



STINT Impact Analysis 1994–2015



STINT

The Swedish Foundation for International
Cooperation in Research and Higher Education

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Final report has been reviewed by
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Summary

The Swedish Foundation for International Cooperation in Research and Higher Education, STINT, has been promoting internationalisation since 1994. STINT was created as a privately endowed foundation through an act passed by the Swedish government. It received one billion Swedish kronor (SEK), which were invested in the stock market and other financial assets. STINT was allowed to use the returns on the investments as well as the capital itself. Furthermore, it should be active for at least 10 years. The idea was that STINT should vitalise and reshape the research funding landscape in Sweden.

This study aims to analyse the impact of STINT's activities. As internationalisation is a tool to strengthen the higher education institutions (HEIs), this study goes to some extent beyond the changes in the international activities of the Swedish HEIs as it also tries to explain the impact on the quality of higher education and research. The basis for the impact analysis is literature about internationalisation and about STINT. One important part of the written documentation is the evaluations of STINT's programmes from different periods. In addition, interviews were carried out with STINT's founder, STINT's Executive Directors and the chairpersons of STINT's board.

The report outlines a foundation that has developed in different directions over time, with an ambition to find a role that makes a difference in the Swedish higher education system. Initially when the statutes were written, the Ministry of Education had to accept that STINT should co-fund the 4th European Framework programme. At an early stage, STINT was asked and accepted to manage additional responsibilities which were handled by the regular funding system in Sweden. These obligations were given back to the research councils in 2002 and since then STINT has operated relatively independently following its own priorities.

One section of the report outlines how internationalisation has developed since STINT was created. During this era of globalisation, the internationalisation of higher education and research has developed rapidly and moved from predominantly consisting of individual researchers' mobility to becoming a central ingredient in the mission of the higher education institutions.

One aspect differentiating STINT from most funding bodies in the

higher education system is that STINT not only addresses research but also higher education. The analysis demonstrates that the education-oriented activities, although limited, have been successful. A recent evaluation of the main programme indicates several positive consequences, predominantly on an individual level among the participants. It also highlights an until now basically untapped potential for more systemic impacts of the programme. During the last couple of years, additional programmes targeting education have been launched.

Successful and long-lasting research collaborations have been fostered by STINT. The evaluations of the programmes targeting international collaboration in research have indicated positive results. A large share of the collaborations continued after the period of STINT funding on the same or an even larger scale.

There has been a worry that STINT mainly has supported collaborations between established researchers in traditionally strong academic countries in those scientific academic disciplines that already are very international. This impact analysis indicates that despite this, Sweden's research collaborations with STINT's priority countries, over and above the traditionally strong academic ones have developed rapidly in a positive direction both quantitatively and qualitatively. Given STINT's small resources, it should be noted that this development to a very large extent depends on other factors than STINT's contribution. It should also be stated that the internationalisation of research within the humanities and social sciences has developed rapidly since STINT started. This development should not be interpreted as depending solely on STINT's contribution. However, it is shown that STINT's main programmes support these academic disciplines more than could be expected, when looking at the total profile of Swedish international co-publications.

STINT promotes internationalisation with funding and other actions. The policy role of STINT has been limited. In 2000, STINT was among the pioneers to argue for the introduction of tuition fees for international students and substantial scholarship programmes to maintain the number of international students. Since 2011, STINT has become more involved on the policy level, with programmes, knowledge development and attempts to influence public opinion. Several examples of methods developed by STINT to measure or illustrate internationalisation aspects are given in the impact study, among them through the STINT Internation-

alisation Index, which attempts to show how international a (Swedish) HEI is. As these initiatives are quite recent, it is too early to discuss their potential impact. However, some positive results are mentioned in the report and it appears likely that there are synergies between the funding and policy roles.

Foreword

The Swedish Foundation for International Cooperation in Research and Higher Education (STINT) was set up by the Swedish Government in 1994. Its mission is to internationalise Swedish higher education and research. From its inception and until 2015, STINT has invested 1,700 MSEK in scholarships and grants related to internationalisation of Swedish higher education and research.

In 2013 the STINT board of directors decided on an extensive plan for evaluations, including eight programme evaluations as well as an impact study as a final concluding effort. At the end of 2015, STINT's board decided the main guidelines for the impact study.

The overarching purpose of the impact study is to assess how STINT's activities have influenced the internationalisation of Swedish higher education and research. The board also decided that much of the impact study was to be made by STINT itself to ensure a maximum learning effect.

The impact study resulted in this report. It focuses on STINT's role in the development of internationalisation of Swedish higher education and research and summarizes all evaluations that have been carried out since the start. Furthermore, the study describes methodology, content and development of internationalisation.

The author of the report is Hans Pohl, Programme Director at STINT.

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Mattias Löwhagen, Programme Manager at STINT since 1998, has contributed with important contextual information.

All key persons interviewed for this impact analysis have also contributed generously. They are Agneta Bladh, Andreas Göthenberg, Ursula Hass, Anna Hultgård-Nilsson, Bjarne Kirsebom, Anders Mellbourn, Olof Ruin, Roger Svensson and Olle Wästberg.

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1 Introduction

1.1 About STINT

STINT's mission statement 2016:

“The Swedish Foundation for International Cooperation in Research and Higher Education, STINT, was set up by the Swedish government in 1994 with the mission to internationalise Swedish higher education and research.

STINT promotes knowledge and competence development within internationalisation and invests in internationalisation projects proposed by researchers, educators and leaderships at Swedish universities.

STINT promotes internationalisation as an instrument to:

- Enhance the quality of research and higher education
- Increase the competitiveness of universities
- Strengthen the attractiveness of Swedish universities

STINT's mission is to encourage renewal within internationalisation through new collaboration forms and new partners. For example, STINT invests in young researchers' and teachers' international collaborations. Moreover, STINT's ambition is to be a pioneer in establishing strategic cooperation with emerging countries in research and higher education.” (STINT, 2016a)

In the first annual report from STINT, the introduction stated:

“The Swedish Foundation for International Cooperation in Research and Higher Education – STINT – was established August 1, 1994, following a decision by the Swedish parliament and government. The purpose of the Foundation is to promote internationalisation of Swedish higher education and research.

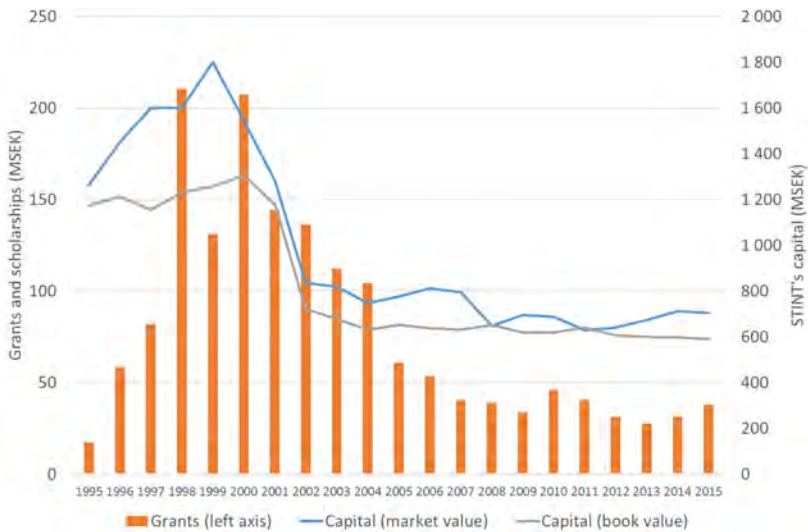
The Foundation's activities shall be gradually developed based on the Foundations own independent assessments and active planning. The activities shall be focused on the funding of Swedish and foreign postdoc stays at international and Swedish higher education institutions. Furthermore, the Foundation shall give scholarships to young academics from countries in a dynamic development for studies in Sweden and promotion of their education at the Swedish institutions.” (STINT, 1996:3 translation by the author)

These two quotes reflect to some extent the development of STINT. The second quote is almost a copy of STINT’s statutes.

When STINT was created one condition was that it should be active at least ten years. The endowment to STINT was invested in financial assets and STINT has thus been able to use the return on the capital as well as the capital itself. Figure 1 indicates that the value of the capital rapidly increased over the first years despite large payments and thereafter it halved during a few turbulent years and since 2004 it has remained relatively constant at about 700 MSEK.

The volumes of grants and scholarships have basically followed the development of the capital. In total, STINT has invested 1,701 MSEK in grants and scholarships over the period 1994–2015.

Figure 1: STINT’s capital and annual investments in grants and scholarships



1.2 About this impact study

Already in 2003, STINT’s management auditor asked for a broader assessment of the collective impact of STINT’s investments in research and higher education (Wastenson, 2003) but it was not until 2013 that a decision was made regarding this request (STINT, 2013a). In fact, a complete plan for evaluations was decided upon, covering the years 2013–2016 and including eight programme evaluations. It was agreed that an impact study

was to be made (STINT, 2013c) as a final concluding effort in 2016. At the end of 2015, STINT's board decided upon the main guidelines for the impact study (STINT, 2015a).

The overarching purpose of the impact study is to assess how STINT's activities have influenced the internationalisation of Swedish higher education and research. Much of the impact study is to be made by STINT's office to ensure a maximum learning effect (STINT, 2015b).

Main elements of the study are the following:

- Methodology – how to form and use a framework for an impact study
- Content and development of internationalisation during STINT's 21 years
- STINT's role in the development, including a summary of all evaluations that have been carried out.

This report deals with the issues of methodology in section 2 followed by national and global internationalisation trends in section 3. Thereafter follows a chronological description of STINT's main initiatives and their results. In section 5 and the Appendix, this is complemented by the input from interviews with key persons. A quantitative framework to assess internationalisation follows in section 6 and then finally discussions and conclusions are presented.

2 Methodology and framework of the analysis

2.1 Evaluating public investments in research

Public involvement in education and research is justified as private firms tend to focus on issues with a narrower and more applied focus. Before investing in something it is very helpful to know the expected return. Investments in education and research are often expected to give high yields of return. However such investments are typically very long term, which makes the estimations of the potential returns very difficult (Luukkonen, 2000).

For a public entity, such as STINT, it is almost always a combination of aspects that have contributed, which makes it difficult to attribute its investments to a certain outcome (Georghiou & Roessner, 2000). The causal relationships are typically weak and the opportunities to find comparable entities are often limited. Without a reference population, it is difficult to tell how much difference the investment made (Klette et al, 2000). A decision maker would preferably expect to see the results quantified in monetary terms which is a challenge as many of the impacts from education and research are difficult to quantify.

Several ambitious attempts have been made to evaluate public investments in education and research but it is probably correct to assume that the investments in the evaluations are modest in comparison to the investments in the actual education and research. The most common type of evaluation addresses research programmes. The on-going or completed programme is then primarily evaluated against its purpose and objectives. In addition, the administration of the programme is often evaluated.

Other types of evaluations are impact studies which span longer and try to describe the consequences over different time periods. One or several programmes are covered by the impact analysis and there is sometimes an ambition to trace the whole development from idea generation to the resultant product, process or service.

The methods to collect data for the evaluations differ such as interviews, publication data, econometric data and questionnaires. Different methods are often combined. Data is often only collected from those who have received funding and from the programme management. This may lead to some prejudice as these persons for obvious reasons tend to look favourably towards the programme (Klette et al, 2000).

2.2 Impact study of STINT

STINT's role and prioritisations have changed over time and even the statutes have changed slightly. An impact analysis of the collected investments made by STINT over more than 20 years requires a robust methodology and good data. The starting point is the statutes and the mission statement which states that STINT's "purpose is to promote internationalisation of Swedish higher education and research." (STINT, 2013b:1, translated by the author) This purpose has remained unchanged over time and is on the one hand very concise but on the other, as with the rest of the statutes, it leaves the definition of 'internationalisation' completely untouched.

Linked to this issue is the question why internationalisation is to be promoted. Again, the statutes do not give much guidance apart from defining a few beneficiaries of STINT's funding and that STINT in the first versions of the statutes had to co-fund the EU FP4 (the 4th European Framework Programme). However, as not least the annual reports from STINT clarify (see section 4.5), internationalisation is considered a tool which, if correctly used, contributes to the mission of the higher education system. Teichler (2012) discusses the risks when confusing internationalisation as a means to an end.

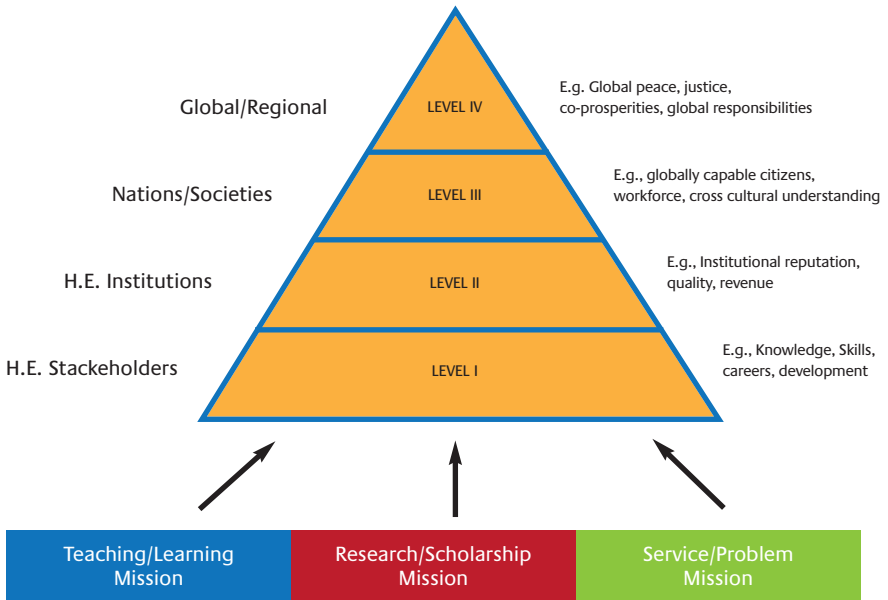
STINT has a broad mission to promote internationalisation, even though attempts have been made to narrow and focus the activities to increase the impact. The rather systemic focus of STINT means that two equally broad concepts from the literature may serve well to define what STINT's mission deals with.

"Internationalization at the national, sector and institutional levels is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of postsecondary education." (Knight, 2003:2)

"Comprehensive internationalization is viewed as: Commitment confirmed through action to infuse international and comparative perspectives throughout the teaching, research and service missions of higher education." (Hudzik, 2015:7)

It should be noted that these definitions might be representative for STINT's activities in 2016 but that the operational interpretation of internationalisation has varied over time.

Figure 2: **Stakeholders and impacts on different levels (Hudzik, 2015)**



In Figure 2, different levels are given for an impact assessment. This impact study covers to some extent three levels:

- HE Stakeholders. Main basis for the impact study on level 1 are the programme evaluations. They typically assess the consequences of STINT’s programmes for researchers and teachers at Swedish HEIs.
- HE Institutions. On the institutional level, the impact study attempts to outline an aggregate impact of STINT’s activities. In addition, one programme addresses the HEI level directly. This level is addressed using the missions of the HEIs relating to research, education and service. As STINT’s activities to a very little extent address service, this mission is excluded from the impact analysis. Instead the potential impact of STINT’s policy role is discussed. An attempt is also made to use global rankings as an indicator of the overall development of Swedish HEIs.
- Nations/Societies. This level is implicitly addressed as the impact study tries to understand STINT’s role in the higher education system. Here, the promotional and change agent roles of STINT are of special interest.

According to Hudzik (2015), the minimum objectives when assessing the impact and outcomes of internationalisation are:

1. Know the goals
2. Devise impact measures relating to these goals
3. Strive for objective data measures and research design
4. Continuously focus on valued intended outcomes.

These four objectives are discussed below.

2.2.1 Goals

An assessment of the internationalization impact should be aligned with the core missions (Hudzik and Stohl, 2009). STINT's goals on an aggregate level are neither elaborated nor quantitative. When expanding on the purpose given in the statutes, the goal is to promote internationalisation within the Swedish higher education system. This means that STINT on the one hand tries to fund initiatives with a high impact potential that otherwise would not take place, and on the other happily sees other organisations invest in internationalisation. Aspiring a role of a change agent, STINT adapts its initiatives in response to national and global trends in order to stimulate new international relations and new types of internationalisation.

This impact analysis is to a large extent based on existing evaluations, which have been made predominantly on the programme level. These evaluations study how the programmes have met their goals. On the next level, the missions and goals of the HEIs in relation to research and education are relevant to use. These goals are also applicable and used on the national level.

2.2.2 Devise impact measures

As mentioned on a more general level above, it is challenging to establish causal relationships between STINT's investments and the changes in the Swedish higher education system. STINT is a small entity in the higher education system and even though STINT's mission is unique, almost all funding bodies contribute to internationalisation and some of them with larger funding volumes. A critical question to address is which changes that can be linked to STINT.

Among the models available for assessments, the systems model is relevant for this impact study. In contrast to programme evaluation models, which deal with the efficiency and effectiveness of a specific programme in rela-

tion to its goals, the systems model encompasses inputs, outputs and outcomes. Inputs are the resources invested, outputs are the activities being undertaken and finally the outcomes describe the results and impacts.

Hudzik (2015) forwards several indicators for inputs, outputs and outcomes relating to the research, education and service missions of the HEI. Among the indicators for research we find expenditures on research is one input indicator, publications an output indicator and institutional reputation and awards outcome indicators. Similarly, for teaching and learning the number of study abroad options and curriculum with international content are input indicators, the number of students participating in these courses output indicators and the improvement of students' knowledge and careers impact indicators.

In relation to research, publication data can be used to map how Swedish HEIs develop and collaborate internationally. STINT has periodically prioritised partner countries and one approach is to study if the collaboration with these countries has grown more rapidly than the average growth. It can also be investigated as to how the quality of the co-publications develops.

In 2014, STINT's board decided to develop an internationalisation index and in 2016, this index was finalised and approved by the board. This index focuses on the institutional level and attempts to give an estimation of how international a certain HEI in Sweden is. Data comes mainly from Elsevier and Statistics Sweden and it is therefore probably not possible to collect with the same coverage for other countries. The six dimensions of this index can be used to complement the research indicators, in particular, as some of them have an education focus. Unfortunately, data is only available for the most recent years.

There is a need to link the activities or inputs to their potential impact. Even though direct causal links are rare, it is important to try to map how inputs, outputs, outcomes and impacts relate. In principle, the following consequences of STINT's programmes could be expected:

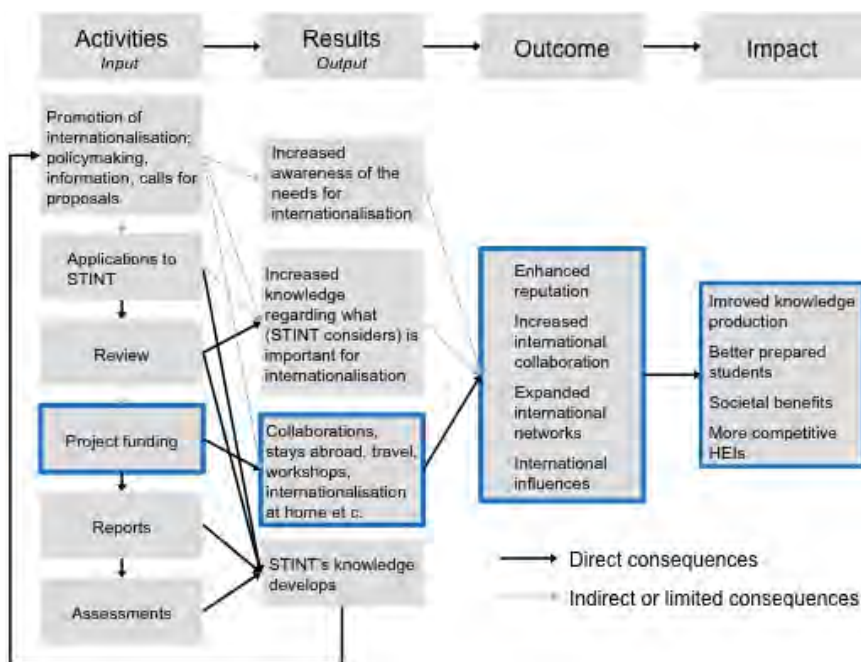
- Funded projects
- Non-funded projects
- Inspiration to others

As mentioned previously, the funded projects are covered by traditional programme evaluations. If they have developed according to the goals of

the programme, they are considered successful. Non-funded projects are applicants that managed to carry out the project outlined in the application, fully or partly, despite no STINT funding. Finally, inspiration to others is an indirect consequence of successful internationalisation projects leading to further people getting involved in internationalisation.

