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Swedish doctoral education - Investment for innovation, international competitiveness and growth

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Abstract

A milestone in Swedish postgraduate education is the 1969 reform, which aimed to enhancing the efficiency of doctoral education. One of the main problems to counteract with the Swedish doctoral programme was the long study times. On average, those who submitted a doctoral thesis had ten years of research studies behind them. This was due to how doctoral education was organised (i.e. limited teaching and supervision combined with high demands on the thesis work) and the financial situation of the doctoral students. As a result, few were able to devote themselves full-time to their thesis work, as many had to work alongside their studies. The 1969 reform established a new doctoral degree of four-year full-time studies, which replaced the previous one. Doctoral education would be more intensive and formalised, with a greater proportion of teaching and courses and significantly increased supervision. Inspired by the American doctoral programme, which had increasingly become an international benchmark, the study time should be reduced by lowering the quantitative requirements of the scope of the doctoral thesis. Against this backdrop, this article outlines and analyzes the historical trajectory of doctoral studies in Swedish higher education, and more specifically after the implementation of the 1969 reform, as well as featuring the current regulatory framework/status of doctoral studies in Sweden. Emphasis will be given on the funding aspect of doctoral education, the structure and content of the programme(s), the quality assurance of the education and the challenges it faces under current research policies.

Keywords

Forskarutbildning/Swedish doctoral education/researcher education; evaluation and quality assurance of Swedish doctoral programmes; individual study plans; doctoral students study conditions.

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Introduction: Background and the context of the article

This introductory part outlines a brief historical overview of the Swedish higher education system with a focus on doctoral education, ending with a formulation of the article's purpose, questions and structure.

Higher Education in Sweden

There are 49 higher education institutions in Sweden. Of those 18 are universities, 17 university colleges (of which 5 are art institutions) and 14 non-state/non-profit higher education providers. The main difference between a university and a university college is that universities are generally authorized to award master's and doctoral degrees, while university colleges and other individual, non-governmental education providers, must apply for authorization to offer postgraduate programs in specific areas. Yet, the term 'university' is not protected by law. Most individual education providers are small and only offer education in one or two scientific areas. The majority of higher education and research in Sweden is conducted at state universities and university colleges.

The Swedish Higher Education Authority (UKÄ) decides which higher education institutions are to be entitled to award a degree. In general, higher education institutions are separate authorities placed directly under the government, and the Ministry of Education is responsible for all matters relating to universities, colleges and research with the aforementioned exceptions whereby the Ministry of Enterprise and Innovation is responsible for the University of Agricultural Sciences and the Ministry of Defence for the Defence University. (UKÄ, 2023a). The doctoral degree is the highest academic qualification in the Swedish higher education system, a degree that provides society with research and expertise in most key areas.

In the autumn semester of 2022, more than 370,000 students were registered in undergraduate and advanced programmes. Sweden is one of the 13 EU countries to achieve the EU target of 45 % of the population aged 25-34 having completed tertiary education by 2030. The labour market prospects for those who graduate from higher education are very promising. For example, of those who graduated in the 2019/20 academic year, 84% were established in the labour market 1-1.5 years after graduation. (UKÄ, 2023b)

Doctoral students at Swedish HEI:s can study either two years full-time for a Degree of Licentiate[2] or four years full-time for a Degree of Doctor. The majority of doctoral students study for a Degree of Doctor. Three per cent of the graduates at undergraduate and advanced level between the academic years 2013/14 and 2016/17 started a third-cycle 4-year programme[3] the academic year 2021/22. (a.a.)

The number of doctoral students in autumn 2022 was 17 450. Of these, 54 per cent were women and 46 per cent men. Among these, the proportion of international students was high and has been so for several years. In 2022, around 40 per cent of new entrants to third-cycle education were from abroad, and the proportion of beginners from these countries has not changed significantly over the last ten years. According to the regulations, doctoral students must have a secure livelihood throughout their doctoral programme. This can be through a doctoral student position or other position within the university, a position outside the university in which students can pursue their doctoral education, scholarships, or other means of support - but no own private funds or study loans. (a.a)

It is unusual for doctoral students to dedicate all of their time to their studies, as they often teach or perform other departmental duties in parallel with their studies. However, by law, duties of this kind may not comprise more than 20 per cent of a full-time post[4]. The average time for a doctoral student to complete a doctoral degree was twelve semesters in 2022. If only the active time spent by doctoral students on their studies is counted, it took an average of 8.5 semesters. (a.a.)

Nevertheless, a milestone in Swedish postgraduate education is the 1969 reform, which aimed to enhancing the efficiency of doctoral education since one of the main problems with the Swedish doctoral programme was the far too long study period. On average, those who submitted a doctoral thesis had more than ten years of research studies behind them. The 1969 reform established a new doctoral degree of four-year full-time

[2] A licentiate degree can be a good compromise if, for some reason, you don't want to study the minimum four years required for a doctoral degree. It is roughly equivalent to half a doctoral degree. A licentiate degree can also be seen as a stage in the programme on the way to becoming a doctor. Taking both a licentiate degree and a doctoral degree takes extra time because you have to write a licentiate thesis as well, but it can make the time afterwards more efficient.

