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The purpose of the chapter is to compare the governmental steering of research in Finland and Sweden. In both countries, policies emphasise the relevance and excellence of academic research. Examples include Finland’s establishment of SHOKs and Swedish initiative of having strategic research areas. However, the countries differ in their use of centralised and decentralised policy instruments. The Finnish authorities have been more active in profiling the research of individual universities.

Keywords: Research policies, Finland, Sweden, research profiling

Introduction

Competition between national governments for greater shares of the global economy has led governments to think more strategically about the production of academic knowledge and its dissemination (Hazelkorn 2005). Universities are said to have an instrumental role in the knowledge society: they are seen as means of producing material well-being and welfare for society.

Governments today assess academic knowledge production and dissemination in terms of their strategic potential: how might research produce material benefits for individuals and society (Ziman 1996; Connell 2004). The term academic capitalism refers to the growing influence of market forces on academic research, which has coincided with a shift in the funding of higher education from block grants to specific goals related to supporting the development of industry (Slaughter & Leslie 1997).

For many years, higher education institutions (HEIs) have been under pressure to expand their academic output but within tighter financial constraints. Research funding has become more contested over in western countries, and at the same time, HEIs are faced with calls for greater accountability (Martin 2003).

Strategic planning has become crucial at the level of states and regions, as they adjust their activities
to scarcer resources and environmental pressures (Barrow 1996). University profiling, including the setting of research focus areas, is an international phenomenon (e.g., Meier & Schimank 2010). According to Barrow (1996, 453–454), the imperative that universities ‘do more with less’ has led American universities to adopt reform strategies, including instruments such as strategic planning, restructuring and the reallocation of resources. Barrow states that in the US, the ideal of the multi- vesity has been altered to a strategy of selective excellence: to differentiating the missions of universities, identifying or eliminating weak academic programmes, focusing on areas with critical mass, and concentrating resources into larger units.

In Finland, the government resolution on the public research system (2005) has set the goal of ensuring and promoting the impact, quality, content and efficiency of Finnish universities. This goal is being pursued by allocating resources to bigger entities and by strengthening networks, management and performance evaluation. The current development plan for education and research includes the goal that HEIs should profile themselves according to their strengths (MEC 2011, 44).

Interest in university profiling has been growing in Sweden as well. Recent Swedish research policy calls for a greater concentration of research as well as profiling to achieve research excellence (Government bills 2004/05:80; 2008/09:50; 2012/13:30). Strong research environments and excellent researchers have been particularly emphasised, and special grants have been introduced to support these.

Purpose of the study

This chapter presents some of the findings of the research project ‘Priority-setting in Research Management (PrisMa) – Organisational and Leadership Reactions to Institutional Reforms in Finnish and Swedish Universities’, a project primarily interested in the profiling of academic research at the level of university organisations in Finland and Sweden. Both countries have been active in profiling academic research, but their governance of higher education and research systems are not alike, meaning that their policy instruments used in profiling research differ.

The purpose here is to compare governmental steering between Finland and Sweden. Our aim is to investigate to what extent the general policy of focusing research is implemented by the centralised decisions of state organs as opposed to the decentralised decisions of universities.

The research data consist of policy documents, such as government bills, strategic plans, research policies and reports. The chapter begins with a description of the Finnish and Swedish contexts of the national steering and profiling of academic research. We then continue by comparing the findings related to the centralisation and decentralisation of steering structures and policy instruments (Hill 2013; Hood 2007).

Governmental policies in Finland

The policies of profiling academic research may be linked to university mergers. The recent mergers of Finnish universities have reduced their number
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from 20 in 2009 to 14 in 2013. However, these mergers have not been directly related to the policy of profiling research. Rather, the government sees them as part of its policy of establishing a better division of labour between the HEIs and creating larger institutions (MEC 2007).

All Finnish universities share the same mission in terms of legal regulation (University Act 558/2009), such as promoting free research. In addition to the universities, there are 24 polytechnics (Universities of Applied Sciences) at the tertiary level of higher education. The polytechnics do not have doctoral programmes and have been expected to engage in research and development (R&D) activities only since 2003 (see the international evaluation, FINHEEC 2012). Today, the polytechnics have a responsibility to conduct applied research, as well as development and innovation activities oriented to strengthening the competitiveness of public agencies and the private business community in their regions.

