

## **Positive action in Norwegian higher education and research: Challenges and opportunities 2008– 2010**

Norway is not the only country that is being faced with the challenge of unequal gender representation in science – this is an international phenomenon. But for a country and a government dedicated to equal opportunities and gender mainstreaming, it seems particularly urgent: Norway is facing some specific challenges associated with the needs of an advanced economy depending upon a highly skilled and educated population on the one hand, and on the opportunities an upcoming generation shift in academia may offer to attracting more women to a career in the sector on the other.

The final report of the first Committee for Mainstreaming – Women in Science in Norway (2004–2006), was titled “Gender balance in higher education and research – golden opportunities” (March 2007). The present report is the first publication of the second Committee for Mainstreaming, which was appointed by the Ministry of Education and Research in April 2007. This report is the product of a direct request made by the Ministry to the Committee in January this year, to come up with a proposal of practical measures and recommendations aimed at improving women’s career opportunities and chances of promotion in higher education and research on a national scale.

The Committee for Mainstreaming hopes that our recommendations will lead to concrete initiatives and practical results both on a national and an institutional level. We sense a growing interest in and understanding of what is at stake: We need the talents and skills of both women and men in order to be able to develop the nation’s full potential, and we need to recruit more women to an academic career.

Tromsø, June 2008

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Chair, Committee for Mainstreaming – Women in Science in Norway

# Positive action in Norway? Challenges and opportunities

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## Appendix

European measures

## 1.0 Background

In 1999 the Research Council of Norway was commissioned by the Ministry of Education and Research to examine the position of women in science and to assess measures to promote gender equality. One of the study's proposals was to set up a special Committee to address the work in this area. Accordingly, the Ministry set up the *Committee for Mainstreaming – Women in Science* in January 2004. The Committee's work was to extend over a three-year period. The Ministry of Education and Research was satisfied with the achievements of the Committee, and consequently decided to continue this project for three more years, appointing a new Committee in April 2007.<sup>1</sup>

### 1.1 The mandate of the Committee for Mainstreaming – Women in Science

*\* The Committee shall support and give recommendations concerning measures that promote mainstreaming at institutions in the university and university college sector (the HE -sector) and in the research institute sector, thus contributing to greater gender equality. The Committee shall also foster a general awareness of issues concerning the uneven gender balance in academia.*

\* People and institutions in the HE sector and in the research institute sector as well as the ministries and the Research Council of Norway may seek assistance and advice from the Committee. The Committee is encouraged to initiate measures and to assess their effect.

\* The Committee is encouraged to have an international awareness and perspective in its work.

#### The Committee members

- Gerd Bjørhovde, Professor/Pro-Rector, University of Tromsø – *Committee chair*
- Knut Holtan Sørensen, Professor at Department of Interdisciplinary Studies of Culture, Faculty of Arts, Norwegian University of Science and Technology
- Eva Skærbæk, Associate Professor at Faculty of Health and Social Studies, Østfold University College
- Ernst Kristiansen, President of the SINTEF group and manager of SINTEF Oslo
- Gunnar Bolstad, Special Adviser, Research Council of Norway
- Helene Bustad Johannessen, Norwegian Association of Students
- Karen-Lise Scheie Knudsen, Faculty Director, Faculty of Fine Arts, University of Agder

### 1.2 Earmarking academic posts

Around the year 2000 a limited number of post.doc. positions and full professorships were established and earmarked for women. However, in January 2003 the EFTA Court declared that the Norwegian practice of allowing academic posts to be earmarked for women was contrary to Article 7 and Article 70 of the EEA agreement's *Equal Treatment Directive*

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<sup>1</sup> The first Committee delivered its final report to the Minister of Education and Research in February 2007. The report has been translated to English, see: [http://kvinneriforskning.no/english/committee/KIF\\_report.pdf](http://kvinneriforskning.no/english/committee/KIF_report.pdf)  
[http://kvinneriforskning.no/english/Committee/KIF\\_report.pdf](http://kvinneriforskning.no/english/Committee/KIF_report.pdf)

(76/207/EEC), which has been incorporated into Norwegian law by virtue of the EEA agreement.<sup>2</sup>

Norway is not a member of the EU but adheres to the EEA agreement, which means that parts of the EU's Equal Treatment Directive are incorporated into Norwegian law. But the Norwegian *Gender Equality Act* allows more extensive measures than the EU's Equal Treatment Directive. When the Ministry of Education and Research announced that it had earmarked 13 professorships for women and asked the Norwegian HE sector for applications, the competition was tough. 60 academic units responded, only 13 were successful. This shows that there are highly qualified women in academic fields with few or no female professors. In addition to the Gender Equality Act, the *University and University College Act* (§6-3) allows such measures.

The establishing of the Committee was considered an interesting new initiative – not least because of the EFTA Court's ruling that it was no longer permitted to earmark academic posts for the underrepresented gender. The first Committee attended several meetings within the EU system as well as EU-initiated conferences and EU programmes. The contact with the European Commission has been pursued – for example through discussions on the consequences of the EFTA ruling on earmarking academic posts for women for the use of specific positive action for the underrepresented gender in general. The question has been raised as to whether Norway may have interpreted the ruling in a stricter way than what is being practised in the EU member states. This question was brought up at a meeting between the Ministry of Education and Research and the EU commission in the spring of 2007.

The present Committee has continued this work through talks with the Norwegian Association of Higher Education Institutions and the National Union of Students in Norway (NSU), who are positive towards clarifying Norway's scope of action concerning earmarking. The Committee has also asked the Ministry to clarify this matter. Since the EFTA ruling there has been a change in that Article 141(4) in the treaty has been formally incorporated into the EEA agreement.<sup>3</sup> Hence, the question is both whether Norway has interpreted the legislation in too strict a manner and how the incorporation of Article 141(4) affects the legality of measures that involve earmarking.

In January 2008 the Ministry responded by requesting that the Committee work out a plan or series of specific suggestions that involve earmarking, to improve women's chances of both being recruited to and retaining an academic career.<sup>4</sup> To increase the legitimacy of the proposed measures the Committee has initiated a survey of of the earmarking-and-incentive-practices of other European countries (included in this publication as an Appendix). The European examples make up an important backdrop both because most countries, including Sweden, have assessed the legality of the implemented measures and because they can be an inspiration and model for measures put into use in Norway. The attorney general's office is presently assessing the legality of the measures and models suggested by the Committee.

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<sup>2</sup> The full verdict can be read here

<http://www.dinesider.no/customer/770660/archive/files/Decided%20Cases/2002/e-1-02%20judgment.pdf>

<sup>3</sup> See council directive 2002/73/EF of September 23 2002 in which new article 2 (8) replaces article 2 (4) which states that article 141(4) in the treaty will be given more weight than before. As this article was not included in the EEA agreement until 2004 it was not taken into consideration at the time of the ruling against Norway.

<sup>4</sup> For more information see [http://kvinneriforskning.no/english/magazine/earmarking\\_case.html](http://kvinneriforskning.no/english/magazine/earmarking_case.html)

### 1.3 Norwegian higher education and research

Norway has approximately 200 000 students attending seven universities, eight specialized universities (two are privately owned) and approximately 50 university colleges, half of which are private. The private institutions are relatively small. All the universities are accredited and have the right to establish programmes at all levels. Specialized universities have the right to establish programmes at all levels within their respective specialities. Accredited university colleges have the right to establish programmes up to and including bachelor level. Accredited university colleges wishing to establish programmes above this level must apply to NOKUT<sup>5</sup> for accreditation of such programmes.

