



CHAPTER 8

Research at Swedish Higher Education Institutions

Research at higher education institutions forms a central part of the Swedish research and innovation landscape, and the institutions conduct research in close interaction with education, industry, and the wider society. This chapter describes the funding and organisation of research at higher education institutions, patterns of researcher mobility, and differences in research activity across fields. It also examines the share of international recruitment, the amount of time devoted to research, and trends in research publication.

Research funding at Swedish higher education institutions

Research at Swedish higher education institutions is financed through both recurrent funding and external funding from various public and private research funders and organisations. In 2023, total revenue for research and third-cycle education at higher education institutions amounted to SEK 52.4 billion (table 8.1).

Table 8.1: Revenue for research and third-cycle education as a share of total revenue at higher education institutions (per cent), excluding financial income, year 2023

Field of research and development	Revenue (SEK million)			
	Total revenue	Direct government funding	External funding	External funding (%)
Total	52,405	21,981	29,289	57
Natural sciences	13,212	5,321	7,641	59
Engineering and technology	7,973	2,996	4,849	62
Medical and health sciences	17,273	6,649	10,139	60
Agricultural sciences and veterinary medicine	3,108	1,278	1,761	58
Social sciences	7,655	3,785	3,728	50
Arts and humanities	3,184	1,952	1,172	38

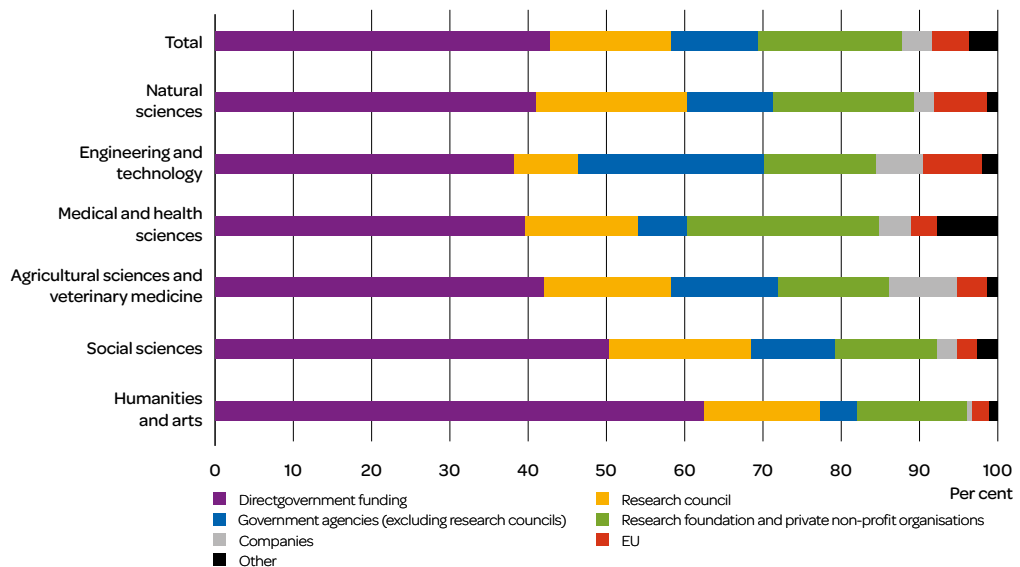
Source: Statistics Sweden

Almost half of all external funding comes from the Swedish government through various government agencies. The main sources are the three government research councils: the Swedish Research Council, the Swedish Research Council for Health, Working Life and Welfare, and the Swedish Research Council for Sustainable Development. A large proportion also comes from Sweden's Innovation Agency and the Swedish Energy Agency.

Besides government funding, a significant part of external resources also comes from research foundations and non-profit organisations, which together accounted for more than one quarter of all external funding in 2023.