The central actors of the national steering of academic research in Finland are the government, the Ministry of Education and Culture (MEC), the Research and Innovation Council, and the public funding agencies the Academy of Finland and Tekes (the Finnish Funding Agency for Technology and Innovation). All these organisations have played a role in implementing the policy of profiling academic research. In 2012, governmental R&D funding was 2,010 million euros (4.0% of all governmental appropriations, Statistics Finland 2012).

According to the Finnish government, the profiles and priorities of the HEIs should be strengthened (MEC 2011, 44). In the higher education network, the overlapping supply will be pruned, administration and support services will be pooled and centralised, and infrastructure cooperation will be stepped up. The government has earlier set the following target (MEC 2007, 34): ‘In 2012 the higher education system will consist of universities and polytechnics in accordance with the dual model. Each university and polytechnic will have a distinct profile in terms of teaching, research, links with working life and regional development.’

The profiles of universities and polytechnics will be sharpened ‘to bring strategic priorities into clear relief, which will facilitate the targeting of research funding and competition for international research funding.’ More specifically, ‘universities’ research prerequisites will be strengthened in the selected strategic priority areas and especially in research-intensive universities’ (MEC 2007, 34.)

Target and performance negotiations between the ministry and each university are one of the government’s major instruments for the implementation of these goals. Based on these negotiations, the MEC asked all universities to set their strategic research foci for the contract period 2010–2012. In 2010 and 2011, the MEC recommended that the universities specify their research foci further.

In accordance with governmental policy, the Research and Innovation Council decided to establish Strategic Centres of Science, Technology and Innovation (SHOK) in 2006. They were meant to be new kinds of knowledge environments that would support the competitiveness of Finnish business and society. The government also took the initia-
tive to clarify the status of governmental research institutes and to reconsider the division of labour between them and the universities (MEC 2011).

The basic funding of universities is lump-sum budgeting (public block grants). There is no division between funding for education and funding for research; the strategic choices have been left to the universities. In 2009, the basic funding from the MEC to the universities was 1,511 million euros (64.7%) and the external, competitive funding was 825 million euros (35.3%). The largest amounts of external research funding were from the Academy of Finland (175 million euros; 21.2% of all external funding), Tekes (106 million euros; 12.8%), domestic companies (105 million euros; 12.7%), other domestic sources (317 million euros; 38.4%), and the EU (94 million euros; 11.4%) (KOTA database). Thus the research funding decisions have largely been in the hands of various funding organisations, who emphasise their own priorities.

The basic funding of universities has not included instruments specifically oriented to profiling the universities or setting their priorities. So-called strategic funding has been part of the funding formula, but its role has been marginal. According to the new formula of basic funding, the proportion of strategic funding is 10 per cent from 2013 onwards. It is probable that strategic funding will play a major role in terms of profiling and priorities, as this is one of the main goals of the new funding formula.

The results of a comparative study of national research policies (Viljamaa et al. 2010) indicate that the role of thematically targeted funding schemes, most notably those of the Academy of Finland and Tekes, is stronger in Finland than in its reference countries who, in turn, emphasise more researcher-driven funding.

The Finnish Research and Innovation Council (established in 2009, formerly the Science and Technology Policy Council of Finland) assists and advises the government and its ministries in matters relating to the direction, follow-up, evaluation and co-ordination of research, technology and innovation policy (MEC – Research and Innovation Council). The Prime Minister is the chair of the council, other members being ministers and members with expertise in research and innovation. In 2010, the council stated that ‘clear choices that will support a) specialisation in competitive areas of strength, and have b) the ability to identify and support promising research, competence and business areas’ (RIC 2010, 18).

The role of the council has been relatively strong in the policy formulation of profiling. The policy guidelines are implemented by the government, the Academy of Finland, and Tekes within the framework of available funding.

**Implementation of policies**

In 2011, funding by the Academy of Finland accounted for 16% of governmental R&D spending in Finland. Funding has been allocated to a wide variety of research activities, such as academy projects, targeted academic projects, research programmes, and centres of excellence in research (Academy of Finland 2012). Funding is competition-based and granted for a fixed period.
International scientific peer reviewers assess the applications. There are several funding instruments. The instrument of research programmes focuses research onto certain prioritised areas, suggested by researchers and institutions. The councils of the Academy prepare the proposals for the programmes, which are decided on by the board of the Academy. The objective is to launch two programmes each year (Academy of Finland Research Programme Strategy 2011).

