Research overview 2019

Humanities and social sciences

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Research overview 2019:

Humanities and social sciences

Contents

Foreword

This report provides a future-oriented overview of Swedish research within humanities and social sciences. The overview forms part of the knowledge documentation assembled by the Swedish Research Council ahead of the Government's upcoming research bill, and for prioritisations made within Scientific Councils, councils and committees. It can also be used as reference material within the research sector.

The overview was produced by the Scientific Council for Humanities and Social Sciences at the Swedish Research Council, and is based on an update, follow-up and supplementation of the 2015 subject overview. As a background to the 2015 overview, a number of active researchers wrote overviews of their respective fields. In the work on this follow-up overview, the Scientific Council identified a need to investigate in more detail the focus of research in the area. For this purpose, applications for research funding have been analysed using text mining. As for the previous overview, structural analyses produced by the Swedish Research Council's Department of Research Policy forms additional background material. Brief background texts on research infrastructure, open access to data, research results, and research ethics have been obtained from researchers active in the area. The Scientific Council has also partaken of presentations of current developments within digital humanities. A first draft of the overview was discussed at a well-attended seminar with researchers from the entire area of humanities and social sciences. A draft version of the overview has also been published on an internet forum, and been commented on by active researchers from all across Sweden.

The analyses show an area in continuing strong development, but where major input is required to improve the conditions for research in the area, the impact of research in society, and the interaction of research with higher education. The overview proposes a number of measures to utilise and support further strong development of the area.

I would like to thank all who have contributed to the research overview. In particular, I would like to thank the Scientific Council for Humanities and Social Sciences for many interesting and constructive discussions.

Stockholm, December 2018

Kerstin Sahlin
Secretary General, Scientific Council for Humanities and Social Sciences

Summary

In today's society, there is strong demand for knowledge about human conditions, societies and cultures, and the challenges the world is facing. Research into humanities and social sciences is needed to manage global, national and local contexts. A review of received and approved applications to the Swedish Research Council for undirected project grants within humanities and social sciences indicates the great range of questions addressed within the area, where knowledge of relevance to almost all parts of society is developed. Many research projects relate to highly topical and socially relevant issues, at the same time as developing and deepening our knowledge of human thought and actions, of languages, religions, history and also the governance and development of society.

The research overview is based on solid data concerning the research that is being conducted in the area, how this research is organised and funded, and how research results are disseminated nationally and internationally. Particularly strong areas, and areas with great development potential are identified. The analyses indicate that research in humanities and social sciences is developing strongly. New methods and new combinations of methods are being formed rapidly, for example through increased use of infrastructure and through more interdisciplinary, interdisciplinary and international collaboration.

The overview also identifies a number of measures to utilise and support further development of the area. A central feature of the development of the area is increased research funds for undirected research, which means that the researchers are free to formulate their own research questions. The overview shows that such researcher-initiated research is flexible and results in ground-breaking knowledge. There is also a great need for expanded and coordinated infrastructure. At the same time, there is a lack of a body with overall responsibility for systematic support for infrastructure. We also emphasise investment in digital humanities and social sciences as an urgent reinforcement of the investment in digitising cultural heritage collection, initiated in the last Government research bill (Govt. Bill 2016/17:50).

Special measures are needed to safeguard the provision of research and teaching competence at Swedish higher education institutions and society as a whole. For this purpose, the overview recommends specific funds for nationally distributed graduate schools, to include the safeguarding of ethical research attitudes through increased awareness and developed educational input. Retaining junior researchers within the system is of crucial importance for long-term competence provision, for both research and teaching at higher education institutions. Society also has a great need for research competence. In more general terms, we emphasise the importance

of a clear career structure, with merit-gaining positions that must be designed in such a way that gender equality is not hazarded but instead reinforced.

The prerequisites that currently apply for dissemination and impact of research within the area need to be changed, to better utilise the development potential of research. With this in view, we here propose that better interplay between research and education should form the subject of a separate inquiry. The overview also emphasised the development of specifically adapted measures and methods for evaluating research outputs in humanities and social sciences, in relation to impact and societal relevance, that are adapted to how knowledge development and dissemination in the area occur. Added to this is safeguarding of the integrity of research.

When it comes to impact of the research in international comparison, it can be established that Swedish humanities and social sciences are competitive. However, there is still room for further increasing the opportunities of Sweden-based researchers to receive research fund in competition in international calls for research funding.

Introduction

We are today experiencing a world with positive development in many areas. Welfare in the world is increasing, and the percentage of the world population living in extreme poverty is falling, as is the percentage of illiterate persons. The incidence of diseases, such as AIDS, tuberculosis and malaria, is declining. When it comes to measures to reduce the amount of greenhouse gases, clear and relatively ambitious goals are being formulated within the framework for various international collaborations. At the same time, there are contrary signs, such as the division of resources between human beings in the world becoming more unequal. Welfare diseases, such as cancer, diabetes and coronary disease, are growing in importance. Refugee number are increasing, and societies are looking for ways to promote good integration. Democratic societal institutions and the rule of law, as well as human rights, are under pressure in many places. It is everything but clear that the measures being taken to limit emissions of greenhouse gases are sufficient. In other words, we are living in an era with both positive and negative development tendencies for Earth and its population; a circumstance than not least creates room for contradictory descriptions of reality.

Many of the world's topical problems and opportunities require analysis involving human and social sciences. There are cures or knowledge about preventive measures for several of the world's serious diseases, but there is a lack of institutions to ensure that those who need medicines and information partake of these, at the same time as giving the pharmaceutical industry the opportunities to invest for the future. The same applies in field after field. Often, the technical prerequisites for solving a problem are there, just as often as adequate societal and cultural analyses are lacking to ensure existing alternatives can be used efficiently under the prevailing circumstances. Against this background, it is understandable that ever more people are realising the importance of research into humanities and social sciences in order to address today's societal challenges.

Humanities and social science research provides crucial background information to serve society's memory, development and debate. Research into humanities and social sciences analyses and problematises complex circumstances, where the value often consists of questioning ingrained opinions and preconceived starting points. Through research, knowledge is created partly via new discoveries, partly via new perspectives. Using long-term perspectives and comparisons, it is possible to reach deeper understanding and new knowledge, both about individual phenomena and broader development courses, and also their causes and consequences.

Research into humankind, culture and society has stand-alone value. People want to know things, such as world history, older literature, the development of societies, why people react in different ways in different situations, how happiness can be expressed, and the migration patterns of previous generations. The thirst for

knowledge in itself justifies why undirected and curiosity-led research should be given sufficient room. Aesthetic research and research into cultural heritage are important tradition-bearers, but also create new ways of thinking and experiencing the world. New knowledge promotes new visions, and provides grounds for new ways of acting; it creates new solutions that had not been thought of before, and it gives us tools for discovering new aberrations that call for redress. It is only when we discover things we did not know we knew nothing about that really crucial discoveries can be made.

In today's multicultural society, in the global economy where reality is constantly changing, and in a world with a never-ending information flow, research is needed to help us see the whole picture, and to think critically. Free knowledge formation is central for all enlightened and civilised societies, to prevent corruption and to develop and maintain democracies. Cultural knowledge and classical humanities also have a given place in the business world, as well as being a prerequisite for better understanding today's nationalistic currents and political, religious and ethnic conflicts. Some of these currents follow topical developments, other are based on long historical processes. The echoes of the past in today's circumstances cannot be over-emphasised, and important lessons can be drawn from studying history. Research into humanities and social sciences emphasise the long and broad perspectives that are necessary for making correct assessments today and for the future, and that counteract a lack of context and history that is dangerous for a democratic society.

A valuation of research that too strongly emphasises short-term benefit risks undermining and erasing knowledge areas and scientific skills that have been built up over decades; knowledge areas that constitute the foundation of erudition, all the way from primary school to research institutes, that provide society with the capacity to understand, interpret and re-interpret the world, and that define the preparedness of science to ask and answer new research questions. The future is unpredictable in its nature, and therefore requires research into humanities and social sciences to maintain skills also in knowledge fields where the direct short-term benefit may be difficult to measure. It cannot be predicted which subject will become urgently important, and what knowledge will become central in future societies.[1]

At the same time, the prerequisites for humanities and social sciences research in Sweden differs from other subject areas, in particular by having significantly less available research funding.[2] A central recommendation is for researchers in the subject area to be given increased room for researcher-initiated research. The proposal is based on the insight that research problems are most effectively formulated by the researchers themselves, which is also supported by computer-based analysis of applications for undirected project grants received by the Scientific Council for Humanities and Social Sciences.[3]

This overview recommends further measures for utilising and supporting research within the subject area. The Scientific Council proposes an expansion and increased coordination of research infrastructure within humanities and social sciences.[4] Overall national coordination of this research infrastructure is currently

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[1] The description of the value of research into humanities and social sciences is taken from the 2015 overview of the subject area.

[2] See Appendix 4.

[3] The relevance of the research is associated with its importance as knowledge documentation for various types of actions, such as investment or decision-making. All research is potentially relevant, but some research is of clearer relevance in a certain context.