Funding patterns vary across fields of research and development. In 2023, the largest shares of external funding were found in the medical and health sciences, and in engineering and technology. Revenue was highest in the medical and health sciences, exceeding SEK 17 billion and accounting for just over one third of total research funding. In this field, funding from research foundations and private non-profit organisations was more common than in others, whereas in engineering and technology, research funding from government agencies was more prevalent (figure 8.1).

Figure 8.1: Revenue for research and third-cycle education at Swedish higher education institutions by field of research and development, SEK million, year 2023



Source: Statistics Sweden

For more details on research funding, see Chapter 7, Funding of Higher Education and Research in Sweden.

EU funding concentrated in the natural sciences and engineering

In 2023, Swedish higher education institutions received SEK 2.4 billion in revenue from the European Union for research and third-cycle education. More than 60 per cent of this amount went to the natural sciences and engineering and technology, while the medical and health sciences also received a substantial share.

The importance of EU funding, however, varies by field. In engineering and technology and the natural sciences, EU funding represented 8 and 7 per cent of total revenue for research and third-cycle education, respectively, whereas in the social sciences and in the arts and humanities it accounted for only 2 per cent.

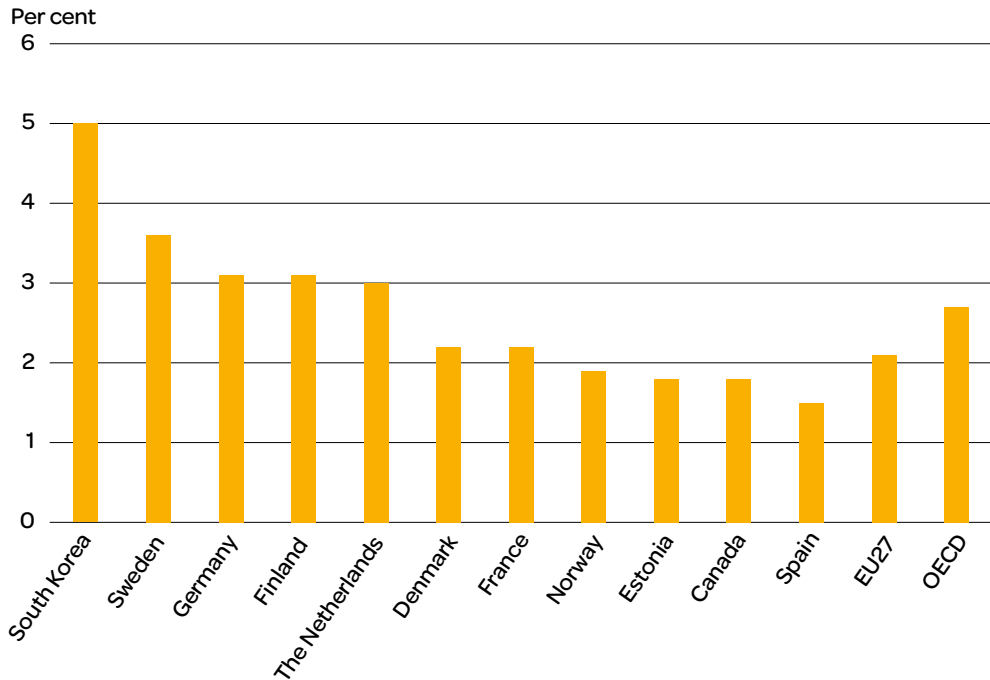
The Framework Programme is the main source of EU funding

Most EU funding was channelled through the EU Framework Programme (including the European Research Council), which made up 89 per cent of all EU-related revenue to Swedish higher education institutions in 2023. However, there were clear differences between types of institutions. At university colleges, only 39 per cent of EU revenue came from the Framework Programme compared with 91 per cent at universities.

High research and development spending in Sweden

In 2023, total research and development expenditure in Sweden amounted to 3.6 per cent of gross domestic product (GDP), placing Sweden above the European Union's target of 3 per cent (figure 8.2). The European Union as a whole reported research and development expenditure corresponding to 2.1 per cent of GDP in the same year.