The system is based on a model which incorporates both the traditional academic education and the professional education into a single degree system. Both State and private higher education institutions in Norway carry out research and offer programmes leading to these degrees.

The State institutions are mainly financed from the central government budget, and the private institutions also receive some governmental support. The State universities and colleges are not separate legal entities, but they nonetheless have a relatively independent status. The Ministry of Education and Research's management of the institutions largely takes place through budget allocations, which set requirements for goal achievement and for reporting of the various points in the so-called *letter of allocation*.

Universities and colleges are allocated a certain amount of research funds directly from the Ministry of Education and Research. However, government allocations to research are to a large extent distributed through the Research Council of Norway.<sup>6</sup> Resources distributed through this Council are generally tied to large-scale programmes.

Research institutes are units independent from the university and university college sector and the corporate world. They can be both private and public. Some are owned or partially owned by universities or university colleges. Norway has around 60 research institutes. They differ considerably in size, fields of study, organisation and funding. Many of the institutes are organised as foundations and therefore do not generate any profit. Most of them base some or all of their activity on commissioned research and have clients from the corporate world, State or municipality. The Research Council is responsible for the organisation and funding of these institutes, while the HE institutions are the responsibility of the Ministry of Education and Research.

Not many studies have been done of the gender equality situation in the institute sector, but we know that it varies greatly depending on the institutes' academic focus. The technical and industrial institutes (which include for instance medicine and health sciences) obviously have the biggest challenge, with only 22 % of the scientists at these institutions being women.

Due to its distinctive qualities the institute sector requires a somewhat different approach in the implementation of measures. For example, research institutes use different titles than the HE sector. In order to properly shape and implement measures, it will therefore be important to have talks with the research institutes' professional/governing bodies and with the Research Council of Norway.

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<sup>5</sup> The Norwegian Agency for Quality Assurance in Education

<sup>6</sup> Norway only has the one research council.

## 2.0 The assignment from the Ministry of Education and Research

The assignment involves two somewhat different matters – one specifically deals with different ways of earmarking positions, while the other revolves around general measures to further women's position in science. The Committee has also distinguished between measures that each individual institution can effectuate, and measures which must be implemented on a national level. The suggested measures are mainly adapted to a national level, and the expected gain has been estimated.

The Committee has not specified the extent of the different measures, but would like to emphasise that the success of the measures will depend on the size – and visibility – of the (financial) effort put into them. In its request the Ministry stresses that the principle of proportionality must determine the shaping of the measures. The models and measures are also to be aimed at male-dominated disciplines. The Committee would like to emphasise that the Ministry's request regards measures for *women* in science. But obviously several of the proposed measures could be used to recruit men to female-dominated areas.

The request from the Ministry of Education and Research entails some complex challenges. The proposed measures are phrased in a way that places a lot of responsibility on the institutions. The institutions have a responsibility to all their employees, to give them optimal career opportunities. Another important point is that the measures must seem relevant to the sector – that the measures and models will help the sector achieve its own gender equality goals. This has also to do with the autonomy of the institutions. The Ministry of Education and Research asks the Committee for more than mere arguments to clarify the possibility of using earmarking; there is also an open request for measures on a national level.

Due to the complexity of the project the Committee decided to establish a reference group. The secretariat has also been in contact with the gender equality advisers at each university. The Committee would like to thank the gender equality advisers and the reference group for their contribution.

## 3.0 SUMMARY

In order to succeed in the gender equality work, mainstreaming gender equality and the implementation of specific measures must be seen as a whole. Initiating structural and individual measures are equally important. Radical gender quotas are in our view not to be recommended as the way to improve the gender balance in academia. Instead, the Committee recommends an active use of moderate gender quotas and earmarking of permanent and temporary positions.

The principle of proportionality should be defined as based on a political goal of attaining a gender balance of 50-50. The desired gender balance when it comes to positions, unit level, subject or field of study can not be defined previous to an assessment of the allocation of means. The definition of clear male dominance is based on a historical perspective, power perspective, expediency and suitability. Normally, communities with 65 % men or more are clearly male-dominated. To achieve the best results the measures should be concentrated to

improve the chances of building up academic communities that currently have very few female employees.

In the implementation of national measures the Ministry of Education and Research should evaluate the process continuously so that adjustments can be made along the way. The Ministry should also publish a guide that outlines the measures and prerequisites for allocation.

### **3.1 Suggested measures and models**

#### **PhD scholarships**

A key issue at this point in time is to clarify whether the individual institutions could start earmarking PhD positions. Earmarked PhD scholarships should be aimed at particularly male-dominated disciplines or academic fields. If possible, they should be concentrated in order to systematically build up gender-balanced academic communities.

#### **Post doc. positions**

The recommendation of the Committee is that the Ministry should finance a substantial number of post doc. positions as part of a national commitment to recruit more women to science. A national commitment will give more legitimacy to the institutions that initiate similar measures. In addition the Ministry of Education and Research should allow different types of qualifying positions / tenure track positions to give the institutions a wider range of alternatives. The positions described here should meet the need for making women's career path more predictable. The Committee recommends job offers/definitions modelled on the Dutch Rosalind Franklin fellowship programme, which is tenure track positions, the Meervoud programme and the FOM programme.<sup>7</sup>

#### **Professor II positions**

Headhunting has long been used as a way of recruiting competent persons to for instance professorships by the universities. In other words, it is quite possible for the institutions to headhunt women for professor II positions. The institutions can also actively make use of incentives. A clarification from the Ministry on these points will give such such measures more legitimacy.

#### **Qualification grants – for professorships**

Qualification grants ought to be established in order to increase female representation in leading positions. There should also be national incentives where institutions are awarded the same number of grants that they themselves have initiated. This kind of reward measure could for instance be linked to the institutions' mentor programmes. One requirement for being awarded a grant should be that the recipient is pursuing a career advancement course/programme.

#### **Permanent academic positions**

The Committee is aware of the threat of another negative EU court ruling in case earmarking permanent positions should again be decided on. However, the Committee still recommends that the Ministry of Education and Research consider this.

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<sup>7</sup> See appendix items 2.2, 2.4 and 2.5

### **A collaborative gender mainstreaming programme administered by the Research Council of Norway**

The Committee recommends talks between the Ministry of Education and Research and the Research Council of Norway about establishing a gender mainstreaming programme. The programme is meant to:

- Recruit more female scientists
- Encourage women to remain in science
- Strengthen the institutions' commitment to integrating women in science

The programme may include measures connected to internationalisation, start-up packages and various incentives to increase women's chances of attaining a permanent academic position. A task force that shapes the programme's content and budget ought to be established. One premise for establishing such a programme should be that the Research Council of Norway improves their gender equality work and that the Ministry of Education and Research provides the necessary funding. Based on the universities' total budget for gender equality measures, it could be argued that a gender mainstreaming programme should have an annual budget of around NOK 25 million. If PhD scholarships are included in the programme, the budget must be increased.

