral degrees:

1 <https://www.frankfurt-university.de/de/studium/international-office/partner-und-netzwerke/partnerhochschulen/partnerhochschulen-in-europa/eu-partner-des-fb-3/>

2 For additional information please refer to the university's homepage www.frankfurt-university.de

3 <https://www.frankfurt-university.de/de/forschung/forschungsschwerpunkte/>

- PhD Center Applied Computer Science (PZAI) is a joint institution of Frankfurt University of Applied Sciences, Darmstadt University of Applied Sciences, Fulda University of Applied Sciences and RheinMain University of Applied Sciences
- PhD Center Mobility and Logistics is a joint institution of Frankfurt University of Applied Sciences, Fulda University of Applied Sciences and RheinMain University of Applied Sciences
- Doctoral Center Social Work is a joint institution of Frankfurt University of Applied Sciences, Fulda University of Applied Sciences and RheinMain University of Applied Sciences

All of the doctoral centres at the university have already accepted doctoral students with initial supervision by Frankfurt UAS (Expert Interview_09). Frankfurt UAS can look back on a number of ongoing and completed cooperative doctoral procedures. The completed doctoral studies of each past year are published in the respective university's Almanac via the website⁴. Since 2015, the number of cooperative doctorates at Frankfurt UAS has increased significantly, with a large increase in the number of doctoral students in the last two years in particular (Expert Interview_09). The reasons given for this development are the establishment of doctoral centres, the creation of large research groups and the “Mittelbauprogramm”, as well as similar funding programs to strengthen the research environment such as PROFFm⁵ (Expert Interview_09).

The department Research Innovation Transfer (FIT) at Frankfurt UAS supports all scientists at Frankfurt UAS in research, development, transfer and promotion of young scientists. The graduate school CEDAR (Centre for Doctoral Applied Research) addresses doctoral students with its support and qualification offers. Every year, organizes and offers about 30 events in the form of workshops, network formats and colloquia within the framework of the Graduate School CEDAR (Expert Interview_09).

Frankfurt UAS has also entered into strategic cooperation agreements for cooperative doctoral studies with several universities in Germany and abroad in different academic fields.

As in other disciplines at the faculty, also in the academic discipline in finance and banking doctoral opportunities for its own graduates are limited. In order to enable continuity in the doctoral training of own graduates in these disciplines, a systematic institutionalization of cooperative doctoral studies would be expedient. For the establishment of a cooperative doctorate with international partners, different aspects have to be considered, which will be discussed in the following chapters.

5 Methodology

This chapter provides an overview of the chosen methodology as well as the data collected and describes the process of the study at Frankfurt UAS. The methodology was applied to investigate the patterns, drivers and barriers for cooperative doctoral studies with the aim

4 <https://www.frankfurt-university.de/de/hochschule/einrichtungen-und-services/leitung-und-zentrale-verwaltung/abteilung-marketing/almanach/>

5 <https://www.frankfurt-university.de/de/hochschule/einrichtungen-und-services/leitung-und-zentrale-verwaltung/qualitatsmanagemententwicklungplanung/proffm/>

to systematically present the framework conditions for the initiation of cooperative doctorates in the field of finance.

5.1 Grounded Theory

The research question of the study has an explorative character, which is why the method "*Grounded Theory*" according to Strauss and Corbin (1996) was chosen for the investigation. Grounded theory is characterized by the fact that it can consider many forms of data and that these data are condensed into a theory, whereby the theory should be founded in the data (Brüsemeister, 2008). Characteristic of grounded theory is the simultaneous collection and analysis of data. Thus, "the intermediate result that one holds as a theoretical, descriptive, and explanatory 'category' from the analysis of an initial interview or other data source is used to turn specifically to the next interview" (Brüsemeister, 2008).

Given the small sample and the focus on a clearly defined field of investigation, the qualitative survey cannot claim to be representative. Nevertheless, it is precisely this approach that offers the opportunity to collect individual responses in the requisite depth and to identify similar patterns, drivers and barriers.

Grounded theory provides for three-stage coding for data analysis. Here, "*coding represents the procedure by which data are broken up, conceptualized, and put together in new ways. It is the central process by which theories are developed from the data.*" (Strauss and Corbin, 1996). First, open coding is used (open coding), and in the next step, the categories obtained are related to each other (axial coding). Finally, the core category is created by condensing the statements and linking the categories (selective coding).

The MaxQDA software was used for the content analysis. This program is particularly suitable for coding and categorizing content, which can be related to each other and thus enable a comparison. On the basis of the coding and the condensation of the statements, patterns could be identified and barriers as well as drivers for the development of cooperative doctorates could be worked out.

5.2 Data

Various data served as the basis for the analyses. Firstly, expert interviews were used. All expert interviews were transcribed, with the exception of one expert interview, which was summarized and written down in the form of a memory protocol. While transcription ensures a comprehensive content analysis, the memory protocol captures important information as the interview progresses. This way of summarizing or focusing on relevant content leads to a reduction of the result material. The protocol is particularly suitable for expert interviews that are based on verifiable facts.

In addition, a qualitative document analysis was conducted on the basis of various documents, including internal documents of Frankfurt UAS or contents of relevant internal and external websites. Furthermore, selected cooperation agreements for cooperative doctorates were also subject of the document analysis. Furthermore, for the analysis a data from a survey conducted in February 2022 among academic staff in the Faculty of Business and Law were used.

5.2.1 Theoretical sampling

The data collection is based on a theoretical sampling. The aim of selecting the experts was to ensure that the most diverse and relevant perspectives of the interviewees on the question were included in the study. The theoretical sampling thus represents a broad spectrum of groups at the university.

Expert interviews were conducted with three professors from the Faculty of Business and Law and from another faculty. These included professors who have already had more extensive and practical experience with the supervision of doctoral students and with cooperative doctoral procedures.

The perspective of potential doctoral candidates makes it possible to shed light on the examined contexts from different perspectives. To this end, interviews were also conducted with doctoral candidates who are currently in the preparatory phase, as well as with interviewees who have already successfully completed a doctorate at the Faculty of Business and Law. A total of three interviews took place in this status group.

For the establishment of cooperative doctorates, the support and the coordination from different administrative departments are required. In order to consider the perspective and experience of these administrative staff groups, interviews were conducted with representatives of these departments responsible for international cooperation and responsible for the organization of research at the Frankfurt UAS. A total of three interviews took place.

The presentation of identifying information of the interviewees is omitted in order to preserve the anonymity of the interviewees.

5.2.2 Interview guidelines

The interview guidelines were adapted to the group in each case: the professors, the central organizational units, the doctoral candidates, and the doctoral students (successfully completed doctorate). The guidelines were designed in such a way that the interviews could be conducted within up to 60 minutes. The interview guides for the questioning of the experts can be found in the appendix. The interviews were conducted in German.