Centres of Excellence in Research are an instrument to raise the quality standards and to improve the competitiveness of Finnish research. They concentrate funding in top-level groups, but are not connected to strategic research areas in the prioritisation of applications. However, applications must be formally related to the strategy of the applicant’s university.

The research areas of targeted Academy projects may be part of the Academy’s research programme or connected to it. The thematic areas are decided by the Academy’s councils, and many areas reflect national and international collaboration between the councils and external partners. The joint funding for the themes varies within the range of 0.5–4 million euros per call.

Yet another funding instrument of the Academy of Finland and Tekes used in setting research priorities is the Finland Distinguished Professor Programme (FiDiPro), which provides funding for distinguished foreign researchers to work in Finland.

All in all, although the Academy of Finland emphasises the links between the funded research and the strategic choices of the applicant’s university, it does not always require a direct connection to the research focus areas of the university.

Whereas the Academy of Finland is a science-based funding agency, Tekes is a more mission-oriented agency: it finances research, development and innovation. In 2011, Tekes invested 147 million euros in projects launched by universities (approx. 24% of Tekes’ total funding). Funding is focused on applied and strategic research, and its commercialisation. The staff of the agency review the applications, not external peer reviewers like in the Academy of Finland. Tekes has six focus areas. In 2011, approx. 54% of all R&D funding from Tekes was targeted at strategic choices, mostly applied research in which business sector involvement is strong (Tekes 2012).

Tekes coordinates the research programmes of the SHOKs. Between 2008 and 2012 it funded the SHOKs with 375.5 million euros together with the Academy of Finland and private companies. The centres are major strategic areas of research, as well as platforms of collaborative research and innovation activities.

**Governmental policies in Sweden**

The Swedish university system contains about 50 institutions: 12 older and four newer universities, five university colleges with the ability to award doctoral degrees in certain areas, nine other university colleges, and a number of other specialised institutions. Doctoral degree programmes in Sweden can be offered by universities and university colleges that are entitled to award third-cycle
qualifications. The newer institutions have a larger share of the education (i.e. number of students). In terms of research, the twelve older universities completely dominate and receive about 90% of all research funding (Ljungberg et al. 2009). This has created two distinct groups of HEIs in the Swedish university system: one with a large volume of both research and education, and another which depends on education and carries out only a marginal amount of research.

Since 2009 three university mergers have taken place (and one is planned for 2013) driven by changes in government funding, which since 2006 has been less favourable to the smaller universities and university colleges (Benner et al. 2010). The mergers have been supported but not ordered by the government (Geschwind & Melin 2011, 11).

The Swedish public science funding system is a mix of institutional block grants and a competitive funding scheme. The block grants constitute the basic funding of the universities. Almost all publicly funded research is carried out by the universities (Dellnäs & Deiaco 2008). Government funding for R&D was in 2012 SEK 31 billion (3,599 million euros), or 3.8% of total governmental appropriations (Statistics Sweden 2012). About a half (47%) of the government funding for research is distributed as direct grants to the universities and university colleges. Block grants for research are separate from block grants for education and other activities. An additional quarter (25%) is distributed to the universities through external funders. The rest of the funding is allocated mostly to military research (Swedish Agency of Higher Education 2012).

The Swedish structure of research funding councils was reorganised in 2001, when three governmental research councils were created: the Swedish Research Council, the Swedish Research Council for the Environment, Agricultural Sciences and Spatial Planning (Formas), and the Swedish Research Council for Working Life and Social Research (FAS). The Swedish Research Council (given 16% of government R&D funding in 2012) supports research within research infrastructures, medicine, humanities and social science, natural and engineering sciences, as well as educational sciences, and artistic research and development. Most of the Council’s research grants are distributed to researcher-initiated projects. The Swedish Research Council for the Environment, Agricultural Sciences and Spatial Planning (Formas) (3.3% 2012) supports basic and needs-driven research in the fields of the environment, land-based industries and spatial planning. The Swedish Council for Working Life and Social Research (FAS) (1.3% in 2012) supports research into areas such as the labour market, work organisation, work and health, public health, welfare, the social services and social relations. The Swedish Governmental Agency for Innovation Systems (VINNOVA) (6.7% in 2012) aims to strengthen Sweden’s innovativeness, aid sustainable growth, and benefit society (Statistics Sweden 2012; Swedish Research Council 2013).