#### **Incentives**

Incentives are extensively used in the sector. Some institutions have used incentives to increase the number of women in permanent academic positions. The Committee has also received feedback that rewards based on results are encouraging, and consequently recommends that it is followed up by the Ministry.

### **3.2 The Committee's priorities**

First of all it is important to clarify what possibilities the institutions have of initiating earmarking.

The Committee's priorities regarding the implementation of national measures are:

- Creating more permanent academic posts
- Creating more post doc. positions and allowing different kinds of tenure-track positions
- Qualification grants to increase the number of women in leading positions
- A collaborative gender mainstreaming programme administered by the Research Council of Norway

The measures have not been ranked. In addition, the Committee has described measures and models which the institutions themselves can implement. The examples from other European countries will hopefully serve as an inspiration.

## **4.0 The basis for implementing measures**

Reducing the gender imbalance in academia is an established political aim both nationally and internationally: For one it is a matter of providing men and women with equal opportunities – in other words, of social justice and representation. Another point is that the perspective of



science is broadened when men and women participate on all levels. Besides, gender balance is a democratic principle and important to the quality and relevance of science.

Recent figures show a slight increase in the number of women who finish their PhDs in Norway, and that female PhD students outnumber men in several fields of study. However, for women who do post doc research there has been a decrease since 2003. Between 2005 and 2007 the total decrease was 8 %, and the female proportion is now the same as in 1997. Still, figures from the Norwegian Institute for Studies in Innovation, Research and Education (NIFU STEP) show that women post docs outnumbered men eight years after being registered as PhD students. The figures also show that men attain permanent positions more quickly than women: 47% of the men and 37% of the women held a permanent academic position eight years after being registered as PhD students. It may seem that men more than women attain permanent positions after completing their PhD. If so, this might be one of the reasons why there are more female post docs eight years after being registered as PhD students.<sup>8</sup>

The main challenge is still to increase the number of women in leading positions. This is true of all academic fields, but particularly within medicine, health sciences, natural sciences and technology

On the whole, however, the ratio of women is higher among new appointees than among those with permanent academic positions. This is a positive trend. The problem is that the increased proportion of women among new appointees in permanent academic positions is far from enough to achieve gender balance. Below are two tables that illustrate this.

Table 1 shows the required increase in appointments in all permanent academic positions. The table does not differentiate between different types of posts, like lecturers and professorships.

**Table 1**

*Growth estimate of the number of scientific/academic personnel at universities, specialised universities and university colleges 2008-2020. Total growth and increase in women.*

Year	Target figures for total staff	Replacement needs from 2005	Growth	Total no. of appointments	Prop./women of target figures: 40 %		Prop./women of target figures: 50 %	
					No. of women	Percentage of posts	No. of women	Percentage of posts
2005	9 882							
2008	10 690	254	810	1 060	4 280	64	5 350	>100
2012	11 880	1 049	2 000	3 050	4 750	44	5 940	83
2016	13 190	2 534	3 310	5 840	5 280	40	6 600	63
2020	14 650	3 989	4 770	8 760	5 860	39	7 330	56

Growth assumption: 2.7 per cent per year. Estimated needs rounded off to the nearest 10. Source: *NIFU STEP*

Table 2 shows the estimated growth for women in permanent academic positions within mathematics and the Natural Sciences. While table 1 shows how high the ratio of women among new appointees needs to be in order to reach a gender balance of 40 % or 50 %, table 2 shows how much the female proportion will go up if one hires 40 % or 50 % women.

<sup>8</sup> For more statistics, see: [http://english.nifustep.no/english/content/statistics/r\\_d\\_statistics/main\\_results\\_2007](http://english.nifustep.no/english/content/statistics/r_d_statistics/main_results_2007)

**Table 2**

*Growth estimate of the number of scientific/academic personnel in mathematics and natural sciences at universities and specialised universities 2008–2028. Total growth and increase in women.*

Year	Target figures for total staff	Replacement needs from 2005	Growth	Total no. of appointments	If 40 % of new appointments are women, then women will constitute		If 50 % of new appointments are women, then women will constitute	
					No.	Percentage	No.	Percentage
2005	971							
2008	1 050	63	80	140	200	19	210	20
2012	1 170	162	200	360	280	24	310	27
2016	1 300	296	330	630	370	29	440	33
2020	1 440	403	470	870	460	32	550	38
2024	1 600	528	630	1 160	550	35	670	42
2028	1 780	669	810	1 480	650	37	800	45

Growth assumption: 2.7 per cent per year. Estimated needs rounded off to the nearest 10. Source: *NIFU STEP*

Both tables 1 and 2 show that an almost unrealistic high number of women will have to be appointed to achieve gender balance. This confirms the need for extensive measures both at an institutional and a national level.

The ratio of women among associate professors is increasing. But if we look at associate professorships within medicine and health sciences the increase is not a result of more women appointees, but of a decrease in the number of male employees. The decrease is due to the fact that male associate professors are promoted to professors<sup>9</sup>. Although the percentage of women goes up, the number remains the same. Whether this is true of fields other than medicine and health sciences is not known.<sup>10</sup>

Scientists of both genders find work other places than in the HE sector or the institute sector. The reasons vary, but it seems that women have other and more complex reasons than men. More men than women seem to abandon science. Men mainly find work related to the natural sciences and technology. The reasons for why women leave science are amongst other things:

- Women, like men, are offered better paid jobs within other sectors.
- Women are still the main care-givers in a family.<sup>11</sup> Gender socialization works on both an individual and a structural level, so the institutions are faced with challenges when trying to create equal opportunities for men and women. Research on how children, care-giving and family affect women's careers in science, is inconclusive. But these factors are believed to be of some importance
- There might be certain aspects of the culture in academia and its ways of organising science that discourage women from staying on. Surveys show that women on the whole get less research funding, grants, networking opportunities etc. In addition, men

<sup>9</sup> In Norway it is possible to apply for advancement from associate professor to professor. In other words there are two ways of becoming a professor; one is to apply for a professorship, the other is to apply for advancement in your current post.

<sup>10</sup> Hebe Gunnes and Elisabeth Hovdhaugen *Karriereløp i akademia (Career paths in academia)*, report 2008.

<sup>11</sup> Day care spots in Norway are available to nearly all who apply, and parents are entitled to a parental leave with 100 % pay for 44 weeks or 80 % pay for 54 weeks. Six of these weeks are reserved to the father.

attain permanent positions more quickly than women.<sup>12</sup> The Committee is a co-financer of the Norwegian contribution to a large international research project run by NIFU STEP called *Comparative Academic Profession*. The project is expected to give women more insight into the working conditions of scientists from a gender equality perspective. The project will be finished by the summer of 2009.

#### 4.1 Women in professorships

Whereas tables 1 and 2 show the total recruitment needed, there are particular challenges connected to the professorships. This is true of all types of institutions. If we look at the university colleges, women outnumber men in lectureships, while far more men are senior lecturers and professors.

The following tables 3 and 4 show how many female professors must be appointed for gender balance to be achieved (40 % and 50 %). The estimated figures include all types of institutions; universities, specialised universities and university colleges. Both the historical growth of 2.7 % in the number of academic posts and retirement statistics are taken into account. Table 3 presents the estimated increase at university colleges, while table 4 shows figures for the universities and specialised universities.

