

# CHAPTER 15

## A Research University for both Academic Excellence and Responsibility for a sustainable future — does the Swedish model work?

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### INTRODUCTION

Sweden has for a long time been spared from armed conflicts and major disruptive social problems. During the past decades, we have gone from a homogeneous state to an increasingly diverse and diverged country. In an international comparison, Sweden looks in many ways like a very attractive country to live and work in, as recently highlighted in *The Economist* magazine (2013).

Sweden and the Nordic countries (except Iceland) stand out among other E.U. countries with relatively strong growth and sound public finances. The success of the Swedish model is reflected in a number of aspects, such as an economic policy focused on making work more profitable and reducing social exclusion, growth and structural reforms, as well as measures to improve education and employment opportunities.

Various reports show that Sweden is holding up relatively well internationally in terms of average citation rates: Sweden currently ranks seventh, with a large number of nations close behind. On the other hand, a bibliometric analysis from the Swedish Research Council shows that Sweden's production of breakthrough research has fallen below that of Denmark, the Netherlands and Switzerland over the last 10-20 years (Karlsson, 2010).

All in all, Swedish research is maintaining high quality, but its international importance is tending to decline — clearly a worrying trend. According to OECD's *Education at a glance* (2012), the number of today's young adults in Sweden who will complete a tertiary-type A (largely theory based) education over their lifetime is just below the OECD average, but far behind our Nordic neighbours.

At the same time, according to the *Global Creativity Index* (2011), Sweden is proven to be one of the world's most creative countries. The index measures the technological knowledge of the population and the capacity, competence and openness to new ideas. These parameters are summarized in the form of three Ts: technology, talent and tolerance. In the latest studies Sweden ranks as the most creative country. We end up in fifth place in terms of technology, ranked second in terms of talent and seventh in terms of tolerance. But past success is no guarantee of a glorious future.

From the middle of the 20th century, the Swedish university sector evolved rapidly, and during the latter part of the 20th century and early 21st century higher education in Sweden continued its expansion. Many new university colleges were founded and student numbers soared. The political objective was that everyone should have the opportunity to study at university. Today this aspect of higher education has somewhat ceased, and the volume of expansion has decreased slightly in recent years. During the 2011 autumn semester, 363,000 students studied at undergraduate and graduate level in Sweden. This was 6,000 fewer than in 2010 (Kahlroth & Amnéus, 2012). In the past few years, new institutions have been created mainly through mergers between existing universities. Examples of mergers that have taken place in recent years: 2010 — Linnaeus University was established when the University of Kalmar merged with Växjö University; the most recent merger dates from 1 July 2013 when the University of Gotland merged with Uppsala University. Today there are more than 50 colleges and universities in Sweden of different sizes and with different orientations, offering a wide range of education in various fields.

Sweden is currently ranked second in the U21 rankings latest survey of 50 national higher education systems worldwide (*U21 Ranking of National Higher Education Systems*, 2013). When it comes to institutional rules, education, innovation and infrastructure linked to the growing importance of information technology and the "knowledge society", Sweden takes the lead. This is pointed out in, for example, the *World Bank Knowledge Economy Index 28* (2012) and *INSEAD business school's Network Readiness Index* (n.d.)

Since 2006 Sweden has a new government with high ambitions for the research and higher education sector. Autonomy as a general concept, combined with quality and performance and a utilitarian aspect, have been some of the guiding principles in creating a new policy for higher education in Sweden.

As a result, the past few years have been a turbulent time with several reforms which in a major way have influenced the development of research and higher education. The prerequisites have changed substantially, and several variables, external as well as internal, will affect us in the near future. The prerequisites for research and education in Sweden have recently changed through a number of governmental reforms such as two major Research and Innovation Bills (Government Bill, 2008 & 2012), the Autonomy Reform (2010) and the reform of higher education due to the Bologna process (n.d.), as well as the new national Quality Assurance System. The introduction of tuition fees for international students in 2011 is another element that contributes to changing the environment for higher education. It is clear that the Swedish government wants to invest in research, but how should we invest, and what are the possible effects of this high pace of reforms? In this paper we aim to discuss how these recent reforms have affected the higher education sector.

### **IMPRESSIVE AMOUNTS OF NEW MONEY BUT MANY STRINGS ATTACHED**

Since 2008, the government has made major investments in research at Swedish universities. This increase in funding has occurred despite the global financial crisis that took off in 2008. Every four years, the Swedish government presents a Research and Innovation Bill, which outlines the government's priorities for the coming years. The bill "A boost for research and innovation" was presented in October 2008 (Government Bill 2008/09:50), a few weeks before the global financial crisis was triggered with full force. It was an increase in appropriations of SEK 5 billion for the period 2009–2012. The direct funding to universities was to be raised and allocated according to a new system, in which quality should determine how much funding each university or college would receive. Quality was to be measured by two factors — publications/citations and external funding. Investment in research in areas of strategic importance for Swedish society and business was also introduced, as well as a new model for innovation where the utilization and commercialization of research would be stimulated.