[3] All full-time doctoral studies in Sweden are four years. However, a doctoral student has the opportunity to choose a lower activity level, which extends the time for graduation.

[4] "A doctoral studentship must be a full-time position. If a third-cycle student requests it, the position may be part-time but at no less than 50 per cent of a full-time position." (The Higher Education Ordinance 1993:100. With amendments up to and including the Act on Amendment of the Higher Education Ordinance 2023:575, Chapter 5, Section 3a).

studies, which replaced the previous one. Doctoral education would be more intensive and formalised, with a greater proportion of teaching and courses, and significantly increased supervision.

In this article, Swedish doctoral education is presented in a historical perspective and more specifically after the implementation of the 1969 reform. The purpose of the historical review of doctoral education reforms (Chapter 1) is to contextualise current education (Chapter 2) by highlighting the funding aspect of doctoral education, the structure and content of the programme(s), the quality assurance and the challenges it faces under current research policies (Chapter 3).

To a great extent the article draws on government inquiries, which have made significant contributions to public knowledge about the design and effects of doctoral education. The Swedish inquiry system with its expert committees has historically conducted research, the results of which have often had a major influence on government decisions (Premfors, 1983; Zetterberg, 2011; Säfsten, 2023). This government inquiry model can be described as an area of cooperation between politics and science (Eklöf, 2007), where the basis for proposed solutions takes shape based on consultation and consensus among different stakeholders. Thus, the inquiry system fulfils three central functions: to prepare cases for government decisions, to create consensus on current issues, and to generate new knowledge (Amnå, 2010). As for the higher education reforms, much preparatory work has been done through the special government inquiries.

1. Major reforms in doctoral education in Sweden

1.1 An overview of reforms on doctoral education to the early post-war period

It was not until 1852 when university statutes in Sweden stipulated that anyone wishing to obtain a magister's or doctoral degree must "*write and ... publicly defend an academic thesis*". Previously, it was common for the student, who wished to acquire the magister's[5] or doctoral degree, to pay for the printing and defend a thesis written by the subject representative professor. This implied that it was not the doctoral student himself[6] who

[5] In the Swedish education system, the title magister ("filosofie magister") was the highest degree at the faculties of philosophy and was equivalent to the doctorate used in theology, law and medicine. Since 2007, the Magister Diploma ("magisterexamen") is a one-year post-graduate degree and depending on the subject area is officially translated into either Master of Arts, Master of Social Science or Master of Science(see https://en.wikipedia.org/wiki/Magister_degree).

[6] *Nota bene*, only men were allowed to obtain a magister or a doctorate degree!

wrote the thesis. By a royal letter in 1853, the magister's degree was abolished and replaced with the "Doctor of philosophy degree" (SOU 1946:81 II, p. 180).

In 1919, following petitions from the universities, a bill was submitted to the parliament proposing all education and teaching in all public educational institutions should, as far as possible, be free of extraordinary costs, with the argument that the possibility of a doctoral degree should "*be open to each person to assert himself according to the measure of his knowledge and talent*". This should be, in the words of the then Minister of Education, "*one of the guiding principles of our educational system*", open to all and not a privilege for the financially well-off. The inquiry also addressed the criticism of the often voluminous size of the then theses, which contributed to the printing costs being "*unnecessarily burdensome for doctoral students*". This criticism was voiced by the Faculty of Philosophy in Lund in 1918, which considered it desirable to limit the number of pages of the theses to "*reasonable proportions*" (a.a, p. 181-188).

Postgraduate education continued to be strengthened by the government in the first half of the 20th century, and more professorships were established with the explicit purpose that professors' time would be used to a considerable extent for the supervision of doctoral students. At the same time, more scholarships for research students were introduced and resources for printing doctoral theses were increased.

After the Second World War, the Swedish higher education sector, as well as the rest of the education system, became the object of state interest and several inquiries laid the foundation for intensive reform and expansion. At that time, Sweden experienced an economic upturn that enabled heavy investment in education and research, which was assumed to safeguard society's continued economic, social and democratic development. The production sector's and working life's need for new knowledge and innovation, combined with the vision of a strong and cohesive society -later on associated with the Swedish welfare model- demanded extensive investment not only in the general level of education of the entire population but, in particular, expansion of higher education and research (Ekberg, 2012). More universities and colleges have been added, and today there is at least one college in every county (see for example Gougoulakis & Fredriksson, 2018). The basic higher education programme reformed in 1977 and 1993, and today's postgraduate education has its origins in the 1969 reform of postgraduate education (Högskoleverket, 2006). More on this in the following.

1.1.1 "Forskarutbildning"

The connection between research and education was particularly noted in a government inquiry, -"*on the organization of technical and scientific research*"-, in the early 1940s (SOU 1942:6). The inquiry emphasized the vital importance of research in the training of university teachers, or researchers for the industry's laboratories, or other research institutions at the technical universities. Apparently, as already mentioned, this is the first time that the term "researcher education" -in Swedish: *forskarutbildning*- appears in the context of a higher education policy report.

Consequently, the inquiry report considers teaching to be of essential importance to research and takes issue with those who believed that research and teaching should be kept separate. For the enquirer, the link between research and teaching has many advantages, as teaching requires the researcher to systematise and summarise his own and others' results in his field of study.