**Table 3**

*Growth estimate of the number of professors at university colleges 2008–2020. Total growth and increase in women.*

Year	Target figures for total staff	Replacement needs from 2005	Growth	Total no. of appointments	Prop./women of target figures: 40 %		Prop./women of target figures: 40 %	
					No. of women	Percentage of posts	No. of women	Percentage of posts
2005	224							
2008	260	4	20	20	100	>100	130	>100
2012	290	35	50	90	120	94	150	>100
2016	330	88	90	180	130	59	170	82
2020	360	144	120	260	140	49	180	65

Growth assumption: 2.7 per cent per year. Estimated needs rounded off to the nearest 10. Source: *NIFU STEP*

**Table 4**

*Growth estimate of the number of professors at universities and specialised universities 2008–2020. Total growth and increase in women.*

Year	Target figures for total staff	Replacement needs from 2005	Growth	Total no. of appointments	Prop./women of target figures: 40 %		Prop./women of target figures: 40 %	
					No. of women	Percentage of posts	No. of women	Percentage of posts
2005	2 312							
2008	2 500	153	190	340	1 000	>100	1 250	>100
2012	2 780	480	470	950	1 110	82	1 390	>100
2016	3 090	935	780	1 720	1 240	57	1 550	75
2020	3 430	1 326	1 120	2 450	1 370	48	1 720	63

Growth assumption: 2.7 per cent per year. Estimated needs rounded off to the nearest 10. Source: *NIFU STEP*

<sup>12</sup> See Svein Kyvik and Terje Bruen Olsen *Doktorgradsutdanning og karrieremuligheter. En undersøkelse blant to årskull doktorgradskandidater (PhD studies and career options. A study of two classes of PhD students.)* NIFU STEP, report 25/2007 Oslo and Hebe Gunnes and Elisabeth Hovdhaugen *Karriereløp i akademia (Career paths in academia)* report 19/2008

The figures for university colleges seem promising if you look at the ratio of women in academic positions in general. However, if you break down the statistics and look at figures for the different positions, the picture changes.<sup>13</sup>

## 5.0 Positive action measures versus mainstreaming

There is a difference between strategies founded on positive action measures on one side and mainstreaming on the other, but the dividing line is not absolute. Positive action measures may relatively quickly give positive results. Mainstreaming is a method where the ambition to achieve gender equality is incorporated into all levels and processes of an organisation. Mainstreaming is a more ambitious and long-term strategy than positive action measures, as the former seeks to develop a culture and working conditions that make gender equality part of the day-to-day procedure. The British professor Teresa Rees claims that precisely because mainstreaming is a long-term strategy, it is important to combine it with positive action measures.<sup>14</sup>

The Committee has repeatedly during the writing of this report been made aware of the importance of maintaining a broad range of measures. Since gender imbalance is a result of different factors, the many challenges must be met with different types of measures.

In Norway the termination of earmarking of post doc. positions serves as an example of how important it is to not only base gender equality work on positive action measures. When earmarking was abandoned, the proportion of female post docs went down by 7 %.<sup>15</sup> Since 2005 the female ratio has gone down further. If the gender equality aspect had been integrated in the organisations and in their recruitment strategies, female candidates might have been “discovered” and retained in a different way than is the case today. On the other hand this shows that earmarking is an effective way of increasing the proportion of women. Despite many critical voices when earmarking was employed, reports state that the earmarked professorships have had a positive effect on the academic communities that were allotted these positions. Women in leading positions are good role models for future generations. Earmarking is well-suited for developing role models, and not least for building academic communities that in turn increase the chance of retaining women in science.

It is common to make use of both strategies simultaneously. The first Committee for Mainstreaming (2004–06) analysed all strategic plans and action plans for gender equality at Norwegian higher education institutions. The analysis showed that mainstreaming in an organisation requires both commitment from the management and that someone in the organisation has been assigned to work with gender equality issues.<sup>16</sup> Such a commitment

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<sup>13</sup> These three tables have been copied from *Likestillingsscenarier for UH-sektoren* (Gender equality scenarios from the university and university college sector) by Vera Schwach and Terje Bruen Olsen, NIFU STEP work memo 44/2006, see [http://kvinneriforskning.no/english/magazine/nifu\\_english.html](http://kvinneriforskning.no/english/magazine/nifu_english.html)  
[http://kvinneriforskning.no/english/magazine/nifu\\_english.html](http://kvinneriforskning.no/english/magazine/nifu_english.html)

<sup>14</sup> Teresa Rees: “Pushing the gender equality agenda forward in *Women, Universities and Change. Gender Equality in the European Union and The United States*, edited by Mary Ann Danowitz Sagaria, Palgrave MacMillan, 2007

<sup>15</sup> *Forskerrekruttering i Norge – status og komparative perspektiver* (Recruiting scientists in Norway – status and comparative perspectives) by Hebe Gunnes, Terje Næss, Aris Kaloudis, Bo Sarpebakken, Göran Melin (SISTER) and Linda Blomkvist (SISTER), NIFU STEP report 2/2007

<sup>16</sup> <http://kvinneriforskning.no/binfil/download.php?did=3768>

makes positive action measures more legitimate. The fact that several university rectors and the board of the Norwegian Association of Higher Education Institutions in 2007 proclaimed their support for earmarking and asked the Ministry of Education and Research to clarify the possibility of implementing such a tool, contributed significantly towards legitimising earmarking. Some institutions have been proactive in that they already have decided on action plans for gender equality in which earmarking is an important part of the strategy.<sup>17</sup> Whether it can be effectuated depends on what the Ministry decides. At the same time it is important to be aware that many measures, also amongst those proposed by the Committee, are aimed at the individual. It is demanding, but equally important, to discuss structural changes that contribute to further the integration of women in science.

The Committee wants to stress that both strategies are needed, that is both positive action measures and mainstreaming gender equality. The Committee has phrased the proposed measures in a way that supports the institutions' gender equality work. The measures are flexible so that they can be adapted to the institutions' own strategies and priorities. This is to ensure that the measures are goal-oriented and suited for meeting the challenges of each institution. Still, it is necessary to make some general recommendations for the use of earmarking and what the criteria for receiving grants ought to be. We will come back to this in our description of the measures.

### **Conclusion**

In order to succeed in the work for gender equality mainstreaming and the implementation of specific measures must be seen in combination. Initiating structural and individual measures are equally important.

## **6.0 Quotas**

The Ministry of Education and Research has mandated the Committee to offer recommendations with regard to the use of radical gender quotas. There are different types of quota systems that favour women applicants for permanent or temporary positions. The *radical gender quota system* is probably the most controversial type, where the underrepresented gender is chosen although other applicants are more qualified. We have not been able to find any European countries that use this quota system. Appointment of persons with lower qualifications than other applicants will upset a highly competitive culture that is always looking for "the best". At the same time it is important to discuss the term "qualifications" in general and also which qualifications are considered appropriate for a career in science.<sup>18</sup> Norwegian statistics show that male-dominated fields of study have more potential women recruits than what the number of appointees suggests. In the Committee's opinion this shows that there are plenty of highly skilled women who want a career in science, and that radical gender quotas therefore are an unnecessary and inappropriate measure.

*Moderate gender quotas* entail favouring women when applicants have approximately the same qualifications. The moderate gender quota system is a legal measure that might be used

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<sup>17</sup> NTNU and the Norwegian School of Economics and Business Administration in Bergen are examples of institutions that are committed to make use of earmarking, but which await the green light from the ministry.