Since the Second World War, Swedish basic research has in principle been financed in two ways: through direct appropriations to the university and by competitive grants channelled through the Research Council. One part of the reform was the introduction of a third, major way of funding: strategic research areas. A large part of the five billion (SEK 1.8 billion) in the research bill was deposited in what was meant to be a permanent annual increase in funding for research in a number of strategically important fields, often quite narrowly defined and pre-selected by government based on undisclosed criteria. The strategically important areas of concern identified were mainly in medicine,

technology and climate research. This has been criticized for being too narrow a perspective, and that the humanistic and social scientific field was under-represented.

Four years later, in 2012, a new Research and Innovation Bill was presented (Government Bill, 2012/13:30). Surprisingly to most, the amount of new money for research was about the same size as in 2008. The investments included an increase of resources for research and innovation of about 4 billion until 2016, in order to strengthen Sweden's position in the long term as a leading research nation. Among other things, a particular focus on life sciences was implemented. With the increase of 5 billion presented in the previous research and innovation bill, this provided an increase of approximately 9 billion in eight years.

The government submitted its approach to research and innovation policy for the period 2013–2016, and believes that increased funding for research and knowledge-intensive innovation is an important instrument for the improvement of the quality of Swedish research. High-quality research can contribute to the welfare of citizens, social development, economic competitiveness and sustainable development. In the bill, the government stated that measures aimed at the quality of research and utilization of research-based knowledge need to increase.

Furthermore, the funding for international recruitment of scientists engaged in high-quality research was increased. The government estimated that Sweden generally had a low international recruitment of researchers compared to many other countries, which was, and is, a clear gap in the Swedish research system. This concerns particularly the recruitment of established, foreign, high-level researchers. As a part of the efforts to strengthen the quality of Swedish research, a system should be created for international recruitment of scientists with great potential.

Moreover, funding for research infrastructure should be increased. Research infrastructure refers to large research facilities, databases, bio banks or large-scale computing analysis centres and modelling resources, for example. These resources are often critical in order to conduct high-quality research. As the infrastructure becomes more extensive and costly, it is necessary to develop them jointly at a regional, national or international level, according to the government. One prominent example of this is SciLifeLab, a collaboration between four universities in Stockholm and Uppsala (Stockholm University, Karolinska Institutet, the Royal Institute of Technology [KTH] and Uppsala University), where advanced technical know-how and state-of-the-art equipment is combined with a broad knowledge in translational medicine and molecular bioscience.

The Research and Innovation Bill from 2012 places a greater focus on the “excellent individual”, and can to some extent be seen as a reaction to the

criticism of the previous bill. The government now makes an effort to paint with broader brush strokes, but retains a high degree of political control.

While major funding is spent on research in strategic research areas, research and development in industry have declined these past years. According to Statistics Sweden's (SCB) assessment (2011), investment in research and development increased in 2010, both in academia and the public sector, but business spending on research and development fell relative to 2009. The assessment shows that companies reduced their investments in Sweden from SEK 79.4 billion to SEK 77.8 billion between 2009 and 2010. In the business sector, spending on research and development declined the most in the manufacturing sector.

The emerging picture is thus ambiguous. Spending on research and development seems to increase in the higher education and public sector, while companies reduce their development costs. It is thus most important to monitor this development, and increase the collaboration between higher education institutions and the business sector.

Another aspect of governmental funding is the difficulties for the universities to control their strategic process. Since a large part of their funding comes from governmental appropriations, higher education institutions don't have full control over their own resources and funding. A large proportion of university funding is external and more than 50% of research revenues come from external funding. The investments in research are positive, but what we see are controlled investments, and the balance between external funding and basic grants is lacking.

It also remains to be seen whether international recruitment of top-level scientists is the right way to go. Maybe it could be more appropriate to pick promising young scientists with potential. The aspect of increased funding of research infrastructure and the aspiration to develop them jointly at regional, national or international level are a wise suggestion. Research collaborations such as SciLifeLab are good examples of the advantages of such a system.