1.2 The 1969 higher education/doctoral education reform (the UKAS report)

As previously mentioned, today's doctoral education is based on the 1969 reform. However, several inquiries up to that time had dealt with various issues concerning postgraduate education. The 1955 University Inquiry (SOU 1963:9) stated that society's growing need for research demanded a more planned doctoral programme that would stimulate the recruitment of young researchers and intensify their training. Hence, the committee proposed "*strengthening of the resources of higher education institutions for research and postgraduate education*" and "*reserving the most highly qualified teaching staff for the most qualified teaching tasks, postgraduate education and examinations*" (SOU 1963:9). In its first report (SOU 1958: 32), the commission strongly stressed "*the importance of licentiate and doctoral students being effectively supervised in their work by professors and other experienced researchers working at the institution*" and that the latter should "*be given more time to supervise postgraduate students*". (a.a., s. 48).

Throughout the 1960s, postgraduate education was increasingly placed on the political agenda, and the review of postgraduate education and postgraduate career became the main task of the 1963 Postgraduate Commission (1963 års forskarutredning). The committee's directives summarized its criticism of the current system as follows: *"long study period, as a result of poorly organised education with too little teaching and supervision, and because of too extensive quantitative requirements for examinations"* (SOU 1966:67, s. 42).

The inquiry compared the Swedish research education model with the American model and found that the licentiate degree, assessed in terms of study time, was at about the same level as the American doctoral degree (PhD). The average total study time for the licentiate degree and the subsequent doctoral degree was around 10 years, which was considered ineffective. The main reasons cited were the extensive quantitative requirements of the degrees, the excessive ambition of students and teachers leading to increased performance levels, and the financial conditions of students that did not afford full-time studies to the required extent. It also noted that in many respects the postgraduate education was inadequate and that supervision was often modest in scope. (SOU 1966:67)

The committee proposed a reform of the doctoral programme that would include "*four years of highly intensified studies leading to a doctoral degree*" based on "*an improved knowledge base compared to current conditions*". In view of the labour market needs, but also for certain pedagogical reasons, the committee proposed that students halfway to a doctoral degree should be able to take a special intermediate degree, called a magister degree, which would, however, be optional.

As regards the assessment of theses, the committee had concluded that the hitherto grading scale system should be abolished. It was proposed that these theses should in future be subject only to approval or rejection (pass or fail). Another proposal linked to the new programme, which would place great demands on supervision, was to introduce a system of supervisory teams. With regard to the actual defence of the thesis, the investigation has concluded that the system with a special faculty opponent should be retained. In addition, the committee made proposals concerning the theses' format and the financing of their printing. Contrary to what was often the case, the committee considered that theses should not be seen "*as a life's work*". Nor was it considered justifiable and in line with the new study programme that doctoral theses should be coeval with monographs which had been resulted at lengthier periods of study. The committee has therefore found it reasonable and necessary that the number of eligible pages should be reduced from the current 320 to 160 printed pages or about 50 000 words. The thesis would henceforth be seen as a milestone and not a lifetime achievement.

It was recommended that the implementation of the committee's proposal for the new postgraduate programme should come into force on 1 July 1971, with the possibility of taking the current licentiate degree and dissertation examination over a transitional period of four years. After this transitional period, licentiate and doctoral students in training was supposed to be transferred to the new programme regime. After all, the

political decisions based on the 1963 research commission's proposal were presented in 1966 (SOU 1966:67), were adopted by the Riksdag in 1969 (Prop. 1969:31) and implemented in 1971. The idea of socially beneficiary research in tandem with demands for efficiency, sparked a transformation of Swedish research training programs from a German-inspired apprentice model to a formal education model influenced by the North American research education (SOU 1966:67; Prop. 1969:31; Gribbe, 2022). The core of the 1969 reform was rationalization and formalization of learning; postgraduate education would be more intensive and formalised, with a greater element of teaching and courses, and significantly increased supervision. Type-courses and better supervision was suggested as vital parts to shorten the study period to four years compared to the ten years' median to attaining a doctor´s degree, but also the need for better quality in education preceding research education.

1.3 Subsequent doctoral education reforms leading to current regulations

Higher education reforms in the 1960s can also be seen as part of the since 1940s ongoing reconstruction of the national education system from the bottom up. Actually, there have been no fundamental changes regarding doctoral education since the 1960s, but despite this, doctoral education has been a recurring issue in reports and bills over the decades.

Between 1960 and 1972, the number of doctoral students quadrupled and the number of doctoral degrees tripled. A new commission was appointed in 1974 to deal with the over-dimensioning caused by the increasing number of postgraduate students[7]. Among other things, its task was to schedule and investigate,

- a long-term strengthening of Swedish research
- an increased exchange of knowledge between education, research and the rest of society,
- better conditions for increased growth in companies and other sectors of society,

[7] The rapid influx of students and the expansion of education systems during the 1960s and 1970s was an international trend that underpinned the emergence of the modern mass-university. The trend was not only about raising educational levels, but also about achieving social equalisation by giving new groups access to higher education. Existing universities expanded and new institutions were established outside the traditional university centres. These expansions often took place against the background of the labour market's need for professionals in various industries and social institutions. The larger volumes of students placed new demands on the efficiency of the organisation and management of universities and colleges. The Swedish reforms were in some ways unique and involved far-reaching changes in the structure of universities and higher education since it incorporated a number of professionally oriented programmes, such as teacher and nursing education. (Gribbe, 2022, p. 62).

- improved recruitment of underrepresented groups to doctoral programmes and research careers,
- stronger profiling opportunities at different higher education institutions and more interdisciplinary collaborations,
- increased opportunities for international mobility (SOU 1977:63, p. 17)

Although there were few proposals from the 1977 commission leading to concrete political decisions, the inquiry dealt with all the above issues in a manner that reflected the spirit of the times. In general, the 1970s reforms were characterised by a strong belief in the ability to rationally plan and adapt higher education to the needs of society (Gribbe, 2022). It was also in the 1970s that a new Higher Education Act came into force (1 July 1977), supplemented by more detailed provisions in the Higher Education Ordinance. This reform established a new institutional organisation for universities and colleges, the main purpose of which was to democratise decision-making within the institutions and reduce the considerable influence exercised by professors. Collegial governance was not completely abolished, but it was weakened and complemented by a broader democratic principle that gave students and employees, in addition to professors and lecturers, a say in the decision-making of higher education institutions. In line with the corporatist intermediation of socio-economic interests, a further change was the inclusion of representatives of public stakeholders[8] in boards and committees at different levels of the HEI organisation, together with delegates of students and other groups of employees. The rector was previously appointed by direct election by the institution's regular teachers, but under the new regulations the rector was appointed by the government like other heads of government agencies. Proposals for the rector candidate(s) were to be made by the university board, which collected proposals from an electoral assembly. However, this arrangement changed after 1993 and the government appointed the majority of members to the boards (Prop. 1992/93:1; Gribbe, 2022).

The dimensioning, recruitment, study financing, efficiency, gender equality, etc. of doctoral programmes have been recurring themes in the research policy bills since 1982. In the 1980s and 1990s there was a clear tendency towards turning doctoral studies into formal education and the doctoral student into a student and not an apprentice. To further support the doctoral students working conditions, a reform in 1998 changed the

[8] The proposal that was finally implemented meant that the government-appointed representatives of public interests would make up about one third of the members. The remaining board members were made up of students and staff, including the Rector.

financial system and strengthened the rights of the students by connecting doctoral education to a four-year employment or education grant that secured their financial situation during their studies. However, at least 80 per cent of the working hours should be devoted to the doctoral programme with the rest allocated to employment, primarily within or outside the university linked to the objectives of the doctoral programme (Prop. 1997/98:1)[9].

Among the changes introduced by the new programme were a) special qualifications required for admission (180 ECTS from first-cycle plus 60 ECTS from advanced level); b) applicants should demonstrate their ability to assimilate the study programme[10]; the number of the admitted was contingent upon the offered institutional conditions in terms of supervision and other study conditions, including financial support. The latter meant that the Faculty Board may only admit applicants who can be offered or have some kind of secured study financing for the entire duration of the programme (Prop. 2004/05:162, p. 163).[11]

In the same bill, the Government adopted the Bologna process and learning outcomes. the European Credit Transfer System (ECTS) and the Diploma Supplement were attached to postgraduate degrees (Prop. 2004/05:162).

2. Current doctoral studies

Doctoral education in Sweden has undergone a transformation due to an increasing number of rules and regulations, as well as new forms of quality assurance procedures, as a result of adaptation to the European Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)[12].

When Sweden acceded to the three cycles of the European framework in 2005 (3+2+3 years) it was decided that the admission to doctoral education would not require

[9] Regarding the employment of doctoral students, see the provisions in Chapter 5 of the Higher Education Ordinance (1993:100).
[10] The higher education institution decides what criteria will be used to assess the ability to assimilate the course or study programme (see section 41, chapter 7 of the Higher Education Ordinance (1993:100).
[11] As regards the admission to third-cycle courses and study programmes, see the provisions in Chapter 7, Section 34-41 of the Higher Education Ordinance (1993:100).
[12] Sweden lost full membership of the European Association for Quality Assurance in Higher Education (ENQA) in 2012, after having previously been a full member for 12 years, due to a modified quality assurance system for higher education introduced by the Ministry of Education in 2011. That system fulfilled only three of 14 standards in the Standards and Guidelines for Quality Assurance in the European Higher Education Area, adopted at the ministerial conference in Bologna in 2005 (see Adamson & Gougoulakis, 2017). In 2020, the Swedish Higher Education Authority (UKÄ) applied anew to become a full member of ENQA.

a MA degree and that it was enough to be admitted to the third cycle after only one year of advanced level studies (3+1+4 years). Anyway, what holds today for the vast majority of cases is 3+2+4 years completion time. Though, in some subject areas courses in second and third cycle can be coordinated, making the four years' programme spanning three years (Elmgren et al., 2016).

Doctoral education, functions as a strategic instrument for production and reproduction of knowledge in society and contributes to strengthening of both the institutional and national capacity in an increasingly competitive world. At the same time, doctoral education "*can be viewed as bildung, education, research, work, apprenticeship or as a calling – or as a combination of two or more of these perspectives*". Figure 1 shows the different dimensions of doctoral education seen either from the individual doctoral student or the community perspective.

	Academic and disciplinary:		
	knowing	**being**	**doing**
Individual perspective	Competence	Identity	Dissertation
Collective perspective	Capacity	Culture	Production

Figure 1. *Different perspectives on the purpose of doctoral education*

(Source: Elmgren et al., 2016, p. 3)

A successful doctoral programme should lead to a doctoral student acquired with developed knowledge and skills in accordance with the expected outcomes formulated in the Swedish Degree Ordinance. Research activities and the courses in the programme should be designed in such a way as to better cater to doctoral students' development and preparation for life after the studies. On a collective level the postgraduate education is meant to contribute to enhancing the capacity of the institution through new perspectives and ventures in new knowledge areas, forming an environment that can increase the capacity for research, teaching and outreach activities.

In brief, the doctoral programme comprises 240 credits, corresponding to four years of study, and ends with a doctoral degree. Of these, about 150 credits are considered for the thesis and 90 credits for the courses, both compulsory and elective. A normal 40-week academic year corresponds to 60 credits and the system is compatible with ECTS credits. Furthermore, there is no national grading system in Sweden and higher education institutions are free to decide which grading system to use. Nor is an overall grade given for a degree, and students are not ranked. The programme consists of courses and an independent research project resulting in a thesis. Typically, a doctoral student has a doctoral position, which is a fixed-term employment during the entire programme.

Doctoral education has been of high political interest in Sweden since the second half of the 19th century. The importance of research for the country's further development has remained intact ever since, especially when it comes to the transformation of Sweden to a knowledge society. Since the beginning of the 21st century, it was up to each university to formulate regulations for admission to their doctoral programmes including rules for applications, eligibility and selection procedures. The so-called “autonomy reform” of 2011, which was a result of the bill "*An academy in time - increased freedom for universities*" (Prop. 2009/10:149), changed the governance of universities in favour of more decentralised decision-making. The autonomy reform entailed amendments to Higher Education Act and Ordinance which revised the formal responsibility for doctoral studies partly in favour of the institutional level. The stated idea of the reform was decentralisation, which brought about some positive elements, such as responsibility for teacher recruitment. In reality the reform led to a kind of local centralisation where, among other things, the legally protected collegial form of governance was removed; so, in practice the autonomy offered by the reform was an autonomy mainly for the management of the HEIs (Ahlbäck Oberg & Boberg, 2022). After the autonomy reform, it is the HEI management that decides whether there should be collegial decision-making bodies and what powers they should have.

Until the mid-twentieth century, researcher education was primarily a concern for the professoriate. Nowadays, it seems that doctoral training has become mainly an administrative and university management matter. In particular, as the demand from the labour market for doctoral graduates has increased in the second half of the 20th century,

the interest and involvement of non-academic actors increased. Along with this development, more diversified demands have been articulated both from national and international instances and especially European.

The curriculum for Swedish doctoral education consists of three parts:

1) **the expected outcomes**, as formulated in the Higher Education Degree Ordinance,

2) **the general study plans (syllabi)** produced by the universities that describe the main content of the programme

3) **the individual study plan** which specifies the obligations of the doctoral students and a timetable for their studies.

The individual study plan (ISP) is used as an instrument for follow-up and is outlined jointly between the doctoral student and the supervisor. It is reviewed and approved by the department or faculty. The ISP is a binding document -a form of contract- and can be used when possible conflicts may arise, such as when the doctoral student or the supervisor fails to fulfil the agreed obligations. The use of the ISP and the process of its monitoring serves also as a form of formative evaluation, which has intensified in recent years, marking an increased formalisation and control of doctoral education compared to two or three decades ago. This has radically altered the working conditions of doctoral students. For example, it is not uncommon the attendance of mandatory seminars organised for quality control purposes when students have completed 10, 25, 50, 75 and 90 per cent of their training, as well as the requirement to publish in peer reviewed journals. To illustrate this, I will use as an example my own department, the Department of Education at Stockholm University. During the program, the doctoral students participate in various compulsory activities that should be reported in the individual study plan. The purpose of the compulsory activities is to train skills that facilitate participation in academic environments and activities, such as organizing seminars and conferences, and to create meetings between doctoral students and senior researchers who are not directly involved in the doctoral students' education. To some extent, it is also a way to formalize the socialization of doctoral students into researchers and to emphasize the responsibility of the institution, not just of the supervisors. Without diminishing the individual doctoral student's responsibility for their development, the institution has nevertheless sought to design the supportive environment as part of a collegial context.

2.1 The thesis *defence*

What can be seen as a peculiarity is that almost no one is rejected at the public defence of the dissertation. This can be explained by the fact that the actual assessment has taken place in previous reviews. The circumstances were different thirty years ago when the professor could authoritatively stop or prevent a doctoral student from presenting his or her thesis, for whatever reason. Such a demonstration of power is not possible today, as the formative control bodies have become increasingly important, enhancing the transparency of the assessment of the dissertation work. In addition, after July 2007, admitted students should have at least two supervisors, and were also allowed to participate in courses and workshops on teaching and learning in higher education in order to be able to teach. Universities were also obliged to arrange training for supervisors.

The assessment of the courses included in the doctoral programme is conducted the same way as in the previous cycles, while the thesis is assessed by an examination committee comprised usually of three experts (two of which outside the home department) and an external opponent. The opponent does not participate in the grading but his/her role is to illuminate important perspectives of the research topic by creating a scholarly dialogue (a "disputation") with the disputant student. The focus during the defence is mainly on the student's researcher competence as it is demonstrated in his/her thesis.

2.2 Evaluations of doctoral programmes

During 2017-2022, the Swedish Higher Education Authority (UKÄ, 2023c) evaluated 153 doctoral programmes in 20 research subjects and 5 research subject areas by focusing on whether the programme ensures that students entertain good conditions for achieving the objectives of the degree regulations and on whether the higher education institutions ensure that the students have achieved the degree objectives. Of the 153 programmes evaluated, 114 programmes were deemed to be of high quality and 39 of questionable quality at the first assessment and were therefore followed up after one year.

The evaluation of the doctoral programmes showed, among other things, that there are both strengths and areas for development linked to the assessment areas of *Conditions*, *Working life and collaboration*, *Doctoral student perspective*, *Gender equality*, and *Design, implementation and results*. The evaluation model is linked to Swedish regulations and to the European Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). For the assessment area "Conditions", there

have been found both strengths and development areas linked to the educational environment and supervision. The assessment areas “Working life and collaboration” and “Doctoral student perspective” have often been assessed as satisfactory. The assessment area “Gender Equality” has repeatedly been difficult for the assessment groups to grasp. Linked to the assessment area “Design, implementation and results”, the assessment criterion that doctoral students should gain broad knowledge and understanding of the subject has repeatedly been a critical point.

The evaluation teams focussed their reflections on some key themes:

2.2.1 Structures for educational support

Evaluators comment positively on a number of phenomena, such as preventive support and early information to doctoral students, for example in the form of mentoring schemes and induction courses for new doctoral students. They report appreciatively about workshops on equal treatment and gender equality, to empower doctoral students on these issues, and also highlight recurrent evaluations as a particularly successful way for ensuring progression, along with good access to supervisors. When it comes to shortcomings and areas for development, the assessment groups point out that in many cases there are insufficient procedures within the doctoral programmes. Several cases highlight, among other things, the absence of collective supervision as a potential risk to doctoral students' progression, the need to monitor and ensure the quality of the psychosocial work environment for students, the diffuse situation experienced by many industrial doctoral students due to a lack of clarity about how their needs are met, and the need for initiatives to develop the quality of supervision.

2.2.2 Gender equality

On gender equality, the evaluators call for more elaborate action plans, including recruitment and visibility of female role models.

2.2.3 Course offerings

With regard to the courses offered, the evaluations highlight the difficulty for smaller institutions to ensure a sufficient range of courses that ensure that the knowledge objectives within the subject areas are achieved and quality is assured. In several cases, the evaluation team found that the courses are not evaluated and developed in line with the institution's quality assurance system.

2.2.4. Working life, alumni and career

The evaluation report understands education as being related to labour market, alumni contacts and career support. It is noted that there is often a narrow perspective on working life and that strong programmes in the subject tend to be geared towards a continuing career in academia. This is, in particular, found in the social sciences and humanities. In the fields of natural sciences and engineering, the good labour market links and high graduate placement rates (e.g., in computer science, analytical chemistry, organic chemistry and production engineering) are rather emphasised. It appears that doctoral students are open to and aware of the need for broader career paths than a strictly academic one:

> The reviewers therefore suggest that HEIs should "develop and compile learning outcomes adapted to a labour market outside academia" and consider elements of doctoral training "that enhance the skills and abilities of doctoral students to face a [broader] professional career". Internships could also be considered. (UKÄ, 2023c, p. 30).

Alumni are seen as an untapped resource and several review groups call on HEIs to explore how they can be used to enrich the programmes. The development of collaborative approaches is also highlighted where researchers meet with industry sector representatives to hold seminars and career planning *advice on a professional life outside academia.*

2.2.5. Individual study plans

Individual study plans are used at Swedish HEIs and the evaluation teams identify great development potential in these as a tool for quality assurance of supervision and monitoring the doctoral student's progress.

2.2.6. Research schools (forskarskolor)

The first research schools were introduced in Sweden in the 1980s, and their number increased significantly in the 1990s through a series of initiatives by various funding organisations. Their purpose was to improve the quality of doctoral education, boost recruitment, increase collaboration with the public and private sector, and establish collaborations with higher education institutions nationally and internationally. Overall, the reviewers highlight graduate schools as favourable to the quality of education as they can potentially contribute to maintaining a critical mass of doctoral students, serve as an effective way to maintain a relevant range of courses and design new ones, as well as strengthening smaller disciplines with small doctoral programmes.

3. Concluding Remarks

> "*High-quality education and research are crucial to Sweden's prosperity. At the end of 2024, the Government is expected to present the research and innovation bill for its term of office, which will focus on excellence, internationalisation and innovation. The Government believes that a clear focus on excellence is required for Swedish research to be competitive, that internationalisation and mobility are important means of achieving the highest quality, and that Swedish industry should be a greenhouse for innovation*." (Regeringskansliet)

With these words, the Swedish government announces on the web its upcoming research policy initiative.[13] In the forthcoming bill it sets out the direction of the government's research, innovation and higher education policy for the next four years.

According to the current research policy objectives set out in the bill for 2021-2024, "*Sweden shall be one of the world's foremost research and innovation countries and a leading knowledge nation, where high-quality research, higher education and innovation lead to the development and welfare of society, the competitiveness of business and industry, and respond to the societal challenges we face, both in Sweden and globally*" (Prop. 2020/21:60). The initiatives presented in the bill are intended to create the conditions for high-quality research and more upgraded research environments. Sweden is the EU country that invests the most in research and development in relation to the size of its economy - 3.4 per cent of GDP - and for several years scored first on the European Commission's European Innovation Scoreboard.

Universities and colleges are the country's largest state sector, all education is free of charge, which facilitates access to higher education for more people. The Swedish student grant system is one of the most extensive in the world, and the spread of higher education and research is considered crucial to Sweden's skills supply. The Academy's collaboration with the business community and the public sector is extensive and encouraged in order to increase the country's competitiveness and innovation. The Government states that appropriate funding for research and research education form the basis for all research carried out at Swedish higher education institutions and recognises that an increase of research funding is a condition for higher education institutions to schedule their research programmes on a long-term perspective, to set their own strategic priorities, and to invest in high quality through, for example, subject profiling, collaboration, gender equality and secure working conditions for researchers.

[13] https://www.regeringen.se/regeringens-politik/forsknings--och-innovationspropositionen-2024/

In the research bill, the Government emphasises the importance, on the one side, of free research and the need, on the other side, for clear regulations and priorities for research activities in order to meet future societal challenges. The contribution of the humanities and social sciences to knowledge is highlighted as an important knowledge base for achieving the UN Sustainable Development Goals and the Paris Climate Agreement. In particular, the proposal focuses on five societal challenges: *Climate and environment, Health and well-being, Digitalisation, Skills supply and labour market, Democracy and the strong society*.

Although the Government has a future-oriented research policy ambition and values the role of research and HEIs in strengthening the country's innovative capacity and competitiveness, criticism has not been absent. Here are some of the criticisms formulated primarily by the President of the Swedish National Union of Students (SFS) Simon Edström. He refers to the unequal distribution of resources between education and research in HEIs by pointing that while 15 years ago the state spent roughly the same amount of resources on education and research, currently research resources have increased up to 50% over the education funding (Edström, 2021a). He also points out that university education is based on scientific (or artistic) foundations and proven experience, and that the content of the programme needs to be designed based on the state of the art of the research, and that students should become familiar with scientific methods in their field. Among others, this presupposes that university teachers are themselves researchers and that there are sufficient resources to provide high-quality research-based education.

The basic mission of HEIs, it is further argued, can be described as the creation, refinement and dissemination of knowledge, and it is through this that they contribute to the general development of society. The dissemination of knowledge is largely dependent on the educational activities through which students acquire knowledge to be carried over onto the labour market and other parts of society. The problem with having more funding in either direction is that it affects the internal priorities of HEIs:

> When funding for positions becomes more dependent on research resources than on education resources, research automatically gains higher status in recruitment and promotion to both academic positions and leadership positions. (a.a.)

In its criticism, SFS also raises the issue of the dimensioning of doctoral education (Edström, 2021b) by noting a long-term trend, namely that the number of doctoral students is decreasing, even though the rest of the university is growing. A contributing factor, according to SFS, is that doctoral studentships are funded through the same grants

as other research to HEIs, with the risk that these do not always prioritise doctoral education first and foremost, in favour of other research endeavours. This is highlighted as a systemic failure that the government does not address in the bill, which makes it difficult for HEIs to take responsibility for postgraduate education on their own because, in the end, SFS argues, it is a matter of both resources and priorities. One such priority may be that HEIs are forced to spend their core funding on more experienced researchers to increase the chances of attracting external project funding. The measure proposed to overcome such dilemmas is for the government to set more comprehensive targets as for how many doctoral students HEIs need to graduate, rather than settling for one-off initiatives in the form of graduate schools. This may solve the problem in the short term, but it does not give HEIs the right conditions to take responsibility for the situation and create more doctoral places in proportion to other research and the expansion of undergraduate education.

References

Adamson, L. & Gougoulakis, P. (2017). 'Swedish Quality Assurance of Higher Education: From Enhancement to Results Control and Back to Enhancement?' (Country chapter) in Stamelos, G, Joshi, K.M and Paivandi, S. (Eds.): *Quality Assurance in Higher Education: A Global Perspective.*Studera Press: New Delhi, pp. 19-40.

Ahlbäck Oberg, S. & Boberg, J. (2022). Avkollegialiseringen av svenska lärosäten. En analys av statliga universitet och högskolor. *Statsvetenskaplig tidskrift*. Årgång 124, 2022/1.