<sup>18</sup> What qualifications a scientist should have is discussed in the Code of Conduct for Recruitment of Researchers, and is also subject to debate in Norway.

to rectify gender imbalance.<sup>19</sup> Several institutions state in their action plans that they are going to implement moderate gender quotas. And with the upcoming generation shift in academia many institutions have started mapping out their own recruitment possibilities.<sup>20</sup> Still, to what extent moderate gender quotas are actually being practised is uncertain. Moderate gender quotas are largely based on estimates. In order to implement moderate gender quotas it is important to specify the required qualifications and include these in the job advertisement. The same goes for the need to work out how to define “approximately the same qualifications”.

*Earmarking* is a third option. The simplest and most effective way of earmarking is to reserve a certain number of permanent positions for female applicants (in this case the underrepresented gender). Considering the ruling against Norway in 2003 the Committee is aware that the use of such a measure entails a high risk of another ruling. With reference to established practice in other European countries, the Committee argues that there are ways of practising earmarking that do not contradict the EU’s equal treatment directive. With regard to a legal assessment, it will be important that the measures proposed by the Committee do not exclusively or absolutely favour women.

### **Conclusion**

Radical gender quotas are considered to be an inappropriate tool to recruit more female scientists. Instead, the Committee recommends an active use of moderate gender quotas as well as earmarking of permanent and temporary positions. Earmarking alone will not produce gender balance.

## **7.0 The principle of proportionality**

The recruitment pool and the career opportunities for women and men vary according to research area, discipline and institution. In order for earmarking to be a legitimate measure, the principle of proportionality must be upheld. This means that the measure:

1. is abandoned when gender balance reaches its politically defined goal
2. is well-suited to achieve the goal
3. is goal-oriented

### **7.1 Political goal – how to define it**

In this part we will comment on item 1. We will come back to items 2 and 3 in our description of the measures. The political goal regarding gender balance in Norway has been a percentage of women and men of either 50-50 or 40-60.<sup>21</sup> These are the target figures. As the tables above show, this requires appointing an almost unrealistically high percentage of women. Unrealistic, because many research areas do not have enough women to recruit from.

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<sup>19</sup> For example the Gender Equality Act § 3 and 4, and the University and University College Act § 6-3. It is worth noting that Norwegian gender equality policy is not limited by Norwegian law but by Norway’s obligation to adhere to the EEA agreement. (see p. 171 in Hege Skjeie and Mari Teigen *Menn imellom (Man to man)* Gyldendal, 2003).

<sup>20</sup> See *Handlingsplan for rekruttering av kvinner 2007-2010 (Action plan for recruiting women 2007-2010)* from NTNU.

<sup>21</sup> Hege Skjeie and Mari Teigen *Menn imellom (Man to man)* Gyldendal, 2003.

However, the Committee would like to emphasise that the political goal should still be a gender balance of 50-50.

There has long been a discussion as to what the target figure for gender equality ought to be based on; statistics at a national, institutional, faculty or department level? It will be easier for the sector to increase the proportion of female professors in areas that already have a fair share of women. Obviously it is more difficult to improve the statistics in male-dominated research areas. The question is whether the goal merely should be to get as many female as male professors, or if one also should attempt to reduce the gender division between different disciplines. One problem with using general target figures may be that the division between male-typical and female-typical studies becomes permanent. This may turn out to be a problem since male-typical fields tend to be more prestigious and receive more research funding. In that sense the studies are not gender neutral, i.e. their status varies and is gendered. The institutions therefore need to make sure that areas with a high percentage of women, like medicine and health sciences, allot the necessary resources so that women scientists have the same opportunity for career advancement as men. Figures from DBH<sup>22</sup> clearly indicate that there is a gender imbalance in professional programmes at university colleges: There are around twice as many nursing students as engineering students. Yet there are many more professors in engineering than in health sciences. While there are very few female professors in engineering there are almost twice as many male professors in health sciences than there are female professors. The number of male professors in health sciences is much higher than the male proportion of the recruitment pool suggests.

To assess how well suited the gender equality measures are, one must consider the principle of proportionality as it affects different research areas/disciplines and different types of positions. But there are also differences between the institutions. The same types of studies or academic communities may have developed different cultures at different institutions. The Committee would therefore argue that gender equality goals should be founded on statistics at the institute or departmental level, not on national or faculty statistics.<sup>23</sup>

## 7.2 Clear male dominance

The Ministry of Education and Research asks the Committee to focus on measures in academic fields that are clearly male-dominated. While the principle of proportionality rests on a politically defined goal, in this case 50-50, a “clear male dominance” will show where the measures ought to be implemented. Whereas 50-50 is the target figure, the number that reveals a clear male dominance is the starting point for initiating measures. Four aspects should be considered when determining what constitutes a clear male dominance:

1. The time perspective. The male dominance must have been sustained for an extended period of time. For instance, small research areas prone to change may quickly affect the statistics. Temporary changes in the gender equality statistics may also be caused by other political variations in an institution.

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<sup>22</sup> Norwegian HE statistics, see: <http://dbh.nsd.uib.no/dbhvev/>

<sup>23</sup> One example that shows the complexity of this issue is the Department of Philosophy, Classics, History of Art and Ideas at the University of Oslo. The department consists of different subjects, from History of Art, where 44% of the permanent academic staff is women, to History of Ideas, where there are no women in such posts (55% of the bachelor students are women). In this instance it makes more sense to look at statistics from each subject, not from the department.

2. A narrow definition of “clear male dominance” may make it more difficult to achieve the desired results (see ch. 7.3 on critical mass). The definition must be suitable with the established political goal.
3. The definition of what constitutes a male-dominated community must be applicable and flexible. For instance, within the health sciences there is either a majority of women or a 50-50 gender balance in senior lecturer and associate professor posts, while men hold the majority of the professorships. In order to qualify women for leading positions one ought to implement measures on levels with a high proportion of women. Even though health sciences are not male-dominated in general there is reason to initiate measures on the professor level.
4. One might claim that the male dominance increases in step with the power associated with a position. From a power perspective it is more problematic that an academic community is male-dominated on the professor level than on the PhD level.<sup>24</sup>

Rosabeth Moss Kanter’s book *Men and Women of the Corporation* from 1977 is a classic reference when seeking to define what the proportion of different members of a group should be in order to generate change. Kanter shows how the proportions of the group composition affect the outcome of the minority. Kanter employs four groups with different compositions, of which two are relevant here: skewed groups (85:15 division) and tilted groups (65:35).

- In *skewed groups* the minority has few or no chances of building alliances. Kanter’s empirical study shows that the female minority was assessed based on stereotypical notions on femininity. They became symbols of femininity rather than individuals with different ways of performing their work. With a gender balance of 85:15 the minority has small chances of creating change. The majority is clearly dominant. This limits the women’s social autonomy which in turn affects the minority’s chances of getting promoted.
- In *tilted groups* the minority is big enough to be able to build alliances and affect the majority. With this size the minority can spur changes that benefit them. The minority group reflects individual differences more than the skewed groups, and the gender aspect receives less emphasis.

Kanter’s analysis shows that the concept of male dominance must not be too narrowly defined. The Committee therefore believes that the rule of thumb should be that 65 % men or more indicates a clear male dominance.