The interviews were tape-recorded and transcribed by an external service provider. After each interview, an interview transcript was prepared containing key points about the interview such as date and time as well as important categories about the content and key statements. The interviews were recorded verbatim; words started or sentences begun or broken off were also transcribed. Points and time markers were used to mark longer pauses in speech. The transcripts are 15 to 25 pages each. The transcription of the expert interviews was carried out promptly - within 1 to 2 weeks - by an external service provider. The text has been translated into English and relevant passages have been used as direct quotes in this research.

5.2.3 Survey phase and approaching the experts

The survey phase began in early June 2022 and ended in December 2022. As a professorial member of the Faculty of Business and Law, I first personally approached colleagues and staff at the university - Frankfurt UAS - informed them about the research project and

requested an interview⁶. After a positive response, I sent a written email requesting an interview appointment and providing relevant information about the use of the results and the interview process. In particular, reference was made to the confidential handling of the collected data and the preservation of anonymity through a summary presentation of the results. For this purpose, I obtained a written declaration of consent, which could have been revoked at any time by the interviewees.

The discussions and interviews were all conducted in person at the university, with one exception. In one case, the interview took place virtually via "Zoom".

6 Results of the study

In the following, the results of the research work are summarized and discussed. In order to keep the anonymity of the interviewees, individual information on the interviewees is not provided. In addition, the results are discussed thematically across different groups interviewed. The chosen form of presenting the results preserves the significance of the results.

It is important to explicitly include the different perspectives of the experts in the study. This is of central importance because when setting up a cooperative doctoral project with a foreign partner university, there is a reciprocal relationship with different status groups. The following groups are considered:

- Frankfurt UAS professors in the role of supervisor and reviewer/examiner
- Professors of the partner university in the role of supervisor and reviewer/examiner
- Doctoral candidates and doctoral students seeking a doctoral education
- Partner university in the role of the awarding institute of the doctoral degree
- University-internal organizational units with their respective areas of responsibility

6 Acknowledgements: I would like to express my sincere gratitude to my colleagues and collaborators.

Figure 1 shows the networking and reciprocal relationships between the supervising professors and the doctoral students, which are embedded in the organizational structure of the two cooperating universities.

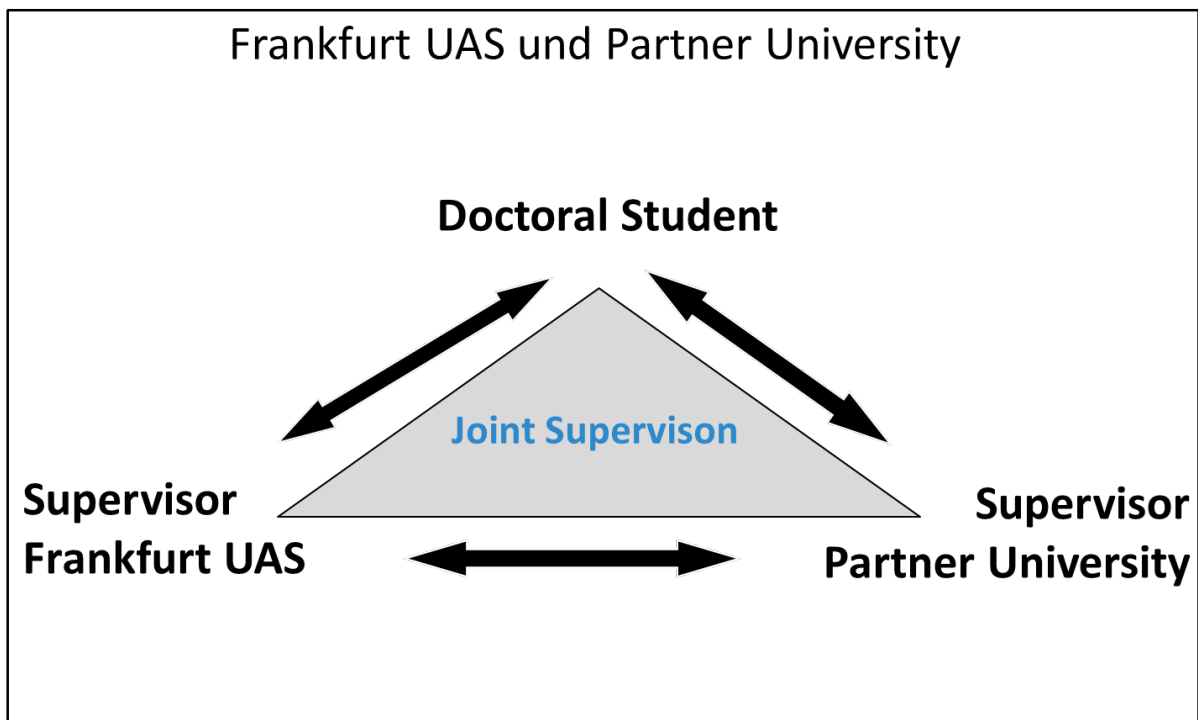


Figure 1: Mutual relationship of the participants

Furthermore, for the discussion of the results it is useful to consider the different phases of a cooperative doctorate, here presented from the perspective of the doctoral candidate.

- **Preparation phase:** This phase is characterized by planning and coordination processes with the supervising professor at Frankfurt UAS. Also, the preparation of the exposé takes place in this phase.
- **Admission phase:** Contacting the supervising professors at the partner university, fulfilling requirements for admission to the doctoral program at the partner university, and enrolment in the doctoral program.
- **Orientation phase:** start of doctoral studies, participation in seminars and trainings
- **Implementation phase:** Conducting research, regular exchange with the supervising professors of both cooperating universities.
- **Final phase:** submission of the thesis and oral defence/viva

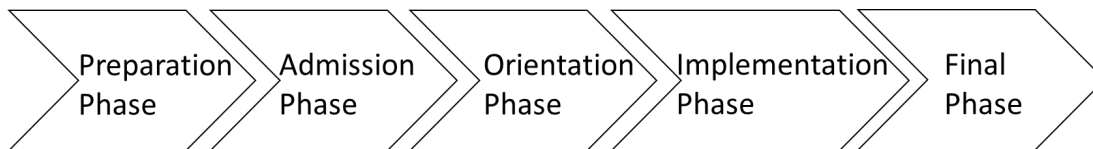


Figure 2: Phases of promotion

This research considers the preparation phase and the admission phase to the doctoral program, as the focus of the study is the central question of how a cooperative doctoral program can be established with a foreign partner university in the field of finance, when neither an established cooperation for a cooperative doctoral program nor an agreement exists so far.

6.1 Mutual relationship between supervisor at Frankfurt UAS and partner university

This chapter focuses on the mutual relationship between the supervisor at Frankfurt UAS and the partner university. In this respect, how a deepened cooperation in the field of doctoral education can be initiated and which conditions are conducive will be discussed in the following.