Sweden has followed the global trend of public research and higher education being increasingly important for social welfare, technical development and economic growth (Hallonsten & Silander 2012). The message from the government has been to increase the competitiveness of universities through strategic profiling and concentrating
resources. Recent legislation concerning research has addressed the lack of focus and long-term perspectives in research funding, and has ordered a higher degree of concentration and profiling in order to achieve excellence and competitiveness in the strategically chosen areas (Government bills 2004/05:80, 2008/09:50, 2012/13:30).

Sweden has a long tradition of using the HEIs as the main research performers (Dellnäs & Deiaco 2008; Sörlin 2004). Research funding has traditionally been based on initiatives from the researchers. This has created a researcher-dependent funding system and has resulted in a situation where research covers a broad range of areas (Forskningsberedningen 2010). Reforms of the funding system, such as introducing new schemes and restructuring governmental funding agencies, have been made (Benner & Sörlin 2007), emphasising strong research environments and excellent researchers. Several of the largest research funding agencies have over the last decade established special programmes to foster strong research environments. About 10% of Swedish public research funding can be considered to consist of so-called ‘excellence programmes’ (Sandström et al. 2010).

Priorities are acted upon in different ways in the Swedish system. Some of the research councils and agencies have specific missions, but they also support basic research. A calculation made by the Royal Swedish Academy of Engineering Sciences (2009, 15) estimated that two-thirds of external funding of the Swedish research councils is spent without a thematic profile.

Implementation of policies

Research policy in Sweden has increasingly focused on excellence and concentration. A quality-based system has been introduced to influence the research priorities funded by block grants. The research priorities in Sweden will in what follows be described in terms of 1) the new system of funding based on the quality of research introduced in 2009, and 2) the introduction of programmes for the funding of excellent research in the last decade.

With the Government bill of 2008, the amount of direct research funding was substantially increased. The extra amount was to be distributed based on a ranking of quality calculated as the number of internationally published articles and citations (Forskningsberedningen 2010; SOU 2007, 81). Since 2009 the government has allocated part (10% which will be raised to 20%) of its direct funding to the universities based on a bibliometrical indicator (Government bill 2012/13:30). The aim of the model is to produce incentives for institutions to work harder in the area of profiling (Government bill 2008/09:50, 23).

Another tool of governmental efforts to concentrate research has been the introduction of large-scale programmes for the funding of excellent research. Two of the larger research programmes, in terms of money and duration, are the Linnaeus grants and the Strategic Research Areas. One of the goals is that research be strengthened through the establishment of internationally competitive centres of excellence giving a high priority to medical, technological, and environmental research.
among other fields (Government bill 2004/05:80, 1).

The Linnaeus Grants aim to provide the possibility to concentrate on and enhance research of high quality (Government bill 2004/05:80, 1), as well as to provide support for long-term funding. Individual research environments could receive funding of up to 10 million SEK (1.2 million euros) a year for a maximum of ten years. In total, the Linnaeus grants distribute approximately 280 million SEK (33 million euros) over a period of 10 years (Swedish Research Council 2009). The objective of the grants has been to encourage universities and colleges to prioritise research fields by concentrating the funding: ‘It is crucial that universities and university colleges be stimulated to create a profile’ (Government bill 2004/05:10). The effort to build a strong research environment should be endorsed by the rector in each case, and should address how the grant would be part of the institution’s strategic priorities.

Another large initiative, the Strategic Research Areas programme, has been allocating 5,270 million SEK (612 million euros) to 20 areas over a period of five years (2010–2014). The government’s view is that the block grant system had resulted in a lack of long-term perspectives and risk-taking and has created many problems (e.g., large amounts of money distributed according to criteria other than the quality of research). Research up to now has been primarily funded by direct grants or by external funding from public funders to individual researchers or research groups. To address this situation, a government bill proposed increasing the support for a number of ‘selected strategic research areas’ for the period 2009–2012. The programme should be a mix between the peer review system of the institutional block grants and the long-term competition funding schemes (Government bill 2008/09:50, 24).