### **7.3 Critical mass – pile-up effect**

Kanter’s analysis shows that it is wise to build up a critical mass in order to achieve the political goal of a 50-50 gender balance. The Ministry of Education and Research asks the Committee to estimate the results of the measures. They are not only intended as a means to recruit more women. It is equally important to create attractive working conditions so that women want to remain in science. Recent studies show that more female than male PhD

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<sup>24</sup> From a recruitment perspective, and in order to achieve gender balance, it is of course important to ensure gender balance early on in the education process.



students (47 % and 40 % respectively) want a career in science.<sup>25</sup> Several people have pointed to the fact that recruitment is not always the biggest challenge.

*"....the rhetoric and debate about women in science has focused on 'getting in' (recruitment) whereas the real difficulties lie in 'staying in' (sustaining an academic career) and in 'getting on' (securing promotion)." (Rees p. 17:2007)*

To ensure good results the Committee recommends concentrating the measures in order to build up gender balanced academic communities instead of spreading them out too much. A certain number of women within the same subject or academic community may have a positive effect on the work environment. Achieving a size equivalent to what is defined as critical mass (tilted groups 65:35) may help attract and retain more women in a particular field of study. The fact that the group composition and the way the research is organised affect the results is confirmed in a report prepared by NIFU STEP.<sup>26</sup>

If the women become more visible the academic community can act as a role model – this may prove to be equally effective as having individuals as role models. One example of this is the Department of Marine Biotechnology (IMAB) at the University of Tromsø, which has made a conscious effort to recruit women. The work has produced good results and IMAB has won a gender equality award at the university and was also one of the recipients of the national Gender Equality Award 2007.<sup>27</sup> The department now acts as a role model for other departments.

## 7.4 Conclusion

The principle of proportionality should be defined on the basis of a political goal of a 50-50 gender balance. Whether the definition of male dominance should rest on statistics from subject, academic community or level of seniority can not be determined prior to an assessment of the allocation of means. The definition of clear male dominance is founded on a historic perspective, power perspective, suitability and applicability. As a rule of thumb, communities with 65 % men or more are clearly male-dominated. To achieve the best results measures should be concentrated in order to build up academic communities with a critical mass.

## 8.0 The Committee's recommended measures and models

The Committee has been asked to suggest measures which involve earmarking of positions as well as more general measures that aim to improve women's career options. The Ministry of Education and Research wants to implement national measures. Federal funding of national measures will signal that this is an important political priority. It will also make the measures initiated by the sector itself more legitimate. As we have pointed out it is important that the national measures entail commitment from the institutions. One way of doing this is to base

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<sup>25</sup> Svein Kyvik and Terje Bruen Olsen *Doktorgradsutdanning og karrieremuligheter. En undersøkelse blant to årskull doktorgradskandidater* (PhD studies and career options. A study of two classes of PhD students) NIFU STEP, report 25/2007 Oslo

<sup>26</sup> *Kritisk masse – om forskningsmiljøenes størrelse, produktivitet og kvalitet* (Critical mass – on the research communities' size, output and quality) by Svein Kyvik, NIFU publication series no 8/98.

<sup>27</sup> In the autumn of 2007 the Ministry of Education and Research decided to establish a gender equality award of € 250 000 for the HE sector and the research institutes. For more information on the award see

<http://kvinneriforskning.no/english/magazine/winners2007.html>  
<http://kvinneriforskning.no/english/magazine/winners2007.html>

the measures on incentives tied to results or by having the institutions document the implemented measures.

The Committee has chosen to distinguish between three types of measures:

- Measures connected to earmarking of positions
- General measures that improve women's career opportunities
- Incentives to encourage the institutions to hire more women scientists

Before initiating the measures their size and volume ought to be discussed (the number of positions, the level of financial resources etc). The bigger the effort the better the results. The Committee will not recommend measures that only have a symbolic effect. The national measures need to be a genuine commitment.

### **8.1 Measures: Earmarking PhD scholarships for women<sup>28</sup>**

This measure is only used in communities with a clear male dominance, and is abandoned once the goal of a 50-50 gender balance has been reached. Thus, the principle of proportionality has been adhered to. Second, earmarking is only used if the applicants are qualified. If there are no qualified female applicants the money set aside for earmarking may be used in other male-dominated communities or for other types of measures. In other words, these resources are not automatically reserved for women. It depends on the applicants' qualifications.

Research institutes have a slightly different hiring practice than the HE sector. Research institutes have less temporary jobs and the hiring process is quicker. The research institutes also employ scientists at an early stage of their career, sometimes immediately after finishing their master's degree. The biggest challenge for the institutes is therefore to choose to hire a woman. This means that the earmarking of PhD scholarships is a more appropriate measure for research institutes than in the HE sector. Besides, the research institutes are not part of the post doc. system.

#### *External earmarking of PhD posts*

Science communities that have succeeded in recruiting women are typically the ones that are recently established or those that over a period of time have received more scientific posts.<sup>29</sup> Establishing new PhD posts that are earmarked for women will therefore give the best result. The posts may be allotted to those fields of study that struggle the most to increase the number of women. The posts may be part of the Ministry of Education and Research's ordinary allocation. In that case a formula for distributing the positions is needed. Another alternative is to include the posts in the suggested gender mainstreaming programme. Each institution will then have to apply for the positions.

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<sup>28</sup> The Austrian programme Doc fForte, described in 6.1.2 in the appendix is an example of a programme that only allocates PhD scholarships to women.

<sup>29</sup> *I spennet mellom kvalitet og krav til likestilling. En pilotstudie av forskningsmiljøer med relativt høye andeler kvinner* (The span between quality and the demand for gender equality. A pilot study of research communities with a fair share of women) by Vera Schwach, Ellen Brandt and Agnete Vabø, NIFU STEP work memo 8/2004

### *Internal earmarking of PhD posts*

The institutions have different ways of allocating their PhD posts. Some receive a PhD post through participating in a research project with external funding, others via participating in a research project with internal funding. Others, again, send an individual application for a PhD scholarship to a faculty. The institutions should assume responsibility for earmarking PhD posts for women in studies with few women. It is also important that the research directors at the institutions are aware of their responsibility when they allot PhD posts. This entails actively working to include female candidates (for instance towards the end of their master's studies) in research communities and when preparing project applications.

### *Earmarking of PhD posts for female research directors*

It is also possible to earmark a number of PhD posts for female research directors. The institutions seem to have different ways of allocating both post doc. and PhD posts. Allocating PhD posts to female research directors will strengthen their position and help produce new role models. The PhD posts may be earmarked for women, be divided equally between women and men, or be divided without any gender predisposition.

### **Conclusion**

The Ministry should give the sector new earmarked PhD posts. Still, the most important thing is to clarify whether the institutions themselves may start earmarking positions. The earmarking of PhD scholarships should be aimed at studies with few women and should be concentrated in order to systematically build up gender balanced academic communities.

## **8.2 Measures: Earmarking of post doc. positions for women**

Earmarking of PhD posts and post doc. positions for women may be defined as two slightly different strategies. Whereas PhD posts mainly are recruitment positions, post doc. positions are more of a stepping stone for a future career in science.