In Figure 3, a more detailed impact logic is described for STINT’s activities.

Figure 3: **Impact logic for STINT**



A few aspects should be commented in Figure 3. First, the basic assumption is that internationalisation is considered beneficial and the figure thus lists positive consequences of internationalisation in the outcome and impact boxes. Obviously, all international activities do not lead to win-win results.

The figure illustrates intended and expected consequences, which are also the probable ones, according to the literature.

The chain from funded projects is highlighted as this is the traditional and most obvious link of consequences that normally is addressed in programme evaluations. However, it is important to remember that other activities relating to STINT also have an impact. For example, as roughly 80 percent of the applications to STINT are not funded, it is very important to recognise that a call itself creates, to some extent, attention and action in the targeted area. The work invested in reading the call texts and writing the applications also contributes to internationalisation.

In this analysis, we assume that STINT has two roles, one funding and one promotional role. The impact of STINT's promotional role is discussed separately. As the promotional role in the end is also expected to have an impact on research and education, it could be questioned if this is motivated. One important difference is that the promotional role mainly focuses on providing and developing knowledge and competence related to internationalisation so that other can make their investments based on broader information and intelligence, whereas the funding role obviously focuses on STINT's investments, even though co-funding exists.

Finally, a feed-back loop has been marked, indicating the ambition of STINT to learn from its activities and disseminate the learnings in various ways, including a continuous refinement of the programme portfolio. The production of this impact analysis is one way to systematise the learnings.

2.2.3 Strive for objective data measures and research design

Objective data is a challenge. Most programme evaluations tend to focus on the projects that have been funded. It is obvious that the informants that have received funding are biased in relation to those who were not funded or who did not even apply for funding. Moreover, as mentioned previously, there is a tendency to consider internationalisation as something 'good' and only ask questions about how 'good' it was. More neutral questions allowing for answers indicating that the project had negative effects would therefore not be asked.

This impact analysis is predominantly based on data from existing evaluations. New data is mainly taken from objective sources such as publication metrics. Interviews are used to some extent. This approach and the use of internal resources to carry out the study are discussed in sub-section 2.3.

2.2.4 Continuously focus on valued intended outcomes

This recommendation from Hudzik (2015) is interpreted as ‘stay on track’. If a focus on intended outcomes would lead to missing unintended outcomes, it is problematic. Often in the domain of research, the unintended outcomes become the most important ones and it is therefore important to allow for such input.

In the case of STINT, which was created with an explicit role as a change agent, the journey into unknown territories makes it even more important to be open for unexpected or unintended results and impacts. However, on a more basic level, it is critical to focus on aspects that are clearly within STINT’s target area and not divert into more general discussions of the development of research and higher education.

Having noted this, it is still considered relevant to provide a brief background outlining how internationalisation of higher education has developed over the years of STINT’s existence. It follows in section 3.

2.3 Methodology for this impact study

As mentioned in sub-section 1.2, this analysis was mainly carried out using STINT’s internal resources. This is motivated as the impact analysis to a large extent builds upon other works made by STINT targeting the measurement of internationalisation. Since 2011, STINT has systematically and increasingly developed knowledge relating to internationalisation and how it can be measured. Several examples of developed indicators and methods by STINT to describe and analyse internationalisation are given in this report, among them the STINT Internationalisation Index, which is presented in section 6. It is a tool that is designed to reflect how internationalisation of HEIs develops and thus closely linked to STINT’s mission.

Moreover, a dominating source of information is the archives of STINT, which are easier to access for STINT employees. It is also probable that the learning effect of the analysis is higher if STINT is deeply involved in the study.

However, there are arguments against a predominantly internal production. The main argument being that it is probable that outside resources typically are more independent and knowledgeable.

To enhance the quality and receive an outsider’s perspective on the study,

leading researchers and practitioners in the field of internationalisation were asked to review the draft report.

The approach used for STINT's first impact study was to base it largely on existing documents, such as annual reports, management audit reports, evaluation reports and other publications from or about STINT. This rich material was condensed to a chronological story in section 4, covering all years since the first idea about a foundation for internationalisation until the end of 2015. A few sources from 2016 are also used. Especially important in this section are the summaries of all evaluations that have been made.

To make the picture more nuanced and detailed, a series of interviews was made with the 'founding father' of STINT, the Executive Directors of STINT and the chairpersons of STINT's board. These interviews were carried out after the main work with the printed sources were completed. Summaries of the interviews are presented in Appendix. Data from the interviews gives valuable new perspectives but it also has some weaknesses. The informants have had a key role in STINT's development and are therefore likely biased. As the interviews deal with historical happenings, involuntary retrospective conclusions are inevitable.

In section 7, an overview of all programme evaluations is discussed. Thereafter follows an analysis of data on the level of HEIs and to some extent also the national level, following STINT's main missions; research, education and promotion. Bibliometric data is used to study STINT's impact on research. Two specific research directions are analysed as they stand out in the documents as well as the interviews; collaborations with dynamic countries and internationalisation of the humanities and social sciences.

Finally, also on the institutional level, one attempt was also made to study the overall development of Swedish HEIs using their positions in global ranking systems.

3 Internationalisation of higher education – trends

3.1 Global development

Globalisation shapes a more integrated world with stronger interdependencies and linked opportunities and challenges. Internationalisation of higher education could be seen as a response to globalisation (Altbach et al, 2009). Even though far from being stable and uniformly distributed, globalisation has contributed to economic growth in the world. Better incomes in combination with improved information and communication technologies have led to massive increases in the number of students over the last decades. In turn, the share of people with higher education has increased rapidly (OECD, 2015). The highest number of new students are from China, followed by the USA, India, Russia and Brazil (British Council, 2012).

At the time of finalising this report in November 2016, there are several developments partly triggered by the consequences of globalisation that are negative for the internationalisation of higher education. An entity such as STINT has almost become a political player, with a role to defend and explain the benefits of mobility and international collaboration.

Larger volumes of students demand increased capacity of the higher education system. Private universities focusing on education has been one response to meet these needs. Another response is student mobility; the number of mobile students has increased steadily and more than doubled over the last 15 years. In 1995, 1.7 million studied abroad, in 2012 the figure was 4.5 million (OECD, 2015). There are large programmes in place in several countries designed to send students abroad partly due to an issue of capacity in their home countries and partly as international experience is expected to bring other important benefits.

Another method to provide access to higher education is international branch campuses. During the 1990s and thereafter, the number of international branch campuses has grown from a very small number to 249 in 2016 (Garrett et al, 2016).

Internationalisation is increasingly involving the whole HEI, not only the students (Göthenberg, 2014). It is considered that internationalisation contributes to the brand of the HEI and in some cases the revenues from

international students (tuition fees and more) are primary motives. In Australia, the HEI system has a high share of foreign students and constitutes one of the major business sectors in the country.

The ranking systems have become an important phenomenon in the higher education system. Academics tend to dislike them but the use and impact continues to increase. The position in the ranking schemes depends largely on the research performance of the university. Large, comprehensive and famous universities tend to fare well in the rankings, which are dominated by English-speaking countries, in particular the USA. Internationalisation is directly and indirectly supported by the ranking schemes. The number of international students and faculties are often taken into account in these schemes.

There are inequalities in the flow of international students, China and India and most non-Anglo-Saxon countries mainly have outgoing students. Attracting bright international students (and faculty) to the already academically strong nations brings worries about the so-called 'brain drain'. However, countries such as China are now managing to bring back some scholars from good positions in top institutions.

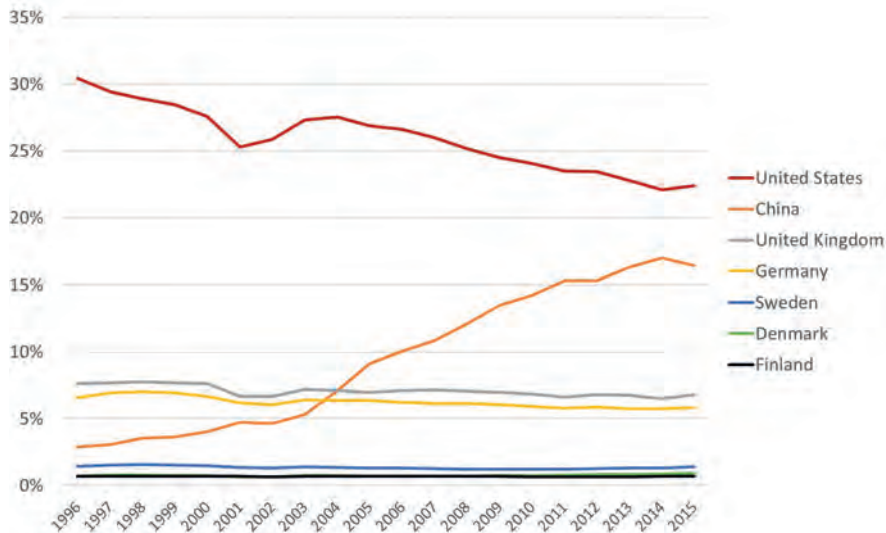
Another illustration of the inequalities is the emergence of world-class universities. Even though the name indicates that this is not a label for a large number of HEIs, almost every country plans to have at least one (Salmi, 2009). In some cases, this might be positive, but it may also lead to a poor allocation of resources (Altbach, 2007). Networks between elite universities are understandable as it is often attractive to collaborate with peers but it should not lead to increased difficulties for non-elite institutions to get access to resources (Scott, 2012).

Research is increasingly carried out in international collaboration. Apart from the fact that internationally co-authored publications tend to attract more citations, it is often necessary to address global problems with global research networks. Very large networks of research encompassing thousands of researchers from almost as many HEIs work together, addressing particle physics or climate change (The Royal Society, 2011).

On the policy side, important regulatory mechanisms include tuition fee requirements. The trend is towards increased and broader use of tuition fees for students (Altbach et al, 2009). As noted by Healey (2008), the introduction of tuition fees partly discourages internationalisation. Free-

trade agreements for services act as enablers of international higher education (Altbach and Knight 2007; Lane et al, 2015) and harmonisation; the Bologna process, for example, is another policy measure which might support internationalisation (van der Wende, 2001).

Figure 4: Share of global volume of publications¹

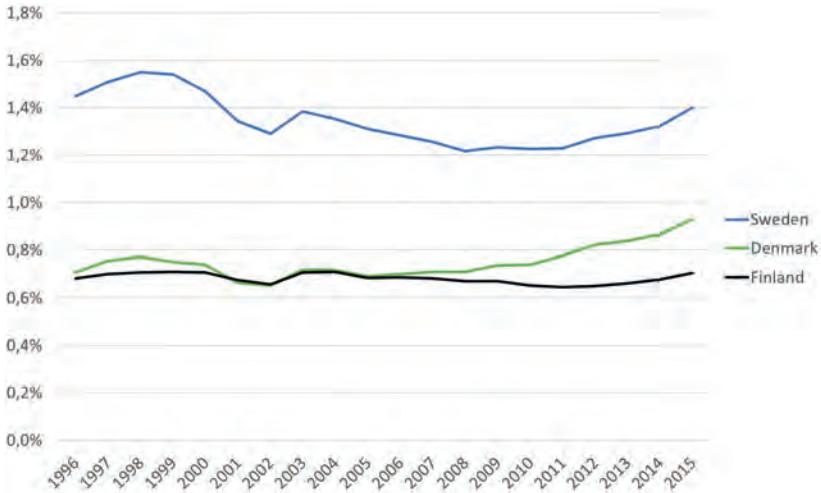


Globally China is rapidly increasing its share of publications. Even though most countries increase their volumes the share often decreases, see Figure 4 and Figure 5.

One indicator for research quality is the field-weighted citation impact (FWCI), which compares the number of citations that a publication receives with all other publications in the same subject area, same type of

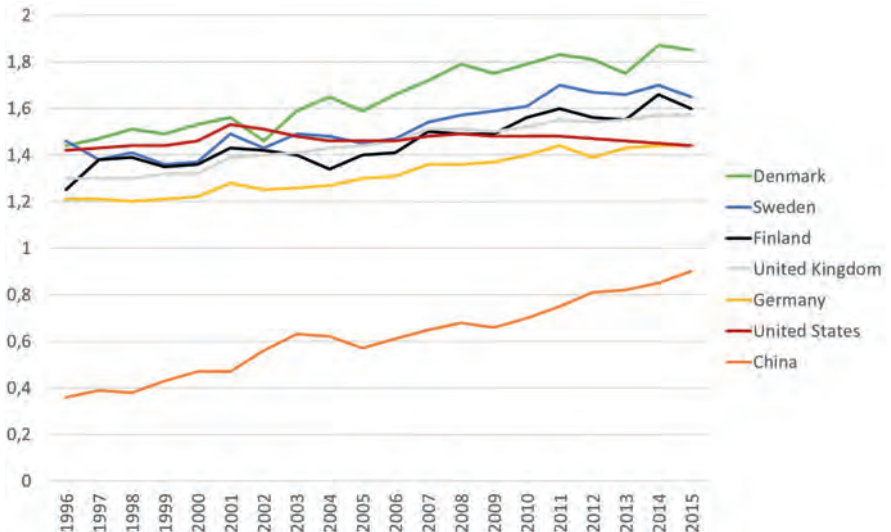
¹ Data from SciVal® database, Elsevier B.V., <http://www.scival.com> downloaded July 2016. All publication data in this impact analysis comes from this source, unless otherwise stated. Data in available from 1996 and onwards.

Figure 5: Share of global volume of publications; Sweden, Denmark and Finland



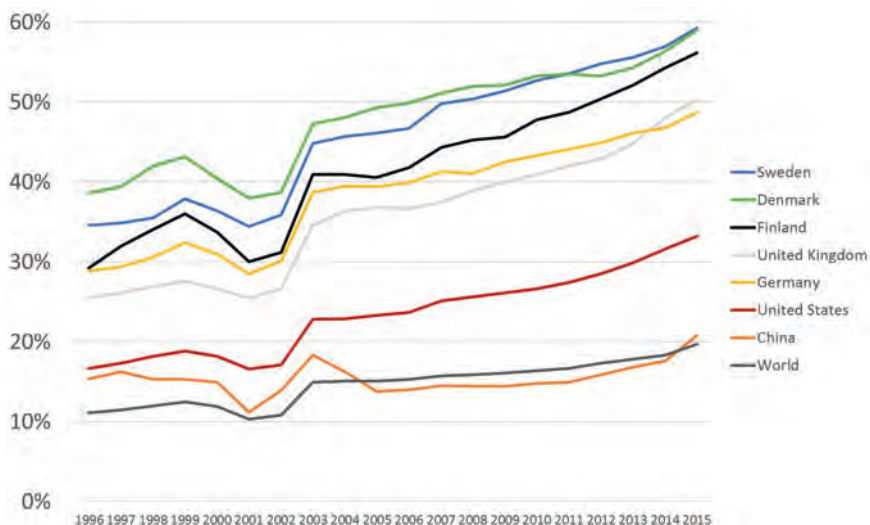
publication and same year. This gives that FWCI for the world is one. Figure 6 shows that Sweden produces high-quality publications and the trend since 1996 has been towards higher quality.

Figure 6: Quality of publications – FWCI



The share of international co-publications is on the increase – see Figure 7. Globally, the share has almost doubled over the period 1996 – 2015.

Figure 7: **Share of international co-publications**



The field-weighted indicator for international co-publications shows that Sweden has internationalised its research slightly more than the global trend – see Figure 8. It also shows that Swedish research when accounting for the subject area distribution and other factors is 40-50 percent more international than the global average.

Figure 8: **Field-weighted internationalisation score**

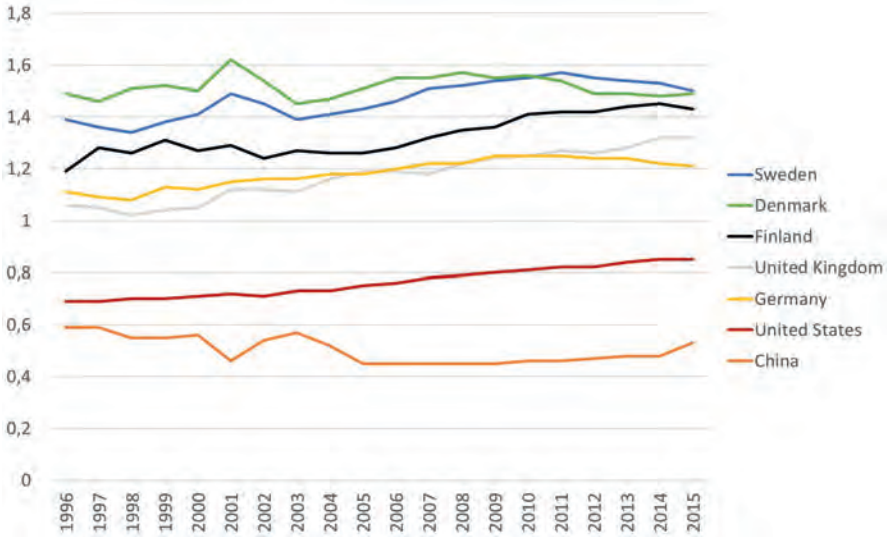


Figure 9: **Collaborations Sweden and selected countries 1996**

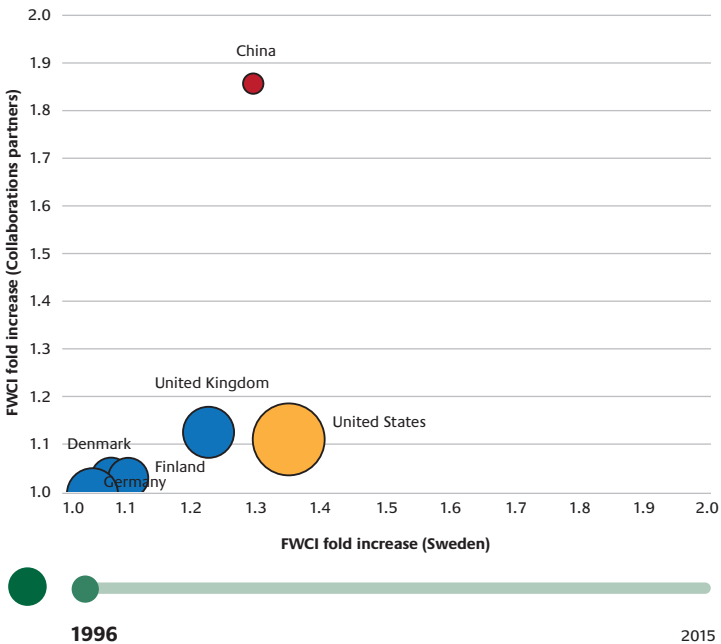


Figure 10: Collaborations Sweden and selected countries 2015

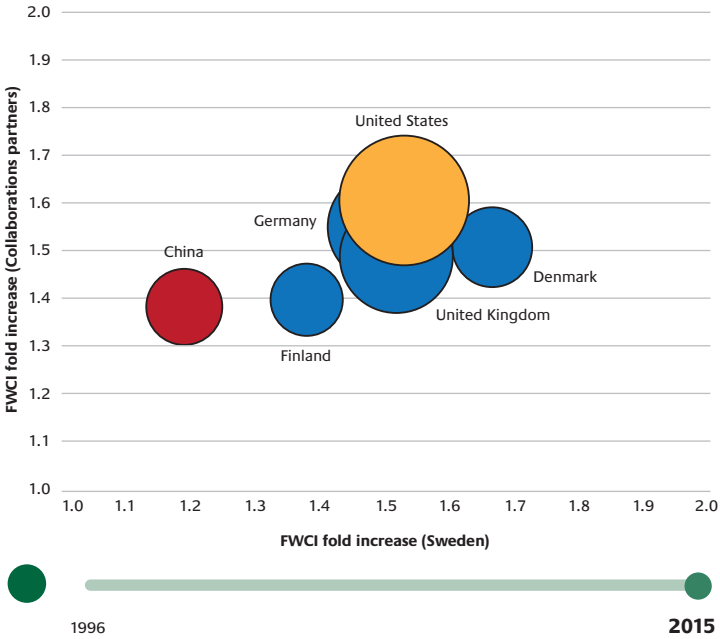


Figure 9 and Figure 10 show the upper right hand part of a so-called collaboration quadrant, which illustrates the impact of collaborations between Sweden and selected countries. Three thirds of the quadrant are not shown as they are empty.

