



ACADEMY STATEMENT

The need for measures
to strengthen the
international position
of Swedish research

Fewer Swedish researchers at the international cutting edge

Sweden has a long tradition of being a high-ranking knowledge nation, harbouring several internationally prominent research and knowledge environments. But something has changed. A bibliometric study from the Swedish Research Council ("The Swedish production of highly cited papers", Vetenskapsrådets lilla rapportserie 5:2012) shows that during the last 20 years there has been a decline in Swedish research with high international impact compared to countries such as Denmark, the Netherlands and Switzerland. The Research Council study also shows that the number of young Swedish researchers who publish articles of high international standard is considerably lower than in the reference countries. This difference cannot be explained by publications never being cited, disequilibria between fields of research with different publication traditions, varying degrees of international collaboration, or by varying degrees of self-citation. The Research Council study is a warning of utmost importance. It is high time to implement decisive measures to turn this development around if Sweden is to remain a research nation of the highest rank.

What is impeding the development of quality in Swedish research?

Swedish research differs from the more prominent research nations Denmark, the Netherlands and Switzerland in the following respects:

- Sweden deviates from the more successful reference countries by placing equal emphasis on collaboration with the local community and business sector as on education and research – the fundamental tasks of all universities worldwide. Such collaboration is, of course, important also in the more successful countries, but it is not a primary objective for their universities. Swedish universities also feature a large extent of 'sectoral research', where relevance often takes precedence over academic quality. The broadly defined mandate imposed on Swedish universities seems to have led to an increasingly weak focus on groundbreaking research.
- In Denmark, the Netherlands and Switzerland the universities have the greater part of the public funds allocated to research at their own disposal, while external funders (public and private) provide the greater part of research funding in Sweden. External funders with varying objectives thus exert relatively strong control over the direction of research. The universities' own priorities take second stage and efforts are concentrated on how to obtain funding rather than on what research to pursue. The additional resources that have been allocated since the cuts in scientific funding during the 1990s have primarily gone to large environments, networks and strategic areas, whereas the support of free research has been given less weight. The reference countries have also undertaken considerable strategic initiatives, although not at the expense of individual support.

- The more successful universities in the reference countries have developed in-house systems for rigorous quality control, which serve as a basis for allocation of resources. Swedish universities, on the other hand, tend to rely on evaluations made by external funders. Faculty resources are often allocated based on the ability to attract external research subsidies, rather than on an independent evaluation of academic quality. As the universities' own resources have decreased, university managements have also changed and are increasingly involved in administering a large number of varying activities rather than exerting a clear academic leadership aimed at scientific renewal. In contrast, the more successful universities in the reference countries emphasise precisely the task of the academic leadership to create and sustain environments conducive to groundbreaking research.
- A particularly alarming shortcoming of the Swedish research system is the lack of clear career paths and good conditions for young researchers. Today, young researchers who want to advance career-wise are completely dependent on various external funders. This dependency is also increasing among more senior researchers holding faculty positions. Switzerland and the Netherlands, in particular, distinguish themselves by having well-tailored tenure-track career systems for young researchers, who in addition are given adequate basic funding to conduct their research. In contrast to Swedish universities, the more successful universities in the reference countries refrain completely from creating faculty positions funded by external resources.

Despite the fact that Sweden distinguishes itself by relatively generous budget conditions for research, Swedish universities do not perform at the same level as the universities in the reference countries. This is due to a number of systemic reasons: policy decisions at the national level, the manner in which systems for funding have developed, and university managements that do not adequately prioritise the very highest international academic quality.

Proposed measures to improve quality in Swedish research

The cases of Denmark, the Netherlands and Switzerland show that scientific quality is fostered by means of a stable and long-term national policy for research funding, and an academic leadership that single-mindedly prioritises academic excellence. It is particularly important for funding not only to meet strategic needs but primarily to support free research inspired by bold and innovative ideas. Successful universities assume particular responsibility for recruiting based upon strict quality criteria and provide favourable career conditions for young researchers. We call for the implementation of a six-point programme in order to improve the quality of Swedish research.

- Let policy decisions about research and agreements with trade unions be guided by the ambition to improve the quality of Swedish research. It is the opinion of the Academy that the increasingly broad mandate imposed upon universities neglects an adequate regard for criteria that promote research of high international quality.
- Strengthen the long-term funding conditions for researchers with new bold ideas, which will make possible free and challenging research with a large potential for renewal. Thereby a more satisfactory equilibrium can be established in relation to current strategic initiatives.
- Prioritise an academic leadership with high academic legitimacy and bold visions when recruiting leaders for various levels within the university (Vice-Chancellor, Dean, Head of department). A successful academic leadership assumes responsibility for scientific renewal by providing an organisation well adapted to its purpose, by means of establishing creative environments based on conscious recruitment and good career opportunities, and by means of prioritising resources for the best research environments.
- Universities wanting to promote a high quality of research should gradually reintroduce a system with fully paid faculty positions for professors and lecturers, and basic funding that permits risky long-term research in areas where the university aims for a position at the cutting edge. The current trend with researchers increasingly becoming dependent on external funding counteracts the long-term commitment and possibilities for risk-taking that are prerequisites for successful research. In the long run, the funding of faculty positions with external resources ought to be discontinued.
- Strengthen the career opportunities for young researchers by introducing a transparent career system with tenure-track positions for young researchers, as well as funding research at a level relevant for the subject in question.
- Recruit internationally as well as nationally for all faculty positions at all levels. In order to be successful it is important that the conditions offered are internationally competitive. Emphasise, in the recruitment process, the creation of environments with complementary scientific skills. In addition, emphasise mobility in order to foster scientific renewal.

Our proposals will take time to implement; they entail a profound systemic shift and it is uncertain whether universities alone can bring this about. The University autonomy reform of 2011 (the Government bill for a reformed constitution of higher education institutions) makes it possible, however, for universities themselves to initiate changes in the direction suggested, all within current budgetary constraints. The Government ought to be prepared to provide targeted economic support to such initiatives for change. We want to stress, however, that a decisive reinforcement of

the universities' quality improving measures as regards organisation, allocation of resources, recruitment and career system – all with the purpose to increase scientific renewal – is a prerequisite for it being meaningful to gradually increase the ratio of in-house to external funding. It is important that the reinforcements of universities put forward in the latest research bill are geared towards initiating changes in the direction we propose. International experience shows that a reform of university research according to the principles outlined above can enable universities to make significant progress over a ten-year period and even to position themselves at the international cutting edge.

This Academy statement is based upon the Academy report "Fostering breakthrough research: A comparative study", authored by Gunnar Öquist and Mats Benner, and published in December 2012. The study was funded by the Knut and Alice Wallenberg Foundation.

The report is available for download at <http://kva.se>