6.1.1 Path to joint supervision

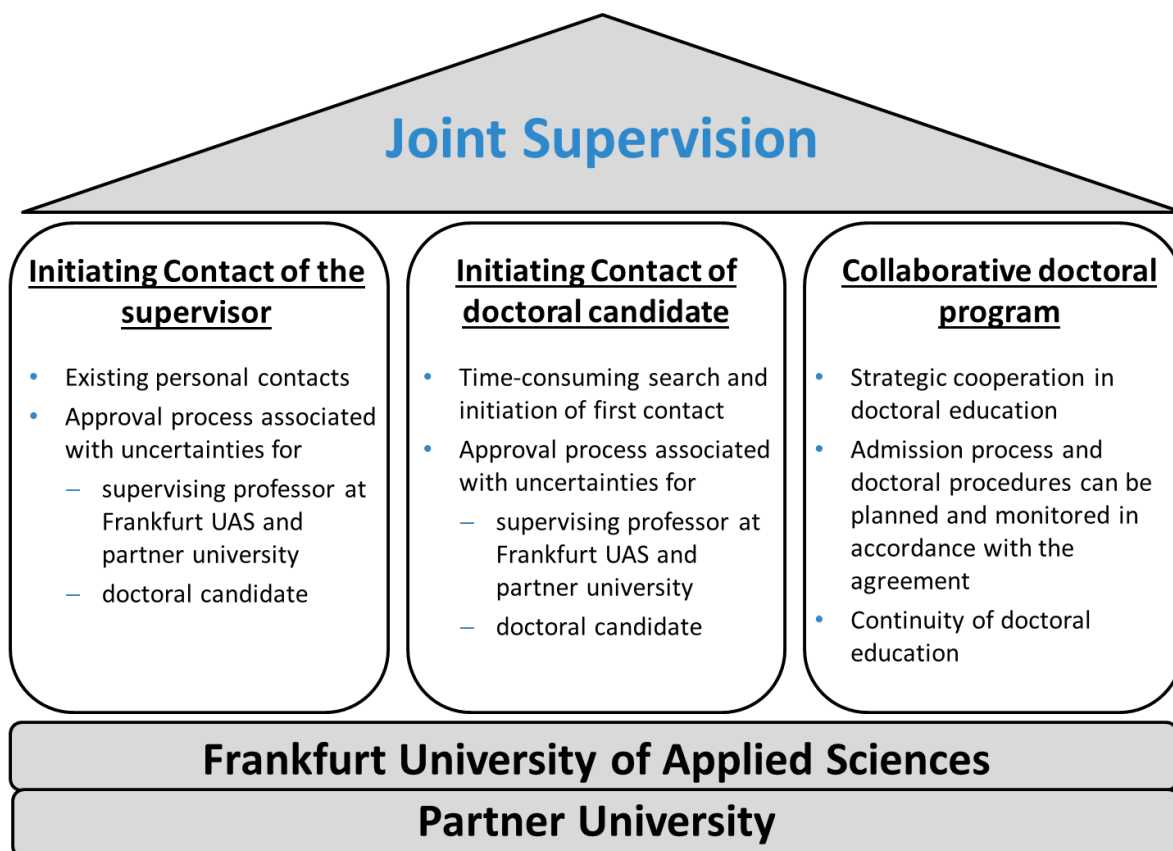


Figure 3: Access to the cooperative doctorate

Personal contacts of the professor

Often the establishment of joint supervision through (cooperative) doctorates are based on existing personal contacts of the involved professors. In that case usually individual agreement between the supervising professors at both universities exists. Although there is an intention for joint supervision on the part of the professors, such a path is associated with many uncertainties. There are several barriers on this path. First, for the doctoral candidate, who needs to make sure to meet the requirements for doctoral study in order to then to be allowed to enrol in the doctoral program at the university. But also for the supervising professor at the university of applied sciences, who needs to go through the admissions process to be admitted as a second supervisor at the university. Among other things, this can consist of having to prove adequate research strengths in order to be (officially) involved in the supervision and review of the doctoral process. Such steps are fraught with uncertainty, as the responsible decision-making bodies at the university may refuse to give their approval or may in the course of the process impose additional conditions that may be impossible for either the candidate or the supervising professor to fulfil. Of course, it must also be clarified here whether there is an equivalent partnership in place between both institutions or whether the supervising professor at the UAS does not officially appear as a second examiner and thus is not allowed to take the doctoral examination. In such a case, it is strictly speaking an external doctorate and not a cooperative doctorate, even if the professor at Frankfurt UAS is available as a contact person and supervisor for the doctoral student.⁷

Contacts of the doctoral candidate

According to the experience of the experts interviewed, another way of gaining a potential partner for the (cooperative) doctorate is for the doctoral candidate to initiate this process on his or her own initiative after prior consultation with the supervising professor at Frankfurt UAS. After agreeing on the topic with the professor at Frankfurt UAS and a completed exposé, the candidate makes an effort to find a supervisor. These efforts can be described as so-called cold-calling, since here the doctoral candidate cannot rely on the professor's existing contacts. The doctorate candidate contacts potential supervisors at domestic and foreign universities. *"And so I wrote to professors nationwide that I found on the Internet that might fit, from what I just found on the respective website, of the university. From Hamburg to Munich I wrote, I don't even know how many, e-mails"* (Expert Interview_07).

It is obvious that this process can be very laborious, time-consuming, but also very frustrating for the doctoral candidates. This is evident from the statement, *"It was laborious because I didn't know how the-, where do I start"* (Expert Interview_07). [and] *"of course, often pessimism, it has to be said. Whenever I didn't get an answer at all or rejections on one day"* (Expert Interview_07). It becomes apparent that this process cannot be sustained without a high degree of frustration tolerance and persistence. *"So somehow three years went by, where I searched in Germany, had two or three people who were somehow interesting, wrote a huge expose each time. So, it took a lot of hard work and sweat and power, and I always got a rejection"* (Expert Interview_05).

7 This does not preclude co-authorship in the publication of an article. Therefore, there may still be a willingness to jointly supervise the doctoral student.

The risk that these efforts will not be crowned with success is rather high. This also creates great uncertainty - not only for the candidate, but also for the supervisor at Frankfurt UAS. The uncertainty is described as follows: "*and the time, that is completely your own risk*" (Expert Interview_02). In addition, it remains an open question in the process whether the efforts will ultimately lead to an external doctorate or a cooperative doctorate. An external doctorate is more likely, since with a cooperative doctorate there are still more hurdles for both the supervisor and the doctoral student. "*And the university where I am doing my doctorate has no agreement with our university, and I don't have any joint supervision in that sense at our university either*" (Expert Interview_07).