The size of the ball corresponds to the number of co-publications. The position indicates how much better those co-publications are compared to the average publications for Sweden (x-axis) and the partner country (y-axis). If the ball is in the position (1,1), it means that the collaboration is as good as the average international co-publications in both countries this year. The metric for quality in this case is field-weighted citation impact, FWCI.

A comparison of 1996 and 2015 illustrates that all co-publication volumes have grown substantially and it appears also as if most collaborations have become more valuable on a win-win basis. China is the exception, as it has moved from almost 100 percent better than average down to 40 percent better than average.²

3.2 The development in Sweden

One potentially ideal source to describe what has happened in the higher education system in Sweden is “Higher Education during twenty years” (Haikola, 2015). The purpose of the investigation led by the former University Chancellor was to describe the development and composition of the supply of higher education. Unfortunately, the 367 pages do not address internationalisation. It is mentioned that the higher education act since 1977 has had internationalisation as a goal and it is noted that the number of students with a foreign background has increased. The investigation argues against double degrees however in this case it refers to national double degrees and not international double or multiple degree programmes. Among the recommendations, a reinforcement of the regional links is forwarded and it is stated that this will not exclude or compete with the national and international tasks. Judging from this investigation, internationalisation of higher education has not at all been on the agenda in Sweden during the past decades.

The annual status report produced by the Swedish Higher Education Authority gives an excellent snapshot of the higher education system in Sweden and also some trends, though seldom covering the whole period since STINT was created (UKÄ, 2016).

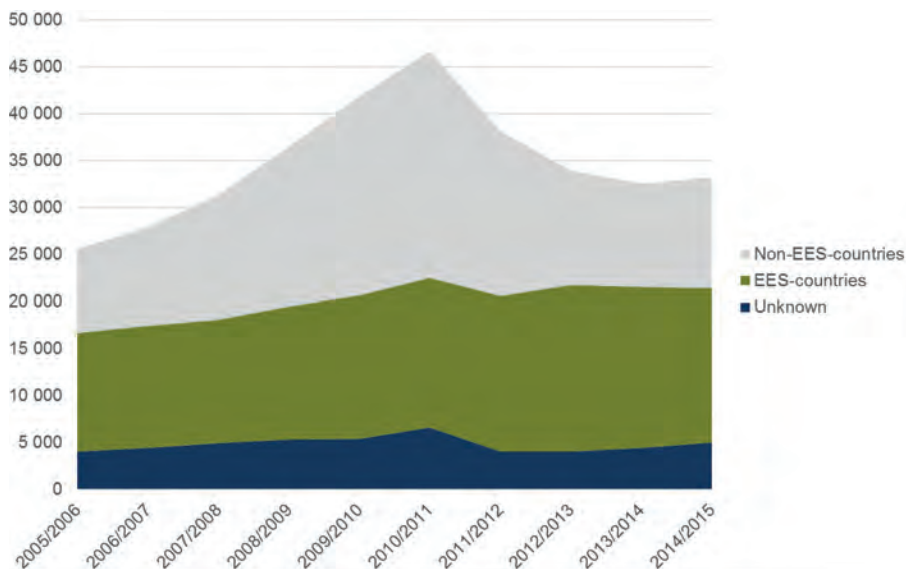
When studying people at the age of 25 over a decade (born during the 1980s), it is shown that higher education participation increased for immigrants arriving to Sweden before the age of 7 and for people born in Sweden with both parents born abroad. At the end of the decade, those two groups even exceed people with a Swedish background, where approximately 45 percent begin higher education. However, the group of immigrants arriving to Sweden at an age of between 7 and 18 lag behind in higher education participation at slightly below 35 percent.

Since July 2011, students from countries outside the EU/EEA and Switzerland must pay tuition fees unless they participate in exchange programmes. This policy change is clearly visible in the statistics, compare

² These figures come from a tool that STINT has developed with the support from Lapidus Interactive. Data has been provided by the Swedish Research Council, based on the Thomson-Reuters database

Figure 11. The number of new free-movers more than halved and the diversity in the international student population decreased significantly. Additional scholarships from the Swedish Institute were far from sufficient to compensate for the decreases.

Figure 11: **Inbound students to Sweden**³

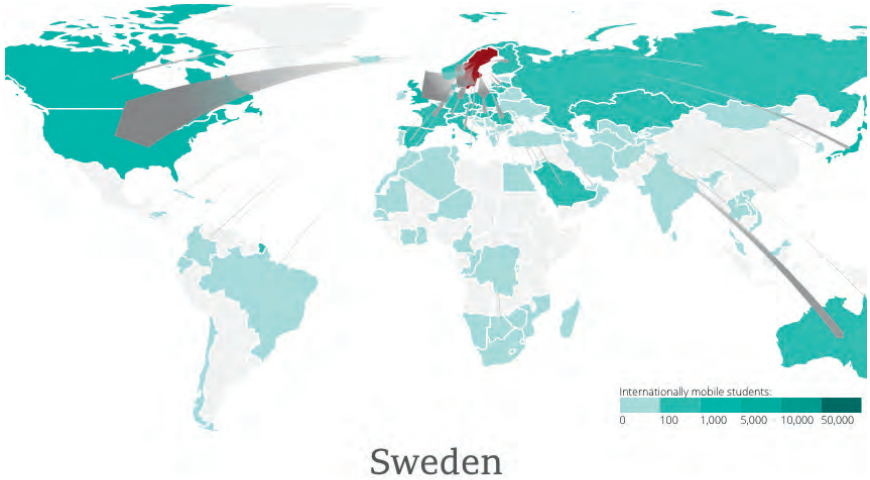


A slow recovery is taking place but still the volumes are clearly lower than the peak in 2010/11. Before this peak, there was a long period of increases in international students. The number of outgoing students has steadily increased since 2005 from 25,000 to nearly 30,000. Comparable figure for incoming students is 33,000 and Sweden has thus almost reached a balance between incoming and outgoing students.

In Figure 12, the student origins and destinations are presented. Even though there is almost a balance in the total numbers, there is a clear difference in the top countries of origin and the top destinations. Data refers to 2013 and it should be noted that definitions and data collection methods differ from the Swedish approach (UNESCO, 2016).

³ Based on data from Statistiska centralbyråns universitets- och högskoleregister

Figure 12: Mobile students in and out (UNESCO, 2016)



Country of origin	Number of students	Destination country	Number of students	Key Indicators
China	2,373	United States	4,294	Students abroad:
Germany	1,791	United Kingdom	3,204	Total number of mobile students abroad
Finland	1,720	Denmark	2,247	(% of total mobile students)
Iran, Islamic Rep.	1,454	Poland	1,063	Outbound mobility ratio
India	1,057	Norway	776	Gross outbound enrolment ratio
Pakistan	784	Australia	751	Students hosted:
Greece	695	Germany	654	Total number of mobile students hosted
Italy	548	France	428	(% of total mobile students)
France	529	Romania	396	Inbound mobility rate
United States	404	Denmark	364	

When it comes to the research funding landscape, it has changed considerably since 1994. The first years were to some extent characterised by cuts in the budgets for the public funding bodies. Another important change that STINT was part of was the creation of a group of foundations with different research funding missions. In this group, STINT was among the smaller ones, see Table 1 (Lundberg, 2003; Regeringen, 1994).

Table 1: **Some foundations created 1993 or 1994**

Year	Name	Capital (MSEK)
1993	Swedish Foundation for Strategic Research (SSF)	6,000
1993	The Swedish Foundation for Strategic Environmental Research (MISTRA)	2,500
1993	The Swedish Foundation for Humanities and Social Research (Riksbankens Jubileumsfond)	1,500 (donation)
1994	The Knowledge Foundation (KK-stiftelsen)	3,728
1994	The Foundation for Baltic and East European Studies (Östersjöstiftelsen)	1,316
1994	The Swedish Foundation for International Cooperation in Research and Higher Education (STINT)	1,057
1994	Swedish Foundation for Health Care Sciences and Allergy Research (Vårdalsstiftelsen)	548
1994	The International Institute for Industrial Environmental Economics (IIIEE)	216

The independent foundations were created as temporary entities that would vitalise and reshape the research landscape in Sweden. Shortly after their creation, there was a change of government and the incoming Social Democratic party wanted a more direct control of the foundations. This manifested itself in a change of the statutes regarding how the boards of the foundations were selected. Contributing to this change was the severe economic situation in Sweden and the wish to use the capital from the foundations to cover parts of the activities that were funded by the regular bodies (Sörlin, 2005). As the annual reports of STINT tell, this was also partly successful and STINT accepted among others to provide funding for all outgoing international postdocs during a period.

In 1995, Sweden became a member of the European Union and this increased the possibility of receiving EU funding for research and development, predominantly through the framework programmes.

The next major change in the research funding system took place in 2000/2001, when four new funding bodies were created and eleven were closed or rather integrated into the new ones (Lundberg, 2003).

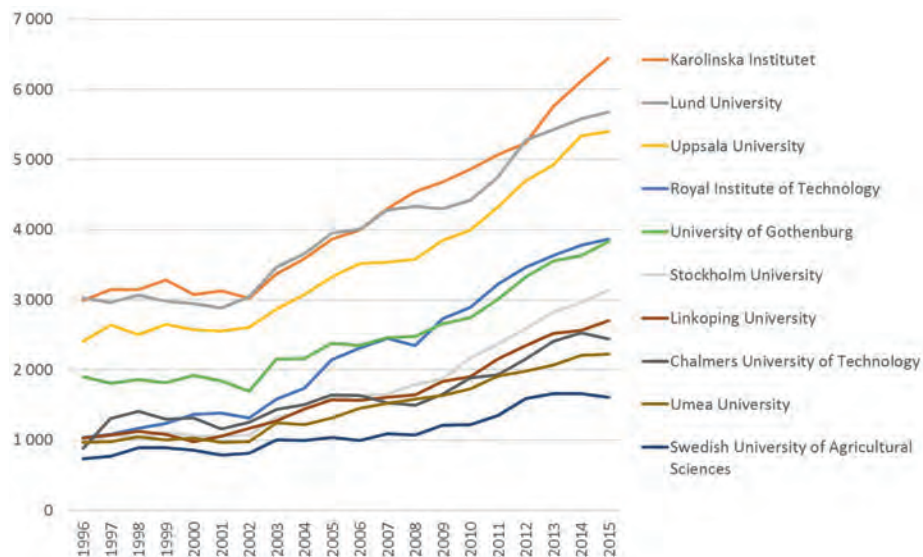
International collaboration in research has over time been promoted and funded by many entities in the higher education system not only STINT. Even though not always explicitly asked for, international components in research proposals are often welcome however normally the public funding is reserved for Swedish entities.

To guide the portfolio of STINT's activities, at least two projects have been carried out to understand how HEI actors in Sweden can get access to funding for international collaboration. In 1999, STINT looked at the availability of scholarships and support for longer stays abroad and visiting researchers. One conclusion was that in 1998, there was a good availability of postdoctoral scholarships (Melin and Löwhagen, 2000).

In 2013, a survey of all major entities supplying funding for internationalisation was carried out as a part of STINT's strategy process. Swedish as well as foreign funding organisations were covered. Among the conclusions were that there are many different programmes targeting young researchers (Masters, PhDs, postdocs) and that if STINT wants to augment the supply to this group, it should define the profile of the programme carefully. In terms of geography, it was suggested that STINT intensifies its efforts on countries in dynamic development. Finally, it was noted that STINT's programme funding teaching sabbaticals is unique (Pohl, 2014).

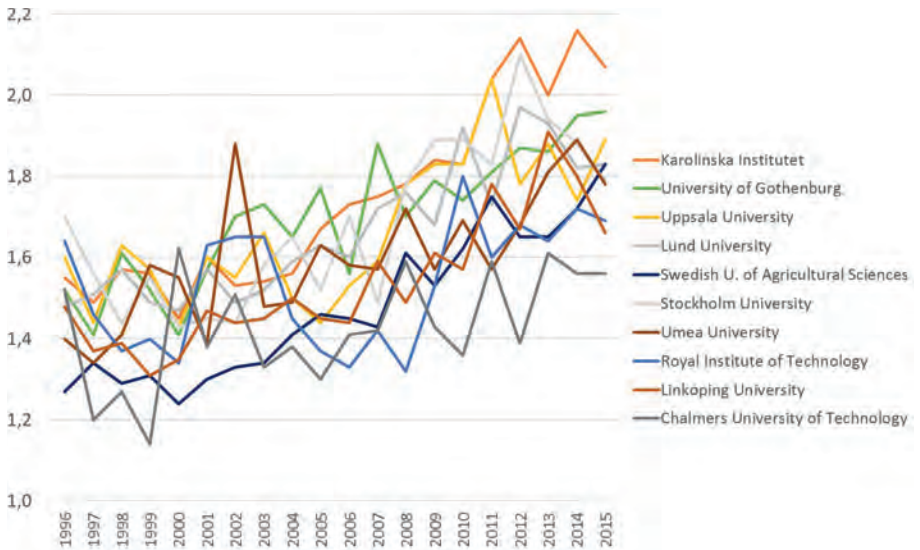
STINT studied all applications submitted by Swedish HEIs in its first call for Strategic Grants for Internationalisation. Given the very open nature of the programme, this analysis probably reflected what was prioritised by the HEI leaderships in 2011. The results show that the internationalisation of higher education was frequently addressed, with international students and joint/double-degree programmes as common types of activities. Internationalisation of research was mentioned in a smaller number of applications and it is argued that internationalisation of higher education might need more top-down involvement than internationalisation of research. International branding and profile was the single most mentioned rationale among the applications (Pohl, 2012).

Figure 13: Annual publication volumes from the largest Swedish HEIs



During the period of study, the ten largest HEIs in Sweden in terms of publication volumes typically doubled their publication output, see Figure 13. Sweden’s output increased from 16,710 in 1996 to 38,645 publications in 2015. KTH Royal Institute of Technology more than tripled its output.

Figure 14: Quality of publications FWCI



The quality of the publication output has also developed positively, with the FWCI for the ten HEIs well above the global average of one and showing a positive trend, see Figure 14. For the same period, FWCI for Sweden increased from 1.46 to 1.66.

4 STINT's main initiatives and their results in chronological order

To keep the description reasonably short, we have focused on the main activities accounted for in the annual reports from STINT. In addition, highlights from all evaluations are included with a green colour. Given the multitude of programmes over the years, only a selection of them are described with more than the title.

4.1 1994-1995

STINT forms a portfolio consisting of five programmes (STINT, 1996):

- Scholarships for Swedish Postdoctoral Students
- STINT Visiting Scientists/Scholars
- STINT Fellowship Programme
- STINT Scholarships for Postgraduate Students from Dynamic Countries
- Co-funding of EU FP4.

STINT Fellowship Programme awards grants for mobility costs to Swedish research groups for collaboration with one or several foreign partners within research and higher education during four years. Annual grants between 500 – 1,000 kSEK. Later name is Institutional Grants and the last call was in 2013.

STINT Scholarships for Postgraduate Students covers a two-year Master education in Sweden for students from selected countries. New name and format in 2005; STINT Scholarships for Academic Excellence. Last call was in 2011.

4.2 1996

STINT decides to fund all postdocs from Sweden and relieves thereby the research councils, which have had budget cuts. The research councils fund repatriation and have special postdoc programmes for new female PhDs (STINT, 1997).

The management auditors compliment STINT for a good system to monitor the investments made during and after the period of funding (Magnusson and Nyquist, 1997).

4.3 1997

The Swedish government changes the statutes regarding how STINT's board is selected. A new board is appointed by the government.

STINT Programme for Teaching Excellence is decided to start in 1998 (STINT, 1998).

STINT Programme for Teaching Excellence gives scholarships to university lectures to spend one semester at a partner institution. After a short period with several options for teacher mobility, the programme focuses on stays at liberal arts colleges in the US. In 2011 it opens for comprehensive universities in the US and Singapore, and later Hong Kong and Japan follow. Later names are Excellence in Teaching Programme and Teaching Sabbatical. Still active in 2016.

4.4 1998

It is noticed that more than 80 percent of STINT's investments have been for collaboration with western industrialised countries and that the cultural sciences represent less than 10 percent of the investments. An action plan is decided with the following baselines:

- Balance between research and higher education
- Balance between various scientific academic disciplines
- More flexible and adapted forms of support
- Concentration on a selection of countries in 'dynamic development'.

New programme with scholarships for PhD students within the cultural sciences is decided to start in 1999.

STINT decides to have a budget that does not deplete the capital (STINT, 1999).

STINT Scholarships for PhD students within the cultural sciences. A minimum of 4 months abroad is required and the PhD student must be on leave from its Swedish institution during the period. Last call was made in 2010.

4.5 1999

STINT's mission according to the statutes is interpreted to promote internationalisation to strengthen the quality and competence in Swedish higher education and research (we learn from and together with others), and to promote internationalisation to maintain, strengthen and open new relationships to countries of specific interest for Sweden with a view to developing a cultural and economic cooperation "STINT does not consider information about the research that is supported by STINT or the

results from this research one of its primary tasks.” (STINT, 2000:10, translated by the author)

The activities are split into four areas comprising of several programmes. Internationalisation to promote scientific development:

- Scholarships for Swedish Postdoctoral Students
- STINT Visiting Scientists/Scholars
- STINT Fellowship Programme
- Increased use of international research facilities (new, both incoming and outgoing)
- Co-funding of EU FP.

Internationalisation of higher education:

- STINT Programme for Teaching Excellence
- Cultural sciences internationalisation (scholarships to PhDs to spend one semester abroad)

Research and education for international competence and understanding:

- STINT Scholarships (for Postgraduate Students from Dynamic Countries)
- Area studies (new, focus on Asia, to be started in 2000)
- Country grants (new, to initiate collaboration with selected dynamic countries)

European research collaboration for techno-industrial development

- Co-funding of EU FP4
- Co-funding of EU FP5.

The management auditor supports STINT’s decision to move the scientific review from the existing research councils’ organisation to an own organisation. Apart from improved possibilities to focus on the internationalisation aspect, the cost aspect is also mentioned (Nyquist, 2000).

4.6 2000

The reorganisation of the research funding landscape should lead to more funding for internationalisation from the public funding bodies. STINT’s role is to change from taking care of responsibilities handed over from the public funding bodies to a more independent role following its own agenda.