[4] Research infrastructure refers a resource created in the first instance to support various research inputs.

largely lacking. Here we also recommend further investment in interdisciplinary research environments and interventions to strengthen research areas with particular development potential, such as digital humanities and social sciences.

We also recommend safeguarding competence provision within the subject area, including ensuring research ethical requirement are fulfilled, as well as the integrity of research and increased gender equality. In this context, the Scientific Council recommends the creation of distributed graduate schools, which to a greater extent than today can provide coordinated and structured education routes in several locations in the country. This also includes recommendations for a clearer career path system, with career development positions.

To promote the impact and dissemination of research within humanities and social sciences, we recommend better collaboration between research and higher education, and support and guidelines for *open access* to data and research results.[5] Added to this are adequate and adapted measures and methods for measuring the effects of research outputs.

The Scientific Council for Humanities and Social Sciences has placed great emphasis on the recommendations being based on knowledge about the research that is conducted, what research needs that exist and under what conditions the research in the area is conducted. To systematically investigate the focus of the research in the area, applications for project grants to the Scientific Council for Humanities and Social Sciences have been analysed using "text mining", a collective term for computer-based methods used to identify patterns and connections in large-scale text materials. Data have also been summarised and analysed relating to the structure of the area in terms of how research time is allocated, what alternative funding sources are available, how research and education are linked together at HEIs and in the system as a whole. In addition to this systematic mapping of the research system conducted by the Swedish Research Council, background texts on research infrastructure, open access to data, research results, and research ethics have been obtained from researchers active in the area.[6] The Scientific Council also arranged a round table discussion on research ethics and research integrity with researchers within the area. At a seminar, the Scientific Council learnt about important development areas within digital humanities and social sciences.[7] A first draft of the overview was discussed at a well-attended seminar with researchers from the entire area of humanities and social sciences. A draft version of the overview has also been published on an internet forum, and been commented on by active researchers from all across Sweden.

The recommendations are presented in the following section. The overview concludes with a section on research impact and a section in future challenges in a five to ten year perspective.

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[5] Open access to data and research results here means making both underlying documentation and results of research searchable via internet, and also making them available without charge and freely reusable stating the source.

[6] Research ethics here relates to the implementation of fundmental ethical principles within scientific research.

[7] Digital humanities and social sciences refers to an interdisciplinary research area, where digital technology and in particular digitised material is used to address problems within the subject area.

Recommendations for the area as a whole

The overview recommends a number of measures to utilise and support further development of research within humanities and social sciences. Some of these initiatives are based on an insight of the need to increase opportunities for researchers within the subject area to formulate their research problems themselves. A first recommendation is to strengthen the funding of undirected research. It is important that researchers who spend a lot of work on formulating research applications also see that their applications receive a qualitative and fair assessment. Continuous work is carried out to develop and review the expert assessment conducted at the Swedish Research Council. However, the approval rates for undirected project grants within humanities and social sciences are so low – around 10 per cent – that even applications of very high quality cannot be funded. With such a low approval rate, there is a perception that the randomness of which of the very best applications receives funding is too great. Too low an approval rate also risks impoverishing the breadth and diversity of research. The field of humanities and social sciences displays great breadth, from the viewpoint of the subject range at HEIs, in terms of which parts of society are researched, and what type of knowledge is developed. With too great a percentage of targeted initiatives and, simultaneously, a low approval rate for undirected project grants, there is a risk that what are currently perceived as odd or small areas are deselected. In order to be equipped for what are currently unknown challenges, a knowledge nation needs knowledge even within those areas that may currently be perceived as narrow or odd. Small research fields may harbour the seeds of important knowledge and social development. With a budget increase for undirected project grants within humanities and social sciences of 50 million SEK annually, the approval rate could be raised to a more reasonable 15–20 per cent.

Subject-based intradisciplinary development is crucial in order for new research questions and new knowledge to be developed and used in society. Knowledge development within humanities and social sciences in recent years have at the same time occurred at the intersection of different research fields. From a knowledge theory viewpoint, the subjects are today more integrated and the borders between disciplines more porous, which has strengthened interdisciplinary research and simultaneously opened the door to both collaboration with natural sciences and medicine, and to the establishment of entirely new knowledge fields in humanities and social sciences, which have in some cases developed in new and strong educational subjects. Interdisciplinarity and subject depth go hand-in-hand. The most successful interdisciplinarity has grown from ongoing research – not necessarily as a result of specifically tailored funding formats. To support this ongoing development of interdisciplinary collaboration, we recommend continued investment in interdisciplinary

research environments, besides additional funds for researcher-initiated research within humanities and social sciences.

To support intensified development of researcher-initiated research, we also recommend expansion and coordination of infrastructure. The Scientific Council also identifies digital humanities and social sciences as a focus with the potential of adding new research opportunities for large sections of the subject area. The overview also identifies a threatening lack of competence provision within the subject area. To correct this, the Scientific Council recommends the creation of national distributed graduate schools, as well as a clearer career path with career development positions, which would also support increased gender equality.

We also recommend measures aimed at improving the impact of research. As higher education is the most important channel for broad dissemination of research results in society in both the short and the long term, one recommendation is for better collaboration between research and higher education. The impact of research is further reinforced by clear requirements for and support to open access to data and publication, and also by ensuring the development of measures and methods for evaluating the quality, impact and societal relevance of research are adapted to the specific prerequisites for knowledge development and knowledge dissemination that characterise each subject area.

The Scientific Council also underlines the importance of safeguarding academic freedom and the integrity of research, and in this context also highlights the importance of developing knowledge about research ethics within the subject area.[8]

The recommendations are summarised in the box below. The justification for the recommendations will be developed in the next sections. Further background material for recommendations is provided in appendices, where the results of some analyses conducted are presented.

Recommendations
Recommendations for research funding and thematic initiatives

- Reinforcement of the grants to researcher-initiated undirected research within humanities and social sciences with an annual addition of 50 million SEK.
- Continued investment in interdisciplinary researcher-initiated research environments.
- Expanded and coordinated research infrastructure, with resources for support and competence development.
- Infrastructure, competence development and increased coordination of digital humanities and social sciences.
- Development of knowledge relating to research ethics and research integrity, with a particular initiative directed at research into ethics.
- National network of graduate schools to ensure competence provision within the area.

Recommended measures to improve the prerequisites for research quality and impact
- Measures for increased gender equality:
  - ‣ Investigate the differences between men's and women's approval rates at the European Research Council (ERC), aimed at designing goals for more gender-equal applications for the purpose of raising the percentage of funds awarded from ERC to Sweden-based researchers.
  - ‣ Strengthen gender equality throughout the research system, including within HEIs and basic funding of research by developing reporting requirements and guidelines.
- Introduce clearer employment structures and career paths using career development positions within all areas.
- Investigate the collaboration between research and higher education for the purpose of achieving better interaction between research and higher education.
- Support a transition to open access to data and research results nationally and internationally without compromising academic freedom.
- Measures and methods for measuring research results:
  - ‣ Use the results from international initiatives in future proposals for indicators for evaluation and follow-up of various research policy goals.
  - ‣ Intensify the development and quality assurance of SwePub.
  - ‣ Consider more clearly the various forms of collaboration that characterise different subject areas.

Recommendations for research funding and thematic initiatives

In the last Government research bill (Govt. Bill 2016/17:50), a number of targeted initiatives were launched, where the responsibility for two major initiatives were delegated to the Scientific Council for Humanities and Social Sciences. One of the initiatives was a ten-year national research programme within migration and integration. A strategic research agenda was formulated within the programme. Funds have also been made available via calls for proposals for research environments and international collaboration. The national research programme entails an important mustering of strength of research within migration and integration, and the initiative also provides good opportunities for dissemination and implementation of the research results.

The other major initiative was for data-driven research, with particular focus on digitising and making accessible cultural heritage collections. The initiative provides a foundation for important further development of research in parts of the area. But Swedish digitisation has largely fallen behind, and palpable needs remain, both in terms of digitising the cultural heritage and of the broader area of digital humanities and social sciences. Considerable additional resources need to be added in order to digitise material, develop tools for processing the data and, not least, to give room for the ground-breaking and often cross-disciplinary research that is being developed using digital material.

In addition to these major research programmes, the Government has mandated specific calls for research funding to be issued during the last three-year period, for

research into democracy, equal conditions, racism, culture and cultural heritage and also civil society. All these initiatives are urgently needed. But it is simultaneously important for innovative and undirected research that not too large a proportion of research funding is tied up in specific initiatives. Already today, almost one fifth of the research funds allocated by the Swedish Research Council within the subject area are earmarked for specific calls; a large sum considering the Swedish Research Council is the largest funding body for research within humanities and social sciences.[9]

A slight reinforcement of the appropriation for the subject area in the last Government research bill has, nevertheless, enabled a slight increase in the funding of undirected project grants. As a result, the approval rate for undirected project grants within humanities and social sciences has risen to just over 10 per cent in 2018. In comparison with other subject areas, however, it is still strikingly low. Despite the increase, there is thus still very stiff competition for undirected research funding within humanities and social sciences.