Transparency about the requirements to be met is indispensable to ensure reliable planning for all parties involved. In most cases, this information or knowledge is only gained in the course of the process and the procedure may be aborted because the requirements are not met. "*in my very first attempt, I tried it through a private university, and that was also relatively clear, I will be allowed to pursue a doctorate there, I had good supervision [...] and then she said, okay, she'll see to it that it works out at this university, and I was no longer in this communication process. And then found out after a year, no, it doesn't work out*" (Expert Interview_08). In case of doubt, these renewed negative experiences can lead to the complete failure of the project: "*Exactly, it was exactly two years, and after the two years, where it was then said that it didn't work out again, I very quickly said, okay, I'll either decide for 'I want to do a doctorate' or 'I don't want to do a doctorate'*" (Expert Interview_08). [...] "*and I said to myself quite clearly, okay, I'll give myself half a year, if nothing happens in half a year, then I'll let it go*" (Expert Interview_08).

The two procedures described above are experienced as uncertain and risky by both professors and doctorate candidates. These procedures also do not necessarily lead to a continuation of the cooperation with Frankfurt UAS. It is a one-time collaboration - as soon as the doctoral studies has been completed and the doctoral degree has been awarded to the doctoral candidate the cooperation ends.

Cooperative doctoral program

The establishment of a cooperative doctoral program enables a sustainable collaboration between the partner universities and builds on a strategic partnership. The cooperative doctoral program is based on a cooperation agreement concluded with the partner university in advance. Such cooperative doctoral agreements can be concluded with German or foreign universities. The Council of Science and Humanities demands "*in cooperative doctoral programs agreed upon by the universities themselves, access to the doctorate for graduates of universities of applied sciences must be transparent. In addition, the supervision of doctoral candidates from universities of applied sciences by designated professors from universities of applied sciences as well as their participation in the doctoral procedures as equal reviewers and examiners must be ensured. The research of doctoral students from the universities of applied sciences should also benefit to a significant extent the further development of research at the universities of applied sciences.*" (Wissenschaftsrat, 2010b).

A cooperative doctoral program can improve the conditions for doctoral students through structuring, plannability and transparency. The possible advantages of a continuation of cooperation with the respective university in the area of doctoral studies are described as follows: "*Then, of course, the next generation of doctoral students would have it a bit easier,*

they wouldn't have to go on the road and look for someone, but would have direct contact persons and opportunities for supervision" (Expert Interview_07).

In order to ensure the continuous training of doctoral students and thus promote the further development of research at the UAS, the establishment of a cooperative doctoral program with partner universities is particularly goal-oriented and desirable. It is an alternative to the right of awarding doctoral degree as long as it has not yet been given by authorities, or it can pave the way to obtaining the own right of awarding doctoral degree in finance in the future. This will be discussed in more detail in the next subsection.

6.1.2 Cooperative doctoral programs as an alternative to the right to award doctoral degrees

Frankfurt UAS does not have the right to award a doctoral degree in the academic field of finance at the faculty of business and law. Although an independent right to award a research degree in the field of finance is to be welcomed, it is clear from the expert interviews that this cannot be expected in the foreseeable future. The experts rate the requirements to be met for the right to award a research degree as very high, which makes it unlikely that these requirements will realistically be met in the foreseeable future.

Interesting, however, were the experts' statements that a cooperative doctorate with a foreign university, which is based on reliable agreements and embedded in a structured program, is definitely regarded as equivalent to a possible (future) doctoral right. The reliability and predictability of a doctoral program through an established and sustainable cooperative doctoral program are seen as equivalent to a doctoral right in the field of finance. For example, one interviewee made the following statement in this regard: "*For me, that would be an equivalent*" (Expert Interview_02).

It is emphasized that the cooperative doctoral degree program within a strategic partnership can make an important contribution on the path towards the right to award a doctoral degree (Expert Interview_04). It is emphasized, for example, that the publication requirements can be met in this way and help to demonstrate the required research strength.

With regard to a suitable partner, the assessment is expressed that it "*tends to be easier to do a doctorate, a cooperative doctorate with a foreign university than with a German university*" (Expert Interview_01). Even the German University Association, the professional association of scientists at German universities, attests that cooperative doctoral studies with UAS have so far been pursued only hesitantly (Deutscher Hochschulverband, 2014). As one interviewee confirms, "*and then it turned out that even the universities that could have formally admitted me had a strong attitude of resistance toward graduates, yes, from the university of applied sciences in fact*" (Expert Interview_05).

In the training of young academics, the Anglo-Saxon university system separates the supervision and assessment/examination of doctoral degrees. This form of structured program is particularly suitable for a cooperative doctoral degree program with a foreign partner university. The "*partner universities have a much more structured doctoral education process than is known here in Germany*" (Expert Interview_04). The structured program is experienced as positive and goal-oriented: "*The type of doctorate and the way it is handled are much more structured over there. So, you also get hmh- or a different understanding. As a doctoral student, you are told that you have to deliver, but your supervisor also has a*

responsibility and obligation. So, there is much more in the direction of, hmh, let's say, meet at eye level" (Expert Interview_05).

The specifics and conditions of a cooperative doctoral degree program with a foreign university are discussed in detail below.

6.1.3 Cooperative doctoral programs with foreign universities

Within the framework of a doctoral agreement, the cooperation partners, i.e. the partner university and the university of applied sciences, agree to a jointly research supervision. The professors of the UAS are involved in the doctoral process of the partner university as reviewers/examiners. The degree is awarded by the cooperating partner university, while the doctoral student's workplace is usually at UAS. These cooperative doctoral projects are long-term structures and ensure the continuity of doctoral education at UAS, especially in subject areas without an existing right to award doctoral degrees.

A cooperative doctoral agreement with the partner university is desirable. *"Then it would make the whole thing immensely easier. Because it would take the risk out of the whole process"* (Expert Interview_02). It is emphasized that it must be possible to give a suitable candidate a reliable commitment for supervision. *"I just want to have a certainty that if someone comes along to whom you and I say yes, that's the one. That you can then practically do the formalism of enrolling"* (Expert Interview_02). In addition, value is placed on equal supervision and review: *"That is also this core statement of this doctoral agreement, that we are on the certificate as equal partners"* (Expert Interview_04). However, it should not be disregarded that *"the profile of the supervising professor [should be] sharpened so that the partner university has a clue who he/she is working with"* (Expert Interview_02).

A cooperative doctoral degree program should be carried on many shoulders. This means that such a program can only be sustainable if several professors participate and contribute to the training of young academics. Thus, several professors in the field of finance or in the department should be involved in the program.