- No further EU FP co-funding is granted from STINT.
- A new programme with scholarships for short term stays abroad opens.
- Thunberg scholarships are created for researcher stays in Japan.

STINT Fellowship Programme is renamed Institutional Grants (STINT, 2001).

STINT's new organisation for the review of applications is described and it is mentioned that almost all applications are handled within the groups, external expertise is only asked for in rare cases. An investigation of postdoc scholarships (Melin and Löwhagen, 2000) indicates that there is a relatively good supply of them, which is taken as an argument by STINT to reduce its involvement (Fredga, 2001).

4.7 2001

It is emphasised that STINT's role is to foster new international relations, not to support already existing ones. The latter must be supported by the regular system for research funding. Seven countries are prioritised; Brazil, Japan, Mexico, South Africa, South Korea, Taiwan and Thailand.

The Swedish School of Advanced Asia Pacific Studies (called Area studies in 1999) is up and running in a separate organisation with resources for guest researchers, postdoc positions and PhD students. The Swedish Foundation for Humanities and Social Research, RJ, and STINT co-fund.

Scholarships to PhDs to spend one semester abroad is opened for all academic disciplines, with a quota for the cultural sciences (STINT, 2002).

In a review of STINT covering the period from the start until mid-2000, an attempt is made to address the question: "Has Swedish higher education and research substantially increased its internationalisation due to STINT's activities?" (KVA, 2001:14, translated by the author) The main answer is that it is too early to tell. In fact, the evaluation analyses almost every programme and activity at STINT and considers if it adds to or replaces available funding in the total system. It emphasises the need for further efforts to internationalise higher education and appears to be positive about the gradual development towards a strategy and programme portfolio that is independent from the rest of the research and higher education funding system. The policy role of STINT is also under review, and considering that STINT according to the statutes has such a role, and not only a funding role, the only comment is that it could be an idea to develop new types of language education. Finally, the reviewers ask for a more systematic approach to the feedback in terms of reports and comments from the recipients of STINT's funding.

4.8 2002

STINT's annual investments are argued to remain at least at 100 MSEK to be meaningful, which, given the very large capital reduction over the last few years, implies that the remaining life time of STINT would be approximately 10 years.

In line with the argument that STINT's role is to change rather than conserve, the STINT Visiting Scientists/Scholars programme is terminated. Moreover, the postdoc scholarships are moved to the Research Council. However, STINT maintains scholarships for postdoc stays within the cultural sciences.

A collaboration with Deutscher Akademischer Austauschdienst (DAAD) is initiated.

The programmes are now organised within three areas:

- Network building and international collaborations
- Scholarships for stays abroad
- Specific collaborations (STINT, 2003).

The management auditor argues against the termination or rather move of the open postdoc scholarship programme and he emphasises the need for more evaluations of STINT's programmes and the longer-term impact of STINT's investments (Wastenson, 2003).

4.9 2003

In an input to the 2004 research bill, STINT's goals are defined as:

- As far as possible support should be given to activities that contain both research and higher education
- Primarily support activities that contribute to the internationalisation of research environments and departments
- Identify needs for targeted initiatives for internationalisation.

It is also stated that “An equally important, though less costly task is to promote internationalisation of higher education and research through opinion building, analysis and debate.” (STINT, 2004:6, translated by the author)

STINT notes that given all the initiatives that have already been carried out it is now relevant to discuss reciprocal initiatives from organisations and institutions abroad.

Among the new programmes are Pro Futura together with the Swedish Foundation for Humanities and Social Research. Young researchers within the humanities and social sciences are given funding for four years of which the one abroad is financed by STINT.

STINT commissions SISTER to study the impacts of postdocs abroad (Melin, 2003). Almost all postdocs granted by different funding organisations are covered over the period 1981–1999 and questionnaires were sent to 460 grantees. In addition, a control group that had applied for but was not granted scholarships comprising 230 individuals was also addressed. Among the results of the ambitious and interesting study are that:

- The availability of postdoc scholarships is good, two thirds of all scholarships were granted, sooner or later.
- The postdoc period is a very positive experience for the majority however 20 percent do not consider their postdoc a valuable merit.
- The selection of the host institution follows existing networks to a very large extent and those who have been abroad develop a larger international network after the stay than before thus indicating a clear change in comparison to the control group.

A distinction is made between impact on competence and on communication and STINT is argued to be one of the few funding organisations with a focus on the latter, which results in new networks and an understanding of different academic cultures.

4.10 2004

It is decided to manage the capital to secure at least another ten years with annual investments of 75 MSEK. A strategic decision is made: STINT should move from funding a predominantly application driven organisation to more of a promotion organisation (STINT, 2005).

In an evaluation of the Institutional Grants Programme for the period 1996–2003 covering 170 projects totalling 260 MSEK, it is noted that the programme has contributed to several real benefits for researchers in Sweden, among them the access to leading researchers and special environments for experimental purpose (SQW, 2004). Potential benefits for teaching are mentioned but it is stated that until now the programme has rarely funded projects with focus on teaching and learning aspects. The long-term nature and the flexibility of STINT's funding are put forward as critical for the benefits.

The country priority list that STINT introduced in 2002 is discussed. There was limited awareness of the list and those grant holders that were aware of it questioned it. The reviewers argue that STINT should maintain a list but that it should not override quality of outputs and impacts in the application assessment process.

The number of projects in the humanities and social sciences is substantially lower than the size of the research community would suggest. This is not due to a lower success rate and after a limited review of some projects the evaluation states that the Institutional Grants Programme has been used in some cases to fund research rather than international collaboration¹.

Finally, the evaluation indicates that many collaborations will continue after the period of STINT funding although on a substantially reduced level. This is argued to reflect an absence of alternative funding sources.

Another evaluation covered STINT's Scholarship Programme 1994–2003 (Liman-Grave, 2004). It notes that whereas STINT would like to see the programme as a strategic instrument for the HEIs in Sweden to develop international relations, the HEIs themselves tend to see it as a support to individuals who want to study in Sweden. Against this background, a couple of changes are suggested, among them an increased focus of the resources.

The management auditor notes that STINT has carried out several important programme evaluations and quickly incorporated the recommendations from the reviewers in the programmes (Wastenson, 2005).

4.11 2005

STINT's postdoc scholarship programme is terminated. A Pro Futura II programme is added (STINT, 2006).

In the report from the management auditor, a concern is raised about STINT's engagement in educational aspects. The Excellence in Teaching Programme is, despite modifications, considered to be limited and too narrowly focused on liberal arts in the USA. It is also noted that the Institutional Grants Programme is not attractive for the humanities and

¹ The aim of the programme is to support mobility for international collaboration, not research per se

social sciences. A programme for individuals or smaller groups is suggested (Wastenson, 2006).

4.12 2006

No significant changes to the programme portfolio except that Pro Futura II is terminated.

Among the promotional activities, workshops with South Korean KOSEF are organised and an agreement with A*Star in Singapore is signed, including five Swedish foundations (STINT, 2007).

An evaluation of the programme granting scholarships to PhD students within the cultural sciences is published (Bengtsson and Lundequist, 2006). It covered the years 1999–2003 and a total of 292 scholarships amounting to 100,000 SEK each. The programme has had some general positive results such as the development of competence and communications skills and personal development. It is thereby considered to contribute to the internationalisation of higher education and research.

According to national data, a small number of PhD students within the cultural sciences stay abroad longer than 3 months. Among them, many were funded by STINT. It is required by STINT that PhD students should be on leave during the period abroad for a minimum of four months and therefore the PhD period at the Swedish university should be extended correspondingly. This requirement is considered problematic by the reviewers, not least as it might be legally incorrect. It is therefore suggested that the period abroad is included in the PhD education. Additionally, it would lead to better economic conditions. On the other hand, the scholarship might become less attractive for those PhD students who are seeking to extend the period of study.

4.13 2007

Internationalisation and globalisation is high on the national policy agenda. However, it is also noted that internationalisation in Sweden is mainly a bottom-up process and that the interest from institutional and national decision makers is often limited.

STINT terminates one larger programme, the scholarships for PhD students in the humanities and social sciences, and a few smaller programmes, among them the collaboration with DAAD and the scholarships for re-

search in Japan. It starts a new programme with so called networking grants for researchers within the humanities and social sciences. Another new programme launch is the Institutional Grants for Younger Researchers (STINT, 2008).

A follow-up report dealing with the Programme for Excellence in Teaching is published (Mehrens, 2007). It covers the period 2000 – 2006 including a total of 44 STINT Fellows, mainly from Swedish university colleges, as the programme was initially exclusively targeted towards them. During this period the programme was oriented towards American liberal arts colleges. Most participants had been handpicked and nearly 60 percent of them were involved in teaching or co-teaching during their stay abroad. Mehrens argues that an active role in teaching is important.

The programme meant more for the individual teachers than for the participating Swedish institutions. “The visits abroad have been of vital importance for almost every individual participant.” (ibid:82) Reform of education is one example. However, systematic efforts from the institutional side to learn from the STINT Fellows’ experiences are very limited.

STINT investigated during 2006 the academic collaboration patterns between Sweden and Turkey and some countries in the Near and Middle East (Roslund and Wiberg, 2007). One conclusion of this survey was that STINT should direct its activities to Turkey and countries at the eastern part of the Mediterranean Sea.

The management auditor recommends STINT to restart the scholarship programme for PhD students in the humanities and social sciences (Wastenson, 2008).

4.14 2008

Despite the announcement in the annual report 2007, scholarships for PhD students in the humanities and social sciences are also awarded in 2008. A joint programme with Korean KOSEF is started.

In his final annual report, the Executive Director comments upon the foundation’s first 15 years and how it has interpreted its statutes and gradually developed a more targeted portfolio of programmes addressing specific scientific academic disciplines, specific types of researchers (e.g. younger) and/or specific countries. Given this focus, STINT’s limited resources are still considered relevant (STINT, 2009).

An evaluation of the SSAAPS programme indicates that it has been a flexible and different initiative. Its purpose was among others to gather some fragmented research about Asia. Younger researchers (PhDs and later postdocs) were the main recipients of funding and several of them have been successful in their academic careers (Geschwind, 2008).

A new management auditor notes with satisfaction that PhD scholarships are granted again and he also recommends STINT to explicitly monitor how many postdocs participate in STINT's programmes (Lindencrona, 2009).

4.15 2009

STINT's Executive Director Roger Svensson retires and is replaced by Dr. Andreas Göthenberg. It is decided to reduce the spending from 75 to 50 MSEK annually, to ensure at least 15 additional years of existence (STINT, 2010). There are no significant changes to the programme portfolio but a new strategy is decided, resulting in a move towards fewer and more profiled programmes. It is decided that the new programme portfolio should include a large flagship programme, a programme for education, a larger innovative and strategic programme and a smaller programme for the initiation of international collaborations. It is also decided that cross-disciplinary and multinational cooperation should be encouraged rather than programmes for specific disciplines (STINT, 2009a).

Despite the content in "SSAAPS 2001-2009 – report and recommendations", written by the steering group for SSAAPS, which among others included the former Executive Director and the former chairman of STINT (SSAAPS, 2009), it was decided not to start a third phase of the programme at the first board meeting in October 2009.

A second and more ambitious evaluation of the Institutional Grants Programme is delivered in 2009 (ACA, 2009). It covers all projects started up till and including 2005; a total of 209 projects with approximately 430 MSEK funding from STINT. The main conclusion of the evaluation is that it is an unusually successful programme. It has met its aims and objectives, and it has been appreciated by its beneficiaries. A few examples:

- More than 80 percent of the Swedish and foreign project leaders indicate that the project has succeeded in providing a high quality research partnership.
- Similarly, 86 percent of the projects continue their collaboration though often at a lower level.

- It resulted in a net migration to Sweden of 120, predominantly younger, researchers and approximately 20 to the US. Other countries experienced emigration.
- The STINT-funded projects resulted in the award of 350 PhD degrees.

Among the challenges, it is noted that the educational dimension (apart from PhD education) of the programme is underdeveloped. Another challenge is that the programme and possibly also STINT are not quite as visible as one would wish in Sweden and abroad.

In the audit the Excellence in Teaching Programme is covered and it is judged successful but that there is a need for better awareness of it at Swedish HEIs. The according to STINT's strategy document planned expansion to include comprehensive universities as foreign partners is welcomed. Again, a concern is raised about the PhD programme within the humanities and social sciences as according to STINT's strategy it is to be incorporated in a new version of the Institutional Grants Programme (Lindencrona, 2010).

4.16 2010

The statutes are changed with regard to how the board is appointed and a partly new board and a new chairman is in place in July 2010. The change introduced by the liberal government reduces the power of the government, as it only selects two out of nine board members.

The strategy that was decided in 2009 led to a decision to strive for co-funding and focus STINT's programme portfolio in order to increase the impact. This is gradually implemented (STINT, 2011).

4.17 2011

Three new programmes are launched; Joint Brazilian-Swedish Research Collaboration, Strategic Grants for Internationalisation and Initiation Grants. In line with the strategy from 2009, the following programmes are discontinued or rather merged into other ones:

- Scholarships for short term stays abroad
- Networking grants for researchers within the humanities and social sciences
- Scholarships for PhD students in the humanities and social sciences
- Institutional Grants for Younger Researchers.

Strategic Grants for Internationalisation gives 50 percent co-funding to the university leadership to carry out a project of strategic importance for the university. Duration 2 and later 3 years. Annual calls. Still active in 2016.

Initiation Grants for Internationalisation offers seed funding for the development of new collaborations in research and/or higher education. Maximum grant is 150 kSEK and 1-year project duration. Continuously open for applications. Still active in 2016.

The first two are covered by the Initiation Grants programme, whereas the latter two to some extent are covered by a revised Institutional Grants Programme.

Among other initiatives to promote internationalisation are two reports and one STINT Forum, addressing global trends and challenges in higher education and research (STINT, 2012). One of the reports forms a background and motivation to the new Strategic Grants programme (Göthenberg et al, 2012).

The Excellence in Teaching Programme and the PhD scholarship Programme are evaluated by the management auditor. He notes several positive aspects of both programmes. The teacher programme has had an impact particularly at institutions that have had several participants over the years. The inclusion of comprehensive universities is welcomed and increased reciprocity in the programme is seen as an important aspect to review regularly. (Lindencrona, 2012).

4.18 2012

The programme portfolio remains largely unaltered. STINT accepts to publish a call for postdoctoral fellowships in Japan and manage the selection process. The fellowships are provided by the Japan Society for the Promotion of Science, JSPS.

Among other initiatives to promote internationalisation are two STINT Forums, one rector's delegation trip to South Korea (co-organised with the Royal Swedish Academy of Engineering Sciences), and a couple of publications and conference contributions (STINT, 2013).

STINT's second Forum was described by the management auditor : "A spectacular element of the activities in 2012 was the large conference [...] It was an element that definitively had an 'impact'." (Lindencrona, 2013:4, translated by the author).

4.19 2013

The statutes are changed and co-funding of the 4th EU framework programme is replaced by a task to fund Swedish and foreign researchers' opportunities to carry out research abroad and in Sweden, respectively.

A bilateral programme with JSPS in Japan following the same model as the one with Brazil and Korea is added to the portfolio.

Among other initiatives to promote internationalisation are a match-making workshop in the United Arab Emirates and seven contributions to seminars and conferences (STINT, 2014).

The second evaluation by the Royal Swedish Academy of Sciences was carried out in 2012 (KVA, 2013). Following a suggestion from STINT, it focused on how STINT evaluates its activities. The conclusion is rather critical stating that STINT has not approached the evaluations of its programmes and other activities in a systematic way. Among the three evaluations given special attention by the KVA reviewers, only one was considered independent and of high quality, and it was questioned if STINT had given the recommendations sufficient attention.

One major recommendation from KVA was to form a plan for evaluations and to carry out one meta-evaluation covering the predominant question "has STINT significantly raised the quality and thereby increased the international competitiveness of Swedish academic research and education through the support to internationalisation endeavours within the programmes that STINT has carried out over the years and are running today." (ibid:22, translated by the author)

Partly outside the scope of the evaluation, it is also recommended that STINT increases the collaboration with other funding bodies. STINT should consider the balance between support to individuals and support to larger organisational entities. Finally, it is emphasised that STINT's removal of academic discipline specific programmes, which previously existed for the humanities and social sciences, may lead to less funding to this part of the academic system which might otherwise benefit most from an enhanced internationalisation of its research.

The management auditor comments that STINT during the year has put in place the propositions forwarded by KVA (2013) however some actions still are being discussed (Lindencrona, 2014).

4.20 2014

When the partly new board was in place mid-2013, a new strategy was developed and decided mid-2014 (Göthenberg, 2014). It emphasises knowledge and competence building within internationalisation and puts additional focus on higher education as well as the inclusion of younger researchers in STINT's initiatives.

STINT's largest and oldest programme Institutional Grants is terminated and three new programmes are launched in line with the new strategy:

- Grants for Double Degree Programmes
- Postdoctoral Transition Grants
- Capstone Awards.

The announcement and selection process in a second JSPS-funded programme is handled by STINT; JSPS Summer Programs.

Among other initiatives to promote internationalisation are two STINT Forums, one rector's delegation to Indonesia, and nine reports, articles or conference contributions (STINT, 2015).

STINT Scholarships for Academic Excellence were awarded between 2005 and 2011. In total 50 students from six universities in China, Mexico, Ghana and South Korea were granted a scholarship for a two-year Master's programme in Sweden. STINT invested approximately 10 MSEK in these scholarships. The evaluation of the programme was made 2013/2014 (Jondell Assbring et al, 2014). It resulted in a very positive judgement of the programme's results showing that excellent students were given good opportunities for education, personal development, improved economic situation and further career development. However, it was not possible to find any indications of the impact objective of the programme, i.e. to stimulate long-term international collaboration in research and higher education, at the time of the evaluation.

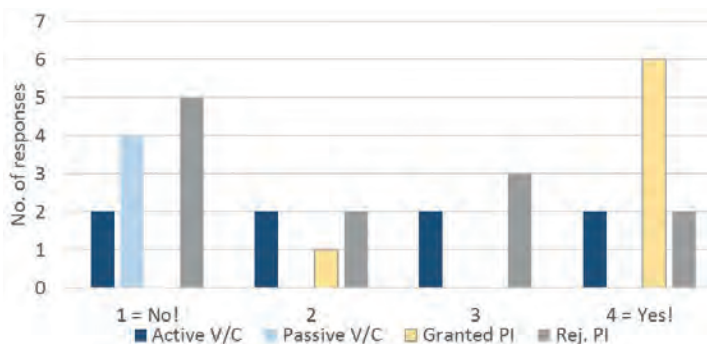
4.21 2015

Two bilateral programmes are added, China and South Africa, giving a total of five bilateral programmes basically following the same model and same timetable. The South Africa programme is co-funded on the Swedish side by the Research Council and STINT, and in case the scientific area is relevant also Formas or the Swedish Research Council for Health, Working Life and Welfare (Forte).

Among other initiatives to promote internationalisation are two breakfast seminars, one STINT Forum, and nine book chapters, articles or conference contributions (STINT, 2016).

A minor in-house evaluation of the first three calls for Strategic Grants for Internationalisation was carried out in the autumn 2014 (Pohl, 2015a). It found that the programme has had a positive effect within the area of strategic internationalisation, both among those applicants who received co-funding from STINT and among others. Only five projects were finalised at the time of the evaluation. Their final reports indicate very positive results and it appears probable that the projects will continue.