This funding, channeled through the universities, should be linked to the mission of further developing the research in the strategic areas and eventually being part of the profile of a university. Areas selected for support were those of strategic importance to society and the business sector. The 20 strategic areas were chosen by the government based on their excellence and possibilities of solving important global problems as well as strengthening Swedish business competitiveness (Government bill 2008/09:50).

Comparisons

The governments of both Finland and Sweden have increasingly moved to support the concentration of research funding and the profiling of universities. Their policies emphasise the relevance and excellence of academic research. Examples include the establishment of SHOKs in Finland and the initiative of strategic research areas in Sweden.

The two countries have distinct academic systems. The Finnish university system is dual, consisting of universities with strong research capabilities and polytechnics with a stronger orientation towards teaching. Sweden officially has a unitary system, but in practice there is a difference between the older universities and newer institutions concerning research capabilities. In this sense the systems actually resemble each other.
A move in the direction of reducing the number of HEIs through a process of mergers has taken place, but the process has been different in the two countries. In Sweden, the mergers can be characterised as being bottom-up processes initiated by the HEIs and supported by the government. The Finnish government has initiated mergers more actively, and the process has been one of negotiations between the Ministry of Education and Culture and the universities.

An important difference between the countries concerns the role of the government. In Finland, it is notable that the government and the ministry responsible for education and research affairs have been active in promoting profiling in the universities. The recent processes of university profiling in Finland reflect the goals of the ministry and the dialogue between the ministry and the universities. In Sweden, on the other hand, the equivalent ministry has not directly attempted to profile individual universities. Instead, a weaker form of steering has been implemented through national public funding devices, such as the introduction of a quality-based funding distribution system and large excellence initiatives.

Another major difference between the two countries relates to the tools of governmental steering—the policy instruments. A comparison of direct governmental research funding is difficult due to the different systems. In Finland, the MEC finances universities without allocating funding separately to education and research, while in Sweden this division is made. In Sweden, the attempts to create profiles for universities have relied more on information steering about policy objectives as well as economic incentives as policy instruments. The Finnish authorities have used more regulatory instruments together with economic incentives and information steering.

In Finland the funding applied from the Academy of Finland and Tekes is researcher-driven, partly within the framework of research programmes. Funding agencies do not expect that applied funding commit universities to create research profiles in concert with the focus of funding—as opposed to the practice of the Strategic Research Areas in Sweden. As well, in Sweden the majority of applications to the research councils are researcher-driven. The Finnish government has made no decisions about strategic research areas: all programmes have been decided at lower levels by the public funding agencies. Instead, the Finnish government has stated that universities should create profiles that are based on their strengths and it has offered small amounts of extra funding for strategic areas. To date, there has been no coordination between the strategic research areas of the universities and the targeted research instruments of the public research funding agencies.

Although the Swedish government’s efforts to profile research at the level of universities are weaker than in the case of Finland, the government still endeavours to steer research. However, most research is researcher-driven in the sense that researchers are the applicants instead of the universities, although a general focus may be set by the research council in the calls for proposals. In Finland, the responsibility of profiling research is in the hands of both the universities and public research funding agencies. Most of the applica-
tions are researcher-driven, not university-driven. The Finnish case relies on decentralised decision-making, which leads to challenges, if the aim is to create nationally coordinated research areas. In the end, it is the volume of funding allocated to strategic research areas which is important in terms of the effectiveness of the policy. So far the volume has been quite small in both countries.

References

Academy of Finland (2012). Key facts and figures of the Academy of Finland are based on annual reports and other material available at the website www.aka.fi.

Academy of Finland, research programme strategy (2011). Helsinki: Academy of Finland.


KOTA database. Ministry of Education and Culture, Finland.


analys av utförande och finansiering av behovsmotiverad forskning i det svenska FoU-systemet. Stockholm: Institutet för studier av utbildning och forskning (SISTER).

Tekes (2012). Key facts and figures of Tekes are based on annual reports and other material available on the website: http://www.tekes.fi/en/community/Home/351/Home/473.