In the case of a cooperative doctoral degree program with a foreign university, it must be taken precautions that doctoral students should be able to plan regular short stays at the partner university. *"You simply have to show your face there"* (Expert Interview_04). It is emphasized that it is important for the doctoral researchers *"that you are known there and [...] then you present your work there in the working group or talk to your supervisor"* (Expert Interview_04).

These stays are associated with costs, as is pointed out in particular in Expert Interview_03: *"[...] in Australia, but also in the USA. I think the doctoral programs in the UK are also very structured and also associated with very high costs. So, you still have to see that you find a way that it is affordable. And also that the students then have the chance to be on site for, that is, in a regular rhythm"* and [...] *then you also have to plan everything through beforehand so that they then know exactly when I will be on site and also where I will be accommodated"* (Expert Interview_03).

For doctoral students who spend part of their doctorate at the foreign partner university - over several stays and different periods of time - the location also seems to play a role. This is shown by the experiences with outgoing students: *"From my experience so far with the*

students definitely, yes" (Expert Interview_03). However, it is to be expected that this criterion is not quite as important for doctoral candidates. *"Well, I didn't choose the university, but looked nationwide for supervision options that would fit thematically"* (Expert Interview_07). Nevertheless, good accessibility to the university is important for success. Thus, distance or accessibility plays an important role as the quote reveals. *"The distance is of course a bit suboptimal, in that case"* (Expert Interview_07).

6.1.4 Relevant content for cooperation agreements

Finally, the most important components that a cooperation agreement should contain are briefly explained below. The contents presented can be used for a possible doctoral agreement in the field of finance with an international university, particularly with an Anglo-Saxon university.

The collaboration under the cooperation agreement includes joint supervision of the research work of pre-selected doctoral students as part of their PhD studies at the cooperating partner university. Both supervisors are responsible for the supervision of the PhD students and commit to have a joint face-to-face meeting with the PhD students at least once every three months, either face-to-face or via video conference. In addition, they must ensure that the doctoral candidates have access to the research infrastructure of the respective university.

Doctoral students must be enrolled at the cooperating partner university. Doctoral students are usually required to pay an annual tuition fee. The language of the doctoral studies, the dissertation and the disputation/viva are in English.

The cooperating university awards the degree and retains ultimate responsibility for maintaining the academic quality and standards of its degrees. The UAS undertakes to comply with the doctoral regulations and relevant rules of the partner university and to inform the partner university immediately if concerns arise regarding the academic performance of the doctoral candidates. The cooperation agreement stipulates that UAS will be named as an equal cooperation partner in the doctoral degree certificate.

The cooperation with the Anglo-Saxon partner university is embedded in a structured doctoral program. In the Anglo-Saxon university system, supervision and assessment of the doctorate are usually carried out separately. The supervision is carried out by the equal supervisors at the foreign partner university and at UAS. Two examiners are responsible for the review: an internal examiner at the faculty of the partner university and an external examiner from another university. *"If I have my own doctoral student, I don't assess the thesis. I supervise it, I tell them, 'It's good, you can submit it.' But the evaluation is always done by others, so it's a bit of a different process than we have here on the continent"* (Expert Interview_04).

The separation of supervision and assessment ensures quality by monitoring predefined progression stages. Within the structured program this is done by "progression monitoring" at the cooperating partner university: typically First-Year-Report and Second-Year-Report has to be submitted in case of full-time PhD by the PhD student. Usually the enrolment period is 36 months for full-time studies and can be extended if needed. After the processing period, the *"Thesis"* is submitted and the *"Viva"*, i.e. the oral defence of the doctoral thesis, takes place afterwards.

The monitoring of the doctoral student's progress "*naturally also puts a bit more pressure on the professor, because of course, if someone fails this quality control, on whom does that first cast a bad light*" (Expert Interview_04).

6.2 Mutual relationship between supervisor at Frankfurt UAS and doctoral candidate

The reciprocal relationship between the supervising professor and the doctoral candidate at Frankfurt UAS is discussed in two areas. This selection is based on the statements of the interview partners.

The suitability of the doctoral candidate

In order to train the next generation of scientists, young academics can be recruited from among the graduates of the university's own master's programs for doctoral training. The contact with the students exists in the courses and opens the possibility to get an idea of the graduate's suitability for a PhD. "[...] *these are all people I know, who know me. And who have already written a thesis with me. And who have somehow attracted attention*" (Expert Interview_02).

Scientific work within the master's program is important to provide students with knowledge and skills for conducting research. Therefore, scientific work must be part of the curriculum in any case during the course of the degree, and modules with extensive project work must be scheduled. "*And that's where you get into it, that people can really do something creative. It even happens that such project work is sometimes published*" (Expert Interview_04).

The next generation of scientists is also recruited from among the department's alumni who, after several years of professional experience, want to take up doctoral studies. "[...] *was actually a former student who had studied here and who was then also a contract lecturer here for a while. That's how I got to know him*" (Expert Interview_01).

Universities of applied sciences are particularly predestined for their own graduates who want to conduct practice-oriented research. "*I can already imagine that if you have now spent a few years in practice, that you might then feel more comfortable doing a doctorate at a university of applied sciences than perhaps at the university*" (Expert Interview_01).

The independence from a chair was also stated as a decision criterion for the doctorate at an UAS. "*And I think you have to somehow make sure that you stand on your own two feet, and that is perhaps easier here at UAS, regardless of whether you do it through a doctoral center or through an external doctorate. So, my doctorate, which I am starting now, is completely detached from my job [research assistant position at Frankfurt UAS]. If my job fails, I have my doctorate, and if the doctorate fails, I have my job*" (Expert Interview_08).

Interestingly, it also seems to depend on the subject area whether a graduate starts a doctorate at Frankfurt UAS directly after the master's degree or first gains a few years of professional experience. While in the field of business graduates with professional experience are more interested in a doctorate, in other fields it seems to be rather the rule to pursue a doctorate directly after the master's degree. Otherwise, "*they won't come back*" (Expert Interview_04).

The question as to whether a part-time doctorate would be productive is answered in the negative by the experts. *"I think a doctorate, like a lot of other research, depends on working on something in a really concentrated way for a long time. And that simply becomes more difficult if you do something else part-time on the side"* (Expert Interview_01). The critical attitude toward part-time doctoral studies is also illustrated by the following statement: *"Well, the people I take on, I look at very, very closely, somehow, to see whether they have the potential to pull it off or whether after three or four years, if there is still no light at the end of the tunnel, there is perhaps a risk of dropping out, yes? I would like to avoid that"* (Expert Interview_04).

The expectation

Clear expectations between all participants in the process are essential for the success of the doctoral project. Thus, it is recommended to conclude a supervision agreement between the supervisors and the doctoral candidate at the beginning of the supervision relationship.

However, this does not guarantee that the expectations of both sides are clearly defined: *"Yes, there is always this one where you fill it out once and then it is clearly formulated. I have filled it out twice in each case and had it signed, but somehow it was not enough"* (Expert Interview_08). *"I have now experienced this with the project, which did not work out, so that the expectations were not set at the beginning. Perhaps I had different expectations than those of the supervisors"* (Expert Interview_08).

"So, the expectations and the wishes were not clear. But also, the respective roles were not clear, so what are my tasks, my obligations, what are the tasks and obligations on the other side" (Expert Interview_08).

To prevent possible misunderstandings, close coordination and regular communication between the parties involved are essential.

6.3 Mutual relationship between supervisor at Frankfurt UAS and internal university organizational units.

Regarding the reciprocal relationship between the supervisor at Frankfurt UAS and university-internal organizational units, the expert statements focused on a few, but central points.

In the interviews, the group of professors expresses the expectation that the supervision of doctorates is accompanied by an appropriate reduction in teaching loads. The bandwidth of what is considered appropriate ranges from a total of 4 SWS (weekly teaching hours per semester) for a successfully completed cooperative doctorate to a reduction per semester to a certain extent for research, although here in the interview no explicit distinction was made between own research activity and additional supervision of a doctoral student. *"Five would be [per semester] already now -. It should be something like that if you are about to seriously change something now"* (Expert Interview_01).

Another obstacle mentioned is the fact that the reduction in teaching load per semester is capped and thus professors cannot be granted a reduction in teaching load that exceeds a certain reduction. For the different handling in other countries, the example of England is mentioned in the interview. *"I have also discussed this once with colleagues in England and*

there it is normally also like this, for every doctoral student, every doctoral student that you have, you have to teach one hour less. [...] at the moment, I think he has 18 doctoral students, he just doesn't teach any more" (Expert Interview_04).

In addition, more active support for research activities is required. "I would also like to have *more activities that support me, be it research assistants or student assistants or something like that"* (Expert Interview_02).

The desire for a scientific exchange at the university is also expressed: "*simply input, suggestions, yes, criticism, simply feedbacks, sparring, suggestions"* (Expert Interview_01). The desire for exchange and for a special learning and research atmosphere is also expressed in this statement: "*Well, for me personally, I sometimes miss a bit of university flair [...] and when you walk across campus at five in the evening, it's deserted somehow"* (Expert Interview_04).

6.4 Initiation of cooperative doctoral degree programs with foreign universities

Clearly, a doctoral agreement is only concluded once relevant relationships with the university have already been built up and established. "*I think the most important thing is that we already have a good relationship with this university or are in the process of establishing one"* (Expert Interview_03).

But how can such a relationship be built if there is no intensive exchange with the university beforehand? Or put it differently: What can be the drivers for professional networking with foreign universities in the field of research, with the ultimate goal to establish a cooperative doctoral degree program in the field of finance?

The measures discussed are intended to help intensify cooperation. Establishing personal contacts seems to be the key here. "*And yes, there is already a lot, a lot of work behind it, also for the partner universities. And so, I think that if you approach it personally, the chances are simply higher at the end of the day."* (Expert Interview_03) The desire to be able to assess one's counterpart well is shown by the following statement: "*I mean, in general, when you work with someone, of course you need a reasonable relationship. And that is at least as much the case in research as in other activities"* (Expert Interview_01).

The identified measures are discussed in order of increasing intensity of cooperation and the mutual willingness to cooperate with the respective partner university.

- Guest lectureships: short-term teaching mobility of professors/lecturers
- Short-term programs such as jointly organized Summer Schools
- Joint teaching: delivery of courses in designated modules or joint awarding of dual degrees.
- Research stays: Longer stays for research purposes, for example over a semester at the partner university.
- → **Long-term goal:** Joint research supervision (establishing a cooperation agreement for a cooperative doctoral degree program)

The increasing intensity of collaboration is illustrated in Figure 4.

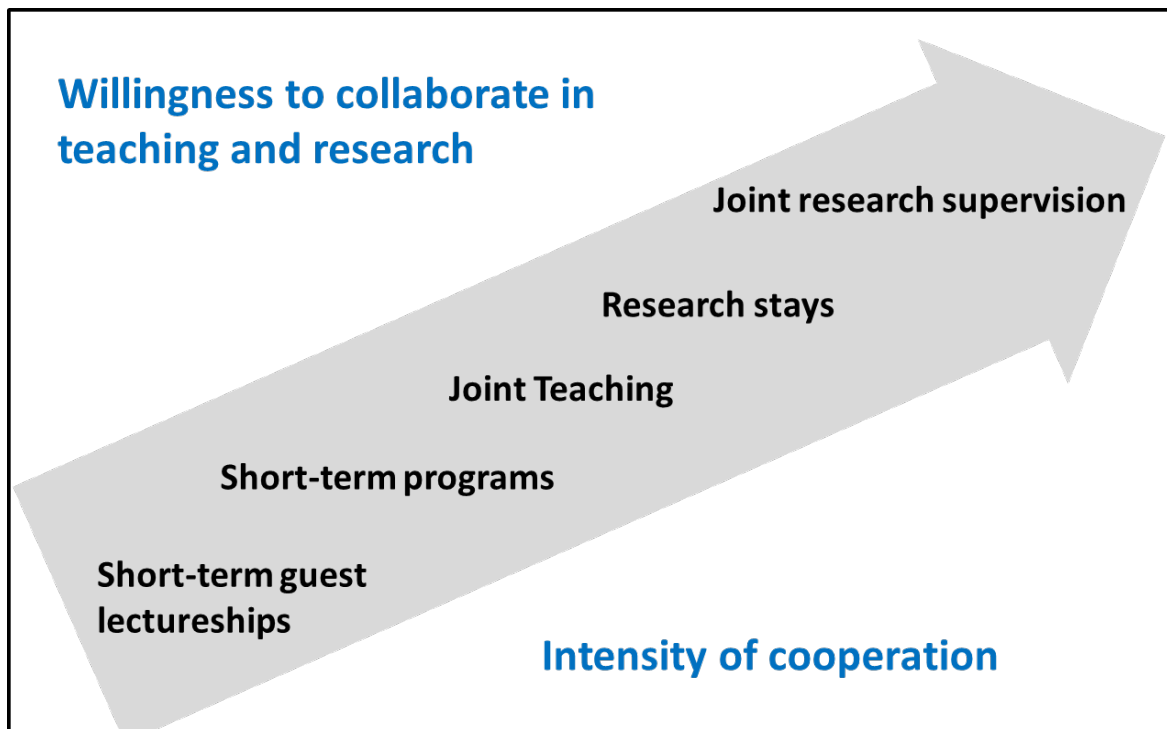


Figure 4: Intensity of cooperation

6.4.1 Short-term guest lectureships

The guest lectureships for establishing relevant contacts at the partner university were emphasized by several experts as a target-oriented and low-threshold measure. Visiting professorships give professors the opportunity to get to know the partner university better and to establish contacts with the faculty members. The exchange can be intensified in order to perpetuate the mobility of the professors in both directions. Even though the guest lectureship is usually for teaching purposes, exploratory talks can still take place with regard to common research interests. *"The personal connection, that makes so much difference. You make so many things easier when you know each other. And then you can also just talk openly about everything, that makes a total difference and also mutual trust"* (Expert Interview_03).

Visiting professorships make an important contribution to both in teaching (internationalization@home) and in research. The guest lectureship promotes exchange between the partner university and Frankfurt UAS - potential supervising professors get to know each other - which contributes to the expansion and deepening of international scientific networks. Funding for short-term mobility is also low-threshold. Short-term stays at a European partner university can be funded through the established Erasmus Staff Mobility Program for academic staff. All that needs to be done in advance is to ensure that an Erasmus agreement has been concluded with the partner university in question. This procedure is also standardized.

6.4.2 Short-term programs

Short-term programs are another way to strengthen professional networking in teaching and research. Summer schools or winter schools are well suited for short-term programs. A jointly organized summer school allows the identification of topics for joint teaching and

research. Within the framework of a Summer School, a course could be designed with the participation of students and academic members of both institutes. Alternatively, a Summer School could take on the character of a workshop and be aimed primarily at researchers and those interested in research. A summer school is undoubtedly seen as a good opportunity to expand contact in a targeted manner, as the following statement makes clear: "*Perhaps also a joint summer school, so that you have some kind of start and can then build on it*" (Expert Interview_03). Such a summer school could be planned and implemented in a timely manner, as this event can take place outside the curriculum, detached from examination regulations.

While a Summer School is designed as a one-time event and thus the effort can be clearly outlined, the following approach would require more effort and a longer planning horizon.

6.4.3 Joint teaching

Joint teaching in modules that are anchored in the catalogue of the respective compulsory or elective subjects of the degree program of both institutes are undoubtedly accompanied by a high need for coordination in terms of teaching content, but also in terms of course organization by both universities/faculties. This requires a stronger commitment and engagement of all involved parties over a longer period of time. Building on such a commitment, future cooperation could be deepened as a further step in the context of a double degree. After this kind of possible (successful) cooperation, it is obvious to think about a cooperation not only in the academic education of students, but also in the training of doctoral students in the future. A double degree could be seen as a test run or preliminary stage: "[...] *we may already have with double degrees, then the connection is already very close anyway. And then as a next step, so to speak, maybe the consideration of PhD programs building on that.*" (Expert Interview_03)

6.4.4 Research stays

Often, a longer stay is preceded by a shorter stay (short-term lectureship). For example, a dedicated research semester offers the possibility of a longer research stay at the foreign partner university. This creates space and opportunity to intensify contacts with colleagues at the foreign partner university and to initiate or carry out joint research projects, as the stay there can be scheduled for up to one semester. Under certain circumstances, this also offers the opportunity to combine joint research with joint research supervision of doctoral students. This, in turn, can pave the way for the conclusion of a formal cooperation agreement to establish a cooperative doctoral degree program between the two universities. This is also confirmed by an experience at Frankfurt UAS in concluding a framework agreement for a cooperative research degree program. "I don't *think that would have happened yet without that first cooperative doctorate*" (Expert Interview_04) and "*I asked then: can we formalize our relationship a bit?*" (Expert Interview_04).

6.5 Consolidation of results: Confidence building and predictability

After analysing all available data, across all interviews and all groups studied, it was noticeable that the experts' statements could be subsumed and consolidate into two categories in the result, following the "Grounded Theory": "**confidence building**" and "**predictability**".

Confidence-building focuses on building trust between the people involved, i.e. the supervisors of both institutions as well as the doctoral candidates. Trust is defined by Duden as the firm conviction of the reliability and dependability of a person.

Without trust among the people involved, the joint training of young scientists with international partners is not possible. At the same time, the training of young scientists with international partner universities can only succeed if everyone can rely on the adherence to rules and procedures and if reliable planning is guaranteed in the implementation, as predictability plays an important role.

In the case of predictability, the "*matter*" is at the centre of consideration and the decisive criteria for this are reliability and transparency. Reliability in the "*matter*" can be ensured by concluding agreements and by the transparency of processes and reliability of procedures.

Confidence-building and predictability can be addressed at multiple levels. Both are promoted by reducing information asymmetries between the parties involved. At the same time, this also increases knowledge about the people and institutions involved.

The following illustration shows the groups directly involved, flanked by confidence building and predictability:

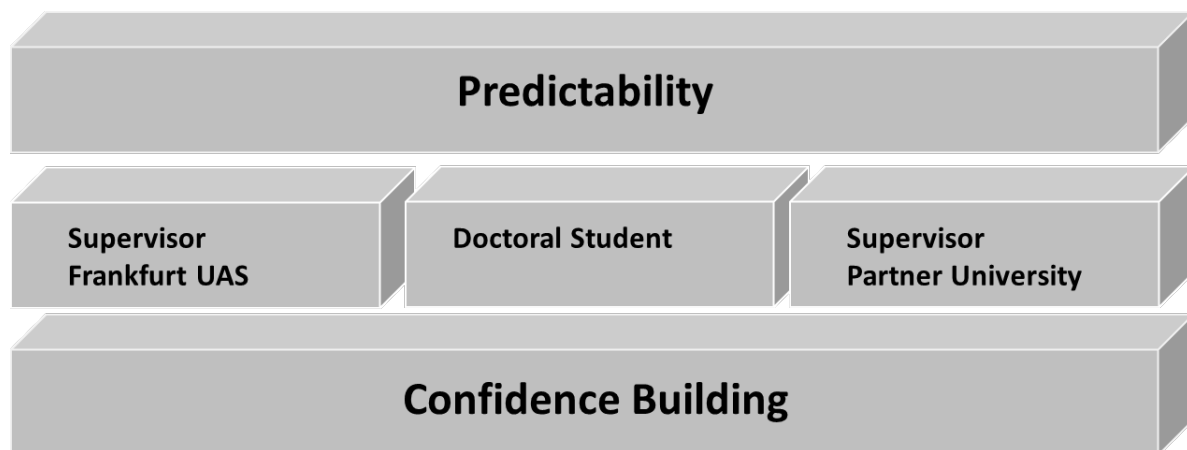


Figure 5: Confidence building and predictability (1)

The impact of personal contact and sustained interaction on confidence-building and professional networking in research should not be underestimated. The intensification of interactions and cooperation in cross-border teaching and research projects can set an important course for the future joint research supervision of doctoral student - based on confidence building and predictability.

Figure 6 provides an overview of the conditions that can promote trust or confidence-building and increase reliability in terms of planning and feasibility. The conditions are summarized in key words from the perspective of the respective groups involved. A detailed discussion of these aspects was provided in the preceding chapters.

Thus, international cooperation in research is based on confidence building between the involved parties and the predictability of procedures to pave the way for a strategic and long-lasting partnership in joint doctoral education.

Confidence building and predictability

Supervisor at Frankfurt UAS

- Personal contact with doctoral candidates
- Personal contact with supervisors at the partner university
- Binding confirmation of supervision for doctoral candidates
- Reliable admission requirements as a second supervisor
- Reliable conditions for cooperation and task sharing
- Quality assurance through transparent progress testing
- Promotion of own research and publication activities

Doctoral Student

- Building a relationship with supervisors at Frankfurt UAS
- Establishment a relationship with supervisors at the partner university
- Transparent enrolment conditions and formalities
- Transparent progress check and feedback in stages
- Regular education and training opportunities
- Environment for scientific discourse among doctoral candidates, supervisors and other scientists

Supervisor at the Partner University

- Personal contact with doctoral candidates
- Personal contact with supervisors at the Frankfurt UAS
- Reliable conditions for cooperation and task sharing, compliance with regulations
- Quality assurance through transparent progress testing
- Generation of income through tuition fees
- Promotion of own research and publication activities

Figure 6: Confidence building and predictability (2)

7 Conclusion

The aim of this research was to evaluate the framework conditions for professional networking with international universities in the field of research, including the possibilities of a cooperative doctorate, and to identify both the drivers and the barriers related to the initiation of a cooperative doctorate in the field of finance.

The equal cooperative doctorate is a model that can ensure the continuity of doctoral education and promote research activities in the field of finance and the supervising professor. This research has addressed the question of how such doctoral collaborations can be established with international universities and what options are available to initiate a corresponding doctoral agreement.

Targeted interactions as well as exchange and practical cooperation at various levels in teaching and research were identified and explained in detail as drivers for initiating cooperative doctoral studies in the field of finance. Cooperation in doctoral education requires a certain level of commitment from the universities involved, which can only be built up over time and through targeted interactions in advance. Thus, building trust between the people involved, i.e., between potential supervisors from both institutions as well as the doctoral students, plays an important role. In addition, reliable planning of the processes and transparent framework conditions are of decisive importance. The continuous training of young scientists with international partner universities can only succeed if reliable planning is guaranteed in the implementation.

Barriers are very evident in the time resources of professors and in the funding of academic positions. In addition to funding, the greatest hurdle for doctoral students is the uncertainty of finding a suitable supervisor and registering for the doctoral program.

The insights gained from this research work lead to recommendation to initiate the process for establishing a cooperative doctorate with a suitable international partner university on in the field of finance.

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9 Supplementary Material

9.1 Interview guide: Status group of professors

Introduction:

When were you appointed to our university?

Have you conducted research since your appointment? How would you describe your experience?

Basic assessment of the research

How would you describe the role of research at our faculty?

Do you see any development or change in recent years?

How would you rate the future importance of research to the faculty and/or discipline?

Type of research

What kind of research do you think is targeted in your field?

Are you planning any research projects in the future? To what extent would you like to or be able to do research?

Organization of the research projects

How would research in the department need to be organized in order for (your) research to be funded?

- Are you generally interested or willing to jointly supervise doctoral students?
- What do you have to consider here? In your opinion, are the existing conditions or incentives sufficient?

No right to award research degrees in the field of finance

- How do you rate the prospect of being granted the right to award doctorate in finance in the foreseeable future?
- What do you see as the advantages and the difficulties of conducting cooperative doctorate with international partner universities?
- What does it take for cooperative doctoral education to succeed?

Doctoral candidates/ young scientists

Are our students adequately prepared for a possible doctorate?

What is there to consider? Do we have sufficient access to potential young scientists?

9.2 Interview guide: Status group of employees/representatives in central organizational units

Introduction

How long have you been employed at our university?

What are your duties/responsibilities?

Basic assessment of the research

Do you know of any research projects on an international level in cooperation with international partner universities? How is this cooperation organized?

Are there significant differences in scope and form between the faculties?

And how do you explain the differences? Lessons learned?

Can you observe a development over the last few years?

Cooperative promotion

What role does the cooperative doctorate play in international research networking?

What international collaborations do we have for cooperative doctoral studies at our university? Are there any cooperation agreements?

How are cooperative doctorates organized? How does your organizational unit support the faculties? Does your organizational unit assist in the negotiation and structuring of these cooperative agreements?

Support for doctoral candidates/promoters

What support is available for doctoral candidates/doctoral students from your organizational unit or at the university?

- What funding opportunities are available for doctoral students in terms of continuing education and for their stays abroad?
- How the doctoral phase is organized or what is recommended and why?
- What else needs to be considered? What does it take for a cooperative doctorate to succeed?

9.3 Interview guide: Status group of doctoral candidates

Introduction:

Where did you study? In which field?

Why did you decide to do a doctorate?

What was the decisive factor for the timing? Why not earlier or later?

Cooperating University

Which partner university did you choose for the cooperative doctorate? What were your motivations?

What experience have you had or are you currently having during the application phase?

Procedure

How did you go about it when you knew you wanted to pursue a PhD?

Did you have any fellow students along the way or any kind of exchanges or other forms of support?

Was there support from the faculty or our university? What was this support about?

How much work was/is required to complete your doctoral project?

Funding

How do you finance your doctoral project?

Are you employed at the faculty? Do you teach?

Who covers the costs such as tuition fees?

Evaluation

What do you see as the advantages and difficulties of conducting a cooperative doctorate abroad or in Germany?

What positively influenced the initiation of the doctorate?

What made the initiation of the doctorate difficult?

9.4 Interview guide: Status group of (former) doctoral students/successfully completed doctorate

Introduction:

Where did you study? And what?

Why did you decide to pursue a doctorate?

Was it directly after the master's degree?

Cooperating University

Through which university was you awarded with the doctoral degree and why did you choose that university?

Did you feel adequately prepared for the doctoral studies?

Procedure

How did you go about making the decision to pursue a doctorate?

How was your doctorate organized in the faculty?

Did you have any fellow students along the way or any kind of exchanges or other forms of support?

Was there support from the faculty and the central organizational units? Were there adequate training opportunities?

How was the supervision of the dissertation organized at the partner university?

Funding

How did you finance your doctorate? Were you employed as a research assistant or as an administrative assistant at the faculty?

What tuition fees were incurred and who paid these tuition fees?

Planning

What was the workload during the PhD? Did you teach during that time? Was there an opportunity to combine your research with teaching?

Evaluation

What do you see as the advantages and difficulties of doing a cooperative doctorate abroad or in Germany?

What has positively influenced your doctorate?

What made your doctorate more difficult?

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