Figure 15: Consequences of Strategic Grants for Internationalisations



	Active V/C	Passive V/C	Granted PI	Rej. PI	All
Averages	2,50	1,00	3,71	2,17	2,45

In Figure 15, one result of a questionnaire shows that the programme not only intensified the internationalisation at those HEIs who received grants. Four groups of respondents are listed; Active V/C are vice-chancellors at HEI's applying for funding in the programme, Passive V/C did not apply, Granted PI are the leaders of funded projects and Rej. PI are the leaders of non-granted projects. All groups except the passive vice-chancellors indicate some impact of the programme.

The programme has also contributed to some potentially important aspects. One is the development of STINT's network with strategically influential people in Sweden and abroad, not least thanks to the group of internationally respected experts that helps STINT in the assessment of the applications. Another is that the interest in and commitment to strategic internationalisation has developed in a positive direction in Sweden.

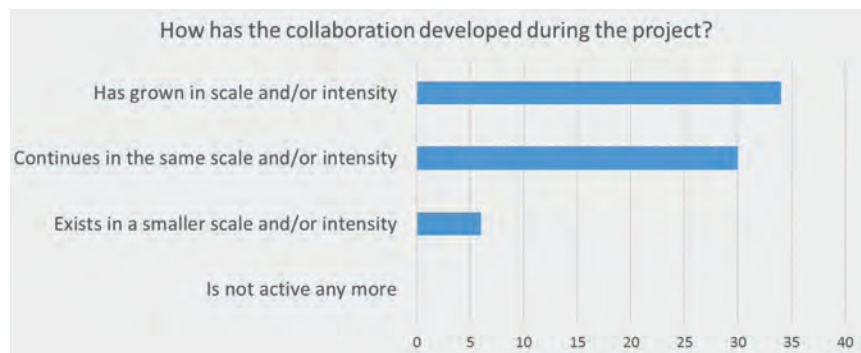
Another in-house evaluation covered the Initiation Grants programme, since its inception until mid-2015 (Pohl, 2015b). Out of a total of 572 applications, 154 were granted by STINT, corresponding to an investment of about 20.6 MSEK, see Figure 16.

Figure 16: **Distribution of applications and projects**



It is noted that the programme has had an extensive reach as 35 different HEIs have applied for funding and 27 have been granted. Initiation grants have been important or even decisive for almost all projects to materialise and the projects appear to develop very well with the STINT grant, see Figure 17, which is based on the final reports from 70 projects.

Figure 17: **Result of Initiation Grants**



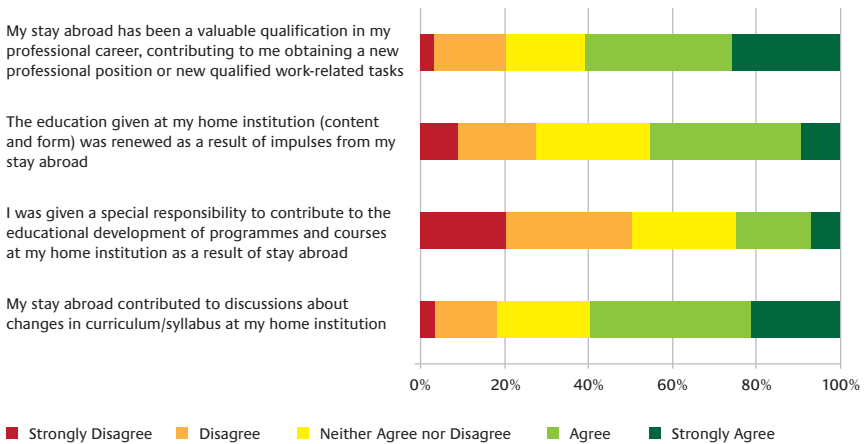
In his final report, the management auditor discusses how STINT has developed since he started in 2008. He notes that STINT has managed to become more known in the Swedish HEI system. In the balance between concentration and plurality, which is forwarded as one of STINT's main challenges, he argues for bilateral support to research collaborations with a limited selection of countries, which also is the avenue that STINT has followed. (Lindencrona, 2016).

4.22 2016

This impact study is made during 2016 and thus it does not attempt to cover this year. However, two evaluations finalised in 2016 must be presented. It should also be mentioned that STINT together with the Swedish Higher Education Authority organised a large rector's delegation trip to South Africa and Botswana in March 2016.

A second review of the Excellence in Teaching programme was carried out 2015 – 2016 (Henriksson and Hallonsten, 2016). The programme has since 2000 awarded 130 scholarships to lecturers for one semester abroad at one of STINT's partner colleges or universities. "From the evaluation it lies beyond all doubt that there are far-reaching behavioural effects of the programme on individual level, and that the likewise proven behavioural changes mean that the impacts on individual level also have a great potential of translating into impacts on departmental, university and national level." (ibid:2) Swedish universities are very positive to the programme but their capacity to absorb the results of the stay abroad varies greatly. A positive trend towards better routines in this aspect is noted by the reviewers but there is still a need for a more systematic approach. Figure 18 shows that the former grantees confirm that the programme has had an impact on the education at the HEIs in Sweden.

Figure 18: Results on an individual level

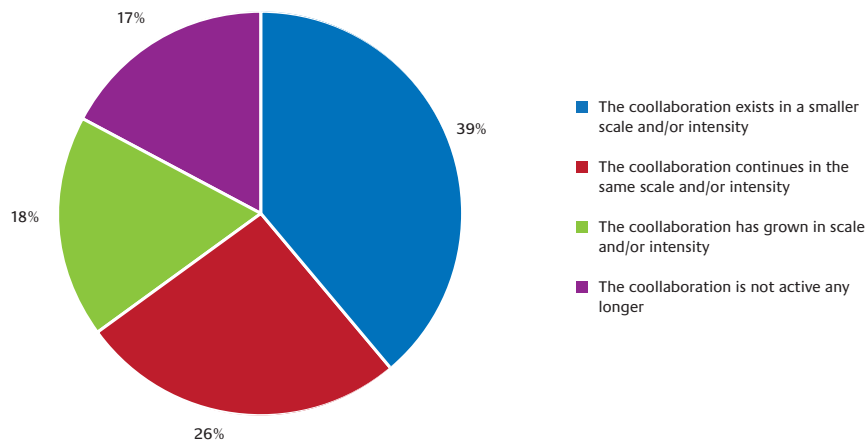


A third review of Institutional Grants took place 2015–2016 (Johansson de Château et al, 2016). It also included the bilateral programmes with Brazil, Korea and Japan, which follow a similar model. The last call within Institutional Grants was made in 2013, whereas the bilateral programmes are still open for applications annually. The review confirms to a large extent the positive results of ACA (2009). Internationalisation has been successfully promoted and Institutional Grants partnerships had conceptual effects on the research. New perspectives as well as new international collaborations evolve during the projects, sometimes unexpectedly. In all 301 projects were funded totalling 526 MSEK.

A total of 21 Swedish HEIs participated in the programme, mainly the comprehensive old ones. Natural and engineering sciences were the most active research areas with approximately 59 percent of the projects, followed by Medicine (22 percent) and the Humanities and social sciences (19 percent).

When asking the leaders of finalised project about the status today, most collaborations are still active, see Figure 19. It should be noted that the STINT funding to some of these projects ended several years ago.

Figure 19: **Development of collaborations**



The review of the bilateral programmes indicates that they are efficient in their design and implementation.

5 Interviews – STINT’s strategies in different time periods

A summary of each interview is given in the Appendix. The key functions leading and controlling STINT are the Executive Directors and the Board of Directors. It was decided to interview all past and present Executive Directors and Chairpersons of the board. In addition, the founding father of STINT was interviewed. All these key persons are listed in Table 2.

Table 2: STINT key persons

Function	Name	Time period	Comments
Founding father	Bjarne Kirsebom	1992 – 1994	
Executive Director	Roger Svensson	1994 – 2009	
- “ -	Andreas Göthenberg	2009 –	
Chairperson of the board	Leif Leifland	1994 – 1997	Not interviewed. Passed away 2015
- “ -	Agneta Blad	1997 – 1998	
- “ -	Olof Ruin	1999	
- “ -	Anders Mellbourn	2000 – 2005	
- “ -	Ursula Hass	2006 – 2007	
- “ -	Anna Hultgårdh-Nilsson	2007 – 2010	
- “ -	Olle Wästberg	2010 – 2016	
- “ -	Sylvia Schwaag-Serger	2016 –	Not interviewed

The interviews contributed with data explaining the development of STINT in different time periods. Among other issues, the dominance of research and the interest in educational aspects was mentioned by several of the interviewees. Another aspect highlighted was the differing positions in relation to more strategic approaches to internationalisation. In addition, a wealth of details contextualising and qualifying the developments described in the printed sources were obtained.

6 STINT Internationalisation Index

The Internationalisation Index is the result of several years of efforts to improve the measurement of internationalisation and is thus closely linked to of STINT's efforts to capture the consequences of its actions. It was publicly launched in September 2016. The index covered four years and the plan is to update it annually. Given the purpose of the impact study, longer time periods are presented in sub-section 6.2, when available.

6.1 Principles of the index

Research (R)

The research part of the index uses an improved version of the traditional share of international co-publications, the field-weighted internationalisation score (FWIS), which is available for almost all HEIs in the world in Elsevier's system SciVal. FWIS represents how international a HEI is in terms of international co-publications adjusted by scientific profile, type of publications and year. $FWIS = 1$ is the world average (Pohl et al, 2014).

Students (S)

The mobile student share is calculated as mobile students (in-bound and out-bound) in relation to the total student population at the HEI.

PhD students (P)

For each HEI the share of foreign students in relation to all PhD students is calculated.

Education (E)

This is an indicator for courses and programmes in tuition languages other than Swedish (often English). The credits offered in foreign languages are calculated in relation to all credits offered.

Faculty (F)

The number of faculties with a PhD exam from abroad and/or publication(s) with a foreign affiliation is compared to the total number of faculties.

Leadership (L)

The leadership at a HEI is defined as the Vice-Chancellor and the Provice-Chancellor (or equivalent) and the score is calculated as for faculty.

6.2 Index results

Data is available for the years 2011–2014 except for the leadership dimension which is only available for 2014. For some dimensions; research, students and PhD students, longer time periods are available.

In Figure 20 the development of the total is presented using the weights decided for the index (research 40%, students 20%, PhD students 8%, education in English 12%, faculty 15% and leadership 5%)⁴. The total internationalisation index shows that 2013 was the most international among the years covered.

Figure 20: **Total index for 28 HEIs**

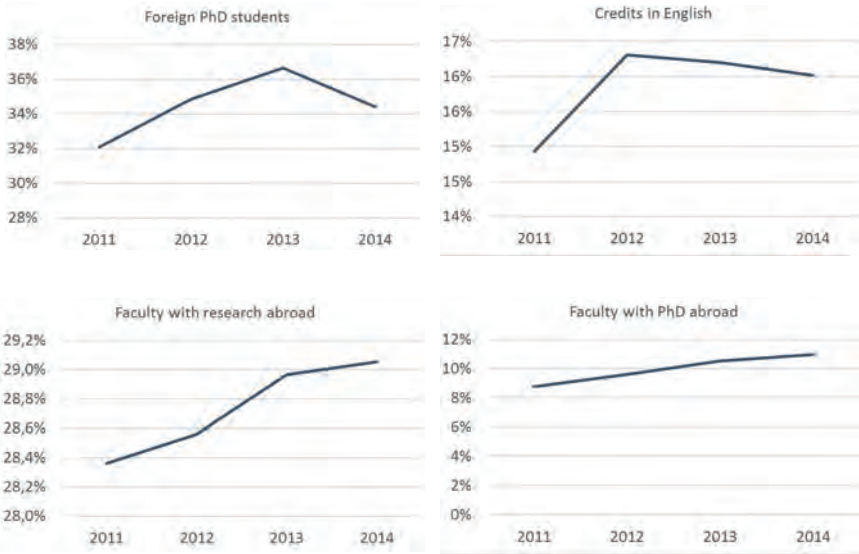


In Table 3, the development of the individual indicators is presented as weighted totals for all 28 HEIs. It should be noted that the changes over the four years are relatively small and that trends appear to exist in some dimensions.

Table 3: **Development of indicators in STINT Internationalisation Index**



⁴ The weights reflect STINT's view on the relative importance of each dimension



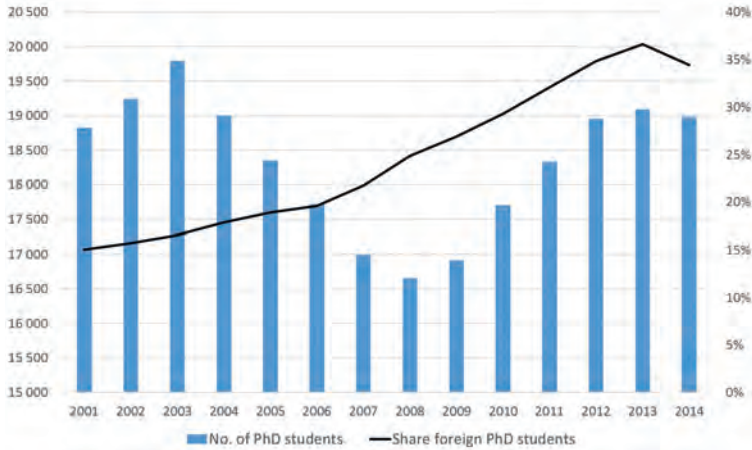
The pattern of student mobility over a longer time span has already been addressed in 3.2. A longer time period for the field-weighted internationalisation score shows that the positive trend from 2003 continued until 2011 and the development since then has been slightly towards less international research collaboration, see Figure 21.

Figure 21: FWIS for 28 HEIs in Sweden



A longer time period for PhD students shows that the share of foreign students has steadily increased during the period 2001-2013, see Figure 22. It is still too early to tell if 2014 is just a temporary deviation from the trend or a new trend.

Figure 22: **PhD students in Sweden**



7 Discussion – the impact of STINT

One major source of information about STINT’s potential impact are the existing evaluations. In the first sub-section, they are discussed.

Data is thereafter analysed with respect to STINT’s main missions; research, education and promotion. Two specific research directions are analysed as they are touched upon frequently in the documents as well as the interviews: collaborations with dynamic countries and internationalisation of the humanities and social sciences.

An attempt is also made to study the overall development of Swedish HEIs using the position in global ranking systems.

7.1 STINT in the evaluations

Summaries of existing evaluations are given in section 4. An overview follows in Table 4.

Table 4: All evaluations of STINT's activities

Year	Scope	Results (highlights)	Reference
2001	STINT impact study	Too early for impact study. Educational activities should be increased	KVA (2001)
2003	Postdoc abroad 1981-1999 (not only STINT-funded)	Positive experience. Expanded international network	Melin (2003)
2004	Institutional Grants 1996-2003	Provides access to leading researchers and special environments. Limited impact on education. Collaborations survive after STINT funding period	SQV (2004)
2004	STINT's Scholarships to inbound Master's students 1994-2003	Swedish HEIs see the programme as support to individuals to study in Sweden, not a strategic instrument	Liman-Grave (2004)
2006	Scholarships to PhD students within the cultural sciences 1999-2003	Contributes to competence and personal development. Problematic to require prolongation of PhD period	Bengtsson and Lundequist (2006)
2007	Excellence in Teaching 2000-2006	Vital benefits for individuals but limited efforts from the HEIs to make use of the experiences	Mehrens (2007)
2008	Swedish School of Advanced Asia Pacific Studies (SSAAPS) 2001-2008	Fragmentation in research decreased and funded individuals often successful in their further academic careers	Geschwind (2008)
2009	Institutional Grants 1996-2005	Unusually successful programme, with high-quality collaborations lasting beyond the STINT period of funding	ACA (2009)
2013	STINT's Evaluation practices 2006-2012	Evaluation policy is weak. Questioned if STINT pays enough attention to the results of the evaluations	KVA (2013)
2014	STINT's Scholarships to inbound Master's students 2005-2011	Excellent for the students, no clear indications of impact on long-term international collaboration	Jondell Assbring et al. (2014)
2015	Strategic Grants 2011-2013	Positive effect on funded and non-funded HEI's strategic internationalisation. First projects continue after funding period	Pohl (2015a)
2015	Initiation Grants 2011-2015	Participation from many HEIs in Sweden. Funding important, collaborations grow or continue in the same scale	Pohl (2015b)
2016	Excellence in Teaching and Teaching Sabbatical 2000-2015	Far-reaching behavioural effects on individual level. Impacts on higher levels in the HEI less systematic but improving over time	Henriksson and Hallonsten (2016)
2016	Institutional Grants and bilateral programmes with Korea, Brazil and Japan 1996-2015	Conceptual effects on research. Most collaborations still active after period with STINT funding, 44% in the same or larger scale/intensity	Johansson de Château et al (2016)

It should be noted that there are periods when no evaluations were carried out and that several evaluations were made during 2015-2016. As mentioned in the introduction, an evaluation plan was decided in 2013, covering the period 2013-2016.

The results of the programme evaluations are positive. Minor deviations from the goals are noted but the programmes have largely delivered according to their goals.

At individual student, researcher or teacher level, the results are very positive. Also at research group level, STINT-funded projects have resulted in several benefits. Among them, it is frequently stated that the collaborations tend to last much longer than the period of STINT funding and continue to develop. This is in line with the programme goals. However, given STINT's plan to change the collaboration patterns, it may be expected that some of the new collaborations could turn out to be less fruitful.

On a more systemic level, most programmes have more a limited impact. One exception is the Strategic Grants programme, which explicitly addresses this level. It should also be noted that the systemic level is not targeted in each individual programme. Therefore, the impact on this level is best studied considering the portfolio of all STINT programmes such as in this impact analysis. In the following sub-sections, an attempt to study the collective impact of STINT's activities is made.

7.2 Impact on research

Most of STINT's programmes have addressed the internationalisation of research and most of the respondents in the interviews have considered this dominance of research over education to be a bit problematic. As the research-oriented programmes have also had larger budgets, a very large share of the investments has been devoted to research.

When looking at the key indicators of international Swedish research (compare Figure 7 and Figure 8), it is shown that research in Sweden has a large share of international co-publications and that this share has developed at least on a par with comparable countries. So even though it is impossible to tell how much STINT has contributed to this development

(as there are so many factors having a potential impact on it), it appears reasonable to assume that STINT made a difference.

It could be argued that STINT has had the wind at its back during most of its active years, as mentioned in one interview (see C 4). This supports a progressive development and makes life easier at STINT as there is a positive interest in internationalisation. However, it also means that STINT must move quickly if it wants to maintain a position as a change agent. More about this in 7.4.

Periodically, STINT has had programmes co-funded by other entities, among them the Swedish Foundation for Humanities and Social Research (RJ). During the past few years, the level of co-funding has increased substantially. The bilateral programmes are co-funded by foreign organisations with 50 percent, and Strategic Grants and Grants for Double Degree Programmes are co-funded by the Swedish HEIs with at least 50 percent. In the bilateral programme with South Africa, STINT's part of the funding is less than 25 percent, as Swedish research councils also co-fund this programme. This means that STINT's investments in 2015 as depicted in Figure 1 only represent about one half of the total amount. Even though co-funding implies certain limitations, it appears to be a very direct and powerful way to leverage STINT's investments.

Two aspects have repeatedly been mentioned in the description of STINT's activities and strategies; dynamic countries and internationalisation of the humanities and social sciences. Both aspects have been considered problematic to some extent and it has been asked if STINT has been sufficiently active in these issues. A separate analysis of these aspects follows.

7.2.1 Dynamic countries

In 2001, STINT made a priority list with the following countries: Brazil (BR), Japan (JP), Mexico (MX), South Africa (SA), South Korea (KO), Taiwan (TW) and Thailand (TH). Later, bilateral programmes started with some of these countries plus China (CN). Using publication data, a study of how research collaboration with these countries has developed over time was made.