Amnå, E. (2010). "Speaking Truth to Power"? Statsvetarna och kommittéväsendet. *Statsvetenskaplig tidskrift*, 112:5, https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://journals.lub.lu.se/st/article/download/8296/7425&ved=2ahUKEwiBkeP-zJCFAxUsVPEDHerWDgoQFnoECA8QAw&usg=AOvVaw3xg-lrIFnQnkg_EraAecFh

Edström, S. (2021a). *Utbildning på efterkälken.* https://sfs.se/blogg/blogg-utbildning-pa-efterkalken/

Edström, S. (2021b). *Efter forskningspropositionen, del 1: Dimensionering av forskarutbildningen.* https://sfs.se/blogg/efter-forskningspropositionen-del-1-dimensionering-av-forskarutbildningen/

Ekberg, T. (2012). *Högskolelandskap i förändring. Utmaningar och möjligheter för Högskolan i Borås. Vetenskap för profession*. Högskolan i Borås, Rapport 19:2012.

Eklöf, J. (2007*). Gene technology at stake: Swedish governmental commissions on the border of science and politics*. Umeå universitet, Humanistiska fakulteten, Historiska studier (Avhandling).

Elmgren, M., Forsberg, E., Lindberg-Sand, Å. & Sonesson, A. (2016). *The formation of doctoral education.* Faculties of Humanities and Theology, Lund University.

EUropaportalen, (2022). *Sverige satsade mest på forskning och utveckling i EU*. https://www.europaportalen.se/2022/11/sverige-satsade-mest-pa-forskning-och-utveckling-i-eu

Eurostat, (2024). *Data Browser*. https://ec.europa.eu/eurostat/databrowser/view/RD_E_GERDTOT__custom_3988372/default/table?lang=en

Gougoulakis & Fredriksson (2018). World-leading research and education for all - A Swedish challenge. In: Rabossi, M., Joshi, K.M. and Paivandi, S. (Eds.): In pursuit of world-class universities. A global experience. Studera Press: New Delhi, pp. 215-238.

Gribbe, J. (2022). *Förändring och kontinuitet. Reformer inom högre utbildning och forskning 1940–2020*. Universitetskanslersämbetet, DOI: https://doi.org/10.53340/UKAP-4

Högskoleverket (2006). *Högre utbildning och forskning 1945–2005 – en översikt.* Högskoleverket, Rapport 2006:3 R.

Premfors, R. (1983). Governmental Commissions in Sweden. *American Behavioral Scientist*, 26(5), 623-642, https://doi.org/10.1177/000276483026005008

Prop. 1969:31. *Kungl. Maj.ts proposition till riksdagen angående forskarutbildning och forskarkarriär m. m.; given Stockholms slott den 7 mars 1969*, https://www.riksdagen.se/sv/dokument-och-lagar/dokument/proposition/kungl.-maj.ts-proposition-nr-31-ar-1969_eu3031

Prop. 1981/82:106. *Om forskning m.m.*

Prop. 1992/93:1. *Om universitet och högskolor – frihet för kvalitet.*

Prop. 1997/98:1. *Budgetpropositionen* för 1998. (Utgiftsområde 16).

Prop. 2004/05:162. *Ny värld – ny högskola.*

Prop. 2020/21:60. *Forskning, frihet, framtid – kunskap och innovation för Sverige.*

Säfsten, K. (2023). *Forskarutbildningen i Sverige. Kontinuitet och förändring*. Umeå universitet, Institutionen för idé- och samhällsstudier (studentuppsats).

SOU 1942:6. *Utredning rörande den tekniskt-vetenskapliga forskningens ordnande* (I). Handelsdepartementet.

SOU 1946:9. *1945 års universitetsberedning.* (Part II: Akademiska lärarbefattningar samt anslag till den vetenskapliga utbildningen m.m.). Ecklesiastikdepartementet.

SOU 1966:67. *Forskarutbildning och forskarkarriär.* Betänkande utgiven av 1963 års forskarutredning.

SOU 1981:29. *Forskningens framtid. Forskning och forskarutbildning i högskolan.*

SOU 2004:27. *En ny doktorsutbildning – en kraftsamling för excellens och tillväxt*. Stockholm: Utbildningsdepartementet. (Bilaga 5, pp. 315-339).

UHRFS 2019:4. *Föreskrifter om ändring i Universitets- och högskolerådets föreskrifter (UHRFS 2013:9) om bilagan till examensbevis.*

UKÄ (2022). *An Overview of Swedish Higher Education and Research 2022*.

UKÄ (2023a). *Appraisal of applications for degree-awarding powers*. https://www.uka.se/swedish-higher-education-authority/for-higher-education-institutions/appraisal-of-applications-for-degree-awarding-powers

UKÄ (2023b). *Universitet och högskolor*. Årsrapport 2023, DOI: 10.53340/UKAP-7

UKÄ (2023c). *Forskarutbildning i närbild. En tematisk sammanställning av resultat från utbildningsutvärderingar av forskarutbildning 2017–2022.* Rapport 2023:14. (Authors: Kristina Sundberg, Tobias Osvald & Nils Olsson).

Zetterberg, K. (2011). Det statliga kommittéväsendet – en del av den svenska modellen. *Svensk Juristtidning* (SvJT), https://svjt.se/svjt/2011/753