The increase has also made it possible for the Scientific Council to issue a call for specific funds for research environments – a slightly greater and more long-term support that offers room for national and international collaboration, and for developed research using infrastructure. The initiative has already been met with great interest, which has meant that the approval rate for the first call in 2018 will remain at 11 per cent. In other words, there is still much room for more coordinated, high-quality, ground-breaking and socially relevant research, where the researchers themselves are allowed to formulate their research problems.

The conclusion is that the resource injections into the subject area since the last Government research bill in 2016 has benefited research within a couple of well-defined areas, and to a lesser extent also researcher-initiated research. This is of course positive, and there are many important advantages with calls targeted at specific research areas. For example, they enable contacts and collaboration between research teams at different HEIs in the form of joint seminars and publications. At the same time, targeted initiatives take time to implement, and they sometimes risk remaining in place even though their relevance has weakened. On condition that researchers themselves formulate relevant research problems, and against this background, it may be more effective to invest in researcher-initiated research.

To investigate what type of research is supported by the Swedish Research Council within humanities and social sciences, the Scientific Council has had an analysis carried out of the applications received for undirected project grants during the years 2010–2017, using "text mining", a computer-based methods that makes it possible to identify patterns in a large text material. The analysis shows that the research in the area has a very large range.[10] Undirected research funds are used for both basic and applied research. A considerable amount of the research projects supported deal with topical issues of major policy relevance. They include a considerable number of projects relating to issues such as migration, gender, climate, democracy and mental health, of which many were started before specific initiatives within each area began. The analysis also shows that there are no significant differences between received and approved applications in terms of these themes. In this context, the advantage of undirected project grants is their flexibility in comparison with targeted initiatives. This is because researchers are comparatively quick at formulating research problems that reflect topical societal challenges, and the knowledge needs that follow from these.

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[9]   The situation is reported in Appendix 4.
[10]   The results of the review of received and approved applications are presented in Appendix 1.

Increased support for researcher-initiated research within humanities and social sciences

As mentioned above, in the course of the work on this research overview, the Scientific Council for Humanities and Social Sciences has conducted "text mining" analysis of abstracts in English in applications for undirected project grants within humanities and social sciences during the years 2010–2017. A total of 7 334 applications were received during the period, of which 780 or 10.6 per cent were approved.[11] Two different text mining analyses were conducted. In the first, the prevalence of a number of socially relevant themes in the applications were analysed over time. The selection of themes was based on what was considered as important social issues, where certain themes had also been the subject of special initiatives within humanities and social sciences during the period. The themes were: climate/environment, migration, democracy, mental health, gender/sex. A second analysis related to research questions, focus and method commonly used within the Scientific Council's nine different review panels. Here too the analysis was conducted on all applications received and approved respectively during the years 2010–2017.

The first text mining analysis shows that researchers, if they are given the opportunity to freely formulate questions and problems areas, themselves identify relevant social issues in their applications for project grants, and that this happens without the stimulation of specific initiatives. The analysis also shows that the proportion of applications with the selected socially relevant themes investigated and awarded funds during the period 2010–2017 mirror closely the proportion of applications with these themes. In other words, the applications for funds for relevant research areas measure up will in the very strong competition that applies for undirected project grants within the field of humanities and social sciences.

In several cases, the proportion of researcher-initiated project applications concerning the topical socially relevant themes investigated increased before specific initiatives were started, decided on and implemented in calls. This shows that researchers themselves formulated topical and relevant research problems quicker than if these become the subject of specific initiatives, with the result that research-based measures can be implemented faster. This might cause lead times to be shortened by one or several years; a time saving that might be crucial for the timely implementation of newly discovered research results. It is also an advantage to give researchers room to formulate their own problems without taking into account pre-authored call texts, as this in several cases can increase the precision of the project descriptions, as well as the reporting of expected results. In this context, we should remember that research into humanities and social sciences analyses and problematises complex circumstances, where the value often consists of questioning ingrained opinions and preconceived starting points. Through research, knowledge is created partly via new discoveries, partly via new perspectives.

As for the second text mining analysis, the results again clearly show the range and diversity of the field, in terms of research themes, methods and geographic orientation. Many studies are still primarily based on studies of Swedish circumstances, but the the proportion of more internationally based studies is considerable. Differences and diversity are noticeable when comparing different review panels, and if we look at the results within each review panel, those panels that cover many subjects naturally show a greater range. The analyses confirm the picture of a rese-

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[11] See Appendix 1.

arch field in strong development shown in the 2015 subject overview (then based on individual researchers' overviews of individual subjects and areas). New methods, new data and new infrastructure have made it possible to investigate entirely new aspects of human development, interaction, language and actions. At the same time, the area continues to be characterised by a number of established focuses and methods. In other words, this is a development of the area that is clearly anchored in earlier scientific achievements.

The analyses show clearly that support for undirected research is support that covers both basic and directly socially relevant research, and that is also more flexible than is possible through targeted initiatives. There is little reason to believe that the picture should change significantly if applications to other research funding bodies, such as Forte, Formas and Riksbankens Jubileumsfond, had been analysed in a corresponding way. Against this background, the Scientific Council recommends that the appropriation for undirected research within humanities and social sciences should be strengthened. With an increased appropriation of 50 million SEK annually, the approval rate for undirected project grants could be raised from 12.7 per cent, which was the level in 2018, to 17.6 per cent, with a constant number of applications. This would be a good step in the direction of reaching the approval rate that applies for other subject areas, even if not quite parity. It would mean that the high quality research applications that must today be refused could be awarded funds. The increase can also create room for long-term build-up of larger research environments that enable more national and international, as well as interdisciplinary collaboration.

Continued investment in interdisciplinary research environments.

Humanities and social sciences is a broad area that covers a large number of research subjects. Undirected project grants give room for research within individual subjects, but also for research that spans several subjects or is interdisciplinary. In the current research policy debate, the importance of interdisciplinarity is often emphasised, not least because many societal problems require solutions that take knowledge from many areas. Against this background, the Scientific Council had an investigation carried out of the extent to which researchers within humanities and social sciences themselves sought interdisciplinary collaboration within the framework for the project applications the council decided on. This was possible, as each application received was classified at research subject level according to the Statistics Sweden standard, with up to three subjects selected by the applicants.

A review was carried out at the Scientific Council's request of the Statistics Sweden codes stated in all applications received by the Scientific Council for Humanities and Social Sciences in 2016 and 2017. The purpose was to identify the scope and focus of interdisciplinary applications within the area. In the review, applications stating more than one research subject code were classified as interdisciplinary. The review showed that 37 per cent of the applications (977 of 2 659 applications) stated more than one research subject code, and could therefore be classified as interdisciplinary with the definition used. The results of the review are shown in the diagram below. The diagram shows all applications to the Scientific Council stating mroe than one Statistics Sweden code. Subjects within humanities

and social sciences are here groups according to the Statistics Sweden three-digit code, while subjects in other areas are grouped according to the first level.[12] The interdisciplinarity in the applications varied between subject groups, both in terms of percentage and how many other subjects were listed within a specific subject group. The highest percentage of interdisciplinary applications was within economics and business, media and communication science and sociology.
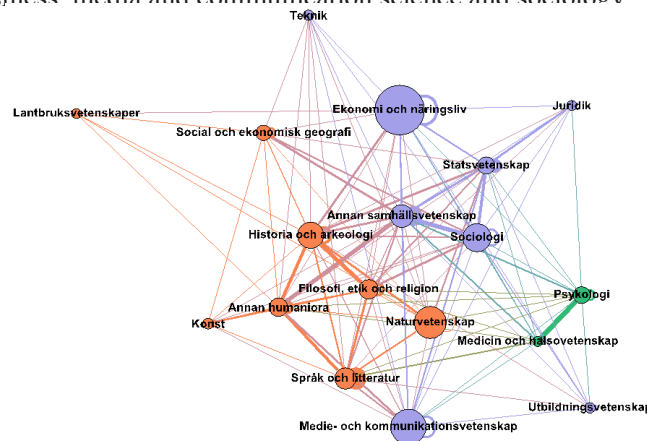
Figure 1. Diagram showing interdisciplinary applications for undirected project grants within humanities and social sciences 2016 and 2017. The size of the circles is proportional to the number of applications with more than one stated Statistics Sweden code within the area. (The total number of applications within each area is shown in Figure 3 in Appendix 1.) The width of the lines between areas indicates the number of links. The colour of the circles marked identified associated clusters, mainly corresponding to the division in humanities and social sciences subjects.

Most applications with double subject affiliation state subject groups that are within either humanities or social sciences. At the same time, it is not unusual for applications to bridge the border between humanities and social sciences. Of the applications that stated a social science as the primary affiliation, the proportion with the other subject within social sciences was 70 per cent, within humanities 14 per cent and within another subject area 16 per cent. Of the applications that stated a humanities subject as the primary affiliation, the proportion with the other subject within humanities was 59 per cent, within social sciences 31 per cent and within another subject area 10 per cent.

When making a cluster analysis of the applications, three subject clusters were together more prevalent than other subjects.[13] The first cluster has humanities subjects (language and literature, arts, philosophy, ethics and religion, history and archaeology and other humanities), together with social and economic geography, natural sciences and agricultural sciences. The second cluster included most social sciences (politics, economics and business, law, media and communication sciences, sociology and other social sciences) together with educational sciences and engineering. The third cluster included psychology together with medicine and health sciences.

A cluster analysis of project grant applications received by the Scientific Coun-

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12 Subject groups here refers to the middle level, the three-digit level, according to the 2011 Swedish standard for classification of research subjects (updated 2016). It should be noted that the subject group educational sciences is not included in the analysis, as research applications in the subject have their own review organisation outside humanities and social sciences. A small number of applications within the research subject pedagogics was however included (n=20).

13 Cluster analysis conducted in Gephi.

14 Vetenskapsrådet (2015) "Forskningens framtid! Ämnesöversikt 2014: Humaniora och samhällsvetenskap" (2015), p. 10, https://publikationer.vr.se/produkt/forskningens-framtid-amnesoversikt-2014-humaniora-och-samhallsvetenskap/, downloaded 18 April 2018.

cil for Humanities and Social Sciences was conducted previously for 2011–2013.[14] When the analyses for 2011–2013 and for 2016–2017 are compared, a stability is seen in the pattern with three clusters. One difference is that two subjects have switched clusters, namely social and economic geography and agricultural sciences. In 2011–2013, these subjects were associated more with social sciences subjects, but in 2016–2017 more with humanities subjects.

The investigation shows that there is a strong, researcher-driven development towards interdisciplinarity. The analysis also shows that in some subjects in particular, there is a clear development of interdisciplinarity across subject group borders with medicine, natural sciences and engineering. The great interest among researchers within humanities and social sciences in the specific call for support for interdisciplinary research environments initiated by the Swedish Research Council's board also indicates how urgent and rewarding researchers find working in an interdisciplinary way and developing environments with a strong interdisciplinary profile. The call for research proposals made in 2018 for interdisciplinary research environments attracted just over 160 applications, and half of these included humanities and social sciences. In addition, the call for undirected research environments issued by the Scientific Council for the first time in 2018 attracted 44 applications, of which 5 were funded. The applications for support for research environments in humanities and social sciences included major interdisciplinary features.

Interest among researchers within humanities and social sciences for interdisciplinary collaboration fits well with the conclusions of the text mining analysis described above. In the same way that researchers within the area largely formulate their own relevant research problems, they are also themselves seeing interdisciplinary collaboration. Against this background, the Scientific Council recommends that the initiative for specific interdisciplinary research environments continues. At the same time, there is every reason to also protect subject-based research. Interdisciplinarity and subject depth go hand-in-hand. Subject-based intradisciplinary development is crucial in order for new research questions and new knowledge to be developed and used in society.

Expanded and coordinated research infrastructure, with resources for support and competence development

Opportunities to freely formulate research problems and seek interdisciplinary collaboration are not just dependent on support for research. Access to adequate research infrastructure is becoming an ever more important prerequisite for successful research initiatives. The rapid development of humanities and social sciences research is driving a dramatically increased demand for research infrastructure, which in many cases is of major collective benefit. The needs for research infrastructure within the subject area are of very varied character, however, such as large registers and databases, digitisation of collection and access to laboratories for research. Many of the infrastructures form the basis for interdisciplinary and inter-methodological research. One trend is the growing awareness of the need for unified infrastructure solutions, both nationally and internationally.

Databases, access to and use of register data, construction of laboratories and digitisation of cultural heritage material have largely been created within the framework for individual research projects, or by individual research teams. This has meant that research and infrastructure have developed hand-in-hand, which

has also led to new research questions, combined methods and competences developing in time with the new research results that have been possible to achieve using the infrastructure. On the other hand, it has also meant that the infrastructure is partially fragmented, and the use is unevenly distributed geographically and subject-wise. There are major needs for development, coordination and competence-enhancement, both method-wise among researchers and in terms of providing specific infrastructure competence to enable access to and facilitate correct use of the infrastructure.[15]

The major investment in register-based research, with improved accessibility and increased coordination of registers and competence development initiatives, has opened up important opportunities for some social sciences research. However, it can be established that the expansion has primarily been aimed at registers of individuals, and that support resources have been designed particularly with medical applications in view. To develop social sciences analyses, several types of registers need to be combined. For example, there should be opportunities to link data on individuals to geo-coded data and microdata for companies and other organisations. Combined historical and current registers also have the potential to create important new research fields.

Furthermore, competence in terms of humanities and social sciences register-based research is unevenly distributed. In some subjects and some environments, the need for competence development is great. Within register-based research, needs have also been indicated for documentation on how register data should be used, and the construction of an infrastructure that makes documentation easily accessible. The reason is that there is currently often a lack of methodology standards, which can lead to studies that are difficult to compare, and in some circumstances also poor methodology use.

In summary, the Scientific Council recommends increased expansion and coordination of infrastructure adapted to meet the needs of research, documentation and coordination within the area of humanities and social sciences.

Infrastructure, competence development and increased coordination of digital humanities and social sciences

One area that can increase the opportunities for new researcher-initiated research generically throughout the subject area is digital humanities and social sciences, which is also displaying strong development with new laboratories and increased rate of digitisation that has created a dramatic change potential. Digitisation of and accessibility to collections for research have intensified through the support earmarked for the area in the latest Government research bill. But despite this, major needs remain, and continued digitisation and accessibility for both research into both social sciences and humanities provide unique opportunities for Swedish research with potential to have an international impact. The needs are for digitising material, developing tools for processing it and providing room for the often intermethodological research that is being developed with the help of digitised material. This not least because Swedish data material is largely unique in its degree of coverage and the length of the time series.

The development will not just lead to research expanding in scope within the area due to having a larger amount of easily accessible data, but probably also to changes in the focus of the research and its innovation potential. This is because new

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[15] Appendix 2 provides an overview of the development and need of infrastructure within humanities and social sciences.

research questions arise when established research is confronted with new methods and new empirical data. New methods are formed, at the same time as established methods spread to new areas of application and are further developed. At the same time, rapid development creates great challenges for both research and researcher education. Digitisation and the use of digital material for research has developed to various extents in different parts of the humanities and social sciences subject area. The spread is great, both in terms of accessibility and state of research and of methodological competence and support resources. In many areas, the need for new methodological competence is particularly great, for example to handle large digitised data amounts. Creating and coordinating resources for this considerable competence development is a real challenge, in particular within humanities, where there are many relatively small research environments combined with relatively great lack of resources.

A number of measures are therefore required to strengthen research in the area, to safeguard competence provision that answers to the needs of the higher education sector and society, and to provide better prerequisites for research to contribute to societal development. The very great need for coordination in terms of research infrastructures has already been emphasised. We have both to avoid doubling-up our inputs, and to make resources clearly accessible and safely preserved. Digitisation of cultural heritage material also needs coordinating in order to become efficient and large-scale, both in terms of selection and implementation. To ensure the more small-scale digitisation that is already occurring is effective and useful, support is needed for minor actors in the form of standards and accessibility, for example. Coordination should take place at several different levels. National solutions are often suitable, but there must also be room for solutions at lower levels, where the research questions and the research needs can be allowed to steer development more directly. In this way, new resources can be created as required.

In a research programme for register-based research, SIMSAM (Swedish Initiative for Research on Microdata in the Social and Medical Sciences), which started with an initial call in 2008, was established as a model for holding together various projects nationally, at the same time as maintaining the local basis. A similar solutions could be fruitful also within humanities and social sciences, where the experiences from SIMSAM can be utilised so that good balance in the support is achieved between the room for the individual environments' own development and the joint coordination. A programme that is built up with special focus on digital humanities and social sciences would provide opportunities to develop joint working formats and support. But it could also utilise the more developed competence and existing long-term research that exists within parts of the subject area, in order to further develop and enable combinations of data amounts, methods and research questions within other areas.

The Scientific Council therefore recommends that a programme of strengthening, coordination and competence development of digital humanities and social sciences is developed.

Development of knowledge relating to research ethics and research integrity

The Scientific Council recommends that measures are taken to strengthen awareness and knowledge about research ethics issues. This is not because any shortco-

mings have emerged in research activities, or because there are suspicions of short-comings, but in order to prevent such shortcomings from emerging in the future. This is primarily about safeguarding and maintaining awareness of the importance of research ethics considerations in a time when much of ethical review has become formalised and legally institutionalised. A simple measure, that is already in the process of being implemented, is to specifically underline the importance of ethics in the review of applications for research funding The Scientific Council further recommends that research ethics courses are developed at first, second and third-cycle further education that are well adapted to local needs, where the prerequisites for different subject areas should also be considered. Such courses could be developed locally, but some national coordination may be provided through evaluation, guidelines or some resource input.

It is important that research ethics issues, and processes for research ethics reviews and approvals function for the entire scientific field. At the special round-table discussion on research ethics organised by the Scientific Council, it emerged that many humanities and social sciences researchers perceive the forms and processes for ethical review as not particularly well adapted to the needs of the subject area.[16] It is important that relevant ethics forms are produced to promote awareness and knowledge about ethics among humanities and social sciences researchers.

Reinforced research into research ethics problems can also contribute to raising awareness within all subject areas. The Scientific Council therefore recommends a special initiative for research into research ethics. Such a research programme could advantageously be designed to be interdisciplinary, and should be broadly based. Not least important is an ethical attitude to the use of research results, and also to the drivers that exist for developing different research areas. As far as these broader research ethics issues are concerned, humanities and social sciences research can provide crucial contributions to increased ethical awareness within research also into rapidly growing research and technology areas, such as artificial intelligence, robotisation, nuclear engineering and genetic engineering.

Research ethics issues also include discussions about integrity in research. Questions about research integrity are particularly important at a time when in many parts of the world we are seeing a worrying development with less undirected research and research that is subordinate to authoritarian regimes. Research ethics issues associated with academic freedom and research integrity and quality also need to be highlighted in relation to the in all significant parts very welcome and positive development towards greater openness and accessibility of data, publications and research processes that is occurring in Europe. The Scientific Council welcomes greater openness in research, in particular increased investment in open access to publications and data (see more below in the section concerning improved conditions for research). Increased demands for open science, where both researchers and the general public get access to data various investigations are based on, as well as the published results, may however lead to ethical dilemmas, as data may become wrongly handled, either consciously to create a basis for conclusions in a certain direction, or unconsciously, for example through lack of knowledge about limitations or sources of error. For example, long-term storage of data may entail challenges in terms of liability issues and accessibility.

Correspondingly, increased demand for "citizen science"[17] may lead to greater

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[16]   The round-table discussion is reported in greater detail in Appendix 3.

[17]   Citizen science is a type of research that involves other persons than researchers in the research process. This can be in various forms, such as helping with data collection, helping to develop the relevance of research results, or helping to formulate research problems. Research that is conducted using humans as respondents or objects is therefore not citizen science.

legitimacy and interest in research in society. There are advantages if representatives of society and stakeholder groups participate actively in the research process by constituting a broader base for potentially greater societal benefit, and in this way benefiting the demand and reception capacity for research results in society. Some citizen science can however go further than this, and demand that the general public also shall have greater opportunities to influence the research problems that researchers are working on. In times of increasing resistance to facts, where it is sometimes difficult for individuals to separate evidence-based research from opinions and marked-adapted argumentation, it is simultaneously important that the Swedish Research Council and the Scientific Council for Humanities and Social Sciences work towards greater scientific integrity. The effects of defining research questions in collaboration with stakeholder groups, companies and organisations can sometimes be difficult to monitor.

The Scientific Council recommends that, before citizen science is supported or any trial implemented that entails limiting the freedom to choose research problems, to develop research methods or to publish research results, it should be the subject of further analysis based on the specific research ethics challenges that exist for the subjects covered by the Scientific Council's activities.

National graduate schools to safeguard competence provision for the area

The Scientific Council has identified a threatening lack of competence provision within the subject area over a five to ten year horizon. To correct this situation, the Scientific Council recommends the creation of graduate schools, which to an even greater extent than today can provide coordinated and structured education routes in several locations in the country.

One factor in the background to this recommendation is that the humanities and social sciences area consists of many small research environments that are often very teaching-oriented.[18] Associate senior lectureships dominate among permanent employees, while there are few professors compared to other subject areas. Many teachers lack room for research at work, at the same time as access to external research funding is very limited, which is something that the still relatively low approval rate within the subject area and the high proportion of direct government grant funding at Sweden's HEIs clearly indicates, in particular within humanities. From a Nordic perspective, Swedish teachers and researchers have considerably greater teaching obligations than their colleagues in Norway and Denmark.[19] In general, the subject area also has less resources for third-cycle education. The number of doctoral students is falling, and no longer provide sufficient basis for competence provision even within the higher education sector. Within the subject areas medicine and health and natural and engineering sciences, a considerably greater proportion of the external research funding is used to fund doctoral students and junior researchers, and to purchase consumables, etc. For researchers within humanities and social sciences, the all-consuming importance of external research funding is instead to release research time within the framework of their employment.

To achieve safeguarded competence provision within the subject area, the resources earmarked for third-cycle higher education need to be reinforced. This is because increased investment in third-cycle higher education and funding of doctoral students within humanities and social sciences is crucial for the area's fu-

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[18] The situation is reported in Appendix 4.
[19] Douglas Brommesson et al., "Att möta den högre utbildningens utmaningar", Institutet för arbetsmarknads- och utbildningspolitisk utvärdering, Rappoart 2016:4 (2016), 44-60.

ture competence provision of researchers and teachers within the higher education sector. Society as a whole also has a need for more qualified third-cycle educated persons. Successful examples of national graduate schools to learn from exist both in Sweden, such as the national graduate school in history at Lund University, which in recent years has created a much more distributed operation, and in our neighbouring countries, such as the creation of 22 distributed graduate schools within various subject areas in Norway in 2008.

Investment in distributed graduate schools must not lead to educational needs directing research funding to an even greater degree than today, however. Instead, increased national coordination is needed of both research and first, second and third-cycle higher education. In this context, it should be noted that the research conducted within the area of humanities and social sciences is of course relevant to a number of educational programmes, which in many places in the country are conducted within faculties other than humanities and social sciences, for example professional programmes such as health and medical care and teaching.

Against this background, the Scientific Council recommends specific funds to be earmarked for national graduate schools within humanities and social sciences. The graduate schools shall contribute to national competence provision. It is important that the graduate schools are of high quality and provide a good basis for continued ground-breaking research with national and international impact. To achieve this, particularly strong research environments can function as nodes for distributed graduate schools, which can in this way involve several environments at various HEIs. One model could be the Marie Skłodowska-Curie Innovative Training Networks funded by the European Commission. In distributed graduate school, several HEIs are responsible for educating the doctoral students participating. Research projects and educational elements are conducted at different universities, in collaboration between different HEIs. Further recommendations aimed at improving competence provision to the area and the the link between research and education are presented in the next section on measures for improved prerequisites for research quality and impact.

Recommendations for improved research quality and research impact

A review of the conditions that apply for research within humanities and social sciences shows that the prerequisites for ground-breaking and high-quality research are similar in part to other subject areas, such as in terms of needs for improved opportunities for junior researchers, gender equality, clear career paths, support for mobility and internationalisation, as well as the importance of well-functioning collegial work, including well-functioning expert assessments.[20] But in several respects, the prerequisites for research within humanities and social sciences also differs from other subject areas. This related to factors such as the proportion of research resources compared to educational resources at HEIs, the number of available external funding bodies within area, and also organisational structures at HEIs. For this reason, the recommendations for increased gender equality and clearer organisational structures and career paths are included as part of initiatives

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[20] A review of employment, doctoral students and what the Swedish Research Council funds are used for is included in Appendix 4.

to safeguard competence provision within the subject area.

The prerequisites for impact and dissemination of humanities and social sciences research also differ compared to what they are for other subject areas. Here, higher education is often identified as the individually most important way of disseminating research results. The publication channels also differ to some extent within different subject areas, as do the primary indicators for research impact. When it comes to recommendations for better collaboration between research and higher education, open access to data and research results, and measures and methods for evaluating research outputs, these are about the need to promote the impact of humanities and social sciences and to disseminate the research results better.

For increased gender equality

The Scientific Council welcomes the strong emphasis placed on gender equality in the Swedish Research Council's review process and grant decisions. The Swedish Research Council's work on gender equality is ambitious and the procedures for maintaining gender equality in the review process works well. The insights gained through gender equality observations and the guidelines for expert assessment relating to factors such as unconscious bias in review panel meetings have been valuable.

Within humanities and social sciences, both reports from the review work and the results in the form of the allocation of approved application, approval rate and amounts awarded between women and men bear witness to a gender-equal field. However, major inequalities remain when it comes to applications received. More men than women are applying for research funding. Inequality increases markedly for major grants, such as grants for research environments and grants aimed at the most successful researchers, such as the distinguished researcher programme and grants from the European Research Council (ERC). It is also important to note that Sweden-based female applicants within the subject area have a lower approval rate at the ERC than women from other countries. The Swedish Research Council has established that differences in the approval rates for men and women at the ERC should be further investigated; a conclusion that the Scientific Council for Humanities and Social Sciences finds urgent. In this work, circumstances such as the relative distribution of various administrative tasks between men and women should also be analysed. The Scientific Council recommends that these investigations are conducted with the aim of designing targets for applications and grants awarded from ERC to Sweden-based researchers.

The work of the Swedish Research Council on gender equality issues in the review process and the gender equality reporting should continue. In this context, it should also be noted that both guidelines for expert assessment and gender equality observations of the review process contribute to a general awareness of the quality of the review work, and to counteracting unconscious bias. The Scientific Council recommends that observations and the development of guidelines for expert assessment continues. The Scientific Council also draws the conclusion that improved gender equality in the research system in general requires measures also at the HEIs, in the form of even clearer guidelines for the management of conflicts of interest and unconscious bias, for example, and also requirements for reporting on resource allocation, results and career paths. The Swedish Research Council's work on gender equality and guidelines for expert assessment can serve as a model for developing reporting requirements and guidelines aimed at strengthening gender equality throughout the research system, including HEIs and direct government

grants for research.

Investigate the collaboration between research and higher education

Higher education is perhaps the most important channel for disseminating established research results. To achieve the best effect in higher education, students have to have access to the best and most up-to-date research that has gained general acceptance within the research community. Research connection thus places demands on quality, in both higher education and research. Not least does high research quality guarantee that students become reliable actors in a working life that to a great extent is based on current knowledge and future research results.

In practice, however, the exchange between research and higher education is not so one-sided, in that new research results and findings only change the content of education. Teaching inputs can also be used as a resource in the research work, when it is educationally justified and contributes to improved quality in higher education. At first-cycle level, for example, the arrangement of a course or examination questions can provide inspiration for new approaches or questions. At second and third-cycle level, student work inputs can be used for research purposes, or perhaps even as subsidiary studies, even if the teaching must of course always be based on the needs of the students.

The emphasis on research connection in higher education must not be take place at the expense of research quality, but must be done with consideration for the facts that research quality requires concentration, grows out of competition and is often concentrated in nationally leading teams. Strong research environments cannot exist everywhere within all areas. Not least for broad-based programmes that are offered at a large number of HEIs across the country, better collaboration between research teams, teacher teams and HEIs is needed to achieve well-functioning research connection. With increased profiling of HEIs, measures must simultaneously be taken to maintain the necessary subject width to safeguard the research connection to education. Research connection to higher education can be solved in various ways. In several countries – and to some extent also in Sweden – HEIs have been merged, or clear profiling and work allocation of both research and education has been carried out between HEIs. National knowledge centres and national coordination of programmes constitute alternative routes. Within third-cycle higher education, collaboration across HEI borders has in many cases been seen as necessary, as many environments are too small to develop their own third-cycle courses of good quality. National coordination has also occurred in many places, through specially established graduate schools or through other forms of inter-HEI collaboration. Such national coordination of third-cycle higher education should be further developed.

The research connection of higher education should be guided by a striving towards the highest quality in both research and higher education. Well considered and developed research-linked higher education and education-linked research should contribute to a stronger and internationally attractive system of research and higher education that does not counteract the opportunities for researcher mobility.

Evaluations with the humanities and social sciences field have called attention to the fact that the research landscape in many parts is too fragmented, and that more collaboration and national coordination within research is needed.[21] The Scientific Council has also tried to drive such a development through issuing calls for specific

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[21] See for example the evaluation of literature research 2014: "Mångfaldig litteraturforskning: Stiftelsen Riksbankens jubileumsfonds och Vetenskapsrådets utvärdering svensk litteraturforskning" (2014), https://www.vr.se/download/18.2412c5311624176023d25b3b/1529480533813/Maangfaldig-litteraturforskning-RJ-VR-utvaerdering_VR_2014.pdf, 21 August 2018.

funds for research environments, where the call texts emphasise the desirability of developed collaboration across subject, department and HEI borders. But the fragmentation of humanities and social sciences research can also be put down to a lack of research resources and to less coordinated educational inputs. The subject area is broad, and concentration must not be achieved by cutting out entire research subjects. A highly developed society needs a broad and solid knowledge basis. It is not possible, using topical issues as the starting point, to determine what knowledge is the most relevant in the long term. Even areas that today may seem both narrow and odd are needed to provide society with a knowledge background. A stronger and more coordinated education and research landscape must therefore ensure that the area has a complex and broad foundation. Reforms should aim for role allocation, institutional circumstances and funding, and not make cuts to the content of research and education in itself. Reinforced funding of the research area, reinforcement of pay levels at first-cycle level and developed forms of collaboration and research connection are needed to strengthen research in humanities and social sciences, and to increase the quality of higher education and its research connection.

The Scientific Council recommends that the issue of research-connected higher education and also education-connected research is investigated separately. Issues that should be addressed are what research connection entails, and how it can best be promoted, and also how different solutions may impact on teacher and researcher mobility. For example, it is not necessarily the case that the various measures that are used in today's evaluations of higher education, such as the number of teachers with a doctoral degree, or their opportunities to conduct research at work are the best ways of quantifying research connection. Greater emphasis can be placed on different collaboration and coordination initiatives. Opportunities to coordinate education focuses and strong research environments, as well as national coordination of third-cycle education should be investigated within the framework for such an inquiry into the links between research and higher education.

Better interplay between research and higher education also required a review of career paths and employment structures at Swedish HEIs. We will develop this further in the next section.

Clearer employment structures and career paths with career development positions

An important factor underlying safeguarded competence provision is the design of positions and career paths for researchers. The employment structures at HEIs are generally unclear, and the terms and conditions, organisation, appointment process and job descriptions differ between HEIs and scientific fields. The employment structures differ in part between humanities and social sciences compared to other scientific fields.[22] Here, there are slightly fewer professorships and considerably fewer career development positions for junior researchers, and also more senior lecturers and lecturers. If the considerably fewer career development positions within humanities and social sciences are combined with the falling numbers of new third-cycle students that the Swedish Research Council has been able to document, a picture emerges of a scientific field that risks encountering problems with competence provision on a five to ten-year horizon, unless considerable efforts are made to create better prerequisites for funding third-cycle students and junior researchers. At the same time, it can be established that researching and teaching personnel with

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[22]   The situation is reported in Appendix 4.

or without doctoral degrees who are not employed as professors, senior lecturers, associate senior lecturers, postdocs or lecturers can be found considerably more often in other scientific fields than within humanities and social sciences.

This situation highlights an old and well-known problem within the higher education world, namely the uncertain career conditions that often apply to junior researchers, and the need for a clear career system, with openly advertised career development positions, applied for in competition and with clear assessment conditions and criteria for those who intend to pursue a career in academia. Those junior researchers who today receive project funding in stiff competition from an external funding body often live with very uncertain career conditions and are at great risk of becoming unemployed once the project ends. Such conditions hardly create optimal research conditions, and also entail a waste of research resources, if individuals who have built up leading-edge competence within some limited research area are then unable to maintain and develop this. Naturally, these conditions also make it more difficult to integrate research and higher education. Uncertain employment conditions also lead to very few young persons daring to take the risks required to develop ground-breaking research that can lead to pioneering knowledge breakthroughs.

The Swedish Research Council has previously highlighted the lack of mobility, both national and international, and very high level of internal recruitment that characterises the entire Swedish research landscape.[23] Clearer career paths and ensuring all positions are advertised openly, nationally and internationally, and become the subject of expert assessment should increase national and international mobility. Here there is also room for ensuring some calls for research funding require mobility of the applicants. A clearer procedure should lead to more junior researchers choosing to pursue a research career. Clearer career paths and openly advertised and assessed recruitment is important, not least for improved mobility and gender equality.

When it comes to job descriptions, the circumstances are both unclear and unfavourable. Humanities and social sciences departments have considerable first-cycle education tasks, low pay for educational input and at the same time lack access to research resources. These circumstances have, in general, meant that the conditions and prerequisites for research within humanities and social sciences in Sweden differ from those that apply within other subject areas, not least as the allocation of the HEI's direct government grants assume greater importance in this context. Even among the most senior teachers employed as professors, many have very little or no percentage of direct grant-funded research included in their job descriptions.

Many voices have been raised in support of a higher direct government grant to HEIs to give more freedom, stability and long-term security for researchers and teachers. The increases that have already been made do not appear to have led to better conditions for individual researchers and teachers. Instead, the funds appear to have been used to increase the number of employees, issue internal calls for project and programme funds within the HEI, and for temporary initiatives within specific areas.

A more distinct allocation of roles between different HEIs and between HEIs and external funding bodies would clarify the prerequisites for the sector as a whole.

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[23] Vetenskapsrådet, "Rekrytering av forskare och lärare med doktorsexamen vid svenska lärosäten: En strukturell analys av lärosätenas rekrytering—internt, nationellt och internationellt" (2016), p. 17, https://publikationer.vr.se/produkt/rekrytering-av-forskare-och-larare-med-doktorsexamen-vid-svenska-larosaten/, downloaded 16 April 2018.

Reasonably, the primary use of the HEI's direct government grant should in such cases be used to create better conditions for teachers and researchers. At the same time, a more pronounced allocation of roles between different parts of the research and education system assumes that the use of the direct government grant becomes more transparent, so that follow-up and evaluations can show how the resource allocation is done between different funding forms, different subject areas and from a gender equality viewpoint.

To create better prerequisites for research within the area, better integration between research and teaching and making the career as researcher and teacher clearer and more attractive, clearer and better conditions for individual researchers and teachers are needed. Compared to our Nordic neighbours – Denmark excepted – a relatively small proportion of the overall research income in Sweden goes to research within humanities and social sciences. While the proportion of research income paid to humanities and social sciences is just above 20% in Sweden, it amounts to more than 30% in both Norway and Finland. The difference is even more marked between Sweden and one of Europe's largest research nations, the United Kingdom, where the proportion for humanities and social sciences amounts to around 45% of research income. It is more difficult to produce internationally comparable statistics for personnel within the higher education sector, as the personnel categories differ considerably from country to country. However, a comparison between a selection of Swedish, Danish and Norwegian HEIs shows that Swedish professors, and in particular associate senior lecturers – the latter are a major personnel category within Swedish humanities and social sciences – are offered considerably less opportunity to conduct research within the framework of their work compared to their Nordic colleagues. At Danish and Norwegian HEIs, university teachers are given the opportunity to conduct research during approximately half their working hours, while Swedish associate senior lecturers can usually spend around one fifth of their working hours on research (see Appendix 4 for a review of the funding of research within humanities and social sciences in an international context).

The Scientific Council recommends that the issue of employment structures and career opportunities for researchers and teachers at HEIs is revisited. At the same time, a clearer role allocation within the entire national system should be striven for. The reviews should aim to introduce clearer employment structures and career paths using career development positions within all areas, and also more reasonable terms and conditions for individual researchers and teachers to combine research and teaching at work.[24]

Open access to data and research results

The Scientific Council welcomes the development towards open access to data and publications, and sees particularly great opportunities for increased access to de-identified quantitative data (such as results from experimental studies and surveys). This is because open access to data and results is an important prerequisite for better impact and dissemination of humanities and social sciences research. At the same time, it is important to emphasise that not all research data can, or should, be made accessible. This applies in particular to sensitive information that can be attributed to a particular individual, interviews or video recordings. In the longer

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[24] This may be indicated not least after the changes to the Swedish higher education ordinance in 2010 (Högskoleförordningen, SFS 2010:1064), which entailed a reorganisation of teaching positions at HEIs, with considerably greater freedom for the individual HEIs to themselves establish research and teacher positions.

term, there may also be a risk that the incentives for researchers to collect data are reduced if one condition is that it is made accessible too soon after a research project has been concluded. If career strategies develop that are based on exploiting the data of other researchers in a way that may be perceived as unfair, there is a risk that empirical work is stifled. Such scenarios may be perceived as problematical not least in research areas with a high commercialisation potential.

Nor has the discourse about increased accessibility in general taken into account qualitative research within humanities and social sciences in sufficient depth, in the opinion of the Scientific Council. The relationship with the Swedish copyright act (Upphovsrättslagen, SFS 1960:729) and the General Data Protection Regulation should be further analysed. The same applies to the wording of the Swedish higher education act (Högskolelagen, SFS 1992:1432) that research results may be freely published (Chapter 1, Section 6). Increased accessibility also needs to be investigated from a scientific diversity perspective, focusing on advantages and disadvantages for different research traditions. So as not to prevent researchers within humanities and social sciences from societal collaboration in the form of publication, it should be considered whether open access to research results should be an absolute requirement for all types of research publications, or a possibility.

In areas where increased accessibility is possible, structural measures should be taken to speed up the transition to a more open research climate, with shared data. Resources need to be set aside for initiatives that reinforce accessibility to data, both as national and local infrastructure that is specific, and in some cases tailored, for individual subject areas.

Another justification for open access to data and publications is that research can become more accessible, even outside the research community. In the longer term, it will in this case also be a stage on the road towards greater dissemination and impact of research results. Researchers within humanities and social sciences are already working in the centre of society, and through continuous collaboration are often markedly relevance-focused.[25] This is because collaboration with society is an integral part of humanities and social sciences research. This in done in ways such as active researchers participating in the social discourse, with newspaper articles and as commentators consulted within the media. Other channels for collaboration are publicly arranged seminars, open lectures and also books and articles aimed a broader societal groups. Research results from humanities and social sciences are also disseminated through means such as researcher participation in public inquiries. A dialogue with representatives of the sectors researched is usually included as an integral part of individual research projects. This collaboration occurs largely in Sweden, at the same time as Sweden-based researchers within humanities and social sciences have a strong or very strong citation impact compared to those in other subject areas.[26] This indicates that the research in the area is and should be multilingual. Strong international and national impact often go hand-in-hand, but at the same time require complementary dissemination channels and complementary result follow-up. We will come back to the latter below, under the heading "Measures and methods for evaluating research outputs".

Within humanities and social sciences, Swedish language must therefore be an

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25   This may be indicated not least after the changes to the Swedish higher education ordinance in 2010 (Högskoleförordningen, SFS 2010:1064), which entailed a reorganisation of teaching positions at HEIs, with considerably greater freedom for the individual HEIs to themselves establish research and teacher positions.

26   This may be indicated not least after the changes to the Swedish higher education ordinance in 2010 (Högskoleförordningen, SFS 2010:1064), which entailed a reorganisation of teaching positions at HEIs, with considerably greater freedom for the individual HEIs to themselves establish research and teacher positions.

important and active tool for disseminating research results nationally, both within the research community and in society as a whole. To ensure Swedish is maintained and strengthened as a language of science, with a functioning terminology for new methods and theories, high-quality and openly accessible Swedish language publication channels are required. Suitable examples of these may be scientific periodicals in Swedish that use scientific peer review procedures. Against this background, the Scientific Council's support for periodicals is an important tool for maintaining scientific publication channels in Swedish, even though the support also covers periodicals in other languages as well, particularly English. A recommendation is that the support for periodicals continues to be made subject to calls in the future too, to maintain diversity of openly accessible channels for disseminating humanities and social sciences research. Considering the large number of applications and the relatively modest amounts that can be awarded, an increase in the support should also be considered.

Measures and methods for evaluating research outputs

A further factor that affects the impact of humanities and social sciences research and the dissemination of research results are adequate and adapted measures and methods for measuring the effects of research outputs. In this context, an important fundamental principle is that different research subject areas shall be assessed and evaluated based on their own prerequisites.[27] The same principle should of course also apply to quantitative indicators, which should therefore be differentiated according to the subject area, and not apply generally. The consequences of using different types of quantitative indicators should also be closely analysed for different subject areas before they are used. Measures and methods need to consider the individuality of the subject areas, both in terms of publication patterns and research impact in society.

Publication patterns within the humanities and social sciences field are changing rapidly, with increased international publication, increased co-publication, and an increasing number of articles. However, bibliometrics based on Web of Science continues to have particularly limited coverage of the area. Other databases, such as Scopus, have marginally better representation of humanities and social sciences. The use of bibliometrics for quality assessment, comparisons and evaluation of research should reasonably be based on the best possible documentation for the area, but should be used with great caution even in these cases. Qualitative peer review is required to obtain fair assessments of research quality in the area.

Adequate documentation for bibliometric measurement and analysis of research volume and impact requires better measures and databases for humanities and social sciences research. One way of achieving this is to further develop the research database SwePub. The Scientific Council recommends intensified work on creating a Swedish register of scientific publication channels, a "Swedish list", corresponding to the ones available for our neighbouring Nordic countries. With a well-developed research database, open access to research publications can also be suppor-

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[27] This is also pointed out in: Universitetskanslersämbetet, "Kvalitetssäkring av forskning: Rapportering av ett regeringsuppdrag", Universitetskanslersämbetet Rapport 2018:2 (2018), p.15, http://www.uka.se/download/18.2158bbb51621ecd5a966921/1523438876332/rapport-2018-04-09-kvalitetssakring-forskning-regeringsuppdrag.pdf, downloaded 20 April 2018. See also the Leiden Manifesto (http://www.leidenmanifesto.org).

ted, and groups in society can more easily gain access to many different types of publications within humanities and social sciences. With a Swedish list as the basis for an analysable SwePub, this database can also contribute to results follow-up of collaboration within the humanities and social sciences area.

Humanities and social sciences research is often conducted in the centre of society, where collaboration forms an integral part, not least as researchers within humanities and social sciences often present research results in public debate forums, where they are used to reflect on, critically examine and give recommendations to topical societal issues. This has already been established under the heading "Open access to data and research results". From this perspective, it is important that collaboration – in evaluation and follow-up contexts – is not defined too narrowly. This integral and self-evident place for collaboration in humanities and social sciences research must not be made invisible in measurements specifically focused on collaboration in itself.

Considerable discussion and work is conducted internationally to develop models and measures for quality assessment, comparisons and evaluation of humanities and social sciences research. One example is the work conducted within the EU-funded network ENRESSH (European Network for Research Evaluation in the Social Sciences and the Humanities). The Scientific Council recommends that results of international development work is used in future proposals for evaluation, follow-up, and indicators for various research policy goals. The Scientific Council also recommends that the work on developing and quality-assuring SwePub intensifies, by creating a register for publication channels, a "Swedish list".

The impact of research within the area in international comparison

Swedish research within humanities and social sciences remains strong. With the latest Government research bill, a clearly increased interest has been noted when it comes to the research area's ability to contribute to societal development in general, and in particular when it comes to contributing to solving concrete challenges, such as integration, gender equality and climate. The increased interest has also formed the basis for increased resources – albeit marginally – being injected into the subject area, not least to support research into urgent societal challenges. This applies both through various initiatives in the latest Government research bill, and through reallocation within the Swedish Research Council, which means that it has been possible to increase the approval rate slightly within humanities and social sciences.

This trend is in no way specific to Sweden. Internationally too, increased interest has been noted in how humanities and social sciences research can contribute to developing knowledge that is relevant to solving concrete societal tasks. As nearby as in Norway, a "Melding til Stortinget" ("Report to Parliament") relating to humanities in Norway was presented in March 2017, which described how the field of humanities should be developed to be better utilised in society, and address various societal needs.[28]

Increased interest in the potential of humanities and social sciences research also entails raised expectations, not least on quality of research. Against this background, it is pleasing to be able to establish, as mentioned under the heading "Open access to data and research results", that Swedish humanities and social sciences has achieved a strong position internationally, based on measurements of citation impact as shown in the graph below, compared to other subject areas in relation to what applied to the EU member states before the expansion in 2004 (EU15) and globally.
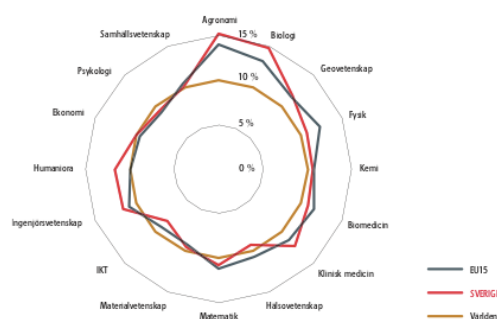
Figure 2. Percentage of highly cited publications in 16 subject areas for Swedish research 2013–2015 compared to the average value for the EU15 countries and all countries in the database. [29]

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28   Kunnskapsdepartementet, "Humaniora i Norge", Melding til Stortinget 25, 31 mars 2017, https://www.regjeringen.no/contentassets/e51d8864c32248598e381e84db1032a3/no/pdfs/stm201620170025000dddp-dfs.pdf, downloaded 9 July 2018.

29   Vetenskapsrådet, "Forskningsbarometern 2017" (2017), p. 23, https://publikationer.vr.se/produkt/forskningsbarometern-2017/?_ga=2.118146121.1163964144.1523606044-1835267094.1284565244, downloaded 13 April 2018. Also relates to Figure 2.

The graph shows that the Swedish citation impact for humanities in comparison with the selection of European countries is particularly good, and greater than that for clinical medicine, for example. This bibliometric analysis should, of course, be interpreted with great caution. This is because the result is based on the limited selection of humanities publication channels covered by the international bibliometric databases, and from this perspective the result of the comparison may be linked to the fact that Swedish humanities researchers publish more in English-language research periodicals than European humanities researchers in general. The bibliometric measurements might still show that Swedish humanities researchers have developed multilingual publication routes in a very positive way, where they are simultaneously disseminating their results both nationally and internationally. More detailed analyses of publication patterns may show whether this is the case.

The international competitiveness of Swedish researchers is also shown in terms of how well Swedish researchers succeed in international calls for research funding. Swedish humanities and social sciences researchers have the change of receiving research funding in various types of international collaboration projects where the Swedish Research Council participates. HERA (Humanities in the European Research Area) is a European network that has so far issued four calls through a combination of funding from the member states and from the EU's framework programme for research. In the first three calls, Swedish researchers have participated in eight of the total of 55 funded projects (15 per cent). Considering Swedish is a relatively small country, the result is on par with what could be expected. Still, the ambition is for Swedish researchers to achieve a higher approval rate in these calls. The corresponding European network for social sciences research funding bodies is NORFACE (New Opportunities for Research Funding Agency Cooperation in Europe). To date, NORFACE has issued five calls, with a total of 61 funded projects. Of these, 24 have had Swedish participation (39 per cent), which must be regarded as a very good outcome.

By participating in HERA and NORFACE and other international collaboration projects, the Scientific Council for Humanities and Social Sciences has also contributed to formulating a number of proposals for "research missions" ahead of the EU's ninth framework programme, Horizon Europe. A starting point for these proposals is that innovation refers to more than just technology, and that "social innovations" are attracting ever greater interest. These concern creating prerequisites for better conditions for human beings at all stages of life, in particular in times like ours, where the demographic composition is changing relatively rapidly, both in Europe and globally.

In addition to collaborations within HERA and NORFACE, the Scientific Council for Humanities and Social Sciences works to improve the opportunities for Swedish researcher to successfully apply for funding from the European Research Council (ERC). An analysis of the success of Swedish researchers at the ERC conducted in 2017 shows that Swedish researchers within humanities and social sciences had a slightly lower approval rate relative to the approval rate for all applicants compared to Swedish researchers within life sciences and physical science and engineering. As mentioned, the difference is explained under the heading "For increased gender equality" in particular by the fact that Swedish female humanities and social sciences researchers have an approval rate that is lower than half the approval rate for all women within the subject area.[30] The Swedish Research Council has established that these differences in the approval rates for men and women at the ERC should be further investigated; a conclusion that the Scientific Council for Humanities and Social Sciences shares.

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[30] Vetenskapsrådet, "Svenskt deltagande i Europeiska forskningsrådet", VR1706 (2017), p. 22, https://www.vr.se/download/18.5f55e5e81618e003b7066f9f/1529480555947/Svenskt-deltagande-i-Europeiska-forskningsradet_VR_2017.pdf, downloaded 10 July 2018.

Future challenges for the area in a 5-10 year perspective

At a time when research within humanities and social sciences is accorded ever greater importance in the striving and attempts to find solutions to societally motivated research problems, it is of very great importance to inject undirected research funding into the subject area, so that researchers are allowed to formulate their research problems themselves to a greater extent. This is because, as shown in the text mining analysis of applications to the Scientific Council for Humanities and Social Sciences, researchers themselves noticeably often formulate research problems of major contemporary societal relevance. When the demands on humanities and social sciences are reinforced, increased support initiatives for this research are also required, and a neglected area is here the lack of access to relevant research infrastructure. The needs are great, at the same time as competence varies when it comes to method development and other inputs required in order for investments in research infrastructure to return the expected gains. The Scientific Council also identifies digital humanities and social sciences as a focus with the potential of adding new research opportunities for large sections of the subject area.

Secondly, in a five to ten year perspective, documentation shows that competence provision within humanities and social sciences is an important challenge. In the work to improve competence provision, it is not least access to third-cycle education of high quality that is crucial. For this reason, distributed national graduate schools should be created, and also a clearer career path with career development positions; a measure that is intimately linked to greater gender equality. In this context, it is also important to develop knowledge about research ethics and research integrity within the subject area.

A third future challenge is to maintain and improve the impact and dissemination of humanities and social sciences research. Here, higher education is often identified as the individually most important way of disseminating established research results, and the Scientific Council recommends that the issue of how teaching and research can be better linked is investigated separately. Another area that is crucial for the opportunities for impact and dissemination are the publications channels, which differ between different subject areas, with the result that different indicators must be used to evaluate differing inputs. Open access to data and research results are very likely to promote impact and dissemination of research results, but it is far from certain that this must be an imperative requirement in all situations. This not least in view of the legislation that exists in the area. Added to this are other aspects, such as collaboration largely occurring in Swedish, at the same time as Sweden-based humanities and social sciences researchers have a comparatively large citation impact internationally. This indicates that the research in the area is

and should be multilingual. When it comes to measures and methods for evaluating research outputs, it is self-evident that these must reflect adequately the impact and the dissemination of humanities and social sciences research based on the subject area's own prerequisites, and not those that apply for other subject areas. One way of achieving this is to create a Swedish list to form the basis for an analysable SwePub. The international experiences in the area should also be better accommodated to develop models and measures for quality assessment, comparisons and evaluation of humanities and social sciences research.

When it comes to the international impact, an important challenge is to further increase the opportunities for Swedish humanities to receive research funding in competition within HERA and other bodies, and for researchers in the entire subject area to become more successful in applications to the European Research Council. To achieve this, the reasons for differing approval rates in differing international calls should be further investigated.

The Swedish Research Council's research overview within humanities and social sciences describes the current position of research and makes a forecast of developments over the next five to ten years. The overview also includes scientific and research policy recommendations for inputs to promote research in Sweden within the area.

This is one of seven research overviews in total, produced during 2018. The other overviews cover the areas of clinical therapy research, artistic research, medicine and health, natural and engineering sciences, educational sciences and development research. The overviews form a central part of the Swedish Research Council's input into the upcoming Government Research Bill.

Vetenskapsrådet har en ledande roll för att utveckla svensk forskning av högsta vetenskapliga kvalitet och bidrar därmed till samhällets utveckling. Utöver finansiering av forskning är myndigheten rådgivare till regeringen i forskningsrelaterade frågor och deltar aktivt i debatten för att skapa förståelse för den långsiktiga nyttan av forskningen.