In Figure 23, the annual volume of co-publications including authors with affiliation in Sweden and each priority country is given. Since 2002, an increase in annual volumes is indicated for all countries.

Figure 23: Volumes of co-publications between Sweden and selected countries

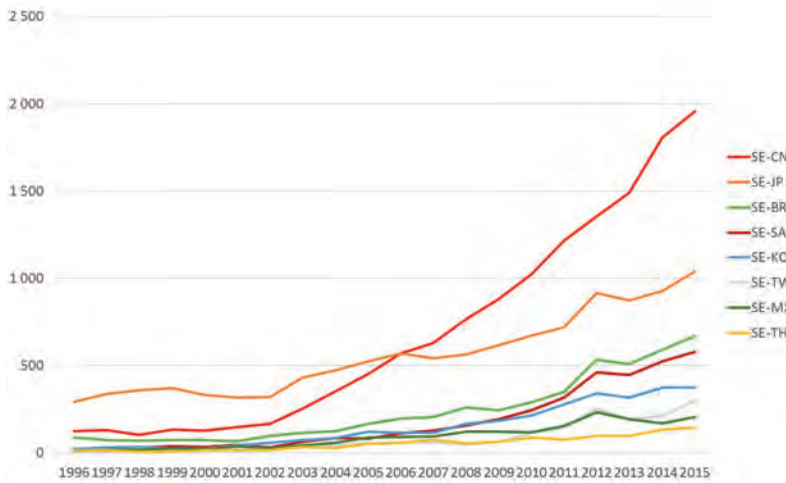
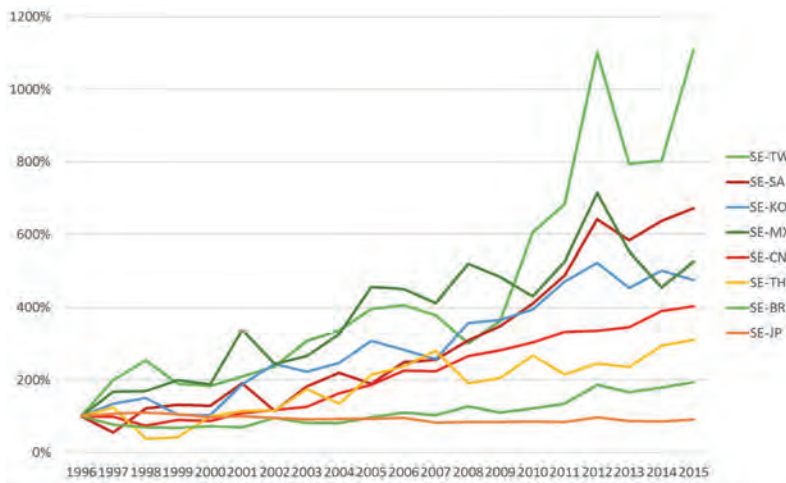


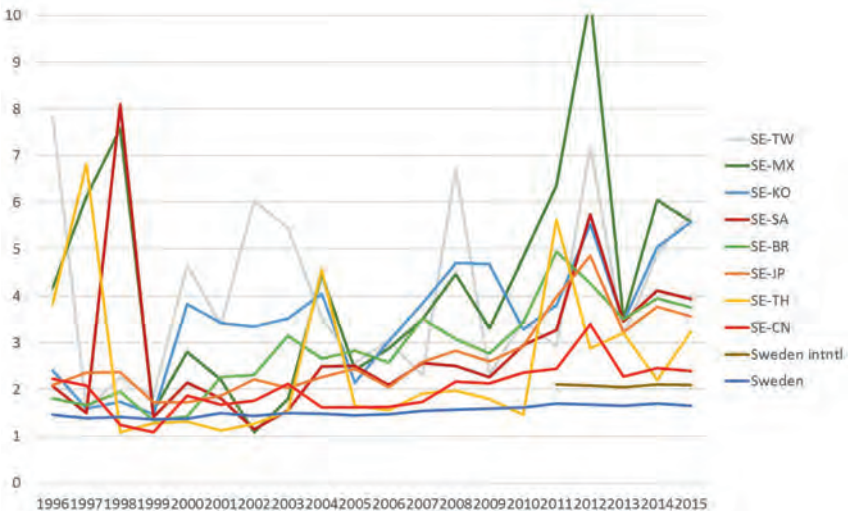
Figure 24: Volume change relative to all Swedish international co-publications



When comparing the volume for all Swedish international co-publications, it becomes evident that collaboration with most of these priority countries has developed more rapidly than the general trend in Sweden, see Figure 24. However, it should be noted that publications might be double-counted, a publication with authors in Sweden, Japan and Korea is counted in both collaborations. Another contributing factor is how the publication volume in the partner country develops.

Previous figures indicate that collaboration with STINT’s priority countries shows a strong development in terms of volume but probably more importantly is quality. In Figure 25, the development of the quality indicator FWCI is given for these collaborations and for all Swedish publications.

Figure 25: **FWCI for co-publications between Sweden and selected countries**



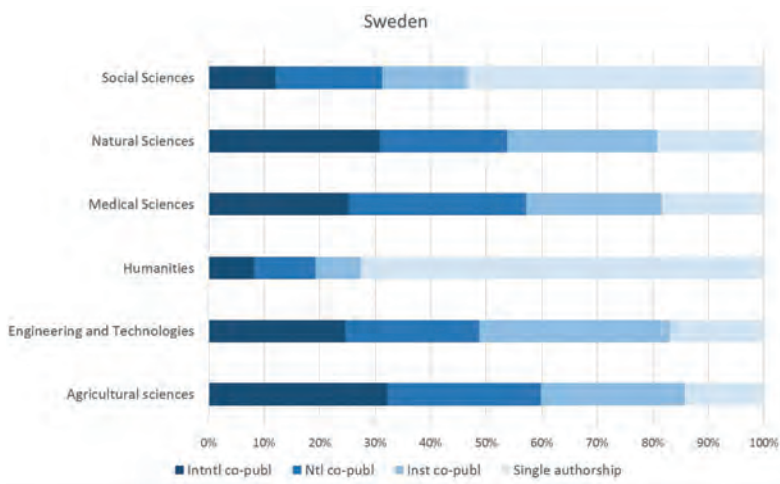
As Figure 25 clearly shows, the citation impact is often very high for these collaborations and there appears to be a positive trend as well. It is well known that international co-publications on average receive a higher citation impact than national (co-)publications. In Figure 25, data for the years 2010–2015 shows the FWCI for all international co-publications with at least one author with a Swedish affiliation. Without exception, the FWCI for co-publications with these partner countries is even better than the FWCI for Swedish international co-publications. The large annual changes reflect the relatively small annual volumes of co-publications with some of these countries.

To summarise this study of priority or so-called dynamic countries; it has been shown that research collaboration with these countries has developed very positively, both in terms of volume and quality. STINT’s role in promoting these countries has differed, from being the pioneer of bilateral programmes with Korea and Brazil, to a more limited role providing scholarships to Master students from Thailand and Mexico. In addition, the Institutional Grants programme put forward a list of countries in the call text during a couple of years, in order to encourage further collaborations with them though these applications were expected to compete on a level playing field with applications from all countries.

7.2.2 Humanities and social sciences

STINT has periodically earmarked resources for the internationalisation of the humanities and social sciences, also known as the cultural sciences. Still, it has repeatedly been asked if STINT is doing enough. The main argument for this engagement is that the humanities and social sciences are lagging in internationalisation of research, and that there is a lot to gain if the degree of internationalisation increases (The Swedish Foundation for Humanities and Social Sciences, 2012).

Figure 26: **Types of publications per academic discipline**



When using publication data to investigate the academic discipline profiles, it should be noted that there are different traditions when it comes to publications. For example, it is very common to publish with just one

author per publication in the humanities, see Figure 26. Obviously, this reduces the number of international co-publications.

In Figure 27, it is shown that humanities and social sciences have a lower share of international co-publications than the other academic disciplines. However, there is a positive trend, in particular for the humanities. When setting 1996 as the year of reference, it becomes clear that humanities is the academic discipline that has developed most drastically since 1996 with an increase of international co-publications of almost 600 percent, see Figure 28. Social sciences have internationalised more than Sweden as a whole.

Figure 27: **International co-publications per academic discipline**

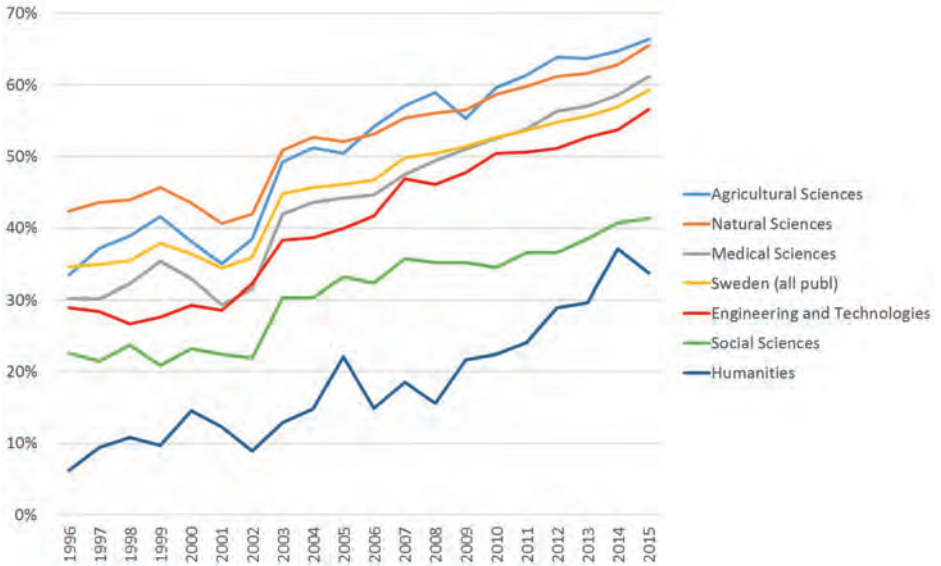
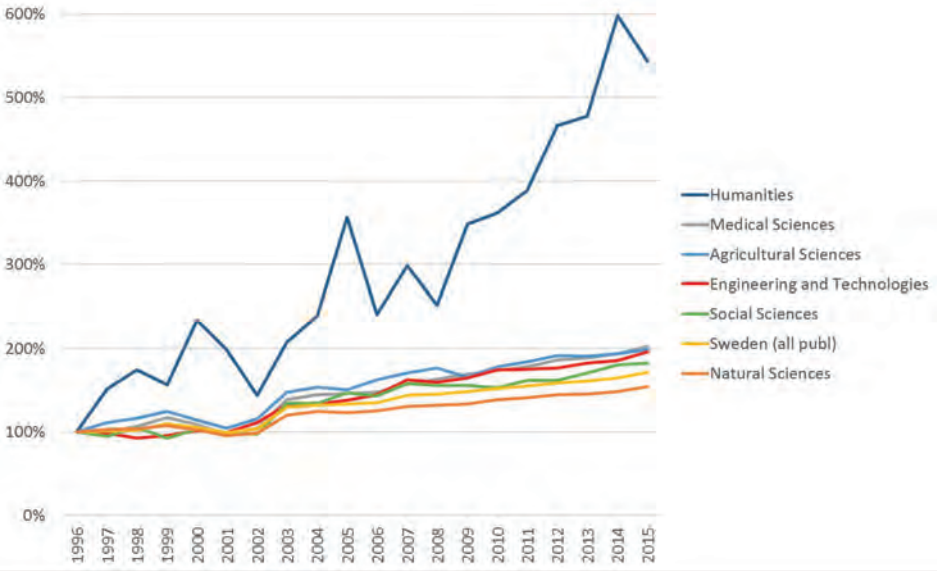


Figure 28: Relative share of international co-publications per academic discipline



Considering that the higher education system is rather conservative, it might be unrealistic to expect a faster change than what is indicated in Figure 27 and Figure 28. One approach is to make a comparison with other countries, see Figure 29 and Figure 30.

Figure 29: Growth rate in international co-publications for the humanities

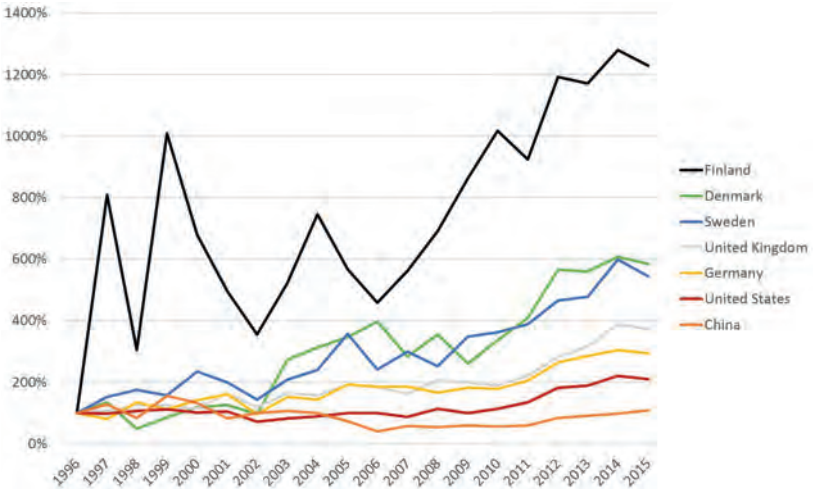
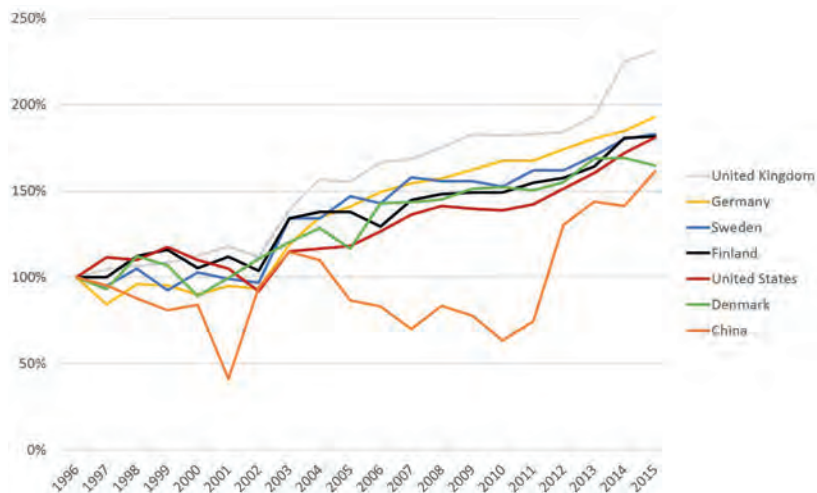


Figure 30: **Growth rate in international co-publications for the social sciences**



In an international comparison, Sweden and Denmark have had a very similar development in both academic disciplines. Finland shows the most drastic increase in the humanities, but this depends more on an extremely low starting value (2.4 percent international co-publications in 1996), than a high share in 2015 (29.5 percent, which is a few percent lower than Sweden and Denmark). In social sciences, the United Kingdom has shown the strongest growth.

In Table 5, the shares of international co-publications for 2015 for each academic discipline and the selected countries are presented.

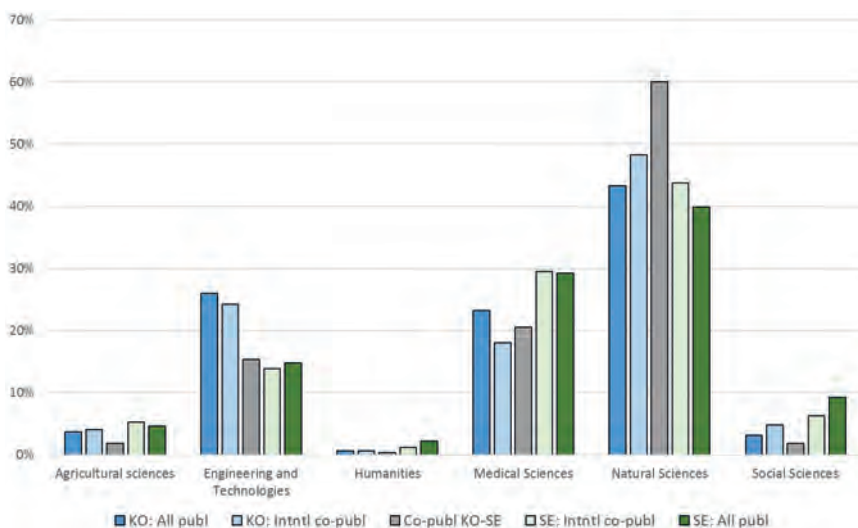
Table 5: **Shares of international co-publications per academic discipline**

Country	Total	Agricultural sciences	Engineering and Technologies	Humanities	Medical sciences	Natural sciences	Social sciences
China	20,8	24,7	17,2	31,1	22	21,7	37,1
Denmark	59	66,4	57,7	34,5	58,5	65,6	43,8
Finland	56,1	59,2	54,2	29,5	60,5	61,1	38,5
Germany	48,7	57,1	45,2	30,2	46,8	54,3	38,2
Sweden	59,3	66,4	56,6	33,7	61,2	65,5	41,3
United Kingdom	50,3	63	55,2	22,4	50,3	61,6	35,1
United States	33,1	41,8	36	13,4	30,9	41,4	21,9

It is noted in the evaluations that within the humanities and social sciences collaborations tend to materialise with English-speaking countries. One concern in this regard has been the introduction of bilateral programmes, which except for the programme with South Africa are not with English-speaking countries. To illustrate how the choice of partner country influences the academic discipline of the projects supported by STINT, a study of the scientific profiles of the countries was made.

In Figure 31, the scientific profile of Korea is compared to the profile of Sweden using data for 2010-2015. The profile shows the share of publications in each academic discipline for all Korean and Swedish publications as well as for the international co-publications. The centre column shows the profile of actual co-publications involving Korea and Sweden. It could be argued that the scientific profiles given by the international co-publications should be mirrored by the actual co-publications between the countries. To some extent this is also the case, even though natural sciences appear to be over-represented at the expense of the other academic disciplines.

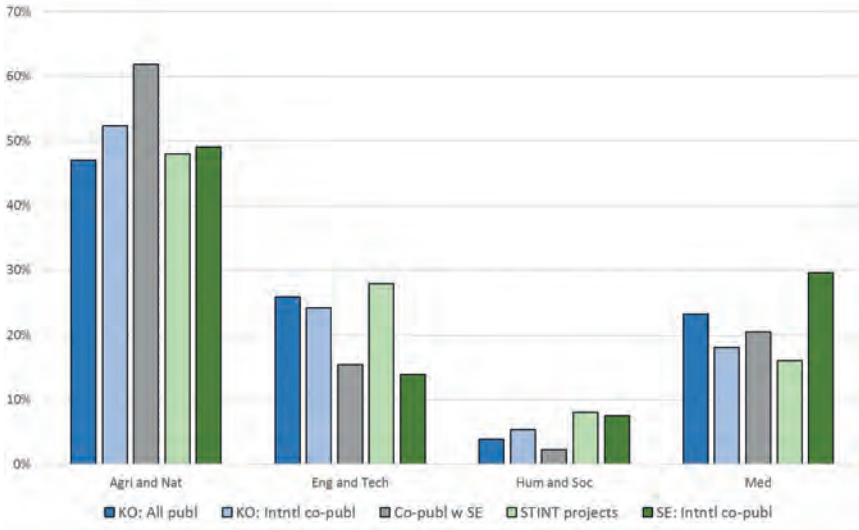
Figure 31: **Academic discipline profiles for Korea and Sweden**



In the next step, the profile of STINT’s granted projects with Korea is added, thereby allowing for a comparison, see Figure 32. The classification of STINT’s projects differs slightly from the OECD one, which is shown in Figure 31.