When it comes to post doc. positions different models may be considered. Besides earmarking post doc. positions in accordance with the current practice these positions may be part of a more active recruitment strategy which to a larger degree leads to permanent appointment. One alternative would be to expand the post doc. period by giving women the opportunity to apply for funding (see Gender mainstreaming programme for women) to prolong the work period, for instance with a research stay abroad. This is one way of increasing women's chances of attaining a permanent position. On the other hand this will also expand the temporariness which is one of the factors that make academia less attractive to women than to men.<sup>30</sup>

### **Qualifying for a permanent position**

Several higher education institutions have initiated temporary qualification positions with the possibility of staying on permanently. The employee has a certain number of years to qualify for either associate professor or professor. In order to retain women and to strengthen their chance to attain a permanent position it is important to facilitate permanent appointment in the posts of associate professor. This is especially important in order to recruit more women for professorships in male-dominated areas. After a qualification period, often three years, the results are evaluated. Qualification positions like this were formerly called professor

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<sup>30</sup> The Dutch FOM/v programme awards post doc. scholarships for women for up to three years at a Dutch institution. See item 2.4, appendix

scholarships. The arrangement is reminiscent of the international *Tenure track system*, which also has been considered in Norway.<sup>31</sup>

Tenure track is controversial in Norway. One of the problems with the system is that it increases the temporariness and makes it more difficult to attain a permanent position. One prerequisite for implementing the tenure track system is that it can't come in addition to the post doc. period. This means that one can apply for tenure track immediately after finishing one's PhD. Furthermore, these positions will be very popular. If a tenure track system is implemented in Norway it must be used actively to improve the gender balance. It is documented that the HE sector's extensive use of temporary jobs, combined with few opportunities for permanent appointment, is one reason why academia is not perceived as an attractive workplace. Thus, earmarking qualification positions (for instance tenure track) for women will be a good way of making their career path more predictable. If this system is established in Norway it will be a suitable measure both for the institutions and the Research Council of Norway, but the Ministry can also fund a certain number of qualification positions per year.

Other countries have had positive experience with qualification grants. One example is Rosalind Franklin fellowships at Groningen University in the Netherlands.<sup>32</sup> When the university in 2002 for the first time offered earmarked tenure track posts they received 112 applications for five posts, and most of the applicants came from abroad. Since 2002 the university has offered annual fellowships, and in the beginning of 2008 22 fellowships were offered. The requirements for receiving a fellowship are clearly defined and the competition has been very tough. The recipients are appointed in tenure track posts at the university. The fellowships are announced internationally and the female scientists who are appointed are considered to be possible candidates for a professorship. Tenure track is an established system in the Netherlands.

The Ministry of Education and Research should welcome a similar scheme in Norway. This is something the institutions themselves can initiate. In addition, it should be of relevance to the Norwegian Centres of Excellence (SFF) and the shaping of the awards for Outstanding Young Researchers (YFF). The Research Council of Norway can require that the institutions that receive the YFF and SSF awards are obliged to facilitate permanent appointment for the scientists who partake in such schemes.

### **Qualification positions and the generation shift**

Qualification positions may be linked to the institutions' senior policy. Connecting recruitment and retirement plans is useful with regard to the upcoming generation shift. Tying qualification positions to senior researchers who soon will retire is a good way of retaining promising scientists.

This scheme does not require the establishment of a new permanent post. Funding must be linked to the qualification grant which can be applied for after attaining a PhD degree. If the candidate qualifies for professor or associate professor before the senior researcher retires, the former is offered the post. To ensure flexibility in the academic community it should not be required that the candidate and the senior researcher share the same scientific discipline or

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<sup>31</sup> See Government report no 20 (2004-2005) *Vilje til forskning (Motivation for research)*. Item 8.4 contains a discussion of the need for establishing different intermediate positions in order to make the path towards a permanent job in science more predictable.

<sup>32</sup> See item 2.5, appendix

research theme. The linking of recruitment and senior researchers may be modelled on the Dutch Meervoud programme.<sup>33</sup> The programme offers funding for dual occupancy of some posts where a scientist is about to retire. The female candidate is first appointed to a temporary post, but inherits the permanent post within two to four years. The programme also allows academic positions to be shared by two people, and funds additional academic posts for up to four years. Unlike the Meervoud programme the Committee is opposed to limiting this measure for certain studies.

A Norwegian version of qualification grants a la Meervoud can either be financed by the institutions or be incorporated into the gender mainstreaming programme. Another option is to establish an incentive scheme similar to the one proposed under professor scholarships, where the management dialogue is used for reporting to the Ministry how many grants the institution has funded.<sup>34</sup> The Ministry will in turn fund the same number of grants in the following year's budget. It may also be useful to take a closer look at the so-called bridging grants that are part of the Dutch FOM programme.<sup>35</sup>

### **Conclusion**

The Ministry should fund a number of post doc. positions as part of a national commitment to recruit more women to permanent academic posts. A national commitment will make it easier to initiate local measures by giving them more legitimacy. This may quickly have a positive effect. In addition to ordinary post doc. positions the Ministry of Education and Research should allow the establishment of various qualification positions in order to give the institutions more flexibility. The qualification positions described here will accommodate the need to make women's career paths more predictable. The Committee recommends using schemes modelled on the Dutch Rosalind Franklin programme, which is tenure track positions, the Meervoud programme and the FOM programme. It should be considered whether the different posts ought to be part of an incentive scheme linked to the management dialogue.<sup>36</sup>

### **8.3 Measures: Earmarking of professor II positions for women**

Recruiting women for leading positions represents particular challenges. Within many disciplines women may lack female role models. Female PhD students may want a female supervisor. Students, both men and women, want more diversity among lecturers and supervisors. One way of achieving this is by earmarking professor II positions for women. Professor IIs are often brought in from institutions abroad, so it should be fairly easy to find suitable female candidates. Headhunting is a much-used measure for recruiting professor IIs. Traditionally headhunting has favoured men. Several institutions have initiated measures in order to increase the number of female professor IIs. For example:

- The University of Bergen has agreed on an incentive scheme where the university covers 50 % of the institute's salary expenses the first year. In *Action plan for a better gender balance 2007-2009* academic communities are encouraged to recruit women

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<sup>33</sup> See item 2.2, appendix

<sup>34</sup> In Norway the ministries' management of subordinate agencies is carried out through a management dialogue that includes both written and oral communication on the budget allocation. The Ministry of Education and Research conducts the dialogue with their agencies, which include all State universities and colleges, with the help of an annual meeting and a "letter of allocation" in connection with the actual transfer of resources to the institution. The letter of allocation contains the general goals set by the Ministry, but it is left to the enterprises themselves to formulate their performance targets.

<sup>35</sup> See appendix item 2.5

<sup>36</sup> See appendix items 2.2, 2.4 og 2.5

for professor II positions. The goal is to appoint at least 50 % women to all new professor II positions.

- The board at the University of Tromsø has agreed on an incentive scheme in which five professor II positions are reserved to women. The posts will receive up to 200 000 in funding over a two-year period. The faculties are positive towards appointing women to these posts.

### **Conclusion**

It is currently possible for the institutions to headhunt women for professor II positions. The institutions may also use incentive schemes. A clarification from the Ministry regarding earmarking will further add to the legitimacy of this work.