Figure 8.2: Total research and development spending as a share of GDP in selected OECD countries, year 2023



Some figures are preliminary or estimated.
Source: OECD

Sweden is among the countries with the highest research and development investment relative to GDP in both the EU27 and OECD countries. Higher education institutions accounted for about one fifth of research and development activity in Sweden, while the business sector contributed the largest share.

Among OECD countries, South Korea had the highest level of research and development investment in 2023 – 5.0 per cent of GDP.

Researchers at Swedish higher education institutions

Research at higher education institutions forms part of a wider national and international research landscape, and researchers frequently move between research environments throughout their careers. However, international mobility can only be measured through recruitment from abroad to Swedish higher education institutions; movements from Sweden to other countries cannot be captured in the available data. National mobility – movements between institutions in Sweden or between academia and other sectors – can be tracked more easily.

Distinguishing researchers from other staff categories

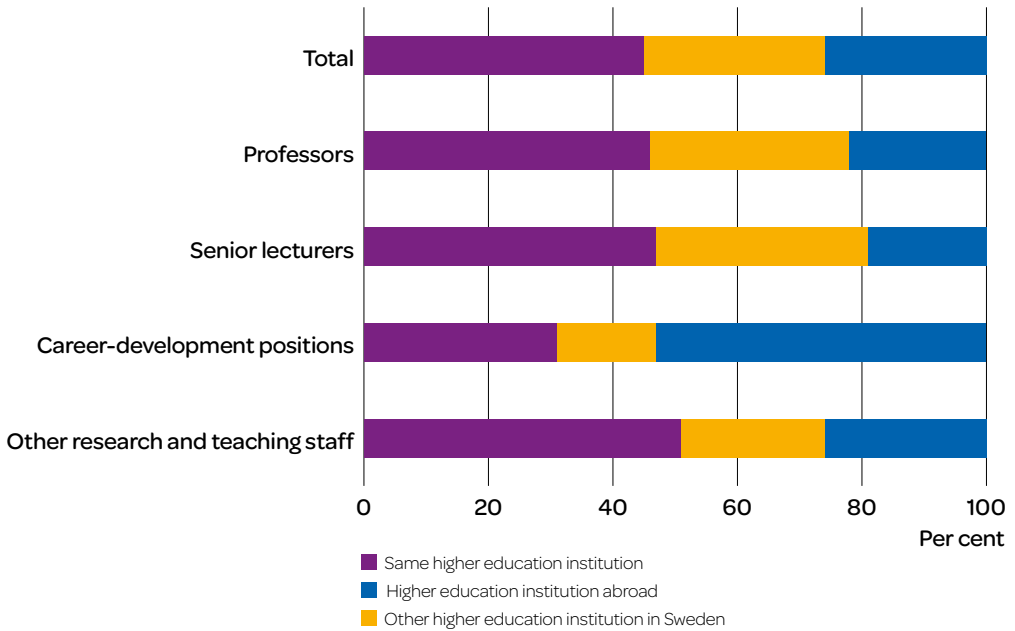
For statistical purposes, researchers are defined as staff employed at a Swedish higher education institution as professors, senior lecturers, or in career-development positions. The definition also includes other research and teaching staff with a third-cycle qualification. For more details on staff categories, see Chapter 4, Staff at Swedish Higher Education Institutions.

Professors, senior lecturers, and staff in career-development positions are assumed to hold a third-cycle qualification, as this is generally required for such appointments. This contrasts with the broader category of research and teaching staff, which also includes lecturers and other staff without a third-cycle qualification. In 2024, Swedish higher education institutions employed approximately 40,800 research and teaching staff in total, of whom 28,300, or close to 70 per cent, were categorised as researchers.

Researchers often work where they earned their third-cycle qualification

In 2024, close to one in two researchers were employed at the same Swedish higher education institution where they had completed their third-cycle qualification (figure 8.3). The pattern was evident among professors and senior lecturers, and particularly marked among other research and teaching staff with such a qualification, of whom more than half had obtained it at their current institution. By contrast, staff in career-development positions were most likely to have earned their qualification abroad.

Figure 8.3: Proportion of researchers with a third-cycle qualification from the same higher education institution where they are employed, from another Swedish higher education institution, or from an institution abroad, in total and by staff category, year 2024



Across most fields of research and development – except the natural sciences – researchers most commonly held a third-cycle qualification from the same higher education institution where they were employed. This pattern was particularly pronounced in the medical and health sciences. In contrast, the share of researchers with a third-cycle qualification from another Swedish higher education institution was highest in the social sciences and in the arts and humanities (38 per cent). In the natural sciences, qualifications obtained abroad were the most common.

Most externally employed researchers in medicine and engineering

In 2024, researchers with part-time appointments and external primary employment – that is, those employed at a higher education institution while holding their main position elsewhere – made up around 4 per cent of all researchers. This proportion has remained stable over the past decade. Such researchers are primarily found at large broad-based or specialised institutions. They are most common in the medical and health sciences and in engineering and technology, where they accounted for 9 and 7 per cent respectively. In other fields, they are relatively rare.

Part-time appointments and external primary employment are most common among professors, but are also fairly common among senior lecturers. In 2024, the proportion was nearly equal among women and men, at around 4 per cent in both groups.

International recruitment of researchers in Swedish higher education

International recruitment to Swedish higher education institutions has risen steadily. In 2014, 16 per cent of all researchers had been recruited internationally, and by 2024 the figure was close to one quarter. A researcher is considered internationally recruited if they hold only foreign qualifications.

In 2024, the share of internationally recruited researchers was highest among staff in career-development positions, at 51 per cent, and lowest among senior lecturers, at 15 per cent.

Men dominate among internationally recruited researchers

The share of internationally recruited researchers varies across fields of research and development. In 2024, the highest proportion was in the natural sciences, at 39 per cent, and the lowest in the social sciences, at 13 per cent (table 8.2).

Men made up the majority of internationally recruited researchers – 61 per cent compared with 39 per cent women. This is partly explained by the fact that international recruitment is more common in fields where men are overrepresented, such as the natural sciences and engineering and technology.

Table 8.2: Total number of researchers (excluding researchers in the arts) and the proportion internationally recruited, in total and by field of research and development and by women and men, year 2024

	Total number of researchers	of which internationally recruited (%)	Women (%)	Men (%)
Total	27,630	24	39	61
Natural sciences	6,390	39	32	68
Engineering and technology	4,020	28	29	71
Agricultural sciences and veterinary medicine	830	25	40	60
Medical and health sciences	7,200	21	49	51
Arts and humanities	2,440	18	51	49
Social sciences	6,840	13	51	49

Time spent on research by Swedish higher education staff

In 2023, staff at higher education institutions engaged in research and development devoted an average of 47 per cent of their working hours to research. However, there were significant differences between staff categories.

Staff in career-development positions spent the largest share of their working hours on research – around 75 per cent. Within this group, postdoctoral researchers spent the most time on research, at 82 per cent, compared with 58 per cent among associate senior lecturers and research associates. These differences reflect the purpose of the positions: postdoctoral

researchers focus primarily on research, whereas the position of associate senior lecturer is intended to provide both scientific and teaching qualifications.

Time spent applying for research funding was included in the reported research time. Professors, staff in career-development positions, and other research and teaching staff with a third-cycle qualification devoted the most time to applications – 8 to 9 per cent of their working hours. Among staff in career-development positions, associate senior lecturers and research associates devoted the largest share, at 13 per cent. Again, this reflects the purpose of the career-development positions.

Men and women in most staff categories spent roughly the same amount of time on research.

Research publications in Swedish higher education institutions

Researchers disseminate their findings in various ways. Most often, research is published as articles in scientific journals, but it can also be communicated through books, conference papers, and other forms.

Research publications emphasise journal articles

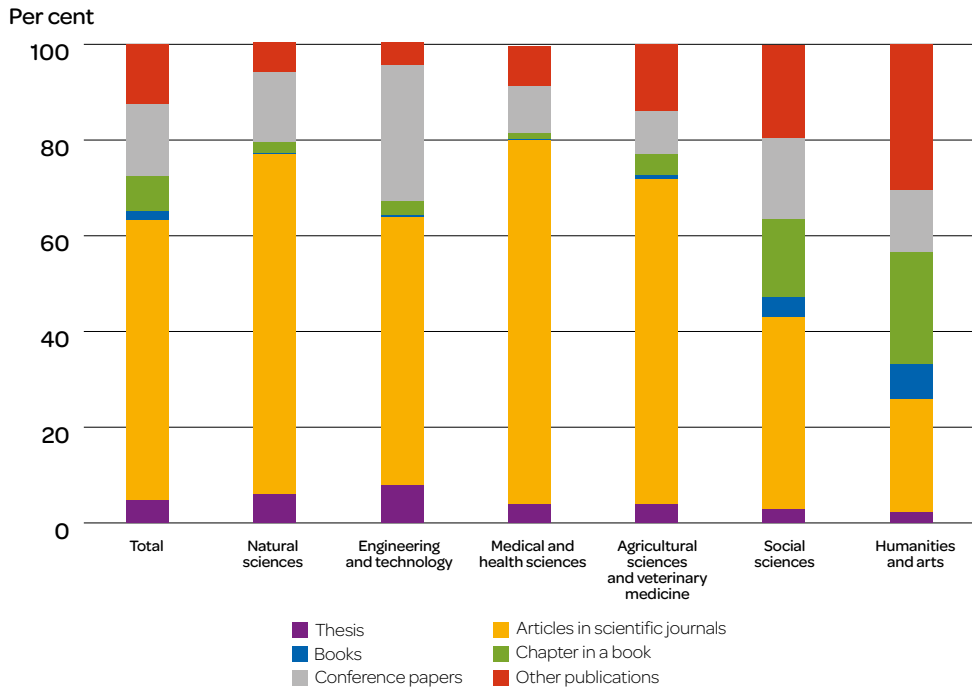
In 2023, just over 66,000 research publications were produced at Swedish higher education institutions. Over the past decade, journal articles have become increasingly dominant. Between 2013 and 2023, their number grew by 25 per cent, rising from 46 to 58 per cent of all research publications, while other types of publication declined.

Publication patterns vary by field of research and development

Publication patterns vary across fields of research and development (figure 8.4). Articles in scientific journals are the most common publication type in all fields except the arts and humanities, where other forms are more prevalent. Journal articles are especially dominant in the natural sciences and in medical and health sciences.

In the arts and humanities, as well as in the social sciences, books and chapters in books are more frequently published than in other fields. Conference papers, meanwhile, are particularly common in engineering and technology.

Figure 8.4: Distribution of research publications by publication type and field of research and development, year 2023



A publication is assigned to all fields of research and development recorded in Swepub and may therefore be presented in multiple categories. Swepub is a national database of publication metadata from Swedish higher education institutions and government agencies.

Source: Swepub

Most research published in English

The language of publication varies by type of publication. Nearly all scientific journal articles published by researchers at Swedish higher education institutions are written in English. By contrast, only about half of all academic books published in 2023 were in English. English is also less common in publications such as reports, non-peer-reviewed journal articles, and articles in non-academic journals.

The share of English-language publications has risen in all fields of research and development over the past decade, although differences remain between fields. In the medical and health sciences, engineering and technology, and the natural sciences, almost all publications are in English. In the social sciences, and in the arts and humanities, Swedish is more frequently used. In 2023, 75 per cent of publications in the social sciences were in English, and 59 per cent in the arts and humanities.