When comparing the grey and the light green columns, it turns out that

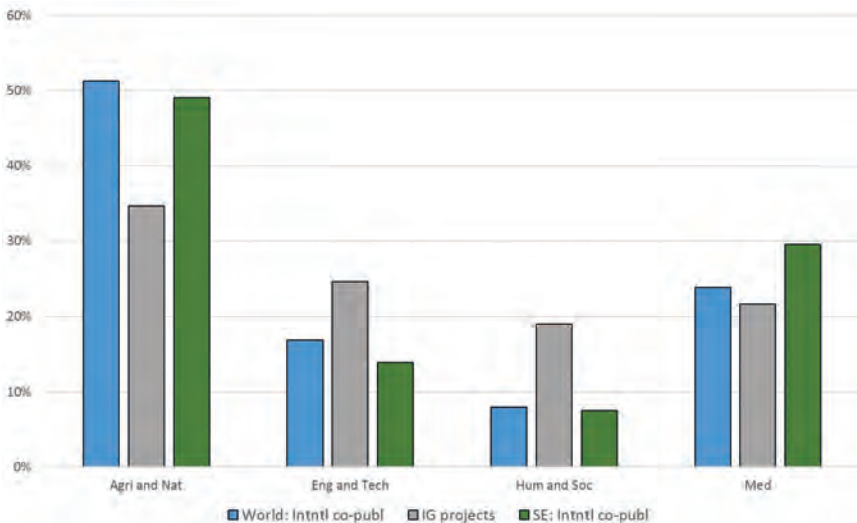
Figure 32: Academic discipline profiles for publications and STINT projects



STINT’s project portfolio has a stronger emphasis, than could be expected on engineering and technology, and humanities and social sciences. It should be noted that STINT’s portfolio is only based on 25 projects.

The result of a similar exercise for STINT’s largest programme, Institutional Grants, which was open for all countries, is given in Figure 33.

Figure 33: Academic discipline profiles for the world, Sweden and Institutional Grants



This comparison is more robust as it is based on 300 projects and again it shows that engineering and technology along with humanities and social sciences are more common among STINT's projects than would be expected given the profile of researchers publishing internationally.

To conclude this analysis it has been demonstrated that, according to publication data, the humanities and social sciences have become more international quite rapidly since STINT started its operation. However, a similar development has also taken place in our neighbouring countries and it would therefore be incorrect to only credit STINT for this development. When studying some of STINT's programmes, it is noted that the share of the projects within the humanities and social sciences (and within engineering and technologies) is higher than would be expected given the publications of internationally active researchers. This indicates that STINT at least in some programmes has managed to prioritise the internationalisation of the humanities and social sciences.

7.3 Impact on education

Has STINT improved higher education in Sweden? Unfortunately, this question is very difficult to address partly due to insufficient data. The overarching question is: has there been an improvement in higher education in Sweden? There is research indicating that diversity in the classroom and on campus is beneficial for all students (Gurin, 1999; Hu and Kuh, 2003). Through its scholarships to students from selected countries, STINT has contributed somewhat to this diversity.

The results are clearly influenced by the impact of the introduction of tuition fees on the numbers of international students. It did not only reduce the numbers, it also reduced the diversity. To better measure the value of international students, STINT has proposed a method to calculate diversity in a given student population (Pohl and Göthenberg, 2014).

STINT's programmes providing scholarships to Master and PhD students, and postdocs, have contributed to international experiences for individuals in the target groups, which according to the evaluations, have been beneficial. STINT's programmes directly addressing these groups have been terminated. STINT encourages Masters, PhDs and postdocs to become part of the projects, but the applicant must possess a PhD or similar. The interviews indicate a will to raise the ambition in relation to these groups but there is also a concern about the resources that STINT has. They are not considered sufficient for programmes that really make a dif-

ference targeting these large groups (see E 2 and C 6).

STINT's now oldest running programme Teaching Sabbatical has been and is unique in its contribution. More than 130 university lecturers have participated in the programme nominated by their respective university in Sweden. As the recently finalised evaluation indicates there are large numbers of concrete examples of how the semester abroad has changed the education at home upon the students return (Henriksson and Hallonsten, 2016). Most of them relate to the local environment surrounding the teachers that have been abroad but some are of a bit broader scale. But still, there is limited evidence for large systemic impacts emanating from the programme.

Another programme intended to have an impact on higher education is Institutional Grants, which was open for applications for collaboration within research and higher education. However, as noted in the first two evaluations (SQW, 2004; ACA, 2009), the higher education content in the projects was rather limited. As the assessment criteria were designed for research proposals, pure higher education collaborations would not have been granted. Probably the criteria reduced the applicants' interest to include education components.

An even more recent programme, Strategic Grants, has to a large extent addressed the internationalisation of higher education. Even though the programme guidelines and assessment criteria do not ask for education, as they are open for almost any type of proposal, it has obviously been of strategic interest to address educational topics. The granted proposals cover several aspects of higher education, such as branding and profiling to attract international students and faculty, preparatory on-line and on-site courses for foreign students to increase the value of the study programme and internationalisation at home developing the global classroom. It is probable that the interest in the development of higher education to some extent has been triggered by the introduction of tuition fees in 2011.

A more recent programme addresses higher education explicitly; Grants for Double Degree Programmes. So far only two calls have been carried out and no projects have been completed. There has been a large interest in the programme but the numbers of applications were lower than expected. One possible explanation is that it takes time to develop double-degree programmes and people have underestimated the amount of work and time needed to reach the stage when an application to STINT is considered.

To summarise, as the comments in the annual reports indicate, STINT has over a long period only invested limited resources in the internationalisation of higher education. One on-going programme has had a clear impact, at least on the local level, Teaching Sabbatical. Recently, additional programmes which are notably relevant for higher education have been launched and it remains to see what impact they will have.

7.4 Promotion of internationalisation

STINT has predominantly invested in projects encompassing internationalisation activities such as stays abroad and collaborative workshops. However, according to the statutes (e.g. STINT, 2001), STINT's role to promote internationalisation is broader. In the first review of STINT (KVA, 2001), it is noted that STINT not only has a funding role but also a policy role. This is reflected in an input to the research bill 2004 (see STINT, 2004).

However, the promotional role appears to be rather invisible in the accounts for STINT's activities during the first two decades. Some workshops have been supported by or organised by STINT and a few articles have been produced but otherwise the foundation has had a relatively low profile. STINT's poor visibility nationally and internationally is brought up in the most ambitious programme evaluation (ACA, 2009).

In 2006, STINT's board initiated work on strategies and increased external communication (see C 4), but this did not take off, probably because of changes in the board and the position of the Executive Director at that time (see E 1). The subsequent chairwoman did and does not consider it useful to invest in activities targeting the HEI leaderships (see C 5).

Starting on a small scale in 2011, STINT appears to take a more active role in the promotion of internationalisation through the organisation of high-profile seminars, top-level delegation trips, and the production of several reports and articles for national and international audiences. The strategy decided in 2014 confirms and underlines this development of STINT.

Some of the more recent efforts linked to STINT's promotional role:

- STINT Forums have been organised almost annually since 2011 with globally acknowledged speakers addressing different aspects of internationalisation. The Forums are free-of-charge and attract 100–150 people from HEI management, public administrations and agencies.

- Strategic Grants has had a dual role as it has placed internationalisation as a key issue in Swedish universities and through the international review communicated how strategic internationalisation is considered most rewarding. The other role is of course the funding of successful proposals.
- Rector’s delegation trips and conferences have been organised to Korea, Indonesia, Japan, Botswana and South Africa, allowing for intense and concrete learning about how international collaboration can materialise and the opportunities that exist.
- Delegations and matchmaking workshops have been organised in the United Arab Emirates and Qatar.
- Knowledge development and communication has taken place through the production of reports, conferences contributions and book chapters, addressing various aspects of internationalisation and how it can be systematically described and studied.
- STINT Internationalisation Index has been developed with the dual purpose of improving the possibilities to measure internationalisation and communicate the importance of internationalisation.

One probable impact of the promotional activities initiated by STINT is that internationalisation has become more visible in the toolbox of the decision makers from the Minister for Education and Research and downwards. At the same time, it is very likely that STINT has also become more visible, at least on the policy level.

The interviews with the chairs of STINT’s board indicate that several board members and chairpersons have made a career in the higher education system after their involvement with STINT. This in combination with the often very positive experiences from being on the board is a sort of policy development that can support STINT’s mission.

Given STINT’s ambition to be a change agent, a stronger focus on the non-funding promotional role appears beneficial. The role of the funding agency requires a relatively stable portfolio of programmes, preferably with annual calls to maintain the attention. Even though smaller changes in the portfolio are possible, there is a certain inertia linked to this role. In the policy role, there is much more freedom and it sometimes requires innovation to keep the audience’s attention.

To conclude, STINT has over the last few years adopted a more active role

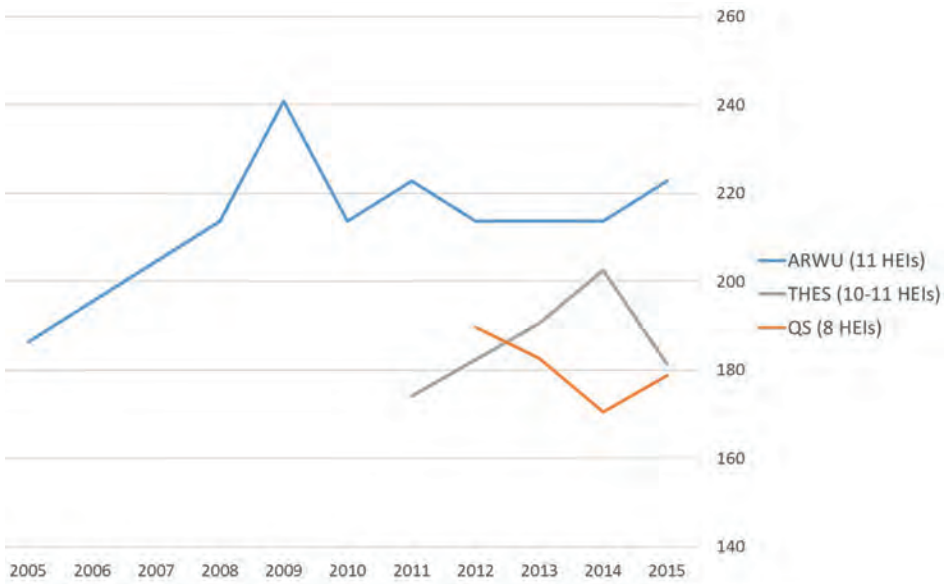
in promoting internationalisation in the policy context. Given STINT's limited resources, it appears relevant to leverage them through the participation of other entities and their resources and this is obviously what the promotional role involves. However, there is a need to maintain a good balance between the funding and the policy roles as they very much benefit from each other. This was also noted by the current Executive Director and the last chairman interviewed, see E 2 and C 6.

7.5 Impact in the rankings

In the end, internationalisation is used to improve the HEI's in Sweden. Though far from ideal, rankings are almost the only option to use when it comes to assess how the HEIs develop in an international comparison. Aside from all simplifications and shortcomings of the methodologies used by the different ranking schemes they are also not available over the whole period since STINT was created. The longest time span is covered by the Academic Ranking of World Universities, ARWU, also called the Shanghai ranking. It has data since 2003. The Times Higher Education World University Rankings (THES) only offers data since 2011, probably as the methodology has changed. Finally, the QS World University Rankings offers data since 2012.

The methodologies for the two latter include components reflecting internationalisation. In THES, three components constitute the International outlook each weighted by 2.5 percent; international students, international staff and international co-publications. In QS, two components are included weighted by 5 percent each; international students and international staff. This indicates that the introduction of tuition fees in Sweden had a negative impact on Swedish universities' positions in these rankings as the share of international students decreased.

Figure 34: Average position for Swedish HEIs in global ranking schemes



In Figure 34, a very crude analysis of the results in the three ranking systems is presented. The lines indicate an approximate average position in the rankings, the lower result the better. In the figure, the numbers of Swedish HEIs managing to enter these global ranking lists with the top 500 HEIs are indicated. Here it should be noted that the highest ranked university in ARWU and THES (Karolinska Institutet) is not included in QS, as it is not comprehensive.

The conclusion regarding the world of rankings is that it does not convey any clear message about how the competitiveness of Swedish HEIs has developed. Therefore, it is not relevant to discuss if and how STINT has contributed.

8 Conclusions

This study aims to describe the impact STINT has had on the higher education system in Sweden. STINT's resources are relatively small but this is to some extent compensated by a very clear mission; to internationalise higher education and research. However, almost all funding bodies in the system invest considerable resources in various types of internationalisation and it is thus challenging to attribute specific developments to STINT. Another aspect adding to the challenges is the very rapid development of internationalisation of higher education and research world-wide.

Although not always in line with the ambitions of STINT's management, most of the investments have been used to foster research collaboration. The evaluations of these programmes are with few exceptions very positive; the projects funded by STINT have been successful and the established relationships generally last much longer than the period with STINT funding. In this impact analysis, it is also demonstrated that collaborations between Sweden and STINT's priority countries have developed rapidly towards higher volumes with very high quality, when using indicators based on publication data. Moreover, the analysis indicates that the humanities and social sciences have become much more international in their publication patterns since STINT came into existence. STINT's programmes include larger shares of projects within the humanities and social sciences than could be expected from the collaboration profiles based on international co-publications.

The impact on education is difficult to quantify as good indicators are absent. Apart from the funding of Master and PhD students, which STINT has provided to some extent, only one programme directly focusing on education has been running for several years. However, this Teaching Sabbatical programme is unique and almost all people in STINT's leadership explicitly mentioned it as an important initiative. The recently finalised evaluation of this programme indicates clear impacts on lower levels at the HEIs. It also emphasises the opportunities to harvest impacts on higher levels if all participants in the programme are systematically involved, during and after their semester abroad.

Finally, and slightly more controversial, is STINT's policy role. In this analysis STINT has two roles; one funding and one policy role. The policy role is to influence investment in the internationalisation of higher ed-

ucation and research from other actors. Even though promotion is central in the statutes, it is not until the last few years that STINT has tried to develop this role with determination. Therefore, it is too early to discuss the impact but there appears to exist several positive indications that the policy role has potential, especially in combination with the funding role.

In conclusion, this impact analysis illustrates how STINT has developed over time trying to adapt its activities to the changing higher education landscape without departing from its mission in the statutes. Even though much of STINT's funding has been invested in high quality but rather conventional research collaborations, this impact study finds several successful highlights when STINT has managed to make a difference.

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Appendix – STINT’s strategies in different time periods

This section provides a summary of the interviews with key persons during STINT’s existence. The interviews were carried out in August and September 2016. All but two were carried out in face to face meetings lasting between one and two hours. The others were telephone interviews.

Unless otherwise indicated, all data in this appendix comes from the interviewee.

Founder

F 1 Bjarne Kirsebom

Bjarne Kirsebom, at that time employed as Deputy Minister at the Ministry of Education, is considered the ‘founding father’ of STINT. He worked closely together with the Minister Per Unckel. After the first round of foundations was created, a large amount of money remained and Bjarne was given the delightful challenge of taking care of this.

The idea to create a foundation for internationalisation came about during a flight back from Australia, when Bjarne read about the Head of the Thai Marine Forces, who was visiting Sweden to buy submarines. He said in an interview with Dagens Industri that the reason for him being in Sweden was that four of his admirals were educated there.

Per Unckel was immediately positive. It was a period with much activity and little research. Most decisions were taken by Per and Bjarne and it did not take long until what was to become STINT became a part of the bill for higher education and research (Regeringen, 1994).

As most of the new foundations in the first round focused on research, STINT was also given the task to cover higher education as well. Another motivation for the inclusion of higher education was the origin of the idea (the Thai military) and that Bjarne considered the funding of travel for researchers of less importance. “If they need the trip, they will find the funding. Otherwise the trip is not necessary.”

One limitation in STINT’s mission was added by the Finance Minister Anne Wibble, who added the requirement that STINT should co-fund the 4th European Framework Programme, against the will of both Bjarne and Per.

The political doctrine was to give the universities a maximum degree of autonomy. But still, entities like STINT were needed, as the leadership had limited power (less than today) and the universities were slow in adapting their organisations. Bjarne's experience was that universities had not managed to make use of the autonomy that was given to them. The leaderships still do not work in line with the principles that was given to them in the beginning of the 1990s. They do not have the status within their organisations.

When preparing for a Swedish international research strategy (Kirsebom, 2008), Bjarne collected the internationalisation strategies from all universities for the planning period 2009-2012. Only one could be considered a strategy.

STINT received too little funding in comparison to the needs and potentially also a wrong board of directors. Bjarne's impression from the period when he was the Executive Director of a sister foundation to STINT and thus had regular contacts was that STINT was ruled by a strong researcher perspective, which led to the funding of several small research projects. The strategic dimension was weak.

The collection of internationalisation strategies, which were in fact not strategies, did to some extent prove that STINT had failed to have an effect.

Bjarne suggests that STINT could invest the remaining funds with inspiration from the European Institute of Innovation and Technology, EIT. STINT has not had the financial resources for such initiatives. Bjarne and Per had not realised this at the beginning of the 1990s. However maybe STINT could use the remaining funds in two to four areas selected in competition for an EIT-inspired investment during 10 years. STINT could replace innovation with education in this initiative.

Executive Directors

E 1 Roger Svensson

Roger Svensson was the Executive Director of STINT from the start until the middle of 2009 when he retired at the age of 65. Before joining STINT, he was at the Swedish Ministry of Education.

When STINT started, the HEIs considered themselves a part of the public administration in contrast to the British and American HEIs which were open for global recruitment. In 1994, Sweden voted to join the Eu-

ropean Union. This changed the conditions for participation in the framework programmes for research.

The succeeding social democratic government with Carl Tham as Minister of Education wanted to control the foundations which were created by the previous liberal conservative government. It changed the statutes for how the board was elected in 1997 which led to a completely new board for STINT. Whilst the government had appointed the board, the new board had its own ideas and chose not to follow the directions from the government. However, it agreed to fund all postdocs to facilitate the restructuring of the national budget. When Roger some years later wanted to move the postdoc funding from STINT to the research councils it proved difficult, in fact it was not until he threatened to resign as Executive Director that the board accepted it. The main motive for the move of the postdoc funding was that this should be considered a regular part of public support for research and education and it should not be handled by a temporary entity with a mission to drive change.

Similarly, it was difficult to terminate STINT's co-funding obligations of the EU framework programmes, even though the statutes only stated that STINT should co-fund FP 4. VINNOVA sued STINT for the sum of 40 MSEK but after some negotiations with VINNOVA's Director General, Roger managed to radically reduce the cost.

The cultural sciences needed more incentives to internationalise. For example, in contrast to a common idea that a researcher focusing on the Swedish author Strindberg would not need any stays abroad, Roger thought that he or she would definitely benefit from it. The scholarships for PhD students in the cultural sciences proved that the students were interested in spending a semester abroad. However, their supervisors were more reluctant and even though STINT offered additional funding for them to go abroad, only few took this opportunity.

STINT selected seven priority countries based on an analysis of publication growth but probably not very much more. In the programmes, the choice of partner country was not part of the criteria. Though in some cases, applications for collaboration with priority countries were chosen by the board, even though they were not among the top-ranked ones.

The main strength was the organisation of STINT as a foundation. We could literally do whatever we wanted. In public administrations, this is

not the case. Our decision processes were very simple and fast and enabled us to grab opportunities directly when they appeared.

The capital and budget also allowed for greater flexibility, as we could adapt the budget for each programme during the review process, thus taking the number of applications as well as the quality of them into account. The money did not disappear if we did not use it. A foundation is a fantastic type of organisation.