### **8.4 Measures: Qualification grants – for professor**

In addition to focusing on recruitment it is necessary to work on getting more women in leading positions. As shown earlier this goes for all types of institutions. Allocating funding for grants to qualify women for professorships is a well-suited measure to increase the number of women professors. A qualification grant should be for one year, or two in the case of research abroad. The grant should come in addition to earned research leave, and the candidate should also be freed of other duties in this period. The measure may be linked to mentor programmes at the institutions. All universities have or are considering implementing mentor programmes. This should also be considered by university colleges and the institute sector. There has been no systematic evaluation or comparison between the different mentor programmes at the universities, but so far the feedback is positive. It should be required that the candidate seeks advancement during the grant period. Obligatory career advancement courses for the recipients ought to be created. One may consider including the qualification grants in the proposed gender mainstreaming programme.

The qualification grant differs from earmarking of temporary positions in that potential candidates for a grant already may be employed at an institution. Still, there are women who for a longer period have received extra funding without being permanently employed. This scheme should therefore include women both with and without permanent appointment.

The grants can be awarded in different ways:

- a) The institutions themselves can initiate and fund the grants.
- b) Earmarked qualification grants can be included in the gender mainstreaming programme.
- c) The Ministry of Education and Research can award the grants. The institutions should receive the same number of grants as they themselves have established. Through the management dialogue the institutions can report how many grants they have awarded. The Ministry can then hand out the same number of grants to the institution the following year.

Qualification grants for women have been used by for instance NTNU<sup>37</sup>. So far 52 women have received grants; 46 % have become professors. Recipients state that the grant has been

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<sup>37</sup> Norwegian University of Science and Technology

an important part of the advancement process. The University of Tromsø has implemented a mentor programme for women post docs and associate professors. The programme includes the financial resources to relieve the associate professors of their duties for one semester (NOK 80 000) so that they can finish their scientific work during the mentor period. A European model that might be of interest is the Austrian Senior Post doc programme the Elise Richter Programme.<sup>38</sup>

### **Conclusion**

Qualification grants are established in order to increase the proportion of women in leading positions. To reach this goal and ensure that the institutions set aside money for grants we recommend model c. The scheme may positively enhance the institutions' mentor programmes. It should be required that the recipients follow a career advancement course.

### **8.5 Measures: Earmarking of permanent academic positions for women**

The most precise type of earmarking is to give institutions new earmarked permanent positions for women on the professor level. This can either be done by:

- a) Awarding the institutions a number of positions based on a distribution formula

or

- b) The Ministry of Education and Research establishes a number of posts that the institutions may apply for. The institutions must explain why they need the posts and how they will use them within disciplines that have few women.

### **Conclusion**

From what the Committee understands earmarking of permanent academic positions involves a great risk of another negative EU court ruling.<sup>39</sup> The Committee still recommends the Ministry to consider this.

### **8.6 Measure: A collaborative gender mainstreaming programme administered by the Research Council of Norway**

The idea behind a gender mainstreaming programme is that it contains different measures that focus on qualifying women scientists, on increasing their chances of getting into research in strategically important areas within their disciplines, and on helping them attain a permanent post. This programme differs from previously described measures although some of the latter may be part of the programme. The programme aims at qualifying women but the measures are not primarily linked to ordinary job categories and they focus on gaining a competitive advantage by highlighting specific areas like internationalisation and research management. These assets add to the scientist's competence. All types of institutions can apply for funds from the programme.

Hence, the gender mainstreaming programme is meant to:

- Contribute to giving female scientists a better chance of competing

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<sup>38</sup> For further details see the Senior post doc. programme Elise Richter, appendix item 6.2.2

<sup>39</sup> The Committee has noted the German Professorinnenprogramm, which was launched by German authorities on March 8. The programme contains 200 new professorships earmarked for women, see item 5.1 of the appendix

- Encourage women to remain in science
- Strengthen the institutions' commitment with regard to integrating women in science

The programme must require commitment on the institutions' part to further gender mainstreaming, for example by providing partial funding, as in the Swedish Vinnmer programme.<sup>40</sup> We also recommend that the institution, not the individual candidate, applies. The application should state how the candidate's project is part of an academic community or institution, either nationally or internationally. The applicant does not need to hold a permanent position in order to receive grants, but the institutions must be expected to provide the female recipients with permanent appointment after the qualification period.

The programme should be administered by the Research Council of Norway. The Ministry of Education and Research therefore ought to discuss the extent and details with the Research Council. The Committee suggests that the programme is not exclusively linked to one of the Research Council's programme areas. The Research Council must be granted additional funding for the administration of the programme. The programme is relevant to the Research Council's own gender equality work, like management development and promoting gender equality at Centres of Excellence.

The extent of a national programme will depend on what it contains. If the gender mainstreaming programme is to contain earmarked PhD posts or other temporary qualification positions the programme needs considerable funds. Several of the models proposed by the Committee are based on joint funding from the State and the institutions. The size of the gender mainstreaming programme may be determined by the sum total of the institutions' gender equality budgets. The universities' annual gender equality budgets alone amount to around 25 million NOK. This does not include staff resources. If the programme is to contain temporary posts, far more money is required.

The content of the programme ought to be discussed more closely with the sector and the Research Council of Norway. On the web site Resource Bank for Gender Mainstreaming in Science the Committee has collected a list of measures that are implemented by the sector.<sup>41</sup> Unfortunately there exists no systematic evaluation of the effect of the measures. And not all measures seem fit to be implemented on a national level. The Committee regards the following measures as suitable for a national gender mainstreaming programme:

- Measures to encourage women to conduct research abroad, through temporary positions of up to three years. This measure can be modelled on the organising and funding of the Swedish Vinnmer programme. Whereas Vinnmer is directed at innovation and technology a Norwegian equivalent ought to be open to different academic disciplines that are male-dominated. This will mainly be the natural sciences and technology, but academic fields like philosophy, political science and history may also apply for funding. The Dutch FOM programme may be relevant here.
- Start-up packages of up to 100 000 NOK over a two-year period. This can be arranged as an incentive scheme in which the gender mainstreaming programme pays for the first year and the institution contributes with the same amount the second year. Institutions can apply for start-up packages for newly appointed women in permanent

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<sup>40</sup> See appendix item 4.1

<sup>41</sup> <http://kvinneriforskning.no/english/measures/>



academic positions. These may for instance be used for research assistance, technical equipment, writing applications or for short research stays abroad. The applicant must declare how the money will be spent. Start-up packages can only be awarded once. It must be less than one year since the woman was hired. There ought to be an annual application date when institutions may apply on behalf of newly appointed women who are eligible recipients. This measure can also be adapted to those disciplines that struggle the most with recruiting women. Start-up packages are commonly used at several universities. NTNU has earmarked start-up packages for women in academic fields with a clear male dominance.

- Qualification grants for professor. One might consider whether this measure should be included here.
- Women in post doc. positions can apply for grants to extend their post doc. period, for instance with a research stay abroad.
- Develop measures linked to Centres of Excellence (SFF) and Outstanding Young Researchers (YFF). This means that the institutions that contain SFFs and YFFs have a special obligation to facilitate permanent appointment. The Dutch Athena and Aspasia programmes<sup>42</sup>, which aim at increasing the number of women in permanent positions, may serve as models. These programmes are directed at women who already have received grants through programmes for talented scientