UKÄ SWEDISH HIGHER EDUCATION AUTHORITY

HIGHER EDUCATION INSTITUTIONS IN SWEDEN

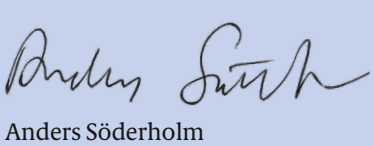
2020 STATUS REPORT

FOREWORD

Swedish higher education institutions spent nearly SEK 77 billion in 2019 (about EUR 8 billion), of which 80 per cent came from state funding. With over 410,000 enrolled students and 67,900 employees, the sector encompasses a large number of people – nearly 5 per cent of the population.

With *Higher Education Institutions in Sweden – 2020 status report*, the Swedish Higher Education Authority (UKÄ) provides a summary reference work for everyone looking for facts in English about Swedish higher education. The report is based on data reported by higher education institutions to Statistics Sweden and to UKÄ when they submit their annual reports. The focus is on the past year, but developments are often described from a longer perspective. The ongoing pandemic has not yet had an impact on the statistics presented here.

The report begins with a short introduction on current questions in Sweden dealing with higher education and a chapter with facts about Swedish higher education, including how higher education institutions are governed. Then comes an extensive chapter describing how different parts of higher education institutions have developed: education at different levels, international student mobility, the connection between education and the labour market, teaching and researching staff, financial aspects, and research in higher education. The report concludes with a number of tables with data per higher education institution on students, academic degrees, teachers, researchers and finances.



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Higher Education Institutions in Sweden
2020 Status Report

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INTRODUCTION

Like most other countries, the coronavirus pandemic has dominated most activities in Sweden during the spring 2020. Since mid-March, higher education institutions (HEIs) have switched to distance education. Many HEIs have closed their campuses completely while some have remained open so students can have access to needed equipment. Most HEIs in Sweden have offered distance education for a long time, and in academic year 2018/19, every fifth student attended all their courses online. There already existed established tools for providing online lectures, supervision, group work, summative assessments and other work. This meant that the conditions were already in place to enable the transition to online education completely.

Shifting completely to distance education from one day to the next, however, has been challenging for both teachers and students. Some courses can be difficult, if not impossible, to conduct online or in another way that does not involve a physical meeting. This can mean that certain courses must be delayed for a future time and that students and doctoral students cannot complete their educations as planned. In preparation for the 2020 autumn semester, many HEIs are planning to continue with distance education, at least for half of the semester.

Many incoming students have returned to their native countries. Among those who remain and pay tuition fees, there are many who question the amount of the tuition when the programme has shifted to online teaching.

Sweden is very ambitious when it comes to research initiatives, and for many years the State has significantly increased research resources to HEIs. Now, a transition is underway with a higher percentage of research that can contribute to knowledge about COVID-19, and in the wake of the pandemic, new work methods have been developed for research. The State is also allocating more resources for research on the coronavirus and COVID-19. In the autumn 2020, the Government will present its new research policy bill with its priorities for the coming four-year period.

The State is expanding first- and second-cycle education

The State has taken a series of measures, not least within education, to meet the increasing unemployment from the wake of the coronavirus pandemic. In summer 2020, the number of places on summer courses are increasing and for 2020–2021, the HEIs are being allocated resources for the gradual permanent expansion of first- and second-cycle education. The State is also allocating funds for increased access to short courses for professional development, for massive open online courses (MOOCs) and for supporting distance teaching.

Interest in attending higher education was already high before the pandemic, and the number of applicants has increased significantly for the autumn semester 2020. The number of applicants to summer courses has also increased significantly. The current situation facing society seems to have increased interest in health science programmes; the increase for the autumn is particularly large in the nursing and medical programmes. At the same time, it can be difficult to expand clinical aspects of

the health science programmes when the health care system is already overburdened and has difficulty taking in students.

Access to skills

Access to skills is another question high on the political agenda. While unemployment is high in Sweden, there are also labour shortages in certain fields, particularly within education and health and medical care. The IT sector is another example of a field where it is difficult to recruit enough personnel.

HEIs have an important role to play here. Their educational offerings are to correspond to demand from students and the labour market's needs. But the wishes and interests of the individual do not always correspond to the need for skills on the labour market and to greater societal needs. The number of new entrants on programmes suffering from shortages within the welfare field would need to increase so much that it appears impossible for HEIs to solve the future need for skills in these professions on their own. The teacher training programmes are facing particularly daunting challenges.

To improve Sweden's access to skills, the Government has implemented various initiatives to increase coordination on different levels. It has established four strategic collaboration programmes for the period 2019–2022 to improve collaboration among private sector, academia and government. The purpose is to mobilise resources to strengthen Sweden's global innovativeness and competitiveness and to meet major societal challenges within the private sector's digital restructuring, health and life sciences, the private sector's climate transition, access to skills and lifelong learning.

Lifelong learning

Digital restructuring and other changes in society will require new skills and many jobs will change in character. It is important for the government that individuals have many opportunities to return to higher education or to begin an academic programme later in life to acquire new skills, to expand on previous studies or to specialise.

The HEIs are well prepared for this. Swedish higher education offers excellent opportunities for lifelong learning:

- First- and second-cycle education are course-based and many courses can be attended as freestanding courses.
- HEIs offer summer courses and distance programmes and courses, both full-time and part-time.
- Many students return to higher education for new periods of study.
- Higher education provides specialist programmes for certain professions.
- Education is free of charge for national students, regardless of age or how many times a student returns.
- Employers can purchase contract education for employees.

Higher education has a wide-ranging mission that requires balancing programmes that prepare for working life with programmes for individuals needing to fill in gaps in their skills or to change careers.

These are some of the current issues being addressed by Swedish higher education policy.

FACTS ABOUT HIGHER EDUCATION INSTITUTIONS IN SWEDEN

THE SWEDISH SYSTEM FOR HIGHER EDUCATION AND RESEARCH

Compared to the higher education systems of many other countries, the Swedish higher education system is relatively flexible. Educational offerings are largely course-based and most higher education institutions (HEIs) offer freestanding courses and programmes as distance courses, some of which can be completely online. This offers excellent opportunities for lifelong learning. Traditionally, Swedish higher education does not just involve educating youth after completing secondary education. It also includes continuing development for professionals, and it is common to return to higher education after previous studies.

HEIs also provide third-cycle education and conduct most of the publicly funded research in Sweden. This means that Swedish higher education is relatively heavily focused on research. Measured in terms of monetary value, more than half of the activities at HEIs consists of research and third-cycle education.

Universities, university colleges and other education providers

Both university colleges and universities conduct research and provide higher education at various levels, but they vary in how much focus is given to research. The older universities have more extensive research than university colleges and the newer universities

Sweden has a uniform system for higher education with the same legislation, regardless of provider. HEIs primarily differ in that universities have been granted general degree-awarding powers at the second- and third-cycle levels, while university colleges must apply for entitlement to award degrees at the second- and third-cycle levels in specific areas. A list of Sweden's 48 HEIs is found at the end of this chapter.

The size of the HEIs also varies greatly. Measured in number of enrolled students, the largest university had almost 45,000 students for the academic year 2018/19, while the smallest HEIs had less than 100 enrolled students.

Education within the framework of higher vocational education providers

Higher education is not the only form of tertiary education in Sweden. There is also higher vocational education within the framework of vocational education and some interpreter programmes. Higher vocational education is to meet the needs of the labour market, and theoretical studies are combined with courses given at workplaces. The length of higher vocational programmes varies between one and three years, and in total they equal just over 10 per cent of tertiary education. As such, the vast majority of Sweden's tertiary education consists of higher education at universities and university colleges, referred to here as higher education institutions or HEIs.

Higher vocational education and higher education are separate systems, and there is no progression between the systems. This report focuses on higher education institutions.

Governance of higher education

The mission of the HEIs is to provide education based on scholarly or artistic practice and on proven experience. HEIs are also to carry out scholarly and artistic research, and development work. They are also to collaborate with the surrounding society, inform about their activities and ensure that benefit is derived from their research results.

In Sweden, public-sector HEIs have considerable autonomy within a system of management by objectives. Overall responsibility for higher education and research rests with the Swedish Parliament (Riksdag) and the Government. These decide on the regulations that apply to the higher education sector, primarily the Higher Education Act and the Higher Education Ordinance (see fact box). They also allocate resources to the HEIs.

Within the framework of this legislation, HEIs take most decisions themselves. These decisions cover such areas as organisation; internal allocation of resources; educational offerings; educational content and design; how many students are admitted and what research they conduct.

HEIs have significant freedom in determining their staffing. There are, however, three forms of employment regulated through legislation and regulations: professors, senior ecturers and assistant professors. Beyond these, there are many other forms of employment for researching and teaching staff. Doctoral students are generally employed and contribute both research and teaching to the HEIs.

The operations of independent education providers are regulated through a specific law and in some cases through contracts with the Government. For education, however, the same rules primarily apply as for public-sector HEIs.

REGULATION OF THE HIGHER EDUCATION SECTOR

Higher education in Sweden is governed by the Higher Education Act (SFS 1992:1434) and the Higher Education Ordinance (SFS 1993:100).

The Higher Education Act is enacted by the Swedish Parliament and regulates the HEIs' operations. The Act contains basic regulations about education offered by HEIs. For instance, it sets out what should characterise courses and programmes at different levels and stipulates freedom of research. It provides a framework for the organisation and governance of the HEIs, and it states that every HEI must have a board of governors and a vice-chancellor. It also contains regulations about the duties of teachers as well as provisions about student influence. In addition, HEIs must foster equality of opportunity and broaden recruitment.

Further provisions are specified in the Higher Education Ordinance, issued by the Government. For instance, the Ordinance states that students must be given the opportunity to influence their studies. The Ordinance contains regulations on entrance qualifications and selection for courses and programmes, as well as the appointment of teachers and doctoral students. It also includes regulations on course and programme syllabuses, grades and qualifications. Annex 2 of the Ordinance contains a System of Qualifications, which includes descriptions of and goals for all degrees.

HEIs are also governed by the Government's annual public service agreements with each HEI. The public service agreement specifies that educational offerings are to correspond to demand from students and the needs of the labour market, the size of the state funding for first- and second-cycle education, for research and third-cycle education, and for specific assignments given to HEIs.

Allocation of resources to higher education institutions

The State has a significant commitment for financing HEIs. Higher education is for the most part free-of-charge, and the State allocates significant resources for research conducted by the HEIs.

The Riksdag determines the allocation of resources for education and research for each HEI, which receives separate allocations for education and for research. Funding for first- and second-cycle education is based in part on the number of enrolled students (converted to full-time equivalents (FTE)) within the different disciplinary domains and, in part, on credits earned by students (converted to annual performance equivalents (APE)). The allocation of resources is thus fully based on performance. The funding per FTE and APE varies for different disciplinary domains. Technology and engineering, for example, receive more than social science. Every year the Government caps the funding of courses and programmes of each HEI by setting a maximum amount, called the funding cap.

This funding for research and third-cycle education received by HEIs directly from the Government are in the form of a base grant that may be used freely within different fields of research. Only a small part of the funding is performance based. This part is based on scholarly production, external funding and collaboration with the surrounding society. Beyond the direct government funding, significant state funds are allocated through research funding agencies, which are governed by various ministries and which are applied for in competition with other applicants. Research and third-cycle education are also funded to a considerable extent by other research funding bodies, such as private foundations or the EU.

Higher education

Higher education is defined by, among other things, its placement in the education system (tertiary) and by the requirement that the education be based on scholarly or artistic practice.

All courses, programmes and qualifications are placed in one of three cycles: first, second or third. There is progression, that is to say, each cycle is based on the one before. The formal requirements that distinguish these cycles are specified in the Higher Education Act. Swedish higher education's division into cycles is part of the adaption to the Bologna Process, which aims to make higher education more comparable to those countries participating in the process.

All first- and second-cycle education consist of courses that may be combined to form programmes. In addition to programmes that lead to the award of qualifications, higher education in Sweden offers a wide range of freestanding courses, many of them offered through distance learning. Students may select their own combination of these courses and many students take courses without the intention to graduate.

The scope of a programme is expressed as higher education credits. One academic year is typically two semesters and normally 40 weeks, which corresponds with 60 higher education credits with full-time study. Higher education credits in the Swedish educational system can be compared to the European Credit Transfer and Accumulation System Credits (ECTS credits), in which 60 credits is the equivalent of one year of full-time study.

Qualifications

There are three categories of qualifications which all have the same academic status:

1. general qualifications
2. qualifications in the fine, applied and performing arts
3. professional qualifications.

Both general qualifications and qualifications in the fine, applied and performing arts are awarded within the first, second or third cycles. Professional qualifications are awarded within the first and second cycles and mainly in the regulated professions. There are about 50 different programmes leading to a professional qualification, of which two-thirds lead to a qualification at the master's level or second cycle. A majority of professional qualifications awarded in the second cycle do not require a previous first-cycle qualification, and the programmes leading to their award cover both cycles. Swedish higher education differs from higher education in many other countries in this respect.

Research at HEIs

Research is much less regulated than higher education. The Swedish Higher Education Act specifies that general principles for research include that research problems may be freely chosen, research methods may be freely developed and research results may be freely published. Additionally, academic credibility and good research practice are to be promoted.

Accreditation and quality assurance

Higher education is offered by public-sector HEIs and (to a much smaller extent) by independent education providers. There are

Table 1. Structure of Swedish higher education qualifications.

First-cycle qualifications
General qualifications
Higher Education Diploma (120 HE credits)
Degree of Bachelor (180 HE credits)
Qualifications in the fine, applied and performing arts
Higher Education Diploma (120 HE credits)
Degree of Bachelor in Fine Arts (180 HE credits)
Professional qualifications (120–195 HE credits)
Second-cycle qualifications
General qualifications
Degree of Master (60 HE credits)
Degree of Master (120 HE credits)
Qualifications in the fine, applied and performing arts
Degree of Master in Fine Arts (60 HE credits)
Degree of Master in Fine Arts (120 HE credits)
Professional qualifications
Third-cycle qualifications
General qualifications
Degree of Licentiate (120 HE credits)
Degree of Doctor (240 HE credits)
Qualifications in the fine, applied and performing arts
Degree of Licentiate in Fine Arts (120 HE credits)
Degree of Doctor in Fine Arts (240 HE credits)

31 public-sector HEIs and they account for approximately 90 per cent of the total number of students (FTEs). The Swedish Parliament decides on the establishment of public-sector HEIs while the Government decides whether an HEI has full university status. Those that lack full university status have only limited powers to award third-cycle qualifications and somewhat limited powers to award second-cycle qualifications. There is no difference, however, in the status of the qualifications awarded.

Independent education providers are entitled to offer higher education courses and programmes if they are granted degree-awarding powers. In Sweden there are five

independent HEIs entitled to award either all or some third-cycle qualifications. There are also several independent education providers with limited entitlement to award first-cycle, and in some cases second-cycle, qualifications.

Degree-awarding powers

In Sweden, accreditation of higher education takes the form of granting degree-awarding powers. The regulations that apply vary depending on what types of HEI and qualifications they refer to: public-sector HEIs that lack full university status have less extensive powers but are not as restricted as the independent higher education providers, which have to apply separately for each qualification they wish to award. However, all HEIs and independent higher education providers have to apply for entitlement to award professional qualifications and qualifications in the fine, applied and performing arts.

With the exception of independent higher education providers, who apply to the Government, applications for degree-awarding powers are assessed by UKÄ. These powers are granted indefinitely, unless there are grounds for revoking them.

Quality assurance

The Higher Education Act specifies that HEIs are to design their education and research to ensure high quality. The HEIs are responsible for the quality of their education and their quality assurance procedures are the shared concern of the HEI's staff and students.

UKÄ is responsible for quality assurance of HEIs, both education and research. The assessments are conducted according to a system for quality assurance that has been developed in dialogue with the HEIs and others. The objectives of UKÄ's reviews are partly to assess the performance of the academic programmes and partly to contribute to the HEIs' work with quality improvements in higher education and research.

The national system for quality assurance of higher education and research consists of four components: appraisal of degree awarding powers, assessments of HEIs' quality assurance processes, programme evaluations and thematic evaluations.

Both public-sector HEIs and independent education providers are required to participate in the national evaluations. Failure to meet quality standards may result in the revoking of degree-awarding powers.

Admission to higher education

Sweden has a more uniform system of admission to higher education than many other countries. National admission regulations are defined in the Higher Education Act and the Higher Education Ordinance and in regulations issued by the Swedish Council for Higher Education. The vast majority of admissions are pooled. The Swedish Council for Higher Education is responsible for pooled admissions on behalf of the HEIs, but the individual HEIs make the official decision to admit students. There is a single joint official website for applications to higher education institutions in Sweden, www.universityadmissions.se.

Many roads into higher education

Detailed national regulations apply mainly to the admission of HE entrants to first-cycle education. There are also regulations on admission to second- and third-cycle education, but these are less comprehensive. General entry requirements for first- and second-cycle studies normally include a degree from a university preparatory upper-secondary programme. But there are several other roads into higher education in Sweden.

Upper-secondary vocational degrees can also provide qualification in some circumstances, and there are good options for meeting entry requirements through studies in municipal adult education for upper-secondary qualifications. Prior learning can also meet basic entry requirements if the person is judged to be able to benefit from the education.

Selection rules and procedures

Fulfilment of the entry requirements does not guarantee admission. Government funding sets a limit to how many students can be accepted at an HEI, and selection criteria are used if there are more applicants than can be admitted. All first-cycle courses and programmes, apart from those that lead to the award of qualifications in the fine, applied and performing arts, use more or less the same criteria. These are based mainly on final school grades or results from the Swedish Scholastic Aptitude Test (högskoleprovet). The Higher Education Ordinance lists what selection criteria may be invoked. It also contains regulations on the evaluation of final school grades.

Admission to third-cycle education

Applying for third-cycle education leading to the award of a licentiate degree or doctoral degree is more similar to applying for a job. Admission is only possible if the student has been appointed to a doctoral studentship or other form of employment, unless the student has some other form of guaranteed funding for the entire period of study. Normally, funding can only be provided for the official period of study. This means that doctoral programmes have to be completed in four full years, licentiate programmes in two.

Cost of studying

Tuition fees

For a long time, Sweden was one of the few countries in Europe in which higher education was completely free of charge. In 2011, the Higher Education Act was changed to the effect that while higher education is free for Swedish citizens and for citizens of the EU/EEA countries and Switzerland, incoming students from other countries have to pay an application fee and tuition fees for first- and second-cycle studies, unless they are taking part in an exchange programme. In calculating tuition fees, the HEIs must ensure that they cover the full cost of the instruction provided as well as counselling, health services and other types of student service.

Financial support

The majority of students in Sweden finance their studies with the help of financial support from the State to cover their living expenses. All domestic students are entitled to financial support, but there are minimum performance requirements in terms of the number of credits achieved for continued financial support. It is also possible to qualify for financial support for studies abroad. Student finance consists of a combination of study grants and study loans. In 2019, the grant portion of student finance for an academic year of 40 weeks amounted to SEK 32,360 and the loan ceiling to SEK 74,400. The maximum total available Government-sponsored student finance for an individual student pursuing full-time studies thus amounted to SEK 106,760 in 2019. Students may receive this financial

support for a maximum of twelve semesters or six academic years. Repayment of the loan element is based on an annuity system, and in normal cases the total debt should be repaid in 25 years or less, or before the borrower reaches the age of 60.

Incoming students have to finance their studies themselves. Students required to pay tuition, however, may apply for scholarships for full or partial financing of their tuition fees. In some cases, they can even apply for grants to cover cost of living.

GOVERNMENT AGENCIES IN THE HIGHER EDUCATION SECTOR

Many government agencies under the Ministry of Education and Research work within higher education and research, such as with follow-ups and evaluations, analysis and statistics:

Universitetskanslersämbetet (Swedish Higher Education Authority (UKÄ), www.uka.se) evaluates the quality of higher education and research, analyses its development, is responsible for official statistics about higher education and monitors compliance with laws and regulations among universities and university colleges.

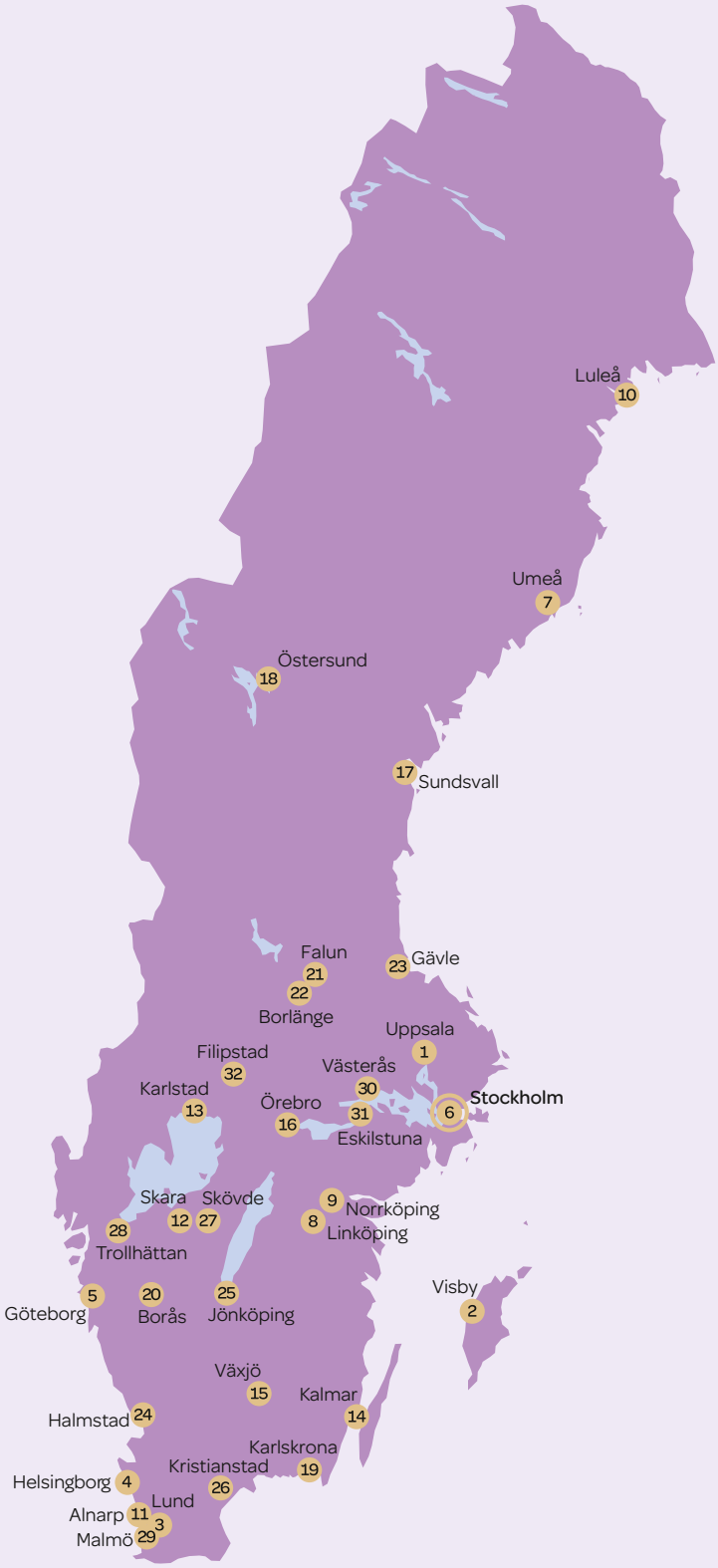
Universitets- och högskolerådet (Swedish Council for Higher Education (UHR), www.uhr.se) manages the Swedish Scholastic Aptitude Test and is responsible for pooled admissions on behalf of the HEIs. UHR also facilitates international student exchange, recognises foreign qualifications and promotes equal rights and opportunities in higher education.

Centrala studiestödsnämnden (National Board of Student Aid (CSN), www.csn.se) approves and distributes state financial support for students, including both grants and loans.

Svenska Institutet (Swedish Institute (SI), www.si.se) is tasked with disseminating knowledge about Sweden abroad and manages exchanges with other countries within culture, education, research and society at large.

Vetenskapsrådet (Swedish Research Council, www.vr.se) is the largest governmental funding body and supports research within all scientific fields, in addition to serving as an advisor to the Government on research policy.

Överklagandenämnden för högskolan (Higher Education Appeals Board, www.onh.se) reviews decisions on admission to higher education.


Luleå
10
Umeå
7
Östersund
18
17
Sundsvall
Falun
21
22
Borlänge
23
Gävle
Uppsala
1
Filipstad
32
Västerås
30
Karlstad
13
Örebro
31
16
Eskilstuna
6
Stockholm
Skara
28
Skövde
12
27
9
Norrköping
8
Linköping
Trollhättan
5
Göteborg
20
Borås
25
Jönköping
Visby
2
Växjö
15
Kalmar
14
Halmstad
24
Karlskrona
Kristianstad
19
Helsingborg
4
26
Lund
Alnarp
11
3
Malmö
29

HIGHER EDUCATION INSTITUTIONS

Universities

Uppsala University 1, 2
Lund University 3, 4
University of Gothenburg 5
Stockholm University 6
Umeå University 7
Linköping University 8, 9
Karolinska institutet 6
KTH Royal Institute of Technology 6
Chalmers University of Technology (independent) 5
Luleå University of Technology 10
Stockholm School of Economics (independent) 6
Swedish University of Agricultural Sciences 1, 7, 11, 12
Karlstad University 13
Linnaeus University 14, 15
Örebro University 16
Mid Sweden University 17, 18
Malmö University 29

University colleges

Blekinge Institute of Technology 19
Dalarna University 21, 22
Halmstad University 24
Jönköping University (independent) 25
Kristianstad University 26
Mälardalen University 30, 31
Swedish Defence University 6
Södertörn University 6
University College of Physical Education and Sport 6
University of Borås 20
University of Gävle 23
University of Skövde 27
University West 28

Art, Design and Music Academies

Beckmans College of Design (independent) 6
Konstfack, University College of Art, Craft and Design 6
Royal College of Music in Stockholm 6
Royal Institute of Art 6
Stockholm University of the Arts 6

Other independent education providers

Erica Foundation 6
Ersta Sköndal Bräcke University College 5, 6
Evidens AB 5
Gammelkroppa School of Forestry 32
Johannelund School of Theology 1
Newman Institute 1
Scandinavia's Academy for Psychotherapy Development 6
Sophiahemmet University College 6
Stockholm University College of Music Education 6
Swedish Institute for CBT & Schema Therapy 6
Swedish Red Cross University College 6
University College Stockholm 6
Örebro School of Theology 16

The numbers refer to those places on the map where each HEI is located. Some HEIs also have smaller campuses not indicated on the map.

TRENDS AND DEVELOPMENTS

FIRST- AND SECOND-CYCLE EDUCATION

Interest in attending higher education is considerable in Sweden, but relatively few people begin immediately after upper-secondary school. Many wait a year or more before beginning their higher education (HE). This is why HE entrants in Sweden are older than in many other countries.

Most higher education institutions (HEIs) have long offered first- and second-cycle education through distance education. In the two most recent academic years, the number of distance students has increased by 20 per cent, and in academic year 2018/19 every fifth student studied solely through distance education.

Applicants and admitted students

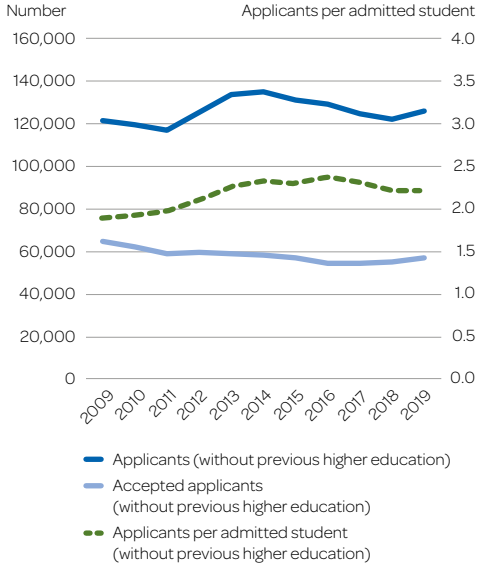
The vast majority of applications for first- and second-cycle education at Swedish HEIs are submitted through a central admission system. The majority of admitted students enter in autumn semesters, and this is our primary focus, but some admission also occurs in spring semesters.

Applicants with no previous higher education are increasing again

One way to measure interest in higher education in the population is the number of applicants with no previous higher education. After having decreased for four years, the number of applicants for the autumn semester 2019 increased (see Figure 1). There were 125,900 applicants to higher education, which was 3,570 more than for the autumn semester 2018. Women were the majority of applicants without previous experience from higher education, 59 per cent compared with 41 per cent of men. Over the last decade, the number of applicants without previous higher education has varied between 117,000 and 135,000. The gender ratio has been relatively stable during this period.

Direct government funding for HEIs sets the framework for how many applicants can be admitted. In autumn semester

Figure 1. Number of applicants with no previous higher education, autumn semester 2009–2019. Number of applicants per admitted student is found in the scale to the right.



2019, there were 56,690 applicants admitted who did not have previous higher education. This means that there were 2.2 applicants per admitted student in the autumn semester 2019 (see Figure 1). This was the same ratio as the year before but somewhat higher than ten years ago.

Varied acceptance ratios to programmes leading to a professional qualification

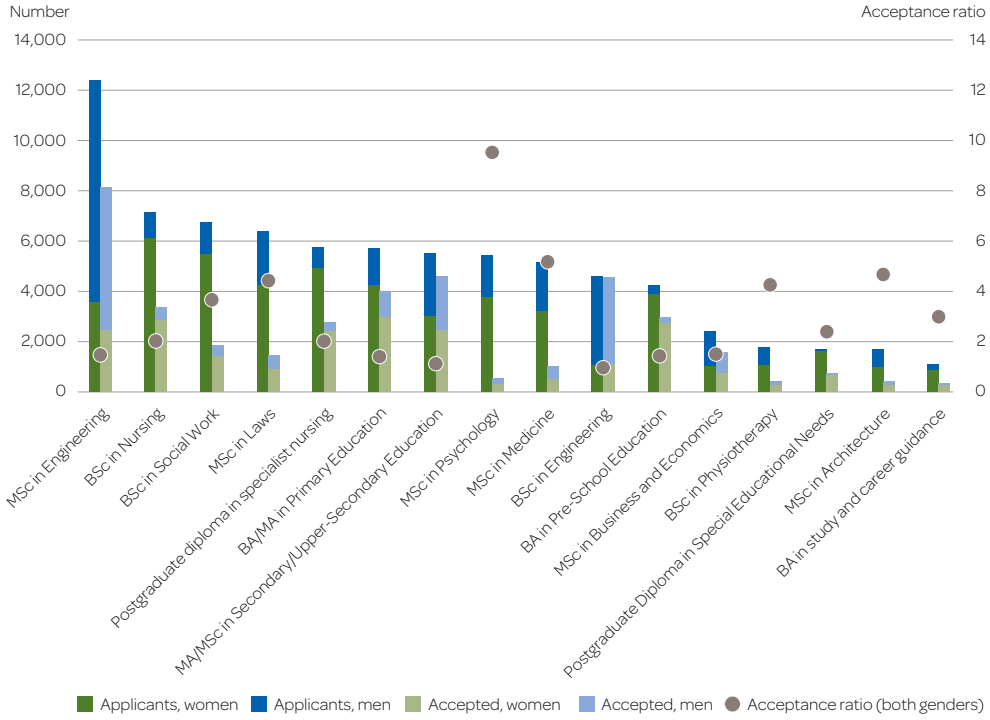
The acceptance ratio, i.e. the number of applicants in relation to the number of accepted students, varies between programmes. The highest acceptance ratio in autumn semester 2019 among the larger professional degree programmes was in the Master of Science in Psychology Programme, with 9.6 eligible first-choice applicants per admitted student (see Figure 2). This was followed by the Medical Programme with 5.3, Architectural Programme with 4.7 and Master of Laws Programme with 4.5 eligible first-choice applicants per admitted student.

The acceptance ratio to other programmes was significantly lower. For example, the acceptance ratio to the Bachelor of Science in Engineering Programme (1.0) and to the Master of Secondary and Upper-Secondary Education programmes (1.2). This means there was no competition to these programmes. Nearly everyone who is eligible to the programmes is accepted. Note, however, that the acceptance ratio varies among the HEIs.

New entrants in Swedish higher education

For academic year 2018/19, there were 87,850 new entrants who began a first-cycle or second-cycle education, which was 1,200

Figure 2. Number of eligible first-choice applicants and admitted students and acceptance ratio of programmes leading to a professional qualification with more than 1,000 eligible first-choice applicants, autumn semester 2019, divided by gender.

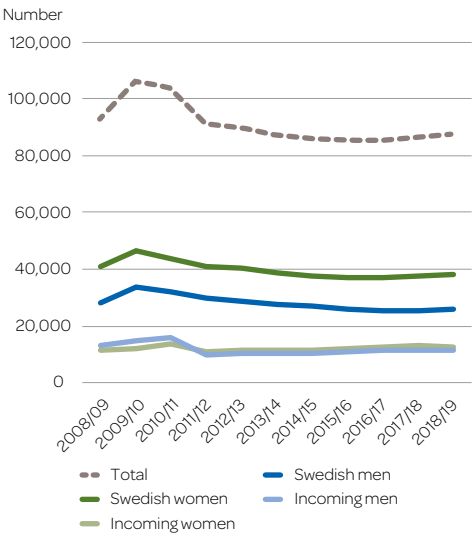


more than the previous academic year (see Figure 3). The increase came from an increase in the number of Swedish new entrants by 1,650 to 64,070, while the number of incoming new entrants decreased by 380 to 23,780.

This was the third year in a row that the number of new HE entrants increased but the first time in many years there was an increase in Swedish men starting higher education studies. The number of Swedish men increased by 750 to 25,830. The number of Swedish women increased by 890 to 38,240. Women continue to be the clear majority among Swedish new HE entrants – 60 per cent were women and 40 per cent were men.

In the last three academic years, the number of new HE entrants has increased somewhat, but it is still a fair bit to the highest number of 107,000 from academic year 2009/10. That record resulted from an increased demand in connection with the recession and in combination with the State temporarily expanding high education. After the top mark in academic year 2009/10, the number of new entrants fell by 20 per cent in the following six years as the HEIs gradually adjusted their education volume to the changing economic situation. But in the last three years, the number of new entrants has increased again.

Figure 3. Number of new HE entrants during the academic years 2008/09–2018/19, divided by Swedish and incoming new HE entrants and by women and men.



Most new HE entrants have only completed upper-secondary school

There are many roads into higher education. Of the 64,070 Swedish new HE entrants in academic year 2018/19, 66 per cent had only studied at upper-secondary school, while 16 per cent had completed an upper-secondary education and had attended municipal adult education (komvux). An additional 13 per cent had only studied at komvux.

A student with an upper-secondary degree from a preparatory programme for higher education automatically meets general entry requirements, while a student that attends a vocational programme in upper-secondary school can meet general entry requirements to higher education through additional studies. It has become less common for students to come from vocational programmes. A majority of new entrants (64 per cent) in academic year 2018/19 attended an upper-secondary preparatory programme (through upper-secondary school or komvux), which is an increase by 13 percentage points in five years. During the same period, the percentage of new HE entrants who had attended an upper-secondary vocational programme fell from 34 to 18 per cent.

A low percentage of youth go straight from upper-secondary school to higher education

In Sweden, a relatively low percentage of youth begin higher education immediately after upper-secondary school and this number is decreasing. Of 19-year-olds born in 1999, 13 per cent had begun higher education by 2018. That was the lowest level ever among those

born in the 1990s. This downward trend has been going on for several years, and the levels are beginning to approach those from the late 1980s, when a lower percentage of youth began higher education immediately after upper-secondary school.

The decrease in 19-year-olds who begin higher education does not mean that interest for higher education has fallen. Instead, young people are delaying their higher education one or more years. The percentage of youth who begin higher education increases with age. The percentage that began higher education by age 24 increased to 45 per cent in 2018, which is the highest level of the last decade. The percentage that began higher education by age 24 has, however, been relatively constant in recent years, and varies between 43 to 45 per cent for those born in the 80s and 90s.

Like in many other countries, a significantly higher percentage of women than men begin higher education (see Figure 4). The difference also increases between men and women the older the cohort is. Of those born in 1994, 17 per cent of women began higher education by age 19, compared with 14 per cent of men. At age 24, the gender difference was considerably higher – 53 per cent of women had begun higher education compared with 37 per cent of men. For the most recent cohorts, the trend has been downward among 19-year-olds for both women and men. Among those born in 1999, just over 14 per cent of women had begun higher education by age 19 compared with barely 11 per cent of men.

Many new HE entrants are 25 years or older

Many that begin higher education are 25 or older, and in recent years the percentage of new entrants in this age group has increased. After an earlier decrease, the percentage of older new HE entrants (25 years or older) has increased during the last five academic years from 21 to 27 per cent. As such, the older new entrants make up a significant percentage of Swedish HE entrants.

Most common, however, is to begin higher education at age 20–21. In academic year 2018/19, 30 per cent of HE entrants were age 20–21, which is somewhat higher than the previous academic year. This has remained relatively stable at around 30 per

Figure 4. The percentage of the cohorts born 1986–1999 that began higher education in Sweden or that have student finance from CSN to study abroad by ages 19, 21 and 24.

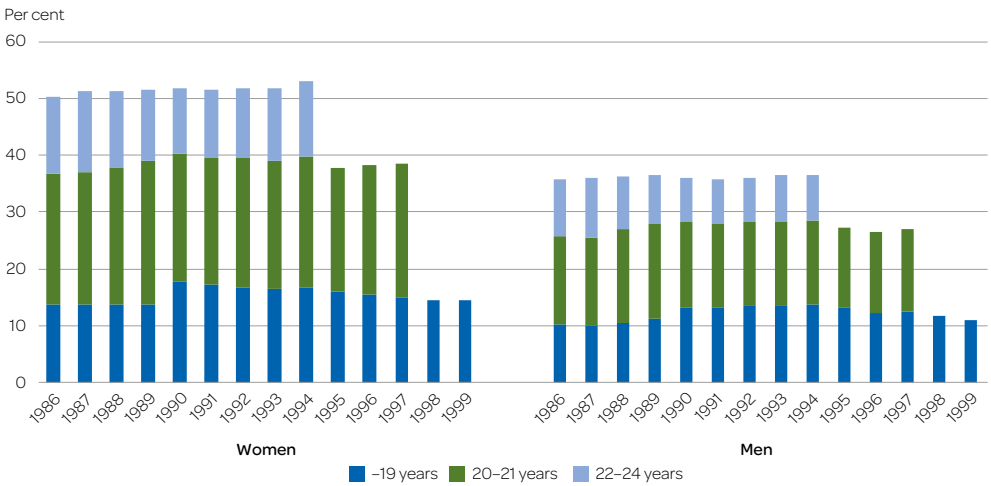
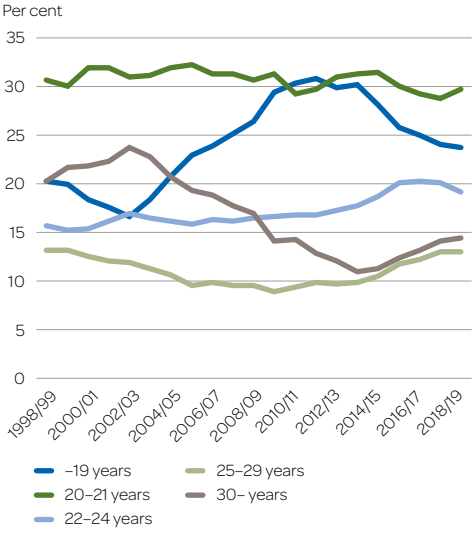


Figure 5. Percentage of Swedish new HE entrants at different ages for academic years 1998/99–2018/19.



cent for the last 20 years (see Figure 5). For a few years, the percentage of 19-year olds was just as high, but since the percentage of new entrants immediately after upper-secondary school has decreased in recent years, the percentage of 19-year-olds among new entrants has also decreased. In academic year 2018/19, this group accounted for 24 per cent of new entrants.

For several years, the median age among Swedish new HE entrants has increased, but in academic year 2018/19 this changed. The median age fell marginally to 21.7 years compared to 21.8 years in the previous academic year. This resulted from the percentage of students age 21 or younger increasing slightly for the first time in many years. A total of 54 per cent of HE entrants were age 21 or younger.

Women are the majority among new entrants in almost all OECD countries

A high percentage of women among new HE entrants is a pattern that Sweden shares with most OECD countries. The general pattern in OECD countries is for more women than men to attend tertiary education. In 2017, the percentage of women among new entrants on programmes leading to a Bachelor's degree averaged 54 per cent and 46 per cent for men (see Table 2). Women were the majority among new entrants in almost all OECD countries with available data. In Sweden, women were 61 per cent and men were 39 per cent. For women, this was 7 percentage points higher than the OECD

Table 2. Gender distribution, age and percentage of international students (excluding exchange students) among new entrants on Bachelor's degree programmes, for a number of selected countries and OECD in 2017. Source: OECD.

	Gender distribution (%)			Average age			Percentage of international new entrants (%)		
	Women		Men	Total	Women	Men	Total	Women	Men
OECD average	54		46	21.9	*	*	8	*	*
Sweden	61		39	24.5	24.8	24.0	5	5	6
Denmark	57		43	24.3	24.4	24.1	8	8	9
Finland	54		46	23.7	24.3	22.9	7	6	8
Norway	57		43	22.8	22.8	22.9	4	4	3
Germany	49		51	21.9	21.8	22.0	6	6	7
United Kingdom	56		44	20.9	21.2	20.6	16	15	17
Netherlands	53		47	19.7	19.7	19.7	14	15	13

* Data is not divided by women and men

average. Even in our neighbouring Nordic countries, the share of women was higher than the OECD average, while Germany, for example, had a slightly higher percentage of men than the OECD average.

The average age on Bachelor's programmes in OECD countries was just over 22 years. In Sweden, the average age was higher at 24.5 years. The other Nordic countries also had higher average ages than the OECD average, varying between 22.8 per cent in Norway to 24.3 per cent in Denmark. Japan had the lowest average age among OECD countries at 18 years, while Switzerland had the highest average age at 25 years.

The percentage of incoming students among new entrants on Bachelor's programmes varied considerably between the countries, from a few per cent in Chile and Mexico to 30 per cent in New Zealand. The average for OECD countries was 8 per cent. In Sweden the share was 5 per cent, which was higher than Norway but lower than Denmark and Finland. In the United Kingdom and the Netherlands, the share was considerably higher at 16 and 14 per cent, respectively. Note that the international statistics do not include exchange students among incoming students. These statistics only include students known as freemovers.

More Swedish new HE entrants begin studying on a programme

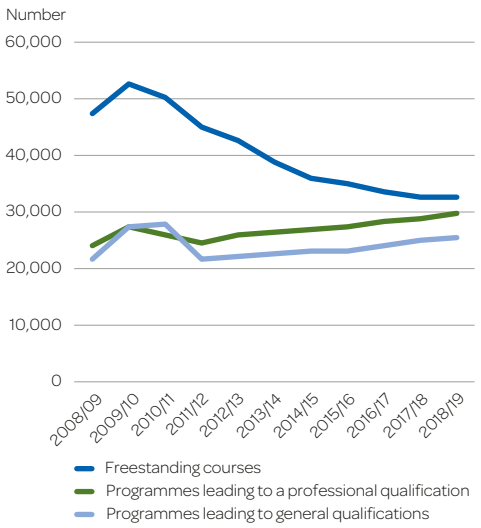
First- and second-cycle education consist of courses that can be combined into programmes. Most new entrants begin their studies on programmes leading to a professional qualification or a general qualification, but many students also take freestanding courses. Some begin higher education with freestanding courses and then switch to a programme, while others choose only to take freestanding courses. The number of new entrants on freestanding courses has fallen significantly for many years, while the number of new entrants on programmes has seen a major increase. The decrease for freestanding courses slowed, however, in 2018/19, while the number of new entrants on programmes leading to a professional and general qualifications increased by 3 and 2 per cent, respectively.

In the 2018/19 academic year, 37 per cent of new entrants attended freestanding courses, 34 per cent a programme leading to a professional qualification and 29 per cent attended a programme leading to a general qualification (see Figure 6). The pattern for Swedish and incoming students differs, however.

Most Swedish new entrants begin a programme leading to a professional qualification. Of 64,070 Swedish new HE entrants in academic year 2018/19, 45 per cent began their studies on a programme leading to a professional qualification, 27 per cent began a programme leading to a general qualification, 27 per cent took freestanding courses and less than 1 per cent began a programme in the fine, applied and performing arts.

Incoming students had a different pattern. Of the 23,780 incoming new HE entrants, only 2 per cent attended programmes leading to a professional qualification while 63 per cent

Figure 6. All new HE entrants divided by forms of study 2008/09–2018/19.



attended freestanding courses and 35 per cent attended a general programme (see Figure 6). Read more in the section *International Student Mobility*.

Unchanged number of general programme new entrants

To this point, we have described new HE entrants, i.e. individuals who are completely new to Swedish higher education. Now we will examine the development in the number of programme new entrants. These are students who enrolled for the first time to a specific programme leading to a professional qualification or a programme leading to a general qualification, but they may have attended higher education previously.

In academic year 2018/19, the number of programme new entrants on programmes leading to general qualifications was 45,230, which was similar to the previous academic year.

The trend toward an increasing number of programme new entrants on programmes leading to a professional qualification ended in academic year 2018/19. This occurred even though the State increased funding to HEIs to expand several programmes, particularly within in the welfare field. The number of new entrants decreased by just over 500 to 49,240. Table 3 shows the number, gender distribution and percentage of incoming students of new entrants on programmes leading to general qualifications and the largest programmes leading to a professional qualification.

Table 3. Programme new entrants on programmes leading to general qualifications and the largest programmes leading to a professional qualification in academic year 2018/19.

Programme towards	Number of new entrants 2017/18	2018/19	Change (%)	Gender distribution (%) Women	Men	Percentage of incoming students (%)
Higher Education Diploma	1,280	1,580	23	37	63	2
Degree of Bachelor	24,930	24,470	-2	56	44	4
Degree of Master (60 credits)	4,110	3,710	-10	58	42	42
Degree of Master (120 credits)	14,960	15,470	3	50	50	44
Professional qualification	49,730	49,240	-1	64	36	1
of which						
MSc in Business and Economics	1,430	1,470	3	49	51	1
MSc in Engineering	7,040	7,300	4	31	69	3
BA in Pre-School Education	3,980	3,780	-5	94	6	0
BA/MA in Primary Education	4,170	3,940	-6	75	25	1
BSc in Engineering	4,260	4,200	-2	25	75	1
MSc in Laws	1,860	1,830	-2	65	35	1
MSc in Medicine	1,750	1,800	3	59	41	3
BSc in Nursing	6,190	5,850	-5	86	14	1
BSc in Social Work	2,810	3,020	8	81	19	0
Postgraduate Diploma in Specialist Nursing	2,450	2,190	-11	86	14	1
MA/MSc in Secondary/ Upper-Secondary Education	4,500	4,420	-2	54	46	1

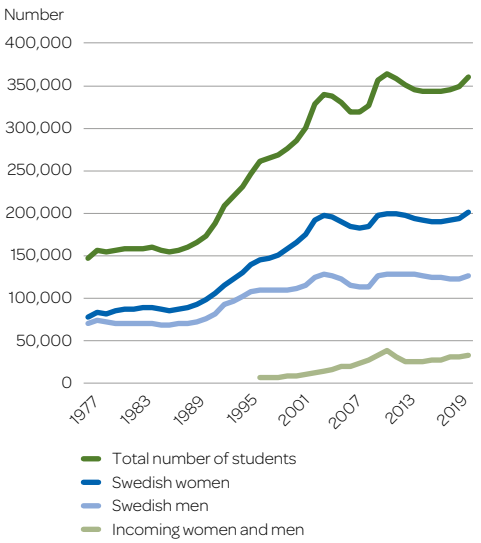
The total number of enrolled students

In total, 359,700 individuals enrolled for first- or second-cycle education during the 2019 autumn semester (see Figure 7). That's the next highest number after the record year 2010. Of all enrolled students, 32,200 were incoming, which was 9 per cent of the total.

Compared with the previous autumn semester, there were 10,350 more students in autumn semester 2019. It was the third autumn semester in a row that the number of enrolled students increased. The increase primarily came from Swedish students. After several years of decreases, the number of Swedish students increased for the second consecutive year. The number of Swedish women increased by 5,700 to 200,400, and the number of men increased by 3,550 to 127,060. The total number of incoming students increased from 31,100 to 32,200. Women accounted for 60 per cent and men 40 per cent of enrolled students in the autumn semester 2019.

From a longer perspective, the number of students in Swedish higher education is high and is approaching previous record levels. In the 1950s, fewer than 50,000 individuals attended higher education, and in the late 1960s, the number had increased to just over 100,000. As a result of the 1977 higher education reform, which meant nearly all post-secondary education was incorporated into higher education, the number of students increased and in the early 1980s, nearly 160,000 students were enrolled. An extensive expansion of higher education continued during the 1990s and early 2000s, allowing the number of students to increase from 173,000 to 340,000. During the next upturn in the economy, the number of students decreased for a few years but in the wake of the financial crisis, demand for education increased again. Between the autumns 2008 and 2010, the number of students increased dramatically, and in the autumn semester 2010 there were 365,000 students in higher education. A temporary expansion of higher education 2010–2011 allowed HEIs to admit more students than ever for a few years. During the coming years, HEIs adapted to the changed financial conditions and the number of students decreased, but in recent years the number of enrolled students has increased again.

Figure 7. Enrolled students in first- and second-cycle education each autumn semester 1977–2019.



Significant increase in distance students

Distance studies can often be a flexible format that fits students with difficulty attending full-time courses and programmes on campus or as a way of filling in knowledge gaps for short periods. Most HEIs offer first- and second-cycle education through distance education, and distance students are the fastest growing student group. In the last two years, the number of students attending solely through distance education has increased by 20 per cent. At many HEIs, more than a third of all students attend distance education and at some HEIs over half do. But there are also HEIs that do not offer distance education.

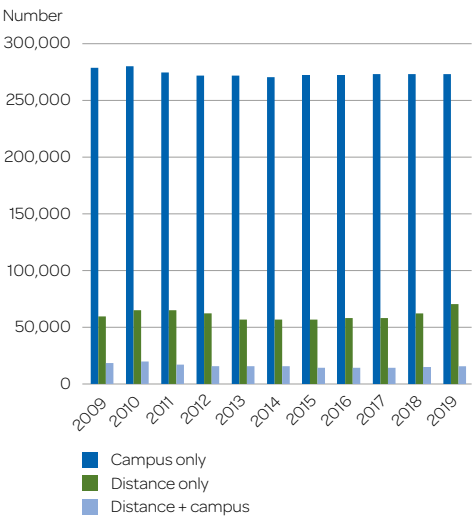
The most common form of higher education, however, is on-campus study.

In autumn 2019, 273,700 students studied solely on campus (76 per cent), which was a slight increase compared to the previous year (see Figure 8). There were also 15,800 students (4 per cent) who combined campus studies with distance studies, an increase by nearly 2,000 compared with the previous year.

The number of distance students has increased considerably in the last few years. In autumn semester 2019, 70,200 students attended courses solely through distance education, which was 19 per cent of all students. Only 31 per cent of distance students are men. The number that attend only through distance education increased by just under 7,700 students since the previous year and by nearly 12,000 students in two years. This was an increase of 20 per cent in two years. During the same period, students attending both distance and campus courses increased by 13 per cent. The number of students who only studied on campus, however, has been unchanged for the last two years.
Students only attending distance courses differ in many ways from students that combine distance and on-campus studies or only attend courses on campus.

- Distance students are older: almost half are over 34, compared with 19 per cent among students who combine distance and campus studies.
- Distance students attend freestanding courses: of students only attending distance courses, nearly three quarters take freestanding courses, compared with 22 per cent of campus students.
- Distance students study part time: seventy-five percent study part time, compared with 15 per cent among campus students.

Figure 8. Number of students only enrolled for campus education, only for distance education, and for both campus and distance education, autumn semesters 2009–2019.



Most students in the subject area of law and social science

Students are enrolled in courses in different subject areas. The single largest subject area in the 2018/19 academic year, as in previous years, was law and social science with 210,600 students, which was a small increase compared to the previous academic year (see Table 4). The fine, applied and performing arts had the fewest students. This division of number of students among subjects has been similar for the most recent academic years.

Within most fields, the percentage of women is higher than the percentage of men. Men are the majority only within the natural sciences and within engineering and technology. Engineering and technology was the most male-dominated area with 65 per cent men, while health care and nursing continued to be the most female-dominated subject area with 84 per cent women.

Participation in higher education highest at the age of 22

The proportion of the Swedish population in higher education varies for different age groups, but the highest participation rate in autumn semester 2019 was in the 21–23-year-old age group. As in previous years, participation in higher education was highest among

Table 4. Number of enrolled students per subject area in the 2018/19 academic year and the proportion enrolled at second cycle.

		Gender distribution (%)			Percentage on second cycle (%)		
	Number	Women		Men	Total	Women	Men
Total	**410,230**	**61**		**39**	**27**	**26**	**28**
Law and social sciences	210,570	64		36	23	23	22
Humanities and theology	95,700	62		38	10	10	10
Engineering	83,510	35		65	32	30	33
Natural sciences	74,020	46		54	21	23	20
Health care	39,760	84		16	28	31	24
Medicine and dentistry	34,850	73		27	33	29	39
Other areas	22,740	60		40	20	20	19
Fine, applied and performing arts	12,440	61		39	18	18	18
Unknown	7,920	59		41			

22-year-olds, of whom 27 per cent attended first- or second-cycle education in autumn semester 2019. A relatively high percentage of new entrants are 25 or older, and many, particularly women, return to higher education after previous education. This means that participation rates are relatively high even in older age groups. For example, two per cent of the population in the age group 40–49 participate in first- and second-cycle education, and there are even people over 50 who attend higher education. In all ages and age groups, participation is higher among women than among men. At age 19, the difference between women and men was just 3 percentage points in autumn semester 2019, but at age 21 the difference had increased to 11 percentage points.

Graduates

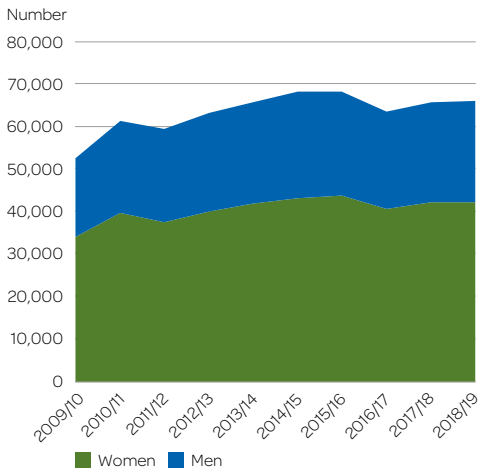
When a student completes their studies and meets the requirements in the System of Qualifications for an academic programme, a degree is not issued automatically. Instead, a student must request a degree certificate. But far from all students request a degree certificate. There are students who study for a shorter period on freestanding courses, those who drop out of their programme studies early, and students who complete their studies but never request a degree certificate.

Unchanged number of graduates

The number of graduates from first- and second-cycle programmes totalled 65,930 in academic year 2018/19, which is unchanged compared to the previous academic year. Among graduates, women dominated even more among new entrants. In academic year 2018/19, 64 per cent were women and 36 per cent men.

Compared to ten years ago, the number of graduates has increased (see Figure 9). In academic year 2009/10, there were around 52,000 graduates and since then the number has grown. Academic years 2014/15 and 2015/16 reached the highest number yet with about 68,300 each of these years. This high number can be explained with the increase in new HE entrants a few years earlier and that the option of requesting a degree certificate according to older academic curriculum was restricted significantly after 30 June 2015. Many graduates receive more than one degree certificate in the same academic year.

Figure 9. Number of graduates in academic years 2008/09–2018/19, divided by women and men.



In academic year 2018/19, 77,610 degrees certificates were issued – 49,430 to women and 28,180 to men. There are primarily two explanations for this. A student can request two degree certificates, most often a professional degree and a general degree based on the same qualifications. This is common within the health programmes and engineering and technology programmes. For example, 58 per cent of graduates with a Degree of Bachelor of Science in Nursing also had a general qualification issued during academic year 2018/19. A student can complete two different degrees in the same academic year, such as a Bachelor's at the beginning of the year and a 60-credit Master's at the end of the year.

The number of 120-credit Master's degrees increased

It is most common to receive a general qualification. In academic year 2018/19, 40,500 students (62 per cent women and 38 per cent men) received a Higher Education Diploma, a Bachelor's Degree, a 60-credit Master's Degree or a 120-credit Master's Degree. See Table 2 at the end of this report. The gender difference was larger in the first cycle than in the second cycle. At the first cycle, 66 per cent of graduates were women and 34 per cent were men, while at the second cycle 59 per cent were women and 41 per cent were men.

Compared to academic year 2017/18, the number of students that graduated with a 120-credit Master's degree increased by 600, while other general degrees decreased somewhat.

Fewer fine, applied and performing arts degrees

Qualifications in the fine, applied and performing arts were added as its own degree category in 2007. Since then, the number of graduates has increased, but in academic year 2018/19, there were 220 fewer graduates compared to the previous academic year. The majority of this decrease came from the Bachelor's fine, applied and performing arts degrees. A total of 920 fine, applied and performing degrees were awarded in academic year 2018/19, of which 61 per cent went to women and 39 per cent to men.

The Degree of Master of Science in Engineering is the largest among professional degrees

In academic year 2018/19, there were 33,380 graduates with professional qualifications, and of these 69 per cent were women and 31 per cent men. These were awarded within 60 different programmes leading to professional qualifications, but 12 programmes accounted for just over 80 per cent of professional degrees since most programmes are small.

The most commonly awarded professional qualifications were the Degree of Master of Science in Engineering, followed by the Degree of Bachelor of Science in Nursing, the Degree of Bachelor of Arts in Pre-School Education, and the Degree of Master of Arts in Primary Education (see Table 2 at back of report).

If all the different teaching degrees are combined, they made up a quarter of the professional qualifications in academic year 2018/19.

The gender differences among graduates vary significantly between the different professional degree programmes. The largest gender difference was for individuals with a Degree of Bachelor of Arts in Pre-School Education, where 95 per cent were women and 5 per cent were men. The smallest gender difference was for graduates with a Degree of Master of Arts/Science in Secondary/Upper-Secondary Education, where 58 per cent were women and 42 per cent men. Compared to academic year 2017/18, there were 400 more graduates with a Degree of Master of Science in Engineering while graduates with a Degree of Bachelor of Science in Engineering decreased by 210.

Continued risk for future teacher shortages

One challenge facing Sweden is access to skills in several welfare professions, such as teachers. The number of graduating teachers increased in academic year 2018/19. New entrant levels also continue to be high when viewed over a longer period, but somewhat lower than the previous academic year. Even so, everything indicates that Sweden is facing a growing teacher shortage in the future. According to the latest forecast, 19,300 new entrants and 12,600 graduated teachers will be needed per academic year in the future to cover the estimate recruitment need for teachers until 2033. That is much higher than the actual number of new entrants and graduated teachers and points to a decrease in the share of qualified teachers.

Assessment of foreign qualifications

In addition to those who graduate from HEIs in Sweden, graduates who have immigrated to Sweden and/or studied in another country for some reason also enter the Swedish labour market.

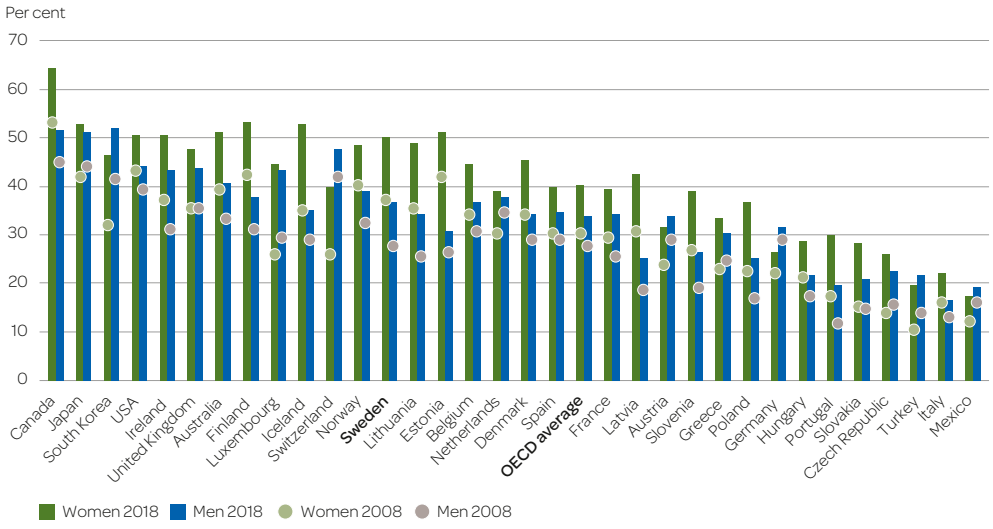
A person who has completed an education in another country than Sweden can apply for an assessment of their education. In 2019, the Swedish Council for Higher Education issued 7,600 certificates on what a foreign degree is equivalent to in Sweden. The majority of assessed programmes were the equivalent of a Bachelor's degree. Among professional qualifications, a majority were for Bachelor's and Master's degrees in engineering. In addition to these certificates, the Swedish National Board of Health and Welfare issued just over 1,100 medical licenses and 500 nursing licences. The Swedish National Agency for Education also issued certificates to 650 individuals with foreign qualifications in teaching or pre-school education.

Educational attainment of the population

Like Sweden, many OECD countries have expanded their tertiary education systems in recent decades. This has led to a significant increase in the educational attainment of the population. Between 2008 and 2018, the percentage of the population aged 25–64 in the OECD countries with least two years of tertiary education rose on average by 8 percentage points, from 29 to 37 per cent. In Sweden, as in other Nordic countries, educational attainment is higher than the average for OECD countries, and the percentage of people with tertiary education has increased during the same period by 11 percentage points, from 32 to 43 per cent. This increase is among the largest within the OECD (see Figure 10).

Women have higher education attainment levels than men in most OECD countries. In 2018, women were higher educated than men in 27 of 33 countries with data available.

Figure 10. Percentage of women and men in the adult population (25–64) in the OECD with at least two years of tertiary education in 2008 and 2018. The countries have been ranked according to the highest educational attainment level (both women and men) in 2018. Source OECD.



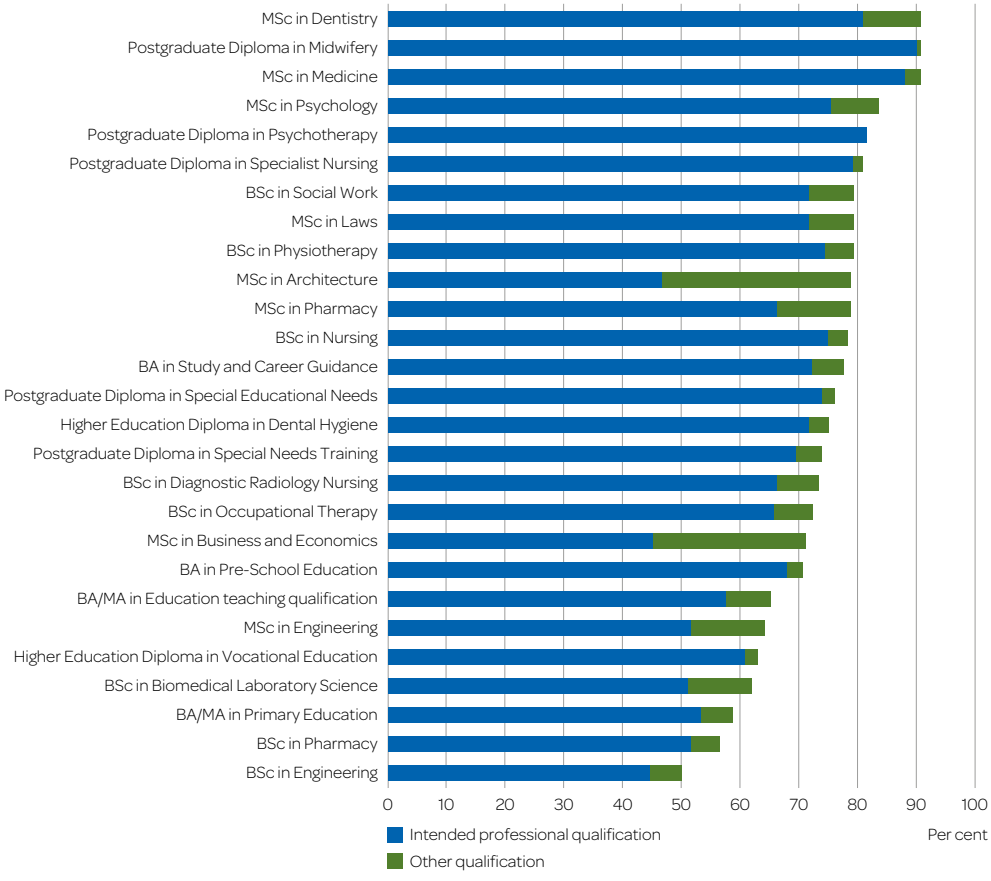
Women are raising their educational attainment more quickly than men in all countries, even in the countries where men are higher educated then women. Between 2008 and 2018, the percentage of tertiary educated women in the adult population in OECD countries increased by 10 percentage points, from 30 to 40 per cent. The equivalent increase for men was 6 percentage points, from 28 to 34 per cent. In Sweden, the increase rate was 13 percentage points for women and 9 percentage points for men. The difference is explained by women starting higher education and completing higher education at a higher rate than men. The considerably higher increase rate for women is a pattern that Sweden shares with the other Nordic countries and many other OECD countries. In Denmark, for example, the increase rate was 12 percentage points for women and 5 percentage points for men.

Completion rate

Far from all students who begin a degree programme complete the programme and graduate. The completion rate shows the percentage of new entrants in a certain academic year who receive a degree certificate after the programme's nominal study length plus three years. The completion rates are often higher for programmes leading to professional qualifications than for those leading to general qualifications.

Here, we have followed up the completion rate for new entrants on programmes leading to a professional qualification for academic years 2007/08–2013/14. Students on the Midwifery programme and the Medical programme had the highest completion rates. On these programmes, 90 per cent and 88 per cent, respectively, of new entrants were issued a degree certificate (see Figure 11). Students on the Bachelor of Science in Engineering programme and the Master of Science in Business and Economics had the lowest completion rate at 45 per cent. Students on the Architecture programme also had a low completion rate at 47 per cent. However, many students on the Master of Science in Business and Economics and Architecture programmes, 26 and 32 per cent, respectively, were issued

Figure 11. Completion rates within the nominal programme length plus three years on intended professional degree or another degree, per cent. New entrants on programmes leading to a professional qualification followed up through academic year 2017/18. Only programmes with at least 200 new entrants.



another qualification than the professional qualification that the programmes lead to.

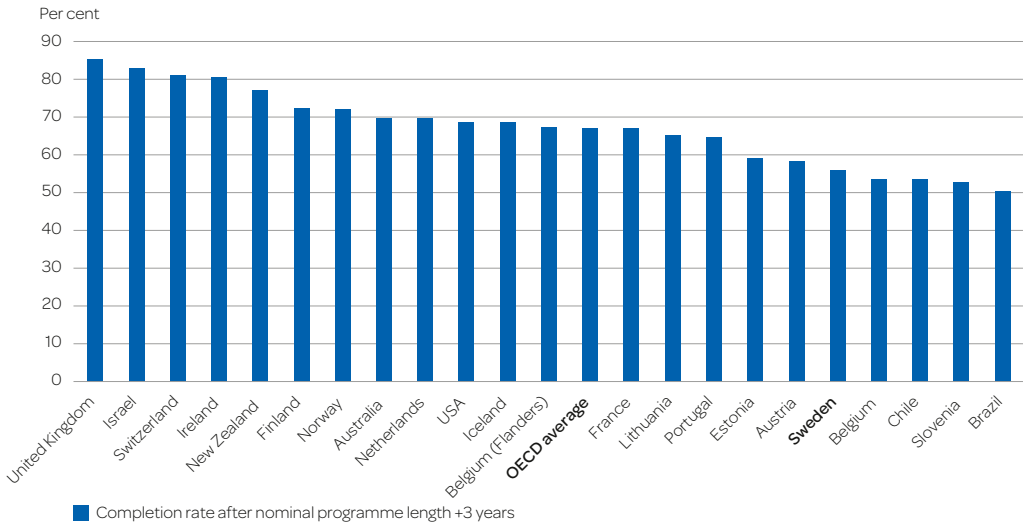
Men had lower completion rates than women on all programmes leading to a professional qualification. The largest gender difference was the Bachelor of Science in Pharmacy and the Preschool Teacher programmes with 31 and 30 percentage points, respectively. The smallest difference was on the Dentistry programme with 3 percentage points.

A number of factors can influence the likelihood of a student receiving a degree. Studies show that factors that influence completion rates include gender, educational background (if the student has studied on a preparatory programme or a vocational programme in upper-secondary school), and the educational attainment of the parents.

Completion rates vary among the OECD countries

In international comparisons, Swedish students have relatively low completion rates. The OECD has compared member countries' completion rates on Bachelor's programmes, i.e. the share of programme new entrants who receive a degree certificate within the nominal study length plus three years. The average completion rate for the countries with data available was 67 per cent in 2017 (see Figure 12). That was clearly

Figure 12. Completion rate on Bachelor's programmes in 2017, for those countries with available data, per cent.
Source: OECD.



higher than the average Swedish completion rate of 55 per cent. This makes Sweden one of the countries with the lowest average completion rate. The United Kingdom had the highest average completion rate at 85 per cent, followed by Israel at 83 per cent.

Women had higher completion rates than men in all countries with data available. The OECD average was 72 per cent for women and 61 per cent for men. The completion rate in Sweden was also higher for women than men. Just after Finland and Estonia, Sweden is the country with the largest difference in completion rates between men and women.

Widening participation

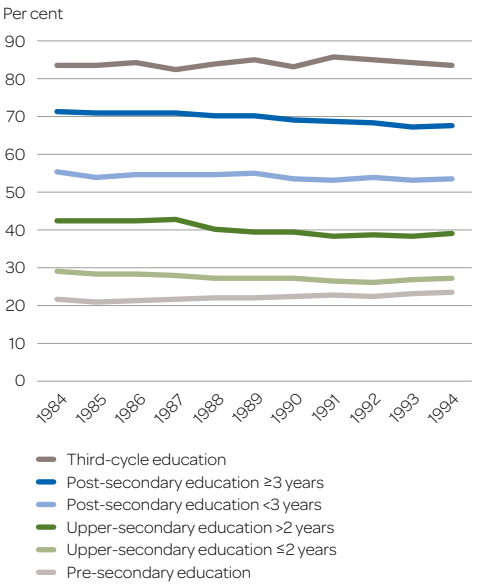
Even though higher education is free of charge in Sweden and everyone has the right to student finance, there is a significant social imbalance in recruitment. There has long been an overrepresentation of students with highly educated parents. Students also choose different programmes based on their parents' educational attainment. In academic year 2018/19, the Medical programme had the highest percentage of new entrants with highly educated parents and the vocational teacher programme had the lowest level.

The social imbalance in recruitment to higher education persists

Here we measure social background based on the parents' highest educational attainment for each person. Of all individuals born in 1994 (with data on the parents' educational attainment), 46 per cent had begun higher education by age 25. But parental educational attainment is a significant factor in beginning higher education (see Figure 13). Youth with at least one parent with a doctoral education had the highest rate of transitioning to higher education (83 per cent) and those with parents that only had less than an upper-secondary education had the lowest rate of transition to higher education (24 per cent). The other groups were positioned between these two extremes.

No major changes were observed during the last decade in any of the groups. This shows that the social imbalance in recruitment to higher education remains significant, which results in an overrepresentation of students with highly educated parents at the country's higher education institutions.

Figure 13. Percentage of those born 1984–1994 who began Swedish higher education by age 25, divided by parents' educational attainment. Includes individuals enrolled in Sweden by age 25.



Women had higher transitions to higher education than men in all groups, but the social pattern was the same for both genders. The higher the parents' education, the greater the tendency to begin higher education.

This leads to an overrepresentation of children to highly educated parents in higher education. There is also a tendency for students with different social backgrounds to attend different programmes. Of new entrants in academic year 2018/19, 40 per cent had parents with higher education, but there was significant variation between programmes. Among programmes leading to a professional qualification that had at least 100 new entrants, the Medical and Veterinary programmes had the highest percentage of new entrants with highly educated parents, 69 per cent and 66 per cent respectively. The lowest percentage was found in the Vocational Teacher programme (12 per cent) and the Preschool Teacher programme (19 per cent).

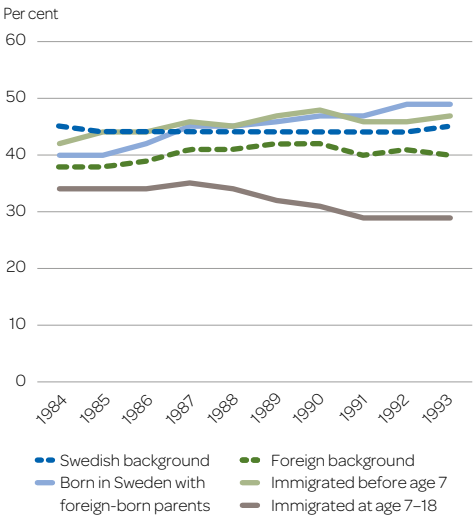
No overall imbalance in recruitment based on national background

There can also be an imbalance in recruitment to higher education based on Swedish or foreign background (referred to together as national background). Swedish background means that an individual is born in Sweden and has at least one parent born in Sweden. Foreign background means an individual that is

1. born in Sweden with two foreign-born parents
2. foreign born and immigrated before age 7
3. foreign born and immigrated between the ages of 7 and 18.

Of all individuals born in 1993 and that were registered in Sweden at age 18, 44 per cent had begun higher education by age 25. But the individual's national background influenced the tendency to begin higher education. The transition rate to higher education among foreign-born individuals (total for the three groups) was 40 per cent, compared to 45 per cent among those

Figure 14. Percentage of those born 1984–1993 who began Swedish higher education by age 25, divided by Swedish and foreign background (three groups).



with a Swedish background (see Figure 14). For individuals born in Sweden with two foreign-born parents, the transition rate was 49 per cent, and for those foreign born who immigrated before age 7, it was 47 per cent. This is higher than for those with Swedish background. But the transition rate for foreign-born individuals who immigrated between the ages of 7 and 18 was considerably lower (29 per cent). The transition rate for individuals with foreign background overall has increased slightly in the last decade. But the transition rate for foreign born individuals who immigrated between the ages of 7 and 18 has decreased.

Overall, individuals with foreign background were well represented in higher education. There is no significant general imbalance in recruitment based on national background. But there is a group that is underrepresented in higher education: foreign born individuals who immigrated between the ages of 7 and 18.

Women had higher transition rates to higher education than men in all groups. Both women and men among individuals who immigrated between the ages 7 and 18 are falling behind, since the transition rates for these groups were significantly lower compared to the other groups.

Individuals with foreign backgrounds are well represented among new entrants

The composition of new entrants in higher education based on national background is the result of, in part, the composition of the population in the corresponding age group, and, in part, the degree to which individuals with Swedish or foreign backgrounds begin higher education. Of new entrants in academic year 2018/19, 74 per cent had a Swedish background and 26 per cent had a foreign background. There was no difference between women and men. In 2018, the percentage of the population with foreign background in the age group 19–64 was 28 per cent. As such, individuals with foreign backgrounds were well represented among new entrants.

The percentage with foreign backgrounds among new entrants has increased over time. In academic year 2017/18, the percentage of new entrants with foreign backgrounds was 25 per cent and ten years ago, academic year 2009/10, it was 17 per cent. Since the percentage with foreign backgrounds in the population has increased similarly, this can explain the gradual increase in new entrants with foreign backgrounds.

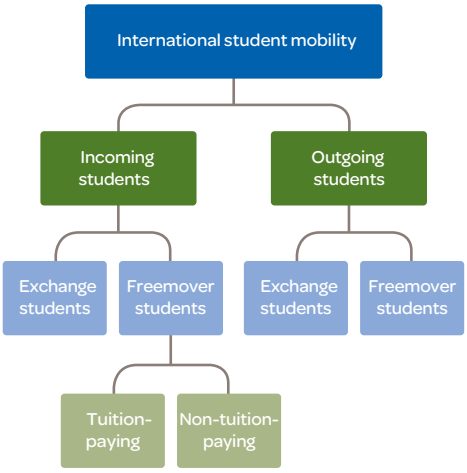
Like social background, national background also influences what the students study in higher education. For example, among programmes leading to a professional qualification that had at least 100 new entrants, the percentage of new entrants with foreign backgrounds was highest in the Bachelor of Science Programme in Pharmacy (78 per cent) and lowest in the Physical Therapist programme (11 per cent).

INTERNATIONAL STUDENT MOBILITY

In Sweden, incoming students from countries outside of the EU/EEA pay fees for first- and second-cycle studies. In an international perspective, the tuition fees are relatively high. Even so, the number of paying students is continually increasing, even in the most recent academic year. The number of incoming students taking part in exchange programmes, however, has been declining for several years. Slightly more women than men choose to study in Sweden.

In Sweden, as in many other countries, the ambition is to increase mobility, both for incoming and outgoing students. A part of mobility at the first- and second-cycle levels is in organised form, through exchange programmes between Swedish and foreign higher education institutions (HEIs). There is also another form of mobility, where students arrange their studies abroad themselves, known as freemover students (see Figure 15).

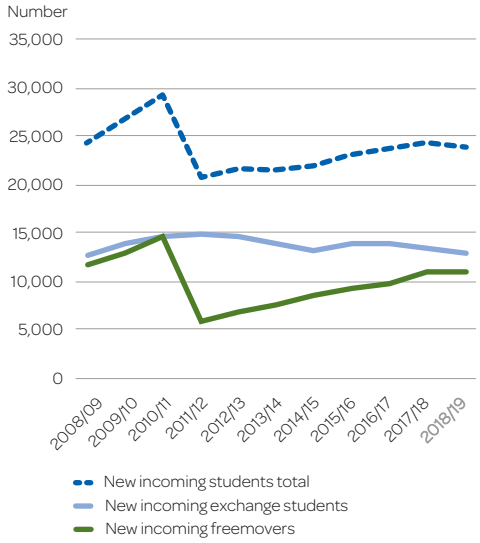
Figure 15. Different groups of international mobile students at the first- and second-cycle levels from a Swedish perspective.



Fewer new incoming students

In the 2018/19 academic year, 23,770 new incoming students came to Sweden to study, a decrease of 380 compared to the previous academic year (see Figure 16). The gender balance was the same as the previous academic year: 53 per cent women and 47 per cent men.

Figure 16. Number of new incoming students academic years 2008/09–2018/19 and divided into exchange students and freemover students.



Of the new incoming students, 12,770 were exchange students and of these 57 per cent were women and 43 per cent men. The number of new exchange students declined by 470 compared to the previous academic year, and this was the third year of declines.

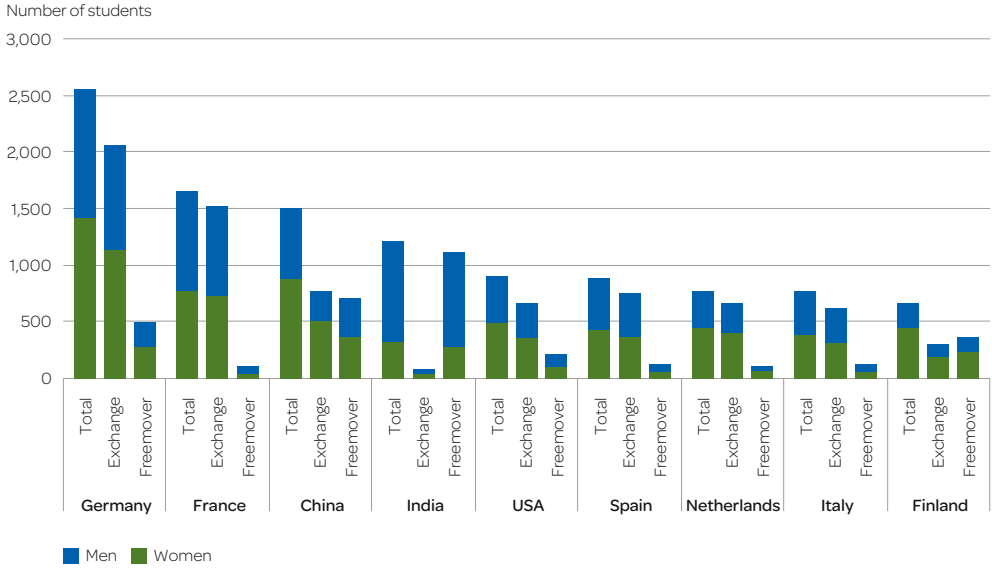
The rest of the new incoming students, 11,000, were freemover students. Among these, the gender balance was nearly even: 49 per cent women and 51 per cent men. The number of new incoming freemover students has increased each academic year since 2012/13, with an increase of 90 students in the most recent academic year. This increase is the result of the increase in paying students by 530 compared to academic year 2017/18. The number continues to grow, and in academic year 2018/19 there were 4,700 tuition-paying incoming students.

Since academic year 2008/09, the number of new incoming exchange students has always been higher than the number of new freemover students, except for academic year 2010/11 when the groups were approximately the same size (see Figure 16). Tuition fees were introduced in academic year 2011/12 for freemover students from countries outside the EU/EEA and Switzerland, and the number of new freemover students fell significantly. Since then, the number of incoming freemover students has increased every year, and in recent years the number of exchange students has declined. This has led to a smaller difference between these two groups of new incoming students.

Most new incoming students from Germany

The countries with the most new incoming students to Sweden in academic year 2018/19 were Germany, France and China (see Figure 17). These three countries have had the most incoming students to Sweden for several academic years in a row. India, the U.S., Spain, the Netherlands, Italy and Finland are additional countries that have many incoming students to Sweden.

Figure 17. The number of incoming students from countries with the most new incoming students in academic year 2018/19, in total and divided by exchange students, freemover students and gender.



Increasing numbers of new freemovers on Master's programmes

While exchange students almost always take freestanding courses within the framework of an exchange programme as part of their education in their home countries, most freemover students attend degree programmes and are therefore in Sweden longer. For academic year 2018/19, 8,740 of 11,000 new incoming freemovers attended a degree programme. Most attended a 120-credit Master's programme (68 per cent) or a 60-credit Master's programme (15 per cent). The number of freemover students on 120-credit Master's programmes increased by 230 compared to the previous academic year, while the number of students on all other types of programmes decreased.

Total number of incoming students

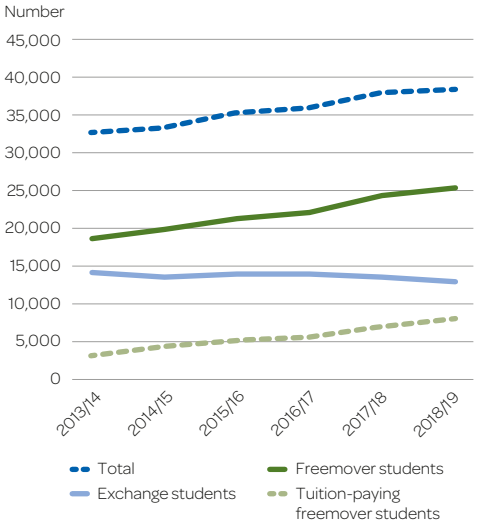
In this section, we examine the total number of incoming students in Sweden. During academic year 2018/19, there were 38,330 incoming students in Sweden. About one-third of these were exchange students and two-thirds were freemover students. The gender balance was the same as the previous academic year: 53 per cent women and 47 per cent men.

Over the last five years the total number of incoming freemover students gradually increased by 6,800. Most of these (4,800) were tuition paying freemovers. Over the same period, the number of exchange students declined by 1,120. See Figure 18.

Scholarships to paying students

A total of 8,050 freemover students paid tuition fees in academic year 2018/19, an increase of 1,020 students compared with the previous academic year.

Figure 18. Total number of incoming students academic years 2013/14–2018/19, and divided by student category (freemover students include tuition-paying freemover students).



At the same time as tuition fees were introduced in 2011, two state scholarship programmes were established for fee-paying students. One programme aims to promote the internationalisation of HEIs by helping with recruitment of particularly qualified students from countries outside the EU/EEA and Switzerland and covers all or part of tuition fees.

The other programme's scholarships are aimed at students from countries with which Sweden has a long-term development collaboration and at students from countries classified as low or medium income countries according to the OECD's Development Assistance Committee (OECD/DAC). The Government's goal with the programme is to contribute to ensuring the supply of qualified expertise in developing countries. The scholarships cover all tuition fees and the students' costs of living.

Several HEIs have established their own scholarships for fee-paying students, either with their own funds or in cooperation with other sources of funding. In autumn semester

2019, 1,560 fee-paying students(19 per cent) had a Swedish scholarship that covered all or parts of their tuition fees.

Tuition fees for resident and incoming students in OECD countries

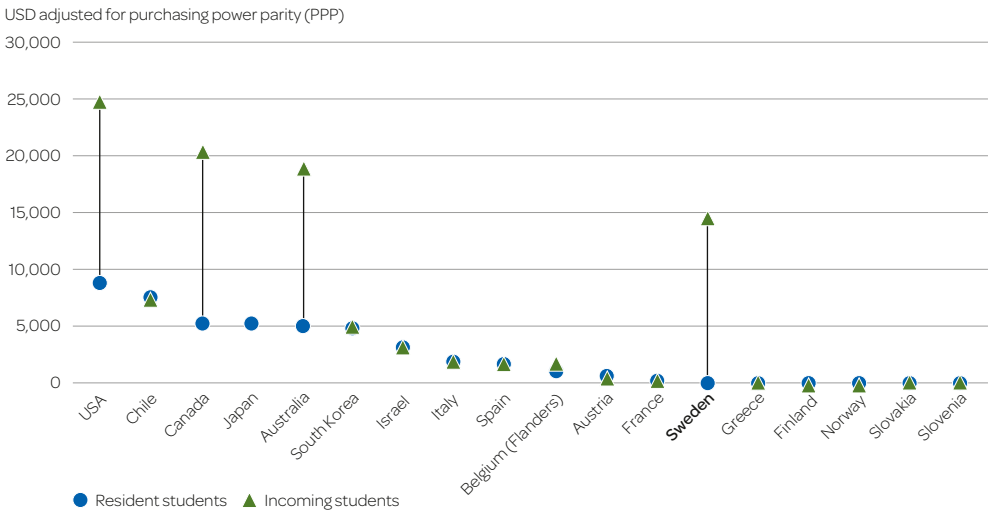
Compared to Sweden, many OECD countries charge tuition fees both to resident and incoming students. In EU countries, the same conditions apply for incoming students from other EU countries as for the resident students. Of 18 countries, 12 charged tuition fees to both resident and incoming students in academic year 2017/18 (see Figure 19). Among countries that do not charge tuition fees for resident students, only Sweden charged tuition fees of incoming students. In Sweden, incoming students from countries outside the EU/EEA and Switzerland pay on average USD 14,680 per year (adjusted for purchasing power).

In the countries that charge tuition fees of both resident and incoming students, the fees were often similar for both groups with some exceptions. The United States was the country that charged the highest tuition fees for both resident and incoming students. There, incoming students had to pay on average USD 24,850 per year. Canada and Australia also had significantly higher tuition fees for incoming students than for resident students.

Outgoing students

Now we turn our attention to Swedish students who travel abroad to study. Unlike the situation in many other countries, Swedish students can receive student financing to study abroad. They also have the opportunity to receive a supplementary loan, for example, to pay tuition fees. Even so, the number of outgoing students from Sweden declined somewhat in academic year 2018/19. In academic year 2018/19, there were 23,580 Swedish students studying abroad. Two-thirds of these were freemover students that arranged their studies abroad on their own and one-third were students who took part in various exchange programmes. Of all outgoing students, 59 per cent were women and 41 per cent were men.

Figure 19. Average tuition fee for education at the first-cycle level at state HEIs for resident and incoming students in academic year 2017/18, US dollar adjusted for purchasing power (PPP). Source: OECD.

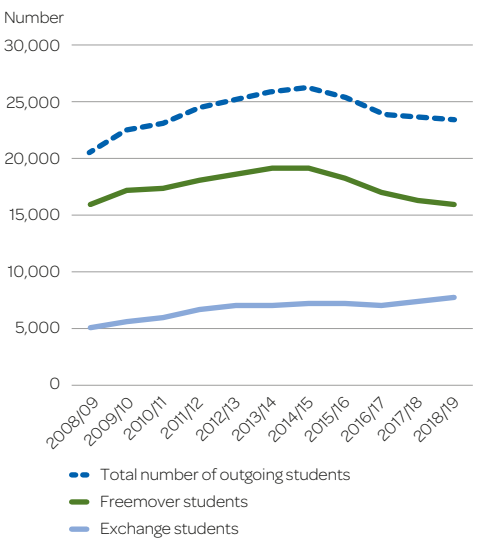


The trend among outgoing students is the opposite from incoming students: The number of outgoing exchange student is increasing while the number of outgoing freemover students is decreasing. In academic year 2018/19, the number of outgoing exchange students increased by 300, while the number of freemover students fell by 480. In total, the number of outgoing students fell by 190 compared to the previous academic year. The number of outgoing freemover students has gradually declined since academic year 2015/16, after having increased every academic year since 2008/09. The number of outgoing exchange students, on the other hand, has increased nearly every academic year during the last ten-year period (see Figure 20).

The U.S. and the United Kingdom and Northern Ireland largest recipient countries

The most common European countries for Swedish students to study abroad in were the United Kingdom and Northern Ireland, Poland, Denmark and the Netherlands.

Figure 20. Number of outgoing students in total and divided by student category, academic years 2008/09–2018/19.



Outside of Europe, the United States and Australia were the largest recipient countries, and the U.S. was also the largest recipient country in general, followed closely by the United Kingdom and Northern Ireland. Of the noted countries, only the Netherlands received more students than the previous academic year. The other countries saw declines in incoming Swedish students.

Still many medical students abroad

As in previous years, many students in academic year 2018/19 chose to study a programme abroad that is highly competitive to gain admission to in Sweden. For example, 2,390 individuals with student finance studied medicine outside of Sweden (that same academic year there were 9,550 medical students at Swedish HEIs). The number that completed their medical education abroad, however, has declined in the last six academic years, with 90 fewer doing so compared with the previous academic year. The most popular countries for study abroad in medicine were Poland, Latvia, Romania and Bulgaria.

Another example is the dental programme. In the 2018/19 academic year, 320 students attended dental programmes outside of Sweden, a slight increase from the previous academic year. This number can be compared to the 1,730 dental students in Sweden in the same academic year. Of the Swedish students that studied dentistry abroad in academic year 2018/19, the majority studied in Latvia, Spain, Poland and Lithuania.

Graduates that studied abroad

In 2011, the EU Council of Ministers decided that by 2020, 20 per cent of all graduates at the tertiary level within the EU should have studied abroad for some of their education. In Sweden, there were 58,710 first- and

second-cycle graduates in academic year 2018/19. Of these, 15 per cent (excluding incoming students) had studied abroad for part of the last 12 semesters. This represents an increase of 1 percentage point compared with the previous academic year. The percentage has been around 14–15 per cent for several academic years.

There are major differences in how many students study abroad based on what degree the students receive. Academic degrees with a high percentage of graduates who studied abroad in academic year 2018/19 included Degree of Master of Science in Business and Economics (47 per cent), Degree of Master of Laws (42 per cent), and Degree of Master (120 credits) in social sciences, law, business and administration (41 per cent).

Some degrees with a low foreign studies participation in academic year 2018/19 were Degree of Bachelor of Science in Engineering, Degree of Bachelor of Science in Nursing and Degree of Bachelor / Master of Arts in Primary Education.

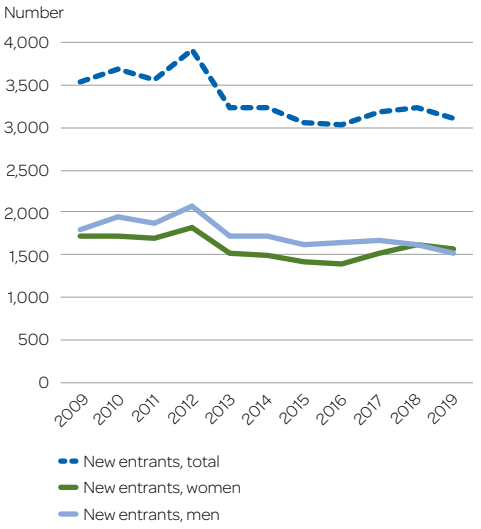
THIRD-CYCLE EDUCATION

After completing a first- and second-cycle degree, about 4 per cent of graduates continue to third-cycle education. Swedish third-cycle education also recruits many doctoral students from other countries, and for many years the percentage of foreign doctoral new entrants has been around 40 per cent, a high percentage internationally. Those accepted to third-cycle education at a Swedish higher education institution (HEI) are to have a secure financial situation, and in 2019 over 90 per cent of doctoral new entrants had some form of employment.

Third-cycle new entrants

In 2019 there were 3,100 third-cycle new entrants (doctoral new entrants) at Swedish HEIs, which was 140 less than 2018. After a major decrease between 2012 and 2013, for many years the number of doctoral new entrants has varied between 3,000 and 3,200 (see Figure 21). There has also been no significant change in volume within third-cycle education over the long term. Over the last 20 years, the number of third-cycle new entrants has varied between 3,000 and 4,000.

Figure 21. The number of third-cycle new entrants 2009–2019, in total and divided by women and men.

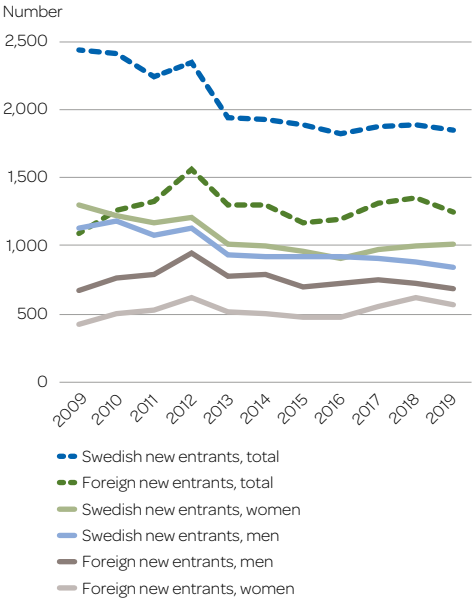


For the first time, there were slightly more women (51 per cent) than men (49 per cent) among the new entrants. The general pattern in OECD countries, however, is that more men than women begin third-cycle education. Men averaged 52 per cent of doctoral new entrants while women averaged 48 per cent (see Table 5). In 2017, the percentage of men was higher in two-thirds of OECD countries that reported data. For that year, the percentage of men was also higher in Sweden (52 per cent) among the doctoral new entrants. It was a bit different in our neighbouring Nordic countries. In Denmark the percentage of women and men was even, while in Norway, Finland and Iceland women were in majority.

High percentage of foreign doctoral new entrants

In 2019, there were 1,250 foreign doctoral new entrants, which corresponds to 40 per cent. This was a decrease by 100 since 2018 (see Figure 22). The total number of Swedish doctoral new entrants also decreased, from 1,890 to 1,850.

Figure 22. The number of Swedish and foreign doctoral new entrants 2009–2019, total and divided by women and men.



The gender balance differs between foreign and Swedish doctoral new entrants. Among Swedish new entrants, 55 per cent were women and 45 per cent men. In the last decade, there have been more women in nearly every year. The opposite was true among foreign doctoral new entrants, where the gender balance was 55 per cent men and 45 per cent women. Men have been the majority among foreign new entrants since statistics began being collected in 1997.

Between 2009 and 2012, there was a relatively large increase in the number of foreign doctoral new entrants, from 1,100 to 1,560. This meant that the percentage of foreign doctoral new entrants increased from 32 to 40 per cent, and it continues to be around 40 per cent.

That is a relatively high percentage compared with other countries. In 2017, the percentage of foreign doctoral students in Sweden was the highest among the Nordic countries but lower than the Netherlands and United Kingdom (see Table 5). The average for OECD countries was 28 per cent.

Most doctoral new entrants in medicine and health sciences

The number of doctoral new entrants varies considerably between different fields. Like previous years, in 2019 the largest group was new entrants studying medicine and health sciences. They made up a third of all new entrants, totalling 1,020 students. There were 750 in the natural sciences and 680 in engineering and technology. There were

Table 5. Gender distribution (per cent), age and percentage of international students among doctoral new entrants (per cent) for selected countries and the OECD average in 2017. Source: OECD.

	Gender balance (%)			Average age			Percentage of international new entrants (%)		
	Women		Men	Total	Women	Men	Total	Women	Men
OECD average	48		52	31.0	31.0	31.0	28	*	*
Sweden	48		52	30.8	31.8	29.8	40	36	44
Denmark	50		50	29.4	30.2	28.7	39	35	42
Finland	54		46	32.6	33.3	31.9	29	22	38
Norway	51		49	32.8	34.1	31.5	27	23	32
Germany	46		54	29.1	29.2	29.0	15	16	14
Iceland	60		40	35.2	35.8	34.2	38	32	46
Great Britain	48		52	29.3	29.4	29.1	43	41	44
Netherlands	49		51	27.0	27.0	26.9	51	48	53

The data for the average within the OECD is for 2016.

450 in the social sciences and 140 in the humanities and fine arts. Agricultural and veterinary sciences had the lowest number with 60 new entrants.

Compared with the previous year, the number of new entrants in engineering and technology increased but decreased in the other fields of R&D.

In 2019, there were more men than women in engineering and technology and the natural sciences, but there were more women among new entrants in the other fields. In the last decade, the percentage of women has increased in all fields except the natural sciences.

Foreign and Swedish doctoral new entrants study in different disciplines to some extent. Among Swedish new entrants, by far the most common was beginning doctoral studies within medicine and health sciences, at just over 40 per cent in 2019. Among foreign new entrants, the most common doctoral fields were within the natural sciences (35 per cent) and engineering and technology (30 per cent). Within these fields, foreign doctoral students were in the majority.

Older doctoral new entrants in medicine and health sciences

The age of new entrants varies among disciplines. Within the social sciences, humanities and fine arts, and medicine and health sciences, the majority were over age 30 in 2019. But most new entrants in engineering and technology, natural sciences, agricultural sciences and veterinary medicine were younger than 30.

The average age among doctoral students in Sweden was 31 in 2017, which is the same average age for OECD countries (see Table 5). Generally, the average age in the Nordic countries is higher than in the other European countries. The average age varied between 29.4 in Denmark and 35.2 in Iceland. Japan had the lowest average age among OECD countries at 25.8 years, while Portugal had the highest average age at 35.3 years.

Almost all doctoral new entrants are employees

In Sweden, individuals accepted to a third-cycle programme are to have a secure source of funding for their entire education and most have some form of employment. In 2019, 74 per cent had a doctoral studentship and 2 per cent had another position within their HEI (see Table 6). In addition, seventeen per cent of new entrants had some form of employment outside their HEI, such as a medical post or as an externally employed doctoral student. A total of 6 per cent of new entrants had scholarships. There was no significant difference between funding types for women and men.

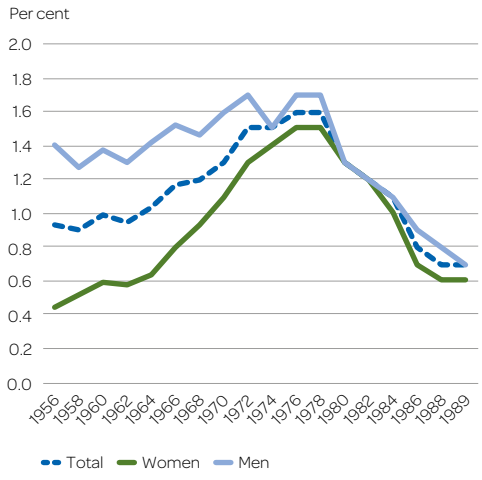
Decreasing percentage of the population that begins a third-cycle education

The percentage of the Swedish population beginning a third-cycle education has decreased for several years. Of individuals

Table 6. Funding types (per cent of FTEs) for doctoral new entrants in 2019, total and divided by women and men.

	FTEs		
Disciplinary domain	Total	Women	Men
Doctoral studentship	74	72	75
Other employment inside the HEI	2	2	2
Doctoral grants	0	0	0
Scholarships	6	6	6
Externally employed doctoral student	6	5	7
Medical doctor position	7	7	6
Employment outside of the HEI	4	6	3
Other source of funding	1	1	1
Total	**100**	**100**	**100**

Figure 23. The percentage of the population (per cent) that began third-cycle education by age 30 for individuals born 1956–1989, total and divided by women and men.



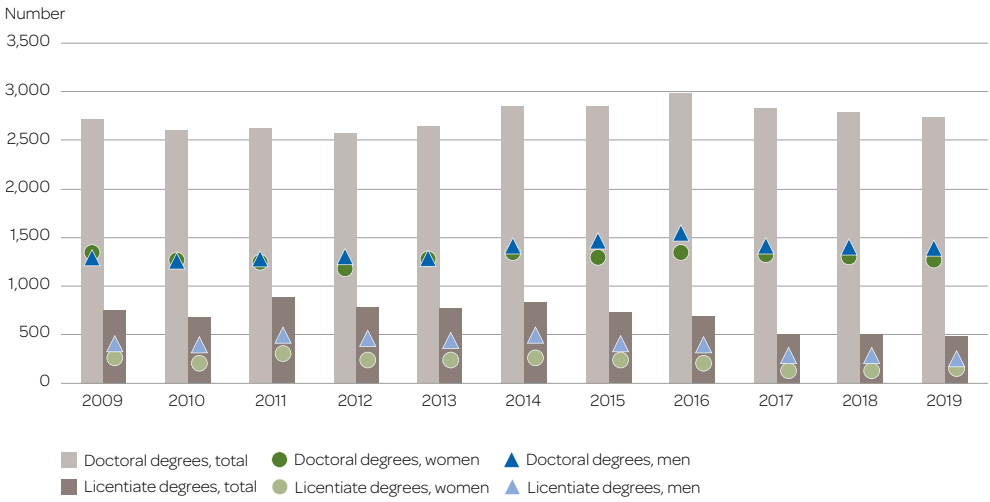
born 1956–1989, the percentage that had begun third-cycle education by age 30 varies (see Figure 23). Of those born in 1956, the number was 0.9 per cent. From then, the percentage gradually increased to 1.6 per cent in the 1975–1978 cohorts, but a gradual decrease then began. Of individuals born 1989, 0.7 per cent had begun third-cycle education by age 30, which was in 2019. This means that the current percentage is largely the same as it was 30 years ago.

In the 1956 cohort, significantly more men than women began third-cycle education. Over time, the gender differences evened out, and the percentages were equal among those born 1979–1982. For those born 1983–1989, the percentage of men who began third-cycle education was once again higher.

Third-cycle qualifications

In Sweden, there are two third-cycle degrees with different lengths of study: a Degree of Doctor involves four years of full-time study while a Degree of Licentiate involves two years of full-time study. In 2019, there were 3,230 third-cycle qualifications awarded, of which 2,750 were doctoral degrees and 480 licentiate degrees. Compared with 2018, this is a slight decrease: 40 fewer doctoral degrees and 20 fewer licentiate degrees (see Figure 24). This means that the number of graduates decreased for the third year in a row.

Figure 24. The number of doctoral degrees and licentiate degrees, divided by women and men 2009–2019.



Almost as many women as men received doctoral degrees in 2019. The gender balance has been equal for the last decade in that the percentage for both genders has been in the range 40–60. Even among those who received licentiate degrees in 2019, the gender balance was even at 40 per cent women and 60 per cent men. Even so, half of all licentiate degrees were in engineering and technology, where men are in the majority.

Sweden introduced third-cycle fine, applied and performing arts qualifications in 2010. Since then, 49 fine, applied and performing arts doctoral degrees and 15 fine arts, applied and performing licentiate degrees have been awarded. Since there are so few, we do not report them separately in this section.

More men than women have studied for periods abroad

One of the goals within the framework for the EU's common strategy for growth and employment, Europe 2020, is for at least 20 per cent of graduates within the European area for higher education to have studied or had a practical placement abroad. Of the 2,780 doctoral graduates in 2018, 27 per cent had had time abroad and 11 per cent had been abroad for at least three months. The majority of those who had been abroad were doctoral students in the natural sciences. More men than women had periods abroad during their studies.

Women have a lower completion rate, but the gap is diminishing over time

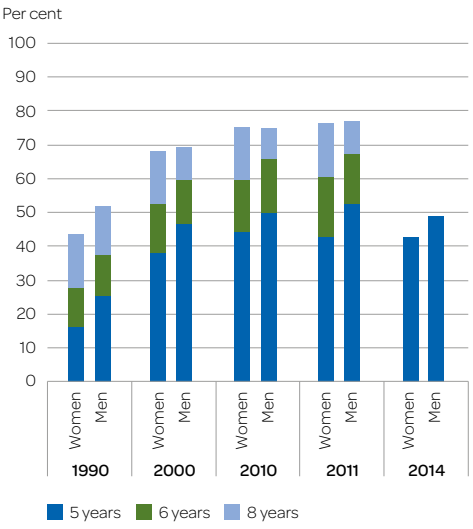
Women take longer than men to complete their doctoral degree. After eight years from their new entrant year, however, the gender difference has disappeared. Completion rate indicates what percentage of doctoral new entrants complete a doctoral degree after a certain number of years. An initial follow-up is done after five years, since a doctoral degree is intended to be the equivalent of an effective study period of four years, also called nominal programme length. But it is common for doctoral students to combine 80-per cent doctoral studies with 20-per cent teaching or other work at the HEI, resulting in a five-year study period.

The most recent cohort that can be studied within five years are those that began their third-cycle education in 2014. Of these, 46 per cent received their doctoral degree by the end of 2019, which was the same percentage as the previous year's new entrants. Women had a lower completion rate within five years than men for all new entrant cohorts. Among new entrants in 2014, 43 per cent of women and 49 per cent of men had completed their doctoral degree within five years.

The completion rate is increasing over time. Of new entrants in 2011 (the latest new entrant cohort that can be followed up within eight years), 48 per cent had completed their doctoral degree within five years, 64 per cent within six years and 77 per cent within eight years. The remaining 23 per cent had not received a doctoral degree at the end of 2019. In this group, some had completed a licentiate degree as their highest degree, a total of 4 per cent of new entrants. In total, 19 per cent had not completed a degree after eight years.

The difference in completion rate between women and men decreases the longer the time since the new entrant year (see Figure 25). Women take longer than men to complete a degree. Among new entrants in 2011, 43 per cent of women and 53 per cent of men had completed their doctoral degree within five years, a difference of 10 percentage points. This difference is still 7 percentage points after six years, but after eight years there is no longer any significant difference.

Figure 25. The completion rate (per cent) among female and male doctoral students five, six and eight years after their new entrant year (1990–2014).



Many foreign doctoral students leave Sweden after graduating

A large percentage of foreign doctoral students leave Sweden after receiving a degree. A total of 7,080 foreign doctoral students completed a doctoral degree at a Swedish HEI during the years 1998–2012. Three years after the degree, 62 per cent had left Sweden, 64 per cent of men and 58 per cent of women. After eight year, the percentage had increased to 67 per cent and 60 per cent, respectively. The percentage of foreign doctoral students who leave Sweden varies among fields of R&D. Engineering and technology had the lowest at 57 per cent. The highest percentage of foreign doctoral students who have left Sweden three years after the doctoral degree was in agricultural and veterinary sciences.

Widening participation

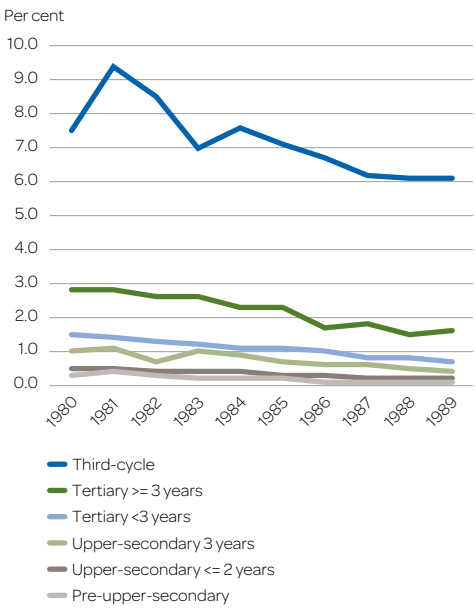
Imbalance in recruitment to third-cycle education has decreased based on both social and national background. The previous imbalance in recruitment based on national background has nearly disappeared completely. The percentage of a cohort that begins third-cycle education is now nearly the same regardless of whether the person has a Swedish or foreign background.

The social imbalance in recruitment is decreasing but the pattern persists

Social background (measured as the highest educated parent's educational attainment) influences whether a person begins third-cycle education or not. The higher the education of the parents, the more likely an individual is to begin third-cycle education. The pattern exists for all individuals born 1980–1989 and applies to both women and men. The group with parents having a third-cycle education are the most likely to continue to third-cycle education. Of individuals born 1989, by 30 years of age 6.1 per cent had begun third-cycle education.

Among children to parents with a tertiary education of at least 3 years, the transition was

Figure 26. Percentage of those born 1980–1989 that had begun third-cycle education in Sweden by age 30, divided by parents' educational attainment.



lower: 1.6 per cent. It is still a clearly larger percentage than the other groups. If the parents have a pre-upper-secondary education (for example, primary or compulsory school), only 0.1 per cent had begun third-cycle education (see Figure 26).

The social imbalance in recruitment, however, has decreased somewhat since the gap between the different social groups was larger among those born in the beginning of the 1980s than the end of the decade. The transition to third-cycle education has decreased for all groups but most in the groups that initially continued on to third-cycle education to a greater degree. This development applies both in general and when divided by gender.

Marginal imbalance in recruitment based on national background

Among those born in 1988 (and that belonged to the Swedish population at age 18), national background only plays a marginal role in whether they begin third-cycle education or not. At 30 years of age, 0.7 per cent of those with Swedish background and 0.6 per cent of those with foreign background had begun third-cycle education (see Figure 27). Swedish background refers to a person born in Sweden and that has at least one parent who is also born here. This also includes individuals born abroad to parents who are both Swedish-born (for example, the children of diplomats).

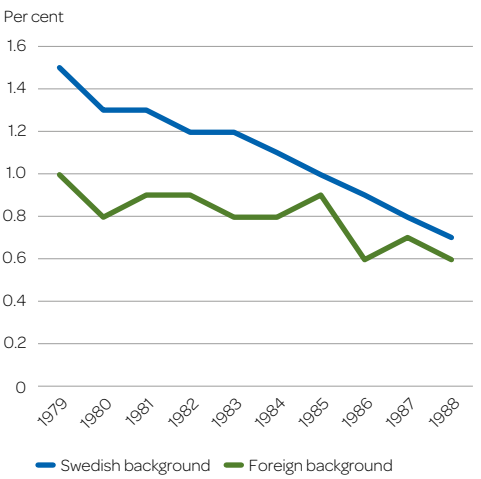
The group with foreign background consists of individuals:

- born in Sweden with two foreign-born parents
- foreign-born and immigrated no later than age 18.

Both those with Swedish and with foreign background belong to the Swedish population, and the foreign doctoral students do not.

Among those born in 1979 and a few years into the 1980s, the difference between Swedish and foreign background was larger. This means that the imbalance in recruitment to third-cycle education based on national background has decreased. The difference between both groups was 0.5 percentage points in the 1979 cohort and 0.1 percentage point in the 1988 cohort. The transition percentages to third-cycle education have decreased in both groups but most in the group with Swedish background. Even when looking at women and men, the groups with Swedish and foreign background have become more balanced.

Figure 27. Percentage of population born 1979–1988 that had begun third-cycle education in Sweden by age 30, divided by national background (Swedish or foreign).



EDUCATION AND THE LABOUR MARKET

Access to skills has become a major issue for society. Labour shortages are an issue in both the public and private sectors, and the fact that the term labour shortage is being used about more and more areas of the labour market indicates the scale of the problem. The higher education institutions (HEIs) have an important role in ensuring access to skills, and they determine which programmes to include in their offerings. They should base these decisions on demand from students and the needs of the labour market, but these criteria do not always match well. There are major differences in establishment rates among different programmes.

Establishment after first- and second-cycle degrees

Most graduates from higher education establish relatively quickly on the labour market. Of first- and second-cycle graduates in the academic year 2016/17, 86 per cent were established after 1–1.5 years, i.e. 2018. This means that they had a good position on the labour market. There was no difference between women and men (see Figure 28). The establishment rate (i.e. percentage of graduates established on the labour market) for academic year 2016/17 graduates has increased one percentage point compared with graduates from the previous year.

Of the graduates, 6 per cent had an insecure position on the labour market, with no difference between women and men. Six per cent also had a weak position on the labour market, with somewhat more women (7 per cent) than men (6 per cent). An insecure position means relatively low earnings or experiencing some unemployment, while a weak position means low earnings or experiencing full-time unemployment much of the year. Few graduates were completely outside of the labour market. Two per cent did not have any earnings and, among these, there were slightly more men (2 per cent) than women (1 per cent).

No longer any difference in establishment rate between women and men

In a longer perspective, establishment rates have varied but increased in recent years. Looking at all years, it appears that the establishment rate 1–1.5 years after graduation was highest (86 per cent) for graduates

Figure 28. Labour market position (per cent) 1–1.5 years after graduation for individuals completing first- and second-cycle education in academic year 2016/17.

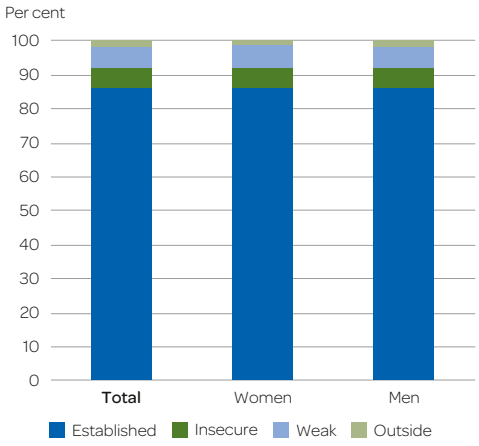
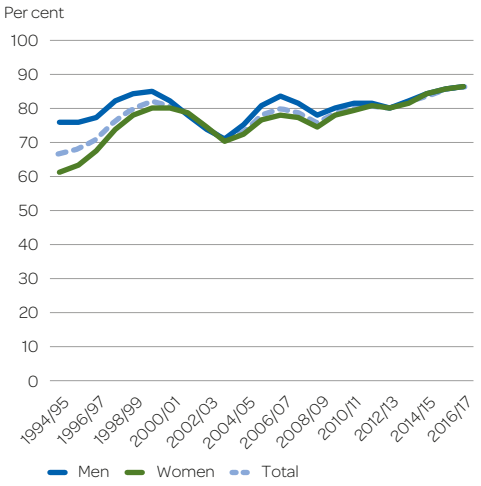


Figure 29. Establishment rate (per cent) 1–1.5 years after graduation, for women and men who graduated academic years 1994/95–2016/17.



in academic year 2016/17. Graduates from academic year 1994/95 had the lowest establishment rate (67 per cent), which was the first year studied (see Figure 29). At that time, there was a large difference between men and women, with men having a 14 percentage points higher establishment rate. Since then, the difference has decreased considerably, but women have had lower establishment rates than men in most years. The establishment rate for women and men has, however, been the same for graduates from academic year 2012/13 onwards.

The current economic situation naturally has a major impact on how easily graduates can establish themselves on the labour market. Changes in the economy, like cost cutting or expansion of the public sector, can result in making establishment easier or harder in the short-term. There are also differences in establishment based on what specialisation and subject area individuals graduate within. Shortages in labour within specific areas can naturally lead to a higher establishment rate for graduates.

Highest establishment rate for graduates with professional degrees

There are major differences in establishment rate between different qualification categories and degrees. Individuals who graduated with a professional degree academic year 2016/17 had a 91 per cent establishment rate 1–1.5 years after graduation, compared with a 79 per cent among individuals who received a general qualification. Individuals with a degree in the fine, applied and performing arts had a significantly lower establishment rate (43 per cent) (See Table 7).

The establishment rate was on average 91 per cent for individuals with a professional qualification. For graduates from the 20 professional qualification programmes with the most graduates in academic year 2016/17, the establishment rate varied from 85 to 98 per cent. The Bachelor of Science in Nursing degree was the most common professional qualification in academic year 2016/17, and of these graduates, 92 per cent were established 1–1.5 years after graduation. The next most common professional degree was the Master of Science in Engineering, and of these graduates 94 per cent were established.

Table 7. Establishment rate (per cent) for professional qualifications, general qualifications and qualifications in the fine, applied and performing arts 1–1.5 years after graduation, academic year 2015/16–2016/17.

	Establishment (%)					
Qualification category	Total		Women		Men	
	2015/16	**2016/17**	2015/16	**2016/17**	2015/16	**2016/17**
Professional qualifications	91	**91**	90	**90**	92	**93**
General qualifications	79	**79**	79	**79**	78	**80**
Qualifications in the fine, applied and performing arts	43	**43**	41	**42**	47	**45**

Teachers with a Postgraduate Diploma in Special Needs Training had the highest establishment rate at 98 per cent. Note that the degrees that led to the highest establishment rates are also professional development programmes, so these graduates likely were already established before beginning their education. Examples of graduates with lower establishment rates among the larger programmes leading to a professional qualification are those with a Bachelor of Science in Occupational Therapy (85 per cent) and a Master of Science in Psychology (86 per cent).

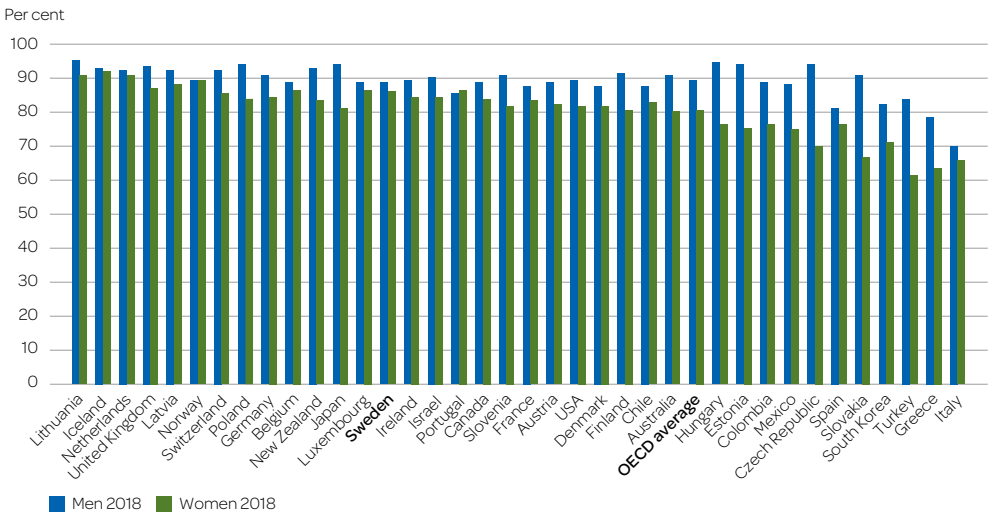
For those who graduated with a general qualification in 2016/17, the establishment rate was 79 per cent. The highest establishment rate among those with general qualifications had degrees in education and teacher training and in technology and manufacturing, both at 86 per cent. Graduates in the humanities and art had the lowest establishment rate at 60 per cent.

Employment among individuals with tertiary education, an international perspective

Employment rate is defined as the share of the population able to work within a certain age group that works. The employment rate varies considerably between OECD member countries. There are also major differences in employment rate between women and men that have tertiary education. Figure 30 shows the percentage of men and women ages 25–34 with tertiary education that were employed in 2018. In Sweden, the total employment rate was 87 per cent, which was 3 percentage points higher than the OECD average. Lithuania and Iceland had the highest employment rates at 93 and 92 per cent, respectively. Italy had the lowest employment rate at 67 per cent.

In Sweden, the employment rate was 86 per cent for women and 89 per cent for men. In OECD countries, men averaged 8 percentage points higher, but several countries had much higher differences, often countries with low employment rates. In the Czech Republic, Slovakia and Turkey, the employment rate was more than 20 percentage points higher among men than women. In countries with a high employment rate, the difference between women and men was often smaller. In Iceland, the Netherlands and Norway, for example, the difference was less than 3 percentage points.

Figure 30. Employment rate (per cent) for tertiary educated women and men ages 25–34 in 2018.
The countries have been sorted by highest employment rate total.



In-depth analyses within the access to skills field

Higher education often pays off

A higher education pays off financially for most individuals. The earnings advantage was 24 per cent for individuals with first- and second-cycle degrees compared with individuals who only had secondary school degrees. Earnings advantage is the effect on salary of having a higher education degree. It was much higher for women (26 per cent) than for men (19 per cent).

The earnings advantage varied between different educational programmes. A Master's in secondary education had a negative earnings advantage of 8 per cent, which means that individuals with these degrees had 8 per cent lower salaries compared with individuals without higher education (see Table 8). This can be compared with a medical degree, which gave a positive earnings advantage of 63 per cent. Among general qualifications, the highest earnings advantages were in economics, medicine and engineering and technology. Fine arts and humanities programmes ranked lowest, with negative earnings advantages.

That fact that women have a higher earnings advantage is not because women with higher education degrees make more money than men. Instead, women with lower education make much less money than men with the equivalent education. This is why a higher education degree is particularly positive for women.

Many programmes leading to higher earnings are also popular and more difficult to be admitted to, such as the psychology and medical programmes. There are also programmes with low acceptance ratios that lead to relatively high earnings, such as the Bachelor of Science in Engineering programme. Other programmes have high acceptance ratios even though they result in low earnings after graduation. Two of these are the physical therapist programme and the social work programmes.

Table 8. Earnings advantage (per cent) for ten professional qualifications and ten general qualifications 2017, divided by subject focus (compared with only having a secondary degree), individuals born 1970–1990 with final grades from Swedish secondary school.

Degrees with the highest earnings advantage	Earnings advantage (%)	Degrees with the lowest earnings advantage	Earnings advantage (%)
Professional qualifications			
MSc in Medicine	63	BA/MA in Primary Education	6
MSc in Laws	47	BSc in Physiotherapy	3
BSc in Fire Protection Engineering	44	BA in Pre-School Education	-4
MSc in Engineering	40	MA/MSc in Secondary/ Upper-Secondary Education	-8
MSc in Medical Physics	37	Higher Education Diploma in Agricultural and Rural Management	-34
General qualifications			
Banking, insurance and finance	83	Design	-24
Medicine	54	Music, dance and drama	-26
Urban management and structural engineering	47	Philosophy and logic	-37
Industrial economics and organisation	47	Visual art and design	-42
Marketing	47	Handicrafts	-62

How is third-cycle education valued?

Third–cycle programmes only seem to pay off rarely in an individual earnings perspective. A study from UKÄ shows that even if graduates with third-cycle degrees as a group have relatively high earnings, there was no significant difference in earnings from work for similar individuals with and without third-cycle education (but with a first- or second-cycle degree). This largely applies regardless of the degree, what sector and what county the person works in.

UKÄ conducted the study by matching comparable individuals with and without third-cycle degrees (i.e. licentiate or doctoral degree) with each other and studying the differences in earnings and earnings development. The matched individuals were born 1970–1985 and have final grades from Swedish upper-secondary school.

There is, however, one exception; the results indicate that it is worth getting a third-cycle degree in medical and health sciences. Holders of these degrees had a 10 per cent higher salary, according to the study.

In general, having a third-cycle degree seems to have a negative effect on earnings within subject areas where a large number of graduates work within the private sector. For civil engineers (who often receive third-cycle degrees in engineering and technology and in natural sciences), for example, a third-cycle degree appears to be particularly financially detrimental.

When looking at earnings increases, the study shows that third-cycle degree holders do have a positive earnings increase curve in relation to the comparable group over time. About 14 years after graduation, the class of 2000 had on average somewhat higher earnings compared to individuals with only a first- or second-cycle degree.

HEIs unable to meet future needs for access to skills on their own

UKÄ also has compared a study on the future need for new entrants in a selection of programmes leading to professional qualifications that are linked to 15 professions in the public sector experiencing labour shortages. The purpose of the study was to estimate, based on current forecasts, whether the current scope of higher education can meet the public sector's needs for skills in the future.

To meet the demand for labour in the future, 37,000 new entrants annually (estimated to 2035) are needed in the programmes leading to a professional qualification that are associated with the professions with labour shortages. This means that the number of new entrants needs to increase by 9000 each year compared to 2018. The teacher training programmes are facing particularly difficult challenges. The number of new entrants on secondary and upper-secondary teacher training programmes needs to increase by 87 per cent annually during the 2023–2035 period, compared with the number of new entrants in 2018. Similarly, the number of new entrants on the primary education and vocational teacher programmes needs an annual increase of 57 per cent and 56 per cent, respectively.

The results show that the HEIs will face significant challenges in recruiting students to these programmes. UKÄ believes that the HEIs cannot meet future needs for access to skills on their own. This means that public sector organisations need to prepare for a scenario where they are unable to meet all their future needs for access to skills with the available number of higher education graduates.

RESEARCH AND TEACHING STAFF

Research and teaching staff increased by just over 3 per cent between 2018 and 2019. Senior lecturers were the largest employment category, and they have also increased the most in number during the last decade. The majority of research and teaching staff worked in social science, medicine and health sciences, and natural sciences. The percentage of women has increased in recent years in basically all employment categories and fields of research.

Research and teaching staff

In 2019, there were 67,900 employees at the country's higher education institutions (HEIs). That was equivalent to 52,880 FTEs (the number of employees converted to full time equivalents (FTEs)), which is an increase of 2 per cent since 2018. Of all employees, 60 per cent were employed as research and teaching staff. The remaining 40 per cent had other duties than research and teaching.

In 2019, research and teaching staff totalled 31,660 FTEs, which was an increase by 830 compared to 2018. The gender balance was relatively even: 46 per cent women and 54 per cent men.

Research and teaching staff at Sweden's HEIs are divided into six employment categories:

- professors
- senior lecturers
- career development positions
- lecturers
- other research and teaching staff with doctoral degrees
- other research and teaching staff without doctoral degrees

Doctoral students conduct a considerable amount of the research and teaching at Swedish HEIs, but in the statistics they are considered students and are not included among research and teaching staff.

Senior lecturers are the largest employment category

The categories that increased the most between 2018 and 2019 were other research and teaching staff with and without doctoral degrees and senior lecturers. Employees within the employment category other research and teaching staff primarily have research-related duties, while senior lecturers both teach and research.

TYPES OF EMPLOYMENT REGULATED BY LEGISLATION AND ORDINANCES

The Higher Education Act (1992:1434) regulates employment for professors and senior lecturers, while employment for associate senior lecturers is regulated in the Higher Education Ordinance (1993:100).

In addition to the employment categories listed in the Higher Education Act and the Higher Education Ordinance, the HEIs decide what teacher categories there should be and determine the career structure for teachers and researchers at the HEI.

The largest employment category was senior lecturers, making up 30 per cent of research and teaching staff in 2019. In 2019, senior lecturers totalled 9,380 FTEs, which was an increase by 270 compared to the previous year. Among senior lecturers, 47 per cent were women and 53 per cent men, which makes this employment category one of the most gender balanced.

The employment category that increased the most was other research and teaching staff without doctoral degrees, which increased by 300 FTEs to 4,810. It also had the greatest degree of gender equality, at 50 per cent for both men and women.

Employees within the category other research and teaching staff with doctoral degrees increased by 170 FTEs to 3,610. 45 per cent were women and 55 per cent were men.

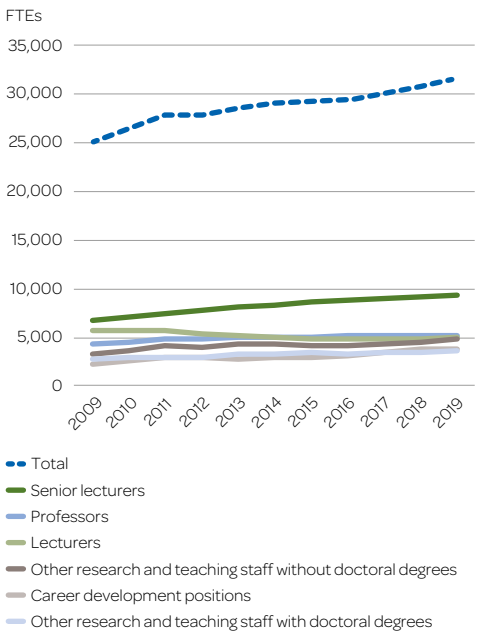
In 2019, there were 5,160 professors, which was a slight increase of 20 FTEs. Professors is the employment category with the least gender equality. Thirty per cent were women and 70 per cent were men.

Senior lecturers and employees with career development positions have increased the most in the last decade.

Research and teaching staff have increased significantly in the last decade, from 25,060 FTEs in 2009 to 31,660 FTEs in 2019. This represents an increase of 26 per cent (see Figure 31).

In terms of number of employees, senior lecturers have increased the most, with 2,670 FTEs since 2009. This represents an increase of 40 per cent. In terms of percentage, however, employees with career development positions have increased the most, with 1,520 FTEs, equivalent to 68 per cent. Other research and teaching staff without doctoral degrees increased by 1,600 FTEs between 2009 and 2019, or by 50 per cent.

Figure 31. Number of research and teaching staff at HEIs 2009–2019, by employment category, FTEs.



The only employment category that decreased in the last ten years is lecturers, which decreased by 830 FTEs or 14 per cent. Lecturers often do not have a doctoral degree and primarily focus on teaching at first- and second-cycle education.

In the last decade, the percentage of women has increased in all employment categories, except for in career development positions. Professors is the employment category where the gender balance has changed the most since 2009. This is explained by the number of women among professors increasing significantly between 2009 and 2019, from 870 to 1,550 FTEs, which is equivalent to a 79 per cent increase. At the same time, the number of men increased by 110 FTEs, or 3 per cent. The result is that the percentage of women among professors increased from 20 to 30 per cent between 2009 and 2019.

Low percentage of women among professors in Sweden and many others European countries

Like in Sweden, the percentage of women among professors is lower than the percentage of men in almost all European countries. Few countries had an equal gender balance in 2016, i.e. in the interval 40–60 per cent (see Figure 32). In Sweden, women were 27 per cent and men were 73 per cent. This was on par with our neighbouring Nordic countries Norway and Finland. In half of the countries in the compilation, women made up 20–30 per cent of professors.

Among research and teaching staff, the percentage of women was lower than men in almost all countries in 2016. Only Lithuania and Latvia had more women than men. But most countries, including Sweden, had what we consider an even gender balance between men and women, i.e. in the interval 40–60 per cent. In Sweden, women were 45 per cent and men were 55 per cent. Finland and Norway also have an even gender balance, both with 48 per cent women and 52 per cent men among research and teaching staff.

These data are taken from the European Tertiary Education Register (ETER), which contains data on about 2,800 HEIs in 36 European countries.

About 4 per cent are employed as professors within 12 years – for both women and men

Relatively few are hired as professors at a Swedish HEI within 12 years of completing a doctoral degree and the percentage has decreased over time. Of all graduates with doctoral degrees in 2007, 4 per cent had been employed as a professor within 12 years, which can be compared with 7 per cent of all doctoral graduates in 1997 (see Figure 33). This decrease may indicate increasing competition for positions. The follow-up period of 12 years has been chosen based on the requirements for acquisition of qualifications to become a professor. Of 2007 graduates, 116 had been hired as a professor as of the end of 2019.

Each year for the last 10 years, a higher percentage of men than women have been hired as professors within 12 years, but the

Figure 32. Percentage of women among research and teaching staff and among professors in select countries in 2016. Source: ETER.

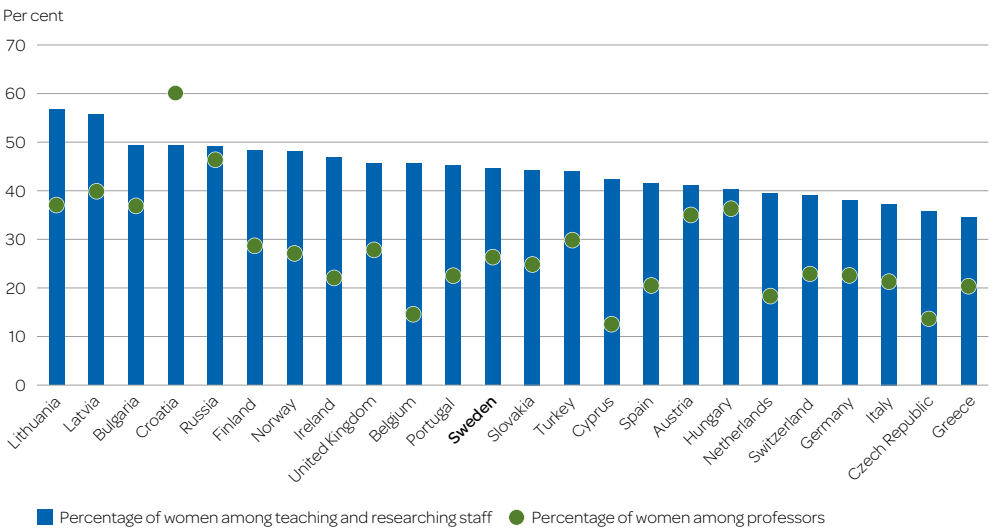
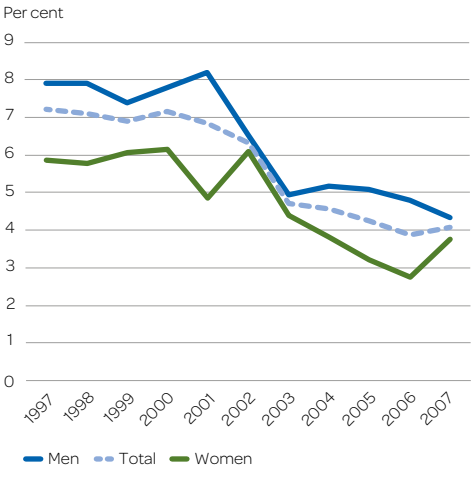


Figure 33. Percentage of women and men hired as professors within 12 years of completing their doctoral degree. Degree year 1997–2007.



difference has varied over time. For those graduating with doctoral degrees in 2007, the difference was small. Just under 4 per cent of women and just over 4 per cent of men had been hired as professors within 12 years.

Postdoctoral researchers most common among career development positions

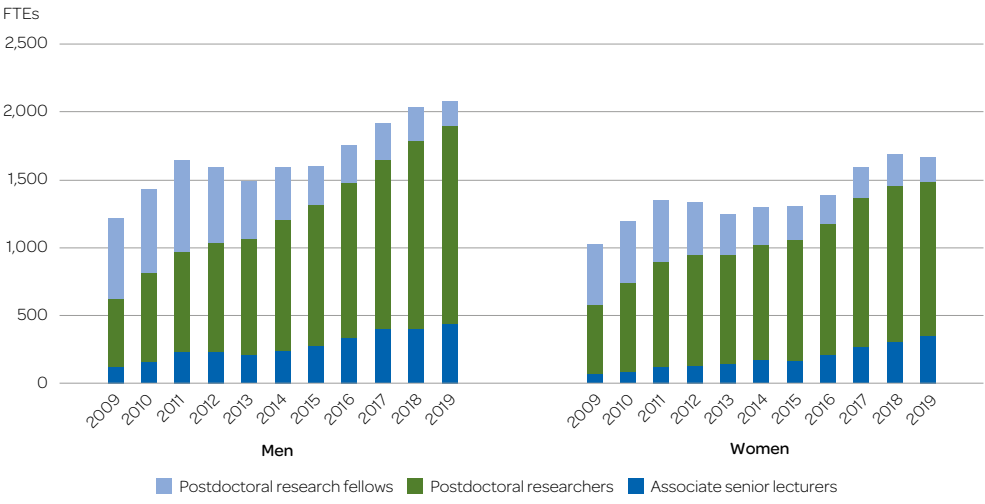
There are three different types of career development positions at Swedish HEIs: Associate senior lectureships are 4–6-year positions, postdoctoral research fellowships are 4-year positions and postdoctoral appointments are 2-year positions. In 2019, career development positions totalled 3,760 FTEs, which was an increase by 30 FTEs compared to the previous year.

Postdoctoral researchers (meaning those holding a postdoctoral appointment) is the largest category, making up 69 per cent of all career development positions in 2019. There were 2,610 FTE postdoctoral researchers, which was an increase of 80. The gender balance was relatively even: 44 per cent women and 56 per cent men.

The number of associate senior lecturers increased by 60 FTEs to 780, making up 21 per cent of all career development positions. Among associate senior lecturers, 45 per cent were women and 55 per cent men. The number of postdoctoral research fellows decreased by 120 FTEs to 360, making up 10 per cent of all career development positions. Among these, the gender balance was completely even.

The number of career development positions has increased significantly in the last decade (see Figure 34). This increase is largely the result of an increasing number

Figure 34. Number of women and men with career development positions (FTEs), divided by associate senior lecturers, postdoctoral researchers and postdoctoral research fellows, 2009–2019.



of postdoctoral researchers, but there is also an increase among associate senior lecturers. Compared to 2009, the number of postdoctoral researchers has increased by 1,600 FTEs and associate senior lecturers by 590. The number of postdoctoral research fellows, however, has fallen by 680 FTEs.

Even though the number of career development positions has increased over time, there is still significant competition for these positions among doctoral graduates who plan to continue their careers within academia. About 3,000 doctoral students graduate every year. The number of newly employed postdoctoral researchers in 2019 was 1,260 FTEs, which is equivalent to just over 40 per cent of a cohort of doctoral graduates. This paints a picture of a highly competitive career from the very first moment. The higher on the career ladder you come, the stiffer the competition. There were 130 newly employed associate senior lecturers and 30 postdoctoral research fellows in 2019 (FTEs). Competition increases even more because the HEIs also recruit internationally for career development positions.

Largest increase is in the natural sciences and medicine and health sciences

Based on the actual number of employees, the three largest fields of R&D in 2019 were social sciences with 7,830 FTEs, medicine and health sciences with 7,670 FTEs, and natural sciences with 6,750 FTEs. Just over 70 per cent of research and teaching staff worked in one of these three fields of research. Agricultural sciences and veterinary medicine was the smallest field with 1,130 FTEs, or 4 per cent of research and teaching staff.

The three largest fields of research also increased the most between 2018 and 2019. Social sciences increased by 180 FTEs, medicine and health sciences by 130 FTEs, and natural sciences by 300 FTEs.

The number of employees has increased in all fields of R&D since 2009. The largest increase was in the natural sciences, which increased by 1,760 FTEs over ten years. Then comes medicine and health sciences, which increased by 1,720 FTEs, and social sciences by 1,390 FTEs.

Many fixed-term appointments in higher education

Fixed-term appointments are common among research and teaching staff. These appointments made up 29 per cent of all positions (measured in FTEs) in 2018. The high percentage of fixed-term appointments is in part the result of both the Higher Education Ordinance and collective agreements regulating fixed-term appointments that are specific for higher education. The regulations relate to career paths for acquisition of qualifications for young researchers and that the HEIs can take in staff who are active in other sectors. Thirteen per cent of all positions within higher education in 2018 was fixed-term appointments based on this regulation.

In addition to these fixed-term employments, the Employment Protection Act (LAS) also applies in higher education. This act includes, among other things, general temporary positions and substitute positions. Fifteen per cent of all positions in 2018 were fixed-term appointments based on LAS, which is a slightly larger percentage than the number of fixed-term appointments based on higher education's special regulations. Fixed-term appointments based on LAS are problematic in higher education because they can lead to career dead ends for individuals. Within higher education, it is also possible to alternate fixed-term appointments based on LAS with those based on higher education's special regulations, so that the individual can become stuck in insecure employment for long periods of time.

Mobility of research and teaching staff among HEIs

According to the most recent research policy bill, it is important that mobility among research and teaching staff increases. To understand mobility among Swedish HEIs, UKÄ measures the percentage of mobile individuals in relation to recently recruited staff in each category. Recently recruited staff means staff that were not employed at the HEI in the previous year. The purpose of the measurement is to estimate the percentage of all recently recruited individuals within each employment category that were employed at another Swedish HEI in the previous year. For other mobility measurements, see the HE research section.

During the period 2013–2018, mobility varied greatly among different employment categories. Thirteen per cent of all recently recruited staff in 2018 worked at another Swedish HEI in the previous year. According to this measurement, senior lecturers were the most mobile employment category, which can be seen in Figure 35. In 2018, a total of 29 per cent of all recently recruited senior lecturers worked at a different Swedish HEI in the previous year. Professors belonged to the next most mobile category, where 21 per cent of all recently recruited professors worked at another Swedish HEI in the previous year.

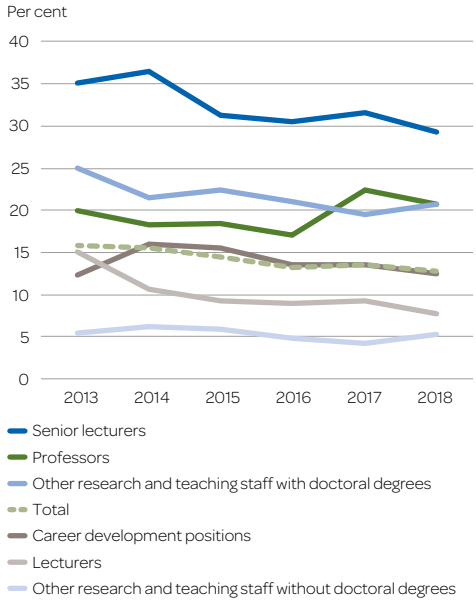
One interpretation of these results is that research and teaching staff are prepared to change HEI if they are offered a permanent position as senior lecturer or professor. There may not be much incentive to change HEI for positions within the other employment categories.

Staff with duties other than research and teaching

In 2019, staff with duties other than research and teaching were 40 per cent of all staff and totalled 21,220 FTEs. Almost two-thirds, 65 per cent, were women and 35 per cent were men. This gender balance differs from research and teaching staff, where men were in the majority. Staff with duties other than research and teaching increased by 380 FTEs from the previous year.

In the last decade, staff with duties other than research and teaching have increased but to a lesser extent than research and teaching staff.

Figure 35. Percentage of mobile individuals in relation to newly recruited within the group 2013–2018, per employment category.



HE FINANCE AND FUNDING

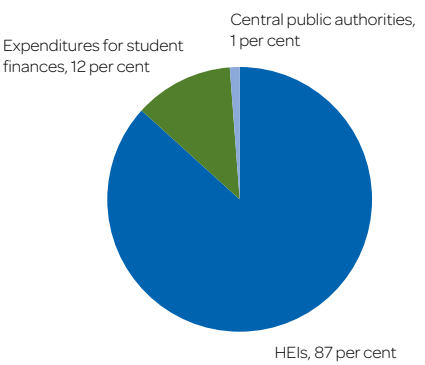
In 2019, Swedish higher education institutions (HEIs) reported a deficit for the first time in 15 years. In their annual reports, several HEIs note that they have implemented initiatives with equity from government grants within both education and research.

Within first- and second-cycle education, there was a certain degree of unused allocated funds that could have been used to educate more students. At the same time, the Government wants the higher education (HE) system to accept more students as part of its response to the consequences of the coronavirus pandemic, and therefore raised educational allocations for 2020 and 2021. Together with previously approved expansions, this means that HE's educational capacity is expected to increase in the coming years.

HEIs' finances

In 2019, Swedish HEIs spent SEK 77.0 billion. This corresponds to 1.53 per cent of Sweden's gross domestic product (GDP), which was the same level as previous years. Most, close to 80 per cent, of operations were financed with government funding. HEIs also had significant funding from other public organisations (around 4 per cent) and from private sources of funding (12 per cent). These funds were primarily used to cover expenditures on research and third-cycle education.

Figure 36. Division of expenditure in the HE sector in 2019.



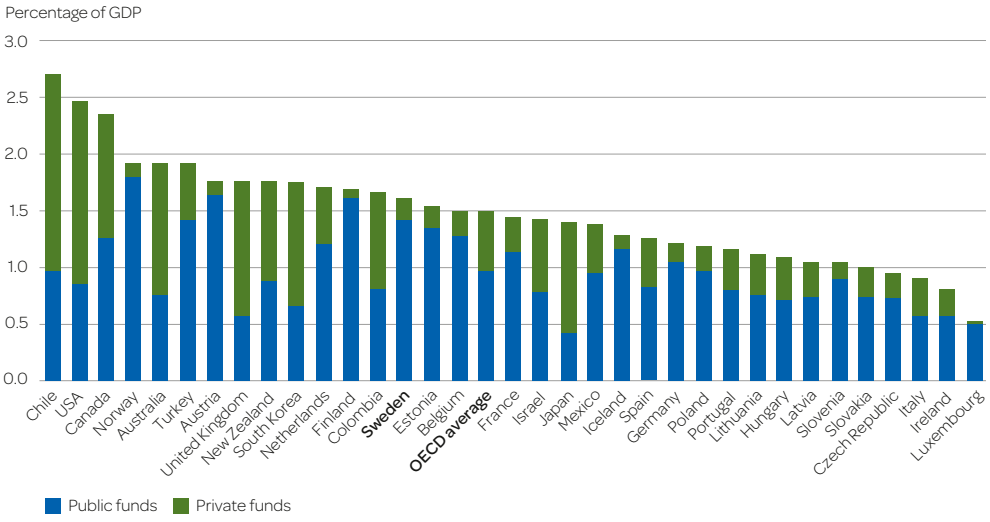
To estimate the expenditures for the entire HE sector, add the expenditures for student finance and the central public agencies. Expenditures on student finance were SEK 10.6 billion, and the direct allocations to the central public agencies responsible for higher education totalled SEK 1.1 billion. Thus, the total expenditure for the HE sector was SEK 88.7 billion (see Figure 36).

Funding of tertiary education in OECD countries

For OECD countries, total expenditures by education providers (HEIs and other education providers) for tertiary education and research equalled on average 1.5 per cent of GDP in 2016 (see Figure 37). Chile, the United States and Canada had the highest expenditures in relation to GDP (around 2.5 per cent) while Luxembourg had the lowest. Sweden was just above the average at 1.6 per cent.

In most countries educational providers' expenditures are primarily covered with public funding, but private funding dominates in those countries with the highest expenses in relation to GDP. Private funding

Figure 37. Total expenditures of education providers on tertiary education and research as a share of GDP 2016 (per cent), per source of funding after transfers. Source: OECD.



primarily consists of tuition fees from students in most countries, but in Sweden, for example, most private funding is for research and comes from private foundations and other organisations. The Nordic countries and Austria have the highest percentage of public funding compared with the rest of the OECD countries.

Marginal changes in revenue

For 2019, total accumulated revenues for HEIs were SEK 76.4 billion. Compared to 2018, this represents a SEK 0.6 billion decrease at fixed prices. The HEIs vary significantly in size, not least in financial terms (see Table 5 at the end of this report). Revenues varied in 2019 from less than SEK 100 million at specialised HEIs within the arts, health care and theology, to SEK 8.9 billion for Lund University, the largest HEI in Sweden.

Swedish HEIs receive separate funding for first- and second-cycle education and for research and third-cycle education, respectively. The only exception is the Swedish University of Agricultural Sciences, which instead receives a collective grant for all its operations.

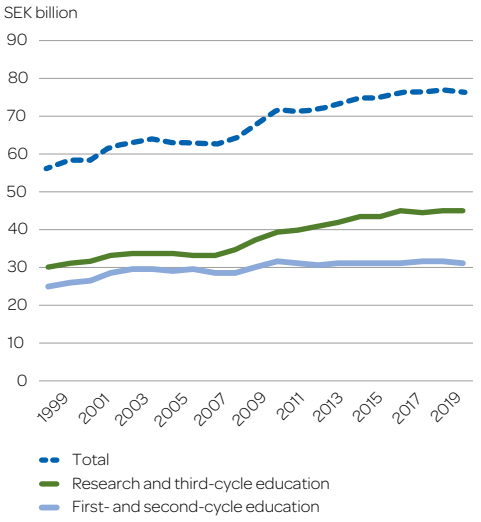
In the last decade, funding to HEIs has increased for research and third-cycle education while revenues for first-cycle education have been unchanged in real terms. Because of this, as a whole HEIs have become more research-oriented (see Figure 3). In 2019, revenues for research and third-cycle education were 58.7 per cent of total revenues, which was a somewhat higher percentage than the previous year.

In 2019, revenue decreased for first- and second-cycle education by SEK 400 million in fixed prices to SEK 31.2 billion, while revenue for research and third-cycle education fell by just under SEK 100 million to SEK 44.8 billion (see Figure 38).

First deficit in 15 years

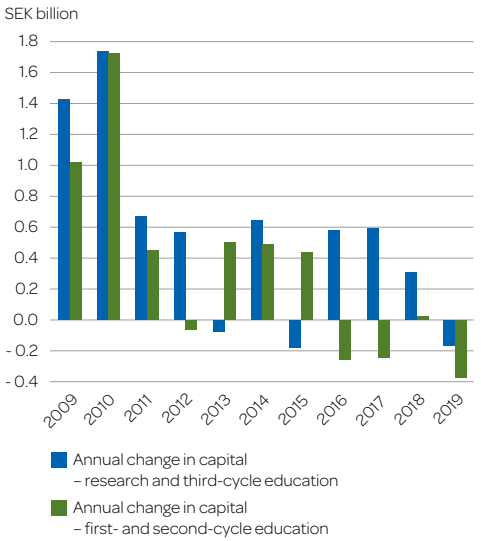
For the combined sector, expenses were greater than revenues for HEI operations for 2019. The cumulative financial performance (change in capital for the year) was a deficit of SEK 550 million for 2019. This is the first time in 15 years that the HEIs had a negative financial performance. The negative performance is the result of a deficit within both education and research operations. See Figure 39.

Figure 38. HEIs' total revenues for first- and second-cycle education and for research and third-cycle education 1999–2019, SEK billion (2019 prices).



HEIs do not need to pay back unused government funding and can save it for the coming years. This positive change in capital brought forward thus creates a reserve that the HEIs can use to cover future deficits in operations or to finance special initiatives within education or research.

Figure 39. HEI financial performance (changes in capital for the year) per area of activity, 2009–2019, SEK billion (2019 prices).



The surpluses from the last decade have significantly strengthened the HEIs financially. This has led to several HEIs having conducted initiatives within both education and research using some of their equity from the Government. These initiatives have impacted the HEIs' financial performance negatively.

Funding for first- and second-cycle education

Most students in first- and second-cycle education pay no fees and their studies are financed by government funding allocated directly to the HEIs by the Swedish Parliament. In 2019, direct government funding was SEK 26.3 billion. Compared to 2018, this represents a SEK 400 million decrease at fixed prices. Most direct government funding to first- and second-cycle education consists of a funding cap that defines the maximum total amount each HEI may receive.

Certain potential to educate more students in 2019

In 2019, HEIs educated fewer students than their allocation would have covered. During most of the last decade, the situation has been the reverse. The economic value of the education volume has exceeded the funding cap, i.e. the HEIs have educated more students than the annual allocation has covered. Interest for attending higher education increased significantly in 2008–2009 in connection with the last recession. Even though the recession ended and the economy began growing again, the economic value of the education volume continued to exceed the funding cap for a long time, which meant that the HEIs cumulatively educated more students than the allocation covered.

But HEIs cannot educate more students than the allocation covers for longer periods

ALLOCATION OF RESOURCES FOR FIRST- AND SECOND-CYCLE EDUCATION

Government funding for first- and second-cycle education is entirely performance based. It is calculated based on the number of enrolled students (converted to full-time equivalents or FTEs) and on the HE credits they attain (converted to annual performance equivalents) in the different disciplinary domains. All HEIs covered by the system receive the same government per capita allocation, but the amount varies between different disciplinary domains. The funding cap defines the maximum total amount each HEI may receive. This funding cap, combined with the way in which the education is divided among the different disciplinary domains, sets the limits for the number of students at each HEI.

Swedish higher education consists of courses, which are classified as belonging to one or several disciplinary domains. The HEIs' allocation of funding is then based these classifications. The 2020 government per capita allocation for full time and annual performance equivalents within the different disciplinary domains are shown in Table 9. With the exception of the Swedish University of Agricultural Sciences and the Swedish Defence University, the funding system with funding caps applies to all public-sector HEIs, and also to Chalmers University of Technology and Jönköping University.

Table 9. Government per capita allocation 2020 (in SEK) per FTE and annual performance equivalent (APE) within different disciplinary domains.

Disciplinary domain	Allocation per FTE, 2020, SEK	Allocation per APE, 2020, SEK
Humanities, theology, law, social sciences	32,891	21,433
Natural sciences, engineering and technology, pharmacology	56,084	47,296
Health care	59,625	51,642
Medicine	66,629	81,044
Instruction	40,005	41,909
Miscellaneous	45,041	36,588
On-site training	56,695	55,006
Design	158,927	96,829
Music	137,110	86,691
Odontology	49,307	57,437
Sports	115,794	53,585
Art	225,623	96,864
Media	322,434	258,283
Theatre	315,957	157,375
Dance	222,213	122,786
Opera	326,747	195,463

and have taken steps to adjust their education volume to the funding cap. In 2017, the education volume's economic value was at the same level as the cumulative funding cap, and in 2018 the situation shifted to having unused allocated funds. This also was the case in 2019 but to a lesser extent than the year before.

Multiple ongoing expansions

Within the framework for their individual funding caps and degree-awarding powers, the HEIs have relatively wide discretion in deciding how large their different programmes are. The State can still impact specialisations by adding funding for certain programmes. For many years, the State has made changes to the size of programmes by allocating HEIs funding in different targeted expansions. Further targeted expansions will follow in the period 2020–23.

Expansions have largely been focused on programmes with labour shortages in health and medical care and in different teacher training programmes. In 2018, a permanent expansion began of different programmes judged by the Government as important for society, such as different engineering programmes and medical programmes.

Because of the coronavirus pandemic and the expected recession, the Government announced higher education initiatives in its spring 2020 budget amendment. These included adding funding for a temporary expansion of summer courses. A permanent expansion of higher education also began, and the HEIs are also being provided funding for strengthening their distance education efforts, offering more open online education (MOOCs) and other measures. This will increase educational capacity in the coming years.

Increased revenues from tuition fees

Revenue from application fees and tuition fees from paying students has been a constantly increasing part of the HEIs' revenues for first- and second-cycle education. In autumn 2011, incoming students at Swedish HEIs not taking part on exchange programmes who come from countries outside of the EU/EEA and Switzerland became required to pay tuition fees.

In 2019, HEI revenues from tuition fees totalled SEK 930 million, which was an increase of more than SEK 70 million in fixed prices from the previous year. This increase is in line with developments in recent years. Since 2012, revenues from fee-paying students have increased by around SEK 100 million each year.

For more information on tuition fees and fee-paying students, see the section *International Student Mobility*.

Contract education

Alongside their first- and second-cycle education, the HEIs also provide contract education within the public and private sectors. This type of education is paid for through fees that are to cover the full costs for the HEIs. In 2019, total HEI revenues from contract education were almost SEK 1.9 billion, which was a marginal increase in fixed prices from the previous year.

The majority of assignments comes from government agencies. Several large programmes are organised and funded by government agencies contracting with HEIs, particularly police programmes, military officer training programmes and school principle programmes. Municipalities and regions are other large clients, but private employers can also purchase customised contract education for their employees. Contract education is a way of providing job skills based on demand from the labour market. In recent years, revenue from assignments from government agencies has increased significantly, largely as a consequence of the expansion of police programmes.

Funding for research and third-cycle education

Total HEI revenues for research and third-cycle education were SEK 44.8 billion in 2019 (see Table 10). Most research funding comes from the Swedish state. Direct government funding was SEK 19.4 billion, of which most (SEK 17.3 billion) was the HEIs' framework funding. Compared to first- and second-cycle education, only a small part of the framework funding for research and third-cycle education is performance based.

The framework funding is a core form of funding that can largely be used at the discretion of the HEIs for research and third-cycle education within different fields. The rest of the direct government funding consists primarily of the State's reimbursement for clinical research to the seven HEIs with medical programmes.

In addition to the direct government funding, the State also provides significant external funding to HEIs (SEK 11.8 billion), which is chanelled through research councils and other public research funding agencies (see Table 2). This means state research funding totalled SEK 31.2 billion, or 70 per cent of the total funding for research and third-cycle education.

The HEIs also receive other public funding from municipalities and regions and from the public research foundations. With these sources, public funding totalled 76 per cent of all funding. Sweden also has several private research foundations and non-profit organisations that provide a significant share of funding (SEK 6.9 billion). Corporate research funding is less extensive. Most foreign research funding comes from the EU.

External funding continues to increase

Of total revenues for research and third-cycle education, SEK 19.4 billion was direct government funding while external funding totalled SEK 25.3 billion. Financial revenue was just over SEK 200 million.

Revenues were largely unchanged from the previous year. Direct government funding

Table 10 HEIs' revenues for research and third-cycle education 2018 and 2019, based on funding type, SEK million (2019 prices).

	2018	2019	Change 2018–19	Percentage of revenues 2019 (%)
Government	**31,371**	**31,155**	**-215**	**70**
Direct government funding	19,702	19,380	-322	43
External state funding	11,669	11,775	106	26
Other public	**3,022**	**2,901**	**-120**	**6**
Public research foundations	1,504	1,527	23	3
Municipalities and regions	1,518	1,375	-144	3
Private in Sweden	**6,947**	**6,909**	**-38**	**15**
Non-profit organisations	5,491	5,546	56	12
Company	1,456	1,362	-93	3
EU and abroad	**3,314**	**3,346**	**32**	**7**
Other	**186**	**350**	**164**	**1**
Financial revenues	**131**	**163**	**31**	**0**
Total	**44,970**	**44,824**	**-146**	**100**

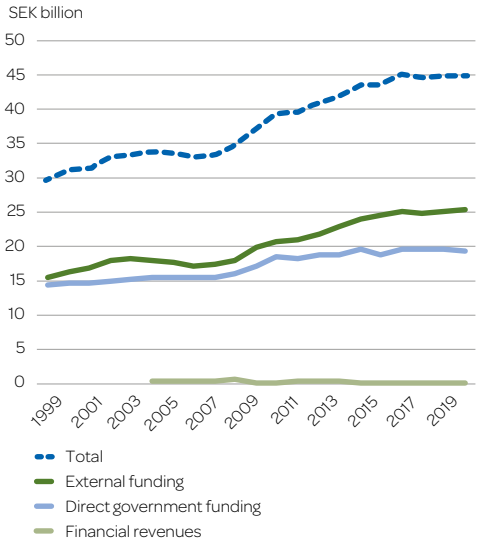
The changes under Other are the result of accrual effects at an HEI.

fell by SEK 320 million at fixed prices, but the decrease was made up for in part by an increase in external funding with SEK 150. Financial revenues also increased in fixed prices.

In 2019, framework funding was increased by SEK 250 million in current prices. According to the proposal in the most recent research policy bill, direct government funding for research increases by SEK 1.3 billion during the 2017–2020 period. An increase of SEK 520 million will be implemented in 2020.

In constant prices, direct government funding has been unchanged at about SEK 19 billion over the last five years, which can be seen in Figure 5. In other words, the increases in government funding have approximately equalled inflation. Because external funding has simultaneously increased, a smaller percentage of HEI research funding comes from government funding. In 2019 direct government funding decreased as a share of total research funding (excluding financial revenues) by a half a percentage point, from 43.9 per cent to 43.4 per cent.

Figure 40. HEI revenues for research and third-cycle education, based on direct government funding, external funding and financial income during the period 1999–2019, SEK billion at 2019 prices.



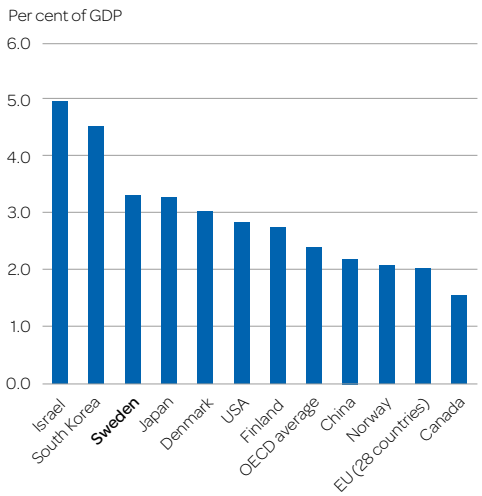
RESEARCH AT HEIs

Sweden is ambitious in its investments in research and development (R&D) and is among the leading countries in investing in R&D as measured as a percentage of GDP. In 2018, Sweden invested 3.3 per cent of GDP on R&D, which was higher than our Nordic neighbours Norway, Finland and Denmark. Sweden is one of the few EU countries that fulfils EU's goal for investments in R&D.

Sweden invests significantly in R&D

Sweden is among the leading countries in investing in Research and Development (R&D) as measured as a percentage of GDP (See Figure 41). Sweden invested 3.3 per cent of GDP on R&D in 2018, which was higher than our Nordic neighbours Norway, Finland and Denmark. Sweden's national goal, however, is even more ambitious, with 4 per cent of GDP invested in R&D.

Figure 41. R&D expenditure as percentage of GDP in a selection of countries (per cent), 2018.
Source: OECD.



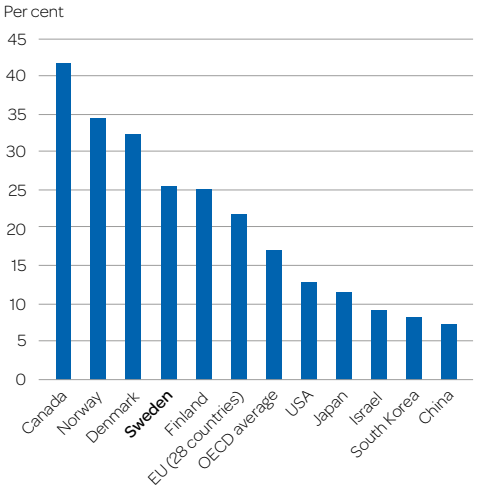
As such, Sweden does not meet its target, but is one of the few EU countries that fulfils EU's goal of investing 3 per cent of GDP in R&D. Sweden, however, is a bit behind the two countries that, according to the OECD, invest the most: Israel and South Korea. Sweden does have higher R&D investments as percentage of GDP than the U.S. and Japan, for example, and invests significantly more than the OECD average.

The higher education sector conducts a large percentage of research in Sweden

In Sweden, like in most other OECD countries, the business enterprise sector conducts most R&D. But in Sweden and other Nordic countries, the higher education sector also accounts for a significant percentage (see Figure 42). The Swedish higher education sector conducted 25 per cent of Swedish R&D in 2018, which is a lower percentage than in Norway and Denmark but comparable to Finland.

In Israel and South Korea, the countries that invested the most in R&D in 2018, the picture is different. Higher education conducts a very small percentage of these countries' R&D. In Israel, the number was 9 per cent and in South Korea 8 per cent. In South Korea, for example, the business

Figure 42. Percentage of R&D conducted by higher education in a selection of countries (per cent), 2018. Source: OECD.



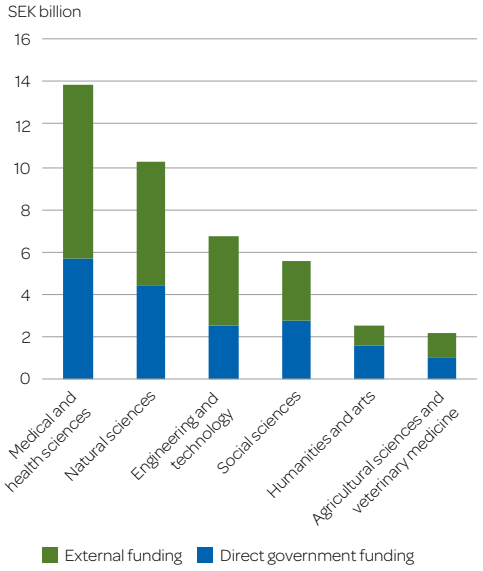
enterprise sector conducts an even larger percentage of the country's R&D than Sweden's business enterprise sector. Compared to Sweden, South Korea also has more public institutes that conduct a large percentage of the research.

A third of research funding within medical and health sciences

In 2017, HEI funding for research and third-cycle education totalled SEK 41 billion, of which more than half went to the medical and health sciences and natural sciences. The latest data on funding for research and third-cycle education per field of R&D is from 2017.

Of this SEK 41 billion, SEK 18 billion were direct government funding and SEK 23 billion were external funding. The research field of medical and health sciences had the most funding at SEK 14 billion, and agricultural sciences had the least at SEK 2 billion (see Figure 43). The largest source of funding within all fields came from external funding, except for the humanities and arts, where direct government funding was largest.

Figure 43. HEIs' funding for research and third-cycle education in 2017, by direct government funding and external funding (including financial income), per field of R&D, SEK billion.



Scholarly production

In this section, we use data from the publication database Swepub, which is a national service with information on scholarly production, particularly scientific publications. The information is based on data deliveries from the HEIs, and scholarly production is classified based on such criteria as publication type, HEI and research field. Compared to several other publication databases, Swepub has good coverage of all subject areas and also includes publications that are not peer-reviewed and doctoral and licentiate theses.

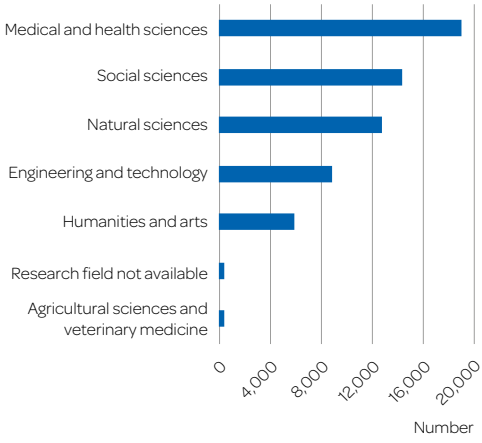
Most publications within medical and health sciences and natural sciences

The volume of scholarly production within Swedish higher education reflects to some degree its research funding. In 2019, the largest scholarly output in Swepub was

within the research field of medical and health sciences, 19,000 publications (see Figure 44). The next largest was production within the social sciences, 14,300 publications, even though funding for the social sciences was lower than both engineering and technology and the natural sciences. The difference can be explained partly by research in the natural sciences and in engineering and technology (even medical) often involving higher costs than social science research.

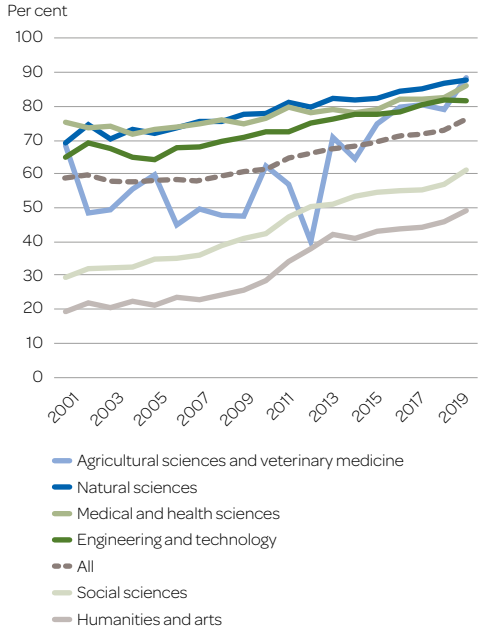
Agricultural sciences and veterinary medicine had the lowest scholarly production, around 400 publications. This number is likely a dramatic undercount within the field since publications from the Swedish University of Agricultural Sciences are currently not included in Swepub.

Figure 44. HEI scholarly production 2019, number of publications by field of R&D.



The publication pattern within different research fields differs. Looking solely at peer-reviewed publications, the highest publication volumes were within the medical and health sciences and the natural sciences. The highest percentage of peer-reviewed publications, 88 per cent, was within the natural sciences and the agricultural sciences and veterinary medicine in 2019 (see Figure 45).

Figure 45. Percentage of peer-reviewed publications by field of R&D (per cent) 2000–2019.



The lowest percentage, 49 per cent, was within the humanities and arts.

The percentage of peer-reviewed publications increased in almost all fields of R&D during the period 2000–2019, particularly within the social sciences and in the humanities and arts. During the period 2000–2018, an increasingly larger proportion of research within the social sciences and the humanities and arts was published in peer-reviewed journals.

Recruitment of researchers

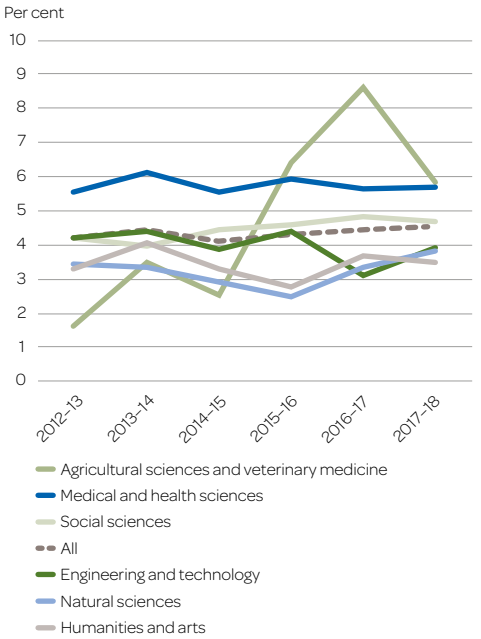
Research at Swedish HEIs is conducted by staff classified in the statistics as *research and teaching staff*. This category is then divided into six employment categories: professors, senior lecturers, career-development positions, other research and teaching staff with doctoral degrees, other research

and teaching staff without doctoral degrees, and lecturers. See the section *Research and teaching staff*. In this section, we focus on studying the categories where the majority of staff has doctoral degrees, that is to say professors, senior lecturers, career-development positions, and other research and teaching staff with doctoral degrees. We call this group researchers. Researchers, together with doctoral students, conduct the majority of all research within higher education (for more data on this, see *Higher Education Institutions in Sweden, 2019 status report*, in the *HE Research* section).

A larger percentage of researchers move from higher education to other sectors than the other way

One of the goals of Swedish research policy is to strengthen and revitalise collaboration between the HEIs and the rest of society.

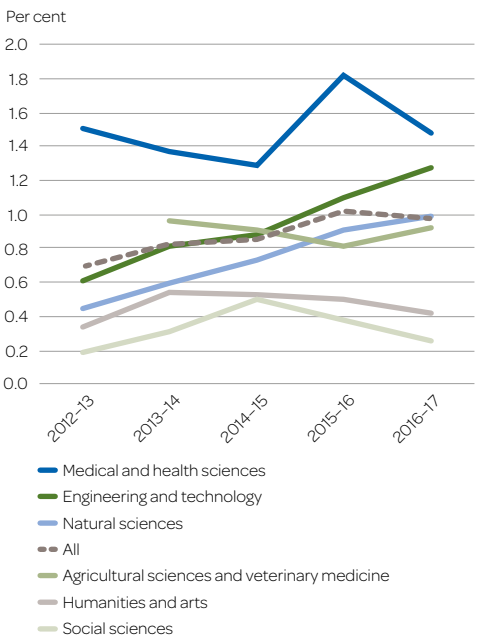
Figure 46. Percentage of researchers recruited from other sectors, per field of R&D, per year 2013–2018 (per cent).



One way of stimulating collaboration can be to promote career changes, that is to say, individual mobility between sectors. Of the total number of researchers employed at HEIs in 2018, around 5 per cent were active in another sector the year before (Figure 46). Medical and health sciences recruited the highest percentage of individuals from other sectors between 2017 and 2018, around 6 per cent. The humanities and arts recruited the fewest at about 3 per cent. Within agricultural sciences and veterinary medicine, the percentage varied significantly over time, which is explained by the relatively few researchers within the field. Viewed over the entire 2013–2018 period, the percentage of recruited staff from other sectors was lowest within the natural sciences and humanities and arts, around 3 per cent on average.

The percentage of researchers that left higher education for work in another sector was significantly lower than mobility in

Figure 47. Percentage of researchers that left higher education for another sector, per field of R&D, per year 2013–2017 (per cent).



the other direction. Between 2016 and 2017, around 1 per cent of researchers left higher education for another sector (see Figure 47). The percentage was highest within the medical and health sciences, 1.5 per cent, and lowest within the social sciences, 0.3 per cent. Within both the natural sciences and engineering and technology, a clear upward trend within the period is apparent.

The relatively high percentage within the medical and health sciences can in part result from the support in regulations for HEIs to decide that a post as professor or senior lecturer at the institution is to be combined with employment at a designated health care facility for medical training and research.

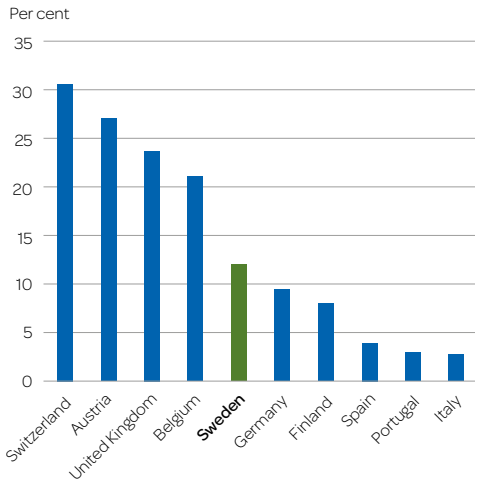
Low, though increasing, percentage of internationally recruited researchers

One aspect of internationalisation of higher education is internationally recruited researchers. The percentage of these researchers has increased in recent years, but the evidence indicates that the percentage of foreign staff at Swedish HEIs is lower than in many other European countries.

The percentage of internationally recruited researchers (here defined as researchers without a degree from a Swedish HEI) was 7 per cent in 2018. The percentage varied between fields of R&D and was lowest within the social sciences and medical and health sciences at 5 per cent. The highest percentage of internationally recruited researchers was within the natural sciences and engineering and technology at 9 per cent.

The percentage of internationally recruited researchers at Swedish HEIs increased by 2 per cent during the period 2012–2018. Even with this increase, the percentage was relatively low compared to many other European countries. Figure 48 shows the average percentage of foreign research and teaching staff (staff with foreign citizenship) in 2016 at Swedish HEIs and in other European countries where data is available. The statistics come from the European Tertiary Education Register (ETER).

Figure 48. Average percentage of foreign research and teaching staff at HEIs (per cent), countries in ETER in 2016. Source: ETER.



KEY FIGURES FOR HIGHER EDUCATION INSTITUTIONS

SWEDISH HIGHER EDUCATION INSTITUTIONS (HEI) vary in both size and specialisation. These tables show a selection of quantitative data that describes in various ways the activities of the universities and university colleges. Data from the smallest independent education providers have not been included in the tables in this report but are included in the total amounts and are available in Excel files on the website.

Additional tables, including educational profiles for each HEI, are available on the website.

First- and second-cycle education

Number of new entrants to higher education. The data per HEI indicates the number of individuals who have begun studies at the first- or second-cycle level at the relevant HEI in academic year 2018/19 and who have not previously studied at another Swedish HEI.

Number of enrolled students. The data per HEI indicates the number of individuals who were enrolled for first- or second-cycle studies at the relevant HEI in academic year 2018/19. Students can be enrolled at more than one HEI in the same year. The total national number is the net number of individuals, i.e. each individual is only counted once.

Number of graduates. Total number of first- or second-cycle graduates in academic year 2018/19, per HEI.

Number of graduates per programme. Number of graduates in academic year 2018/19 on different general programmes, on programmes in the fine, applied and performing arts, on the largest programmes leading to professional qualifications, and on programmes leading to a professional qualification in total. One student can graduate from multiple programmes in the same year. The total national number is the net total.

Third-cycle education

Number of new entrants. Number of third-cycle new entrants in 2019, per HEI.

Number of doctoral students. Total number of doctoral students in the 2019 autumn semester, per HEI.

Doctoral degrees. Number of awarded doctoral degrees in 2019, per HEI.

Research and teaching staff

Research and teaching staff. The number of research and teaching staff (in FTEs) 2019, per HEI. The figures include professors, senior lecturers, lecturers, career development positions, and other research and teaching staff.

Number of professors. Number of employed professors (in FTEs) 2019, per HEI.

Funding

Total funding. Total funding (SEK millions) 2019, per HEI

Proportion of total funding for research and third-cycle education. Proportion of total funding in 2019 for research and third-cycle education, per HEI.

Funding for research and third-cycle education. Total funding for research and third-cycle education (SEK million) 2019, per HEI.

Proportion direct government funding. Proportion of direct government funding of the HEI's total funding for research and third-cycle education 2019 (excluding financial revenues).

First- and second-cycle education

Table 1. Number of new entrants, enrolled students and graduates at first- or second-cycle education academic year 2018/2019, per HEI (rounded numbers).

	Number of new entrants	Proportion of women and men (%)	Number of enrolled students	Proportion of women and men (%)	Number of graduates	Proportion of women and men (%)
Universities						
Uppsala University	7,670	60/40	40,090	59/41	4,930	62/38
Lund University	7,890	58/42	34,740	57/43	6,580	57/43
University of Gothenburg	7,050	64/36	40,330	66/34	5,690	71/29
Stockholm University	8,040	63/37	44,810	63/37	5,980	67/33
Umeå University	4,350	60/40	27,500	63/37	3,320	66/34
Linköping University	5,090	53/47	24,060	57/43	3,850	60/40
Karolinska Institutet	1,440	74/26	9,650	75/25	2,100	77/23
KTH Royal Institute of Technology	4,250	32/68	15,730	34/66	3,200	35/65
Chalmers University of Technology (independent)	2,490	30/70	10, 540	32/68	2,060	33/67
Luleå University of Technology	2,310	46/54	12,260	53/47	1,290	56/44
Stockholm School of Economics (independent)	620	46/54	1,910	46/54	660	45/55
Swedish University of Agricultural Sciences	1,000	64/36	5,460	68/32	780	72/28
Karlstad University	2,500	59/41	13,370	64/36	1,880	69/31
Linnaeus University	5,130	60/40	28,890	63/37	2,890	68/32
Örebro University	2,530	60/40	12,850	62/38	2,060	67/33
Mid Sweden University	2,030	66/34	15,340	68/32	1,580	68/32
Malmö University	3,380	65/35	17,600	68/32	2,360	73/27
Universitiy colleges						
Blekinge Institute of Technology	970	32/68	4,660	35/65	600	45/55
Dalarna University	2,090	57/43	12,680	61/39	1,240	69/31
Halmstad University	2,110	55/45	9,490	63/37	1,140	65/35
Jönköping University (independent)	2,810	57/43	11,060	65/35	1,940	65/35
Kristianstad University	1,720	69/31	11,910	70/30	1,010	77/23
Mälardalen University	2,350	62/38	13,620	66/34	1,490	72/28
Swedish Defence University	170	22/78	880	36/64	240	34/66
Swedish School of Sport and Health Sciences	160	36/64	1,120	45/55	140	48/52
Södertörn University	1,930	67/33	9,650	68/32	1,390	75/25
University of Borås	1,770	71/29	9,270	76/24	1,270	80/20
University of Gävle	1,790	60/40	11,270	64/36	1,290	74/26
University of Skövde	1,460	53/47	7,400	57/43	890	60/40
University West	1,750	59/41	10,490	66/34	930	72/28
Art, design and music academies						
Beckmans College of Design (independent)	20	81/19	130	67/33	40	59/41
Royal College of Music in Stockholm	270	48/52	990	49/51	140	46/54
Royal Institute of Art	60	60/40	260	60/40	30	52/48
Stockholm University of the Arts	160	75/25	760	74/26	80	65/35
University of Art, Craft and Design	150	74/26	840	76/24	140	76/24
Total	**87,850**	**58/42**	**410,230**	**61/39**	**65,930**	**64/36**

First- and second-cycle education

Table 2. Number of graduates at first- or second-cycle education academic year 2018/2019, per category of qualification and qualification. Of professional degrees, only programmes with more than 500 graduates are included in the table.

Category of qualification and qualification	Number of graduates per programme academic year 2018/19	Proportion of women and men (%)
General qualifications (net)	**40,470**	**61/39**
Higher Education Diploma	850	52/48
Degree of Bachelor	25,370	63/37
Degree of Master (60 HE credits)	5,460	68/32
Old Degree of Master (60 HE credits)	100	51/49
Degree of Master (120 HE credits)	10,700	47/53
Qualifications in the fine, applied and performing arts (net)	**920**	**61/39**
Higher Education Diploma	20	68/32
Degree of Bachelor in Fine Arts	560	60/40
Degree of Master in Fine Arts (60 HE credits)	20	75/25
Degree of Master in Fine Arts (120 HE credits)	320	60/40
Professional qualifications (total number, net)	**33 380**	**69/31**
Degree of Master of Science in Engineering	4 480	35/65
Degree of Bachelor of Science in Nursing	4 430	87/13
Degree of Bachelor of Arts in Pre-School Education	2 700	95/5
Degree of Bachelor of Arts/Degree of Master of Arts in Primary Education	2 320	82/18
Postgraduate Diploma in Specialist Nursing	2 250	87/13
Degree of Master of Arts/Science in Secondary/Upper-secondary Education	2 230	58/42
Degree of Bachelor of Science in Engineering	2 150	27/73
Degree of Bachelor of Science in Social Work	2 090	85/15
Degree of Master of Laws	1 380	62/38
Degree of Master of Science in Medicine	1 340	55/45
Degree of Bachelor of Arts/Degree of Master of Arts in Education	840	70/30
Degree of Master of Science in Business and Economics	720	59/41
Degree of Master of Science in Psychology	630	73/27
Postgraduate Diploma in Special Needs Training	610	94/6
Total number of graduates	**65,930**	**64/36**

Third-cycle education

Table 3. Number of new entrants in third-cycle education 2019, total number of doctoral students autumn 2019 and doctoral degrees 2019, per HEI (rounded numbers).

	Number of new entrants	Proportion women/men (%)	Total number of doctoral students	Proportion women/men (%)	Number of Doctoral degrees	Proportion women/men (%)
Universities						
Uppsala University	330	47/53	1,970	48/52	360	46/54
Lund University	450	53/47	2,400	49/51	390	46/54
University of Gothenburg	280	59/41	1,490	59/41	290	61/39
Stockholm University	220	50/50	1,260	50/50	200	45/55
Umeå University	140	49/51	730	52/48	140	49/51
Linköping University	220	49/51	1,100	47/53	170	49/51
Karolinska Institutet	290	66/34	2,060	60/40	360	56/44
KTH Royal Institute of Technology	310	38/62	1,640	32/68	240	32/68
Chalmers University of Technology (independent)	220	35/65	1,090	30/70	150	33/67
Luleå University of Technology	100	48/52	480	40/60	80	31/69
Stockholm School of Economics (independent)	30	67/33	130	49/51	20	50/50
Swedish University of Agricultural Sciences	100	66/34	500	55/45	90	63/37
Karlstad University	40	49/51	200	50/50	30	54/46
Linnaeus University	40	59/41	240	56/44	30	46/54
Örebro University	60	56/44	420	55/45	50	42/58
Mid Sweden University	20	42/58	140	46/54	20	53/47
Malmö University	50	60/40	240	61/39	30	64/36
Universitiy colleges						
Blekinge Institute of Technology	10	14/86	90	36/64	10	33/67
Dalarna University	10	50/50	50	63/37	<10	
Halmstad University	20	64/36	60	53/47	10	33/67
Jönköping University (independent)	30	48/52	170	59/41	20	42/58
Kristianstad University						
Mälardalen University	50	34/66	200	41/59	30	48/52
Swedish Defence University	10	36/64	10	36/64		
Swedish School of Sport and Health Sciences	<10		20	47/53	<10	
Södertörn University	10	55/45	70	59/41	<10	
University of Borås	20	55/45	90	65/35	10	50/50
University of Gävle	10	73/27	40	44/56	<10	
University of Skövde	<10		40	26/74	<10	
University West	10	50/50	50	51/49	10	11/89
Art, design and music academies						
Beckmans College of Design (independent)						
Royal College of Music in Stockholm						
Royal Institute of Art						
Stockholm University of the Arts	<10		20	77/23	<10	
University of Art, Craft and Design						
Total	**3,100**	**51/49**	**17,000**	**49/51**	**2,750**	**48/52**

Research and teaching staff (FTEs) 2019

Table 4. Number of professors and total number of research and teaching staff (FTEs) 2019, per HEI.

	Total research and teaching staff		Professors	
	FTEs	Proportion women/men (%)	FTEs	Proportion women/men (%)
Universities				
Uppsala University	3,390	46/54	600	30/70
Lund University	3,330	41/59	650	28/72
University of Gothenburg	2,770	52/48	540	36/64
Stockholm University	2,530	48/52	490	34/66
Umeå University	1,890	47/53	300	31/69
Linköping University	1,620	40/60	310	23/77
Karolinska Institutet	2,090	54/46	340	33/67
KTH Royal Institute of Technology	1,660	28/72	330	18/82
Chalmers University of Technology (independent)	1,360	28/72	220	18/82
Luleå University of Technology	600	38/62	150	27/73
Stockholm School of Economics (independent)	80	27/73	30	14/86
Swedish University of Agricultural Sciences	1,690	51/49	200	31/69
Karlstad University	650	49/51	80	32/68
Linnaeus University	970	47/53	130	28/72
Örebro University	690	50/50	110	35/65
Mid Sweden University	500	47/53	70	31/69
Malmö University	900	58/42	80	34/66
Universitiy colleges				
Blekinge Institute of Technology	200	38/62	30	20/80
Dalarna University	420	59/41	30	39/61
Halmstad University	300	45/55	30	33/67
Jönköping University (independent)	480	54/46	50	35/65
Kristianstad University	330	62/38	30	41/59
Mälardalen University	520	49/51	50	39/61
Swedish Defence University	220	27/73	20	25/75
Swedish School of Sport and Health Sciences	80	45/55	10	18/82
Södertörn University	440	52/48	70	37/63
University of Borås	360	55/45	30	32/68
University of Gävle	420	54/46	40	26/74
University of Skövde	280	43/57	30	32/68
University West	330	58/42	30	41/59
Art, design and music academies				
Beckmans College of Design (independent)	10	43/57		
Royal College of Music in Stockholm	70	32/68	20	26/74
Royal Institute of Art	30	57/43	10	51/49
Stockholm University of the Arts	90	61/39	20	53/47
University of Art, Craft and Design	80	62/38	10	62/38
Total	**31,660**	**46/54**	**5,160**	**30/70**

Funding

Table 5. Total funding (SEK millions), and the proportion of total funding for research and third-cycle education 2019, per HEI. The table also shows the funding for research and third-cycle education (SEK millions) and the proportion of direct government funding for research 2019, per HEI.

	Total funding 2019 SEK millions	Proportion of total funding for research and third-cycle education (%)	Funding for research and third-cycle education 2019 SEK millions	Proportion direct government funding for research (%)
Universities				
Uppsala University	7,300	71	5,153	45
Lund University	8,895	70	6,231	41
University of Gothenburg	6,851	61	4,208	48
Stockholm University	5,330	61	3,269	50
Umeå University	4,505	57	2,568	51
Linköping University	4,158	58	2,410	42
Karolinska Institutet	7,120	84	5,963	35
KTH Royal Institute of Technology	4,962	69	3,405	36
Chalmers University of Technology (independent)	3,966	73	2,887	31
Luleå University of Technology	1,793	57	1,026	38
Stockholm School of Economics (independent)	563	41	231	6
Swedish University of Agricultural Sciences	3,670	71	2,597	45
Karlstad University	1,190	34	410	60
Linnaeus University	1,980	29	565	61
Örebro University	1,467	37	543	63
Mid Sweden University	1,033	40	417	60
Malmö University	1,657	24	402	58
Universitiy colleges				
Blekinge Institute of Technology	465	36	166	60
Dalarna University	677	20	135	60
Halmstad University	620	27	167	44
Jönköping University (independent)	1,055	28	293	46
Kristianstad University	578	16	93	71
Mälardalen University	1,034	31	322	37
Swedish Defence University	588	24	139	53
Swedish School of Sport and Health Sciences	173	32	56	52
Södertörn University	931	34	316	28
University of Borås	751	24	184	44
University of Gävle	687	23	161	64
University of Skövde	507	31	156	37
University West	589	26	150	47
Art, design and music academies				
Beckmans College of Design (independent)	34			
Royal College of Music in Stockholm	204	12	24	83
Royal Institute of Art	89	21	19	60
Stockholm University of the Arts	280	21	59	90
University of Art, Craft and Design	199	12	23	87
Total	**76,424**	**59**	**44,824**	**43**

UKÄ SWEDISH HIGHER EDUCATION AUTHORITY

The Swedish Higher Education Authority (UKÄ) is a government agency that deals with questions concerning higher education. UKÄ is responsible for the official statistics on higher education and also works with the quality assurance of higher education courses and programmes, monitoring and evaluating efficiency, legal supervision and leadership development in higher education.

You can read more on our web-site **www.uka.se.**