Most of the Executive Directors of the new foundations were late in their professional lives with no further career plans. This meant that they could be rather independent and with the frequent changes in boards, sometimes very powerful. But, that did not mean that the space for creative innovation was a given. The boards represented the (mostly academic research) system with its special interests but if there were “enough” of mainstream activities, initiatives like Teaching Excellence could be launched even if the Board did not necessarily understand the objective of the programme.

A weakness was that STINT did not make use of the high degree of freedom that existed. The board members were part of the system and different special interests reduced the chances of getting things done. This was not only the case for STINT but for all foundations created at that time, which was noted in Sörlin (2005).

After leaving STINT, Roger spent a sabbatical at a liberal arts college in the USA. During this time, he organised a STINT board meeting there with three invited guests (Scott, Krull and Wächter). This was his last attempt to make STINT live up to the motto ‘Make a difference’. However, Roger felt that the workshop was not a success.

STINT’s impact? In the early period, STINT was at the forefront fighting for internationalisation. But later, STINT became an entity among many others.

As early as 2000, STINT organised a seminar to discuss the introduction of tuition fees. The position of STINT was that foreign students should pay and that Sweden, through a substantial scholarship programme, should be able to pick the best students.

STINT was also the first entity to highlight the ‘new’ academic countries. The research bills did partly mention some of them but STINT was more concrete in its position.

In STINT's largest programme; Institutional Grants, no co-funding from a foreign partner was required. It was considered necessary to refrain from co-funding requirements, as time consuming negotiations otherwise would make the collaborations dysfunctional. One important aspect of this programme was that not only the professor but also the PhD students participated in the international collaboration.

Towards the end of Roger's time at STINT, it became clear that a reorganisation of STINT's programmes to have fewer and larger programmes was motivated. This was also initiated in the strategy work. Roger notes with satisfaction that STINT in 2016 appears to have returned to an entity with a wide array of activities.

Remaining funds² The annual budget limit of 75 MSEK was lowered to 50 MSEK by the board in 2009, as it was not fully used. This was a pity, as it is good to have the flexibility to start new activities. A funding volume of 45 MSEK is too small, people tended to ignore it. Roger suggests 100 MSEK/year. He also argues that promotion should be done through concrete actions, not just talking about internationalisation.

E 2 Andreas Göthenberg

Andreas started as STINT's Executive Director in autumn 2009. As early as 2003, Andreas established a relation to STINT when he accepted a Thunberg scholarship for a postdoc stay in Japan.

The internationalisation need in 2009 was to change the pattern of collaborations, moving from the heavy dominance of collaboration with established western countries such as Europe and the USA, to the rapidly developing countries, mainly in the Far East. In good research collaborations, mobility should be a natural ingredient and there is typically also resources to fund it. Thus, funding should be used for changing patterns. Apart from a collaboration with Korea in 2009 most of STINT's funding was channelled to the traditional countries.

Another need was to expand the activities relating to education. The only education-oriented programme was Excellence in Teaching, which was exclusively for stays at liberal arts colleges in the USA.

STINT's activities were very bottom-up in 2009 and very oriented towards different scientific disciplines. Although the board at that time expressed a need for change and renewal, it was later that the board decided

on a more strategic and comprehensive approach to internationalisation.

In general, STINT was hesitant to make changes in its programmes as it feared it would cause a lot of turbulence in the system. However, the closing of the largest and at that time oldest programme, Institutional Grants, did not cause very much criticism in the higher education system.

One limitation was the statutes. Given the rapid changes, they might be current the first decade or so, but thereafter? If STINT's mission is to be a change agent, rigid statutes are challenging. We managed one permutation in 2013 (removing FP 4, among others) and the statutes are now quite general, but still very much oriented towards mobility of students.

In 2009, STINT was basically considered a source of funding and nothing more. People knowing STINT often associated it with just one programme. This depended partly on the role STINT had chosen from the start, with limited active communication of its programmes.

In order to increase awareness of STINT, its mission, activities and programmes, it was important to establish STINT as a competent actor in the Swedish knowledge system. Thus, STINT started publishing articles and reports, basically contributing with education intelligence. STINT Forum was also launched as STINT's conference series. In the strategy from 2014, the board decided that STINT's promotional and policy oriented role should be emphasised.

STINT is now in 2016 probably considered as an organisation that offers not only funding but also knowledge. The bibliometric and data analyses that STINT has carried out have also been important. One confirmation of our status as knowledgeable is the that the Ministry of Education has consulted STINT on facts and recommendations on several occasions.

The target group for STINT is broader now and STINT is more well-known in the higher education system. Similarly, the portfolio of programmes is broader and less dominated by research collaboration. For example, there is one programme for the vice-chancellors namely Strategic Grants for Internationalisation. Other remaining programmes have also been broadened, for example Teaching Sabbatical now involves comprehensive partner HEIs in different parts of the world.

Co-funding has increased and STINT has several bilateral programmes co-funded by foreign research funding agencies. National co-funding is included in the bilateral programme with South Africa. In another two

programmes the HEIs co-fund their projects. The increase in co-funding leverages STINT's programmes.

In fact, a good example of the original idea that STINT and its sister foundations should be dynamic and agile organisations, is when STINT together with the large funding agencies were in South Africa in a delegation with the Ministry. STINT was able to make a quick decision to launch a programme with South African NRF, which was more difficult for the agencies. However, they were grateful for STINT's flexibility and were willing to co-fund STINT's programme.

STINT's impact? STINT has always contributed to change. Institutional Grants was new when it was launched as it introduced group collaboration instead of collaboration between individuals. However, the name of the programme was misleading. Teaching Sabbatical and its predecessors are unique and give perspectives that you do not get during a research stay abroad. Strategic Grants has contributed to collaboration between Swedish HEIs in internationalisation. There are some earlier examples of such collaboration but those were not so successful.

Through delegation trips with Vice-Chancellors and/or funding bodies, STINT has contributed to raise the understanding of countries and regions such as Korea, Indonesia and the Middle East.

Remaining funds? The two roles of funding and promoting complement each other. Both tools should be used. If you only fund internationalisation it is hard to drive change. If you only promote, you are powerless. The promotion and policy oriented role can have significant potential for STINT, as higher education is becoming a growing market internationally and with the increasing international focus on science diplomacy.

Andreas thinks that when considering the statutes STINT should do more in relation to students and postdocs, however the funds that STINT has are very limited. All PhD-students and postdocs should spend at least one year abroad. For that STINT needs more resources such as funds and personnel.

The fact that STINT is an independent foundation with a unique mission, means that it has a special role in the Swedish knowledge system and its capacity should be fully exploited to drive change and renewal.

STINT's chairpersons

STINT's first chairman Leif Leifland passed away in 2015. All other chairpersons have been interviewed. The current chairwoman started in July 2016 and she is thus not included in the impact study. Unless otherwise indicated, all data in this sub-section comes from the interviewee.

C 1 Agneta Bladh

Agneta's relation to STINT is that she chaired the board for almost two years from 1997–1998. She left the position when the Minister of Education Thomas Östros offered her a position as a Deputy Minister (statssekreterare).

At that time, Sweden was well ahead when it came to internationalisation. Other European countries wondered if Sweden had enough places at home since many Swedish students went abroad. We considered this to be a quality enhancer. Sweden is not leading any longer.

STINT only supported research. Agneta asked Roger to examine STINT's activities and the outcome was that STINT started to address higher education as well. The initial period of what was to become Excellence in Teaching (today Teaching Sabbatical) was not so successful as the teachers were not too interested. When the programme improved Agneta considered it to have had some importance.

Sheldon Rothblatt, who was instrumental in this programme, later visited Kalmar University when Agneta was the Vice-Chancellor there.

Sheldon Rothblatt is a professor emeritus in history at UC Berkeley. He was deeply involved in the Excellence in Teaching programme, both in the design and implementation. He was a STINT professor at KTH Royal Institute of Technology in Stockholm during 1997-1999.

Internationalisation is not only for students; it is for teachers as well. In research, how do you create internationalisation in academic disciplines with a weak tradition of doing a postdoc abroad, such as in the humanities? Maybe the PhD students should go abroad.

STINT's main strength was its small size and focused mission. It was needed as a signal to the HEIs that internationalisation is important. Projects should be selected in competition. The only weakness STINT had was its strong focus on research.

The board travelled to Hong Kong, Korea and Taiwan. Today you might go

to Singapore instead. The trip to these recently developed countries was informative, and we learnt what they can offer.

Roger managed STINT with structure and discipline and he listened carefully to the board.

STINT has had an impact; the money has had a meaning. Most importantly, it influenced attitudes. Moreover, the programmes enabled longer and more structured research collaborations. The experience of teachers abroad was another impact.

Remaining funds? Stop all programmes and ask the HEIs to consider what internationalisation might be. Swedish funding organisations and the Swedish Higher Education Authority can also assist. Alternatively, you can continue with only small adjustments.

C 2 Olof Ruin

Olof served as STINT's vice chairman during 1998 and as chairman 1999. He was also chairing the joint STINT-RJ programme SSAAPS (see 4.7). In his role as a professor at the Department of Political Sciences at Stockholm University, he taught other future STINT chairpersons; Agneta Bladh, Anders Mellbourn and Olle Wästberg.

There was a tension between Olof and the Ministry whether to focus on Europe or other parts of the world. Olof argued for the other parts. His own academic career has been quite international, involving among others two stays in the USA as visiting professor. Also in general, Olof defended STINT's role as independent in relation to the government.

STINT employees were very qualified. Olof was surprised by the attention paid by the government to the composition of the board. "One of the most enjoyable tasks as chairman for this institution [STINT] was to travel internationally together with other board members, attempting to establish collaborations." (Ruin, 2015:227, translated by the author)

Two trips are described in this biography (Ruin, 2015), one to South Africa and one to Korea, Taiwan and Hong Kong. The latter was also mentioned by Agneta, see above. Olof mentions that as chair in Asia he tended to emphasise Sweden as part of the EU rather than as a model of modern welfare state.

Olof cannot assess if STINT has had any impact.

Future investments by STINT should promote other regions and countries

than the USA; Latin America, Africa, India, China and Japan. Collaboration with Germany is also important in order to balance the Anglo-Saxon dominance; we should send students there.

It is wise to save some money and not invest everything directly. STINT should maintain consistency in the programmes.

C 3 Anders Mellbourn

Anders succeeded Olof as chairman for STINT's board as well as for SSAAPS after that. He served six years as STINT chairman and a few more with SSAAPS.

When Agneta Bladh asked him if he was interested, he thought that STINT's role that includes education was interesting. How could STINT contribute with something that is not 'more of the same'?

STINT rescued Swedish postdoc mobility programmes and when Anders became chairman, the ambition was to return the postdoc funding responsibility to the research councils. This process attracted a lot of attention and it might have been Roger's liberation struggle. Bengt Westerberg called Anders and asked him to solve it between the chairpersons.

STINT was only known for its postdoc programme; it had been STINT's *raison d'être*. Maybe STINT lost its identity when this programme was moved. It took some time for the researcher community to find other STINT programmes.

One of STINT's advantages is the freedom to act independently. This flexibility raises the quality of Swedish higher education and research.

But it can also be useful other ways. In China in 2001, for example, we could respond constructively to the demand from Boel Flodgren (Vice-Chancellor Lund University) at a banquet table to start an initiative, when this was asked for.

Our selection of prioritised countries was not very original with BRIC and a few more. The Asian countries were most rewarding. STINT had to keep down Europeanisation movements.

One challenge was the internationalisation of education. There is not sufficient international mobility, partly due to Sweden being a country with relatively high equality and associated aspects linked to social protection. The composition of STINT's board was a clear strength. Leading represen-

tatives from all academic disciplines were in the board. It was a pleasure to be on the board, among the most enjoyable commissions that Anders has had. Some of the senior and strongest board members moved on to other commitments quite soon. Younger less established people joined but also politically higher ranked people without very much time for STINT.

Anders felt that his combination of public experience and academic clout gave sufficient knowledge to gain confidence from fellow board members and balance control by Roger who obviously had a very strong position as director.

STINT's impact? STINT has not become a well-known actor, not even in the higher education system. Is this a failure? STINT has not managed to tackle insufficient mobility. But STINT saved the Swedish research in the end of the 1990s and not only the postdoc programme was constructive. STINT has also managed to make new promising initiatives like the institutional grants and the liberal arts profile.

It should also be mentioned that STINT and RJ had a good collaboration, which probably has been of some importance also for RJ.

Remaining funds? The question is if there is a need for a specific organisation promoting internationalisation, developing as well as funding ideas. Anders thinks STINT should increase the efforts directed towards higher education. A link between research and education should be required. It could be an idea to internationalise professional undergraduate programs that are often surprisingly insular. What about funding one semester abroad for all journalist students?

C 4 Ursula Hass

Ursula chaired STINT's board from February 2006 until July 2007. She had to leave when she became Vice-Chancellor at Blekinge Institute of Technology (BTH). Ursula's opinion is that internationalisation is about personal contacts and the ultimate objective with exchanges is to create personal contacts.

During Ursula's period at STINT, there was a stronger focus on strategy and impacts. She experienced a lack of objectives and strategies and saw a missed opportunity in how alumni could have been used to spread the knowledge about STINT.

STINT had a stable structure with four or five programmes. This was welcomed by the researcher community even though it also has negative

sides. The organisation of the foundation was a strength as well as the mission itself. STINT was supporting a lasting trend. It was also positive that STINT developed individual competencies as well as structures.

Its main weakness was the lack of communication, both with potential and previous recipients of STINT funding. When working on the board with strategic communication, Ursula experienced a very positive involvement from all board members.

Has STINT had an impact? Yes, international influences have a large impact. Mobility and travelling together means a lot. The competencies are enriched on individual and high levels irrespective of academic discipline.

At BTH, Ursula had gained experience from extensive collaboration with China and India. The research questions brought about through these collaborations would never have been possible for BTH to formulate itself.

To address global challenges, you must be active globally. There is a need to give incentives to those who show a will to become more global.

C 5 Anna Hultgårdh-Nilsson

Anna is currently Professor at the Department of Experimental Medical Science at Lund University. She was on STINT's board from 2002 to 2013. From 2004 to 2006, and 2010 to 2013, she was vice chairwoman and from 2007 to 2010, she was chairwoman. She also chaired the review committee for medicine from 2002 to 2011. Currently in 2016 she has funding from STINT for a collaboration with China.

Anna emphasises the internationalisation of groups of researchers. Internationalisation can have a great impact depending on where you are in your career. Anna believes that bottom-up internationalisation is needed to get results and that top-down internationalisation does not work.

Postdoc funding has been an eternal question as well as how to foster internationalisation within the humanities. Anna thinks that funding of international postdocs is important but that there is a problem with STINT's mission to keep knowledge and competence in Sweden as postdocs do not always return.

Many of the programmes had a relevant focus and they contained a good portfolio. It was also an advantage that STINT was a small organisation open to change.

Sometimes STINT was too small. The recruitment process of a new Executive Director could cause serious turbulence, partly as the administration had too much power. STINT's office was asked to provide input at different stages in the process and this sometimes led to difficult situations. Even though the administration asked for something different in the beginning of the process, it turned out that they wanted someone like Roger.

The composition of the board was a weakness and would have benefited from foreign representation. It became populated with people who had a limited active involvement in STINT.

STINT's programme portfolio was restructured and refined before Andreas started as Executive Director. Andreas's ideas to have STINT diplomats abroad and to give money to the leadership were not in line with Anna's position. If Anna's Vice-Chancellor would tell her who to collaborate with she would not agree to do so.

STINT's impact? It is difficult to measure. From Anna's perspective, the most reliable way of investigating the impact is to have a look at the collaborations five or ten years after the period with STINT funding. Are they still active? When Anna was informed that the recent evaluation of the Institutional Grants programme (Johansson de Château et al, 2016) indicated that several collaborations continue at the same or even at an increased level long after the STINT contribution this confirms to her that the programme must have had an impact.

Anna noted that there was talk at Lund University that the Teaching Sabbatical programme is beneficial and to participate in it would be a mark of achievement.

It is more difficult to value all workshops and seminars organised by STINT.

Remaining funds? Anna would like STINT to distribute them in programmes such as the Institutional Grants. People at different stages in their career should be involved. An educational component should be included in the projects. Why not also include Master projects or similar?

C 6 Olle Wästberg

Olle chaired STINT's board during six years 2010 – 2016. Until 2010, he was Director General for the Swedish Institute, which is one of the few organisations mentioned in the statutes for STINT to collaborate with.

The Swedish Institute manages among others large scholarship programmes for Master students.

At the time when the group of foundations that STINT belongs to were created, Olle was State Secretary of Finance. In principle, Olle was against the idea to create foundations. His opinion was that the companies that had contributed to the funds should be reimbursed or that the money should be invested in the pension funds.

The prime internationalisation need is to increase the number of researchers with experiences from stays abroad especially students and post-docs. Olle notes a downward trend, partly due to the tuition fees.

Olle was directly involved in the decision to introduce tuition fees for non-European students. The change included two scholarship programmes. One programme was open for students from all countries aiming for gifted students and students in professions with recruitment needs for Sweden. The other programme was for students from countries within Sweden's aid programmes. The first one did not materialise for financial reasons (the Minister of Finance Anders Borg changed the budget). The second one came about but was later drastically reduced when aid resources were used to take care of refugees. Student mobility is important to create contacts and give new perspectives.

When Olle joined STINT, it was primarily a research funding organisation with a strong emphasis on medicine and technology. His view was that STINT did not make enough difference and that there was a need to be more strategic. Andreas did not think this was controversial but the board during Olle's first three-year period was relatively closely linked to research projects funded by STINT.

Among the changes during his time with STINT, Olle highlights three:

- The introduction of Strategic Grants, a programme to support overall internationalisation at the HEIs.
- The broadening of the programme portfolio with, for example, Teaching Sabbatical to support individuals.
- Promotional activities such as STINT Forum, seminars and delegation trips. STINT tried to influence the opinion and the decision makers at the HEIs. This can be improved.

STINT is a relatively flexible organisation where priorities can be

changed. The Initiation Grants programme offers the opportunity to test new international collaborations. STINT is the only entity working systematically to establish more international contacts. Among its weaknesses, STINT has difficulties in reaching out in the public discussion.

Olle thinks that STINT has had an impact. People he meets often tell him that STINT's contribution is important. Without STINT, significantly fewer would have studied abroad as it would have been necessary to collect funding from several sources before being able to go abroad. The Strategic Grants programme has forced the HEI's to think about internationalisation.

Overall, the development in Sweden has probably been negative but without STINT, it would have been worse.

In the future, STINT should continue its activities along the same path. It is better to carry on at a steady pace rather than trying to do too much. The funding role is important, it is STINT's mission, it gives authority and access. It should be combined with intensified promotional activities to influence the opinion and the decision makers in the higher education system. Maybe STINT could invite authors to come to a round table discussion about internationalisation?

It might be that STINT has not done enough when it comes to postdocs and there is also a need to support more student mobility. Today it is a question of social class. If STINT had received much more financial resources, it could have done more, but in the current situation, it is probably not advisable.

The Swedish Foundation for International Cooperation in Research and Higher Education, STINT, was set up by the Swedish Government in 1994 with the mission to internationalise Swedish higher education and research.

STINT promotes knowledge and competence development within internationalisation and invests in internationalisation projects proposed by researchers, educators and leaderships at Swedish universities.

STINT promotes internationalisation as an instrument to:

- Enhance the quality of research and higher education
- Increase the competitiveness of universities
- Strengthen the attractiveness of Swedish universities

STINT's mission is to encourage renewal within internationalisation through new collaboration forms and new partners. For example, STINT invests in young researchers' and teachers' international collaborations. Moreover, STINT's ambition is to be a pioneer in establishing strategic cooperation with emerging countries in research and higher education.



STINT

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