## **UNIVERSITY GOVERNANCE: GREATER FREEDOM FOR WHOM?**

In 2010, a governance reform called "The Autonomy Reform" was presented, and entered into force in January 2011. The aim of the reform was to increase the freedom of publicly funded universities and other higher education institutions within the framework of the current governmental format. In the bill the government presents proposals and makes assessments involving extensive deregulation of internal organization and teaching positions. The general regulatory framework for financial administration that government agencies are required to comply with should be reviewed to better meet the conditions of universities and colleges.

The initiative to give greater freedom of self-determination to publicly funded higher education institutions was an important matter of principle in view of the fundamental task of institutions of higher education to be an independent and critically reflective force in the development of society. Also, giving higher education institutions greater freedom and responsibility to adapt to their own situation and needs will benefit the quality of their activities. Greater freedom of action is a prerequisite for enabling higher education institutions to run their activities successfully in a competitive international sector.

The Swedish Association of University Teachers (SULF) has examined in a survey the changes that have been made, and are being made, as a result of the autonomy reform. The report concentrates on issues related to teaching positions and organization. The largest changes due to the reform occurred in smaller colleges, both in terms of employment arrangements and other organizational matters (Samuelsson, 2011).

The Association of Swedish Higher Education (SUHF) also studied the effects of the autonomy reform, and concluded that a comparison of teaching positions and employment schemes displays a broad range of variations between institutions and different interpretations of the same concept. The report gives a mixed picture, which is not surprising, since it is now possible to go different ways (Samuelsson, 2012).

Some variation and diversification can be a good thing, as higher education institutions can use the autonomy reform as a way to promote themselves as attractive workplaces. It is time for higher education institutions to roll up their sleeves and seize the opportunities for change that the autonomy reform offers. Others believe, on the contrary, that the autonomy reform has not led to any significant changes, and the question is whether the universities have really dared to use their space for autonomy.

In summary, the outcome of the autonomy reform so far has been that no one is satisfied. For those looking for more autonomy, not enough has been made. Universities are still authorities and a part of the state, with the obligations that involves. Others argue that the collegial governance has weakened as an outcome of the reform.

## **THE BOLOGNA PROCESS: UNFINISHED BUSINESS**

The Bologna process is another reform that has affected Swedish higher education in recent years. The process based on the Bologna Declaration aims to make Europe a coherent higher education area.

Sweden was one of the last countries within the Bologna family to implement the three-cycle system (bachelor, master and PhD). Decision-makers in Sweden discovered relatively late that we needed concrete reforms in order to

meet the guidelines. Once that became clear, the Bologna process encouraged a major reform of higher education in Sweden. The bill, known as “New World — New University”, came into effect on 1 July 2007 and brought about changes in the Higher Education Act and Higher Education Ordinance. Within the second cycle, a new two-year master’s degree has been introduced. With the introduction of a three-cycle system, all degree descriptions have been reviewed and the degrees have been placed at either first, second or third level. In contrast to most other countries, the consequence of the reform in Sweden has been an extension of the study period.

The new degree descriptions are based on the expected learning outcomes of students and are related to the Qualifications Framework of the Bologna Process. These are formulated for general qualifications (i.e., Bachelor’s, Master’s and PhD) and professional qualifications as objectives under three headings: knowledge and understanding, skills and abilities, and judgment and approach. Universities in Sweden have the autonomy to establish programs and decide the specific field of specialization and establish more precise requirements within the framework of the national qualification description. So, even though Sweden was one of the last countries to implement the three-cycle system, it carried out the reforms quickly and thoroughly.

One ambition with the Bologna Process is to promote a shift from teaching to learning, from input to outcome. Such a shift was welcomed by most teachers and students in Sweden. The Bologna Process is also seen as an opportunity to leverage further educational reform; to enhance pedagogy, assessment and quality assurance. A positive outcome of the Bologna Process is how it widens the perspective of education, from emphasis mainly on knowledge as the learning outcome to competence and skills. As an example, Uppsala University has developed a variety of master programs and has a stronger focus on internationalization. There is no external accreditation or validation prior to the start of a university program, with the exception of professional qualifications. The validation is performed by the universities’ internal quality assurance systems. However, all programs are evaluated periodically by an external quality assurance agency.

## **QUALITY ASSURANCE SYSTEM: IS SWEDEN AHEAD OF THE PACK, OR DIGGING ITS OWN HOLE DEEPER?**

In early 2000, Sweden had a program evaluation system that would look at the prerequisites, processes and outcomes of higher education. The system received a lot of criticism from the sector. It was said to have a one-sided perspective focusing on prerequisites only, not being predictable, clear or transparent. A simpler system was developed, which was based on key indicators, but this attempt failed due to massive criticism from the sector.

A system for quality assurance was then developed by the Swedish Higher Education Authority (HSV) in cooperation with the sector of higher education. This was not endorsed, and instead yet another evaluation system was developed, the governmental bill “Focus on knowledge – quality in higher education”, presented in 2010 (Government Bill, 2009/10:139). In the bill, the government proposed that the emphasis of the national quality assurance system for higher education institutions must change to meet the new requirements imposed by the objectives of greater freedom, internationalization and high quality. The government argued that Sweden needs a quality assurance system which strengthens the incentives to achieve high standards of performance in training. Universities with high-quality teaching should be rewarded through increased funding.

The new system of evaluation was launched in 2011, despite the fact that the head of HSV, the University Chancellor, resigned in protest at the new system. In the new system, four criteria are used for evaluation: students’ final theses, surveys of previous students, institutions’ self-evaluations and students’ experience. But the majority of evaluation decisions are made mainly on the basis of students’ theses, which has drawn criticism from the SUHF and the European Association for Quality Assurance in Higher Education (ENQA) panel, among others (Myklebust, 2012).

An important point is that the evaluations focus on results. What is considered to be results are how well the program meets the requirements set out in the Higher Education Act and the degree descriptions. Educational institutions are in the new quality assessment system responsible for analysing the conditions and processes that form the basis for the educational outcome.

Evaluations of the current system will be implemented in four-year cycles (instead of the previous six-year cycles) and result in a judgment on a three-point scale. Another new feature is that the evaluations shall provide the basis for a part of the government’s resource allocation to universities and colleges (Järplid Linde & Sundkvist, 2012). Also, Higher Education Institutions can have their right to award degrees retracted if they do not comply with the demands.

Where the attention was previously focused on the prerequisites, it now centres exclusively on results, with sanctions and rewards, and we have already seen some of the effects of this. In the first round of evaluations that was reported in April-May 2012, 262 education programs were evaluated; 66 of these programs, corresponding to approximately 25%, were found to have “poor quality”. One can ask oneself if this really reflects the reality. The model for evaluation has many critics. The experiences from Uppsala University show that cross-border and more applied courses fall out of the framework for the model of evaluation. The new system of quality assessment has been debated vociferously. Some critics mean that it has a one-sided emphasis on results, which penalizes cross-border and more applied courses. We risk a



return to more discipline-based teaching, reversing the achievements made over the past 10–20 years. A more balanced system is needed, which also takes into account the prerequisites and processes. In addition, the ENQA has not given a green light to the Swedish quality assurance system. It is very problematic to have a quality assurance system that is not internationally recognized.

The report from the ENQA (2012) said that the European Standards and Guidelines for Quality Assurance in the European Higher Education Area's (ESG) first principle was that external quality assurance should build on the results of internal quality assurance. But the Swedish system "takes no account of institutions' arrangements for internal quality assurance, except at the very margins".

The report added that while a basic principle of ESG was that quality assurance systems should lead to enhancement, the Swedish system made no recommendations for improvement. Also, the extent to which the new system was prescribed cast doubts on the operational independence of the reviewer. The system is not aligned with the fundamental principles of ESG. In the view of the Review Panel, there are weaknesses inherent in the system that make it possible that unreliable judgments will emerge, even on the narrow and reductive basis intended.

Still, there is a positive side to the new quality assurance system. There is a greater focus on the expected learning outcome and on the examination papers, and the processes of evaluation have raised consciousness about quality and increased quality awareness. The discussions and debate will continue, and hopefully result in some amendments.

## **TUITION FEES: REVERSING INTERNATIONALIZATION?**

Free education and the public good have long been central concepts of education in the Nordic countries, but now we see how tuition fees primarily for non-European students are being introduced. First out in the Nordic countries was Denmark in 2006. Sweden introduced tuition fees for the autumn semester in 2011. The message from the government was that Swedish universities must compete internationally with quality, not with free education. The government also promoted the idea that tuition fees for students from countries outside the EU/EES would give the universities the opportunity to work more strategically with recruitment of these students.

Sweden is a small economy, extremely dependent on international trade and openness to inflows of talent and knowledge. As a small country, with a small native language, it is not realistic to make Sweden the first choice for students looking for education on an international market. That is why the possibility of accepting a number of international students without tuition fees was so important.

In the report from the Nordic Council of Ministers “Tuition fees for international students” (2013), tuition fees for international students (non EU-countries) in the Nordic countries and how the charges affect the number of students have been analysed. The report shows that Denmark lost a large number of students when fees were introduced, but the numbers began to rise again after two to three years. In Sweden, the number of students was reduced from 8,000 to 2,000 when fees were introduced. Norway and Iceland have no tuition fees and in both these countries, the number of international students from countries outside the European Union has increased over the past five years. It indicates that students choose to study in Norway and Iceland, as a result of tuition fees in Denmark and Sweden. In Finland, a pilot project is under way with fees for 41 programs from 2010–2014, and they await the outcome of the pilot project before deciding whether to start using tuition fees or not.

It is clear that Sweden has not gained from the introduction of tuition fees. The new system was introduced too fast, and the application systems have not been adapted to the current situation. The universities today may not have separate admissions, or quotient groups, for students from outside the European Union, which results in a slow admission process. A greater flexibility is required to enable rolling admissions and faster processes. Another issue is the lack of access to more scholarships. We need a real handshake between business and government and a cohesive generous scholarship program to attract talented students to Sweden. These are all issues that must be dealt with immediately.

Another aspect that limits Sweden’s attractiveness (and that of other European countries) for international students is the current set of rules for receiving a student visa or a residence permit. The rules and regulations related to visa applications are complicated and unclear. The rules vary between member states of the E.U. and make it difficult, or almost impossible, for those who are not E.U. citizens to move from one member state to another. The European Commission has recently presented a proposal (2013) which aims to make it easier and more attractive for non-E.U. national students, researchers and other groups to enter and stay in the E.U. for periods exceeding three months, and the Commission hopes for the new rules to take effect as of 2016. The proposal includes clear timelines for national authorities to make decisions on applications. It will also provide increased opportunities for overseas students and researchers to access the labour market during their stays and facilitate their mobility within the E.U.

It is most important to remove barriers to international mobility. Only then can we compete for the best teachers, researchers and students. Increased internationalization is an important factor in achieving improved quality in research and education. Reducing bureaucratic hassles for overseas students who want to study and do research in Europe is one step forward.

## CONCLUSION

The conditions for higher education in Sweden have changed through the Autonomy Reform, the Bologna process, two research bills, a new quality assurance system and the introduction of tuition fees. Are these reforms measures that will provide academic excellence and take responsibility for a sustainable future? Are they beneficial to Sweden, and does the Swedish Model really work?

One reaction to the recent changes has been summarized in the manifesto for dialogue about Swedish education in 2030 by the Association of Swedish Higher Education (2013). With the manifesto, the Association of Swedish Higher Education wants to establish a dialogue with decision-makers and moulders of public opinion. The core of the manifesto is the question of how higher education in Sweden is to develop academic excellence, while taking responsibility for and contributing to sustainable development in Sweden. This initiative is one way to set the agenda, and to show decision-makers that higher education institutions have an important role in the process of defining, and finding, solutions to the challenges of our society.

The emphasis on research and quality in the recent governmental bills could be seen as a way to take responsibility for a sustainable future. We see large investments in research, while other higher education institutions in the world are scaling down, and we expect to see results from these efforts. However, there are many strings attached to these investments, which may prove to be counterproductive. It is important that the reforms are implemented with long-term goals and political unity. The universities need basic grants in order to strategically plan their activities. The emphasis on certain subjects and areas puts broad universities at risk of impoverishment. The universities have a special role in society, and their activity should involve excellence and breadth, as well as being a critical and questioning voice in society. Investments must be made not only in science and technology, but in the humanities and social sciences. Investments in large-scale infrastructure are positive, but medium-scale infrastructure and interaction with other higher education institutions are also important issues that we must take responsibility for. When it comes to investments in education, efforts must be made to increase the number of students. Sweden is living in its own myth that we are well educated, when in fact we are beginning to fall behind many other countries, including neighbouring Nordic countries.

Regarding the autonomy reform, we would like to see real autonomy, with control over our premises. But we also want to develop the collegial quality culture with a strong student influence. The commitment and potential of our students as agents for change is something we want to take care of and develop.

The quality assurance system must be modified in order to gain legitimacy in the sector of higher education in Sweden, as well as internationally. We must modify the quality assurance system to include a broader definition of quality that takes into account the methods of education to ensure the survival of cross-border and innovative initiatives. Additionally, we need a quality assurance system that is internationally recognized by the ENQA.

The introduction of tuition fees has not been propitious for the higher-education sector in Sweden. Reform was implemented too quickly and needs to be amended in order to make it easier for international students to study in Sweden. The process of internationalization is an important factor in improving the quality of higher education, and the introduction of tuition fees has not been a step in the right direction.

In conclusion, we see a lot of political tampering and focus on details, when what we really need is long-term reforms across political boundaries. Higher education institutions need trust, and to gain that trust we need to show more responsibility with a culture of quality and a broader sense of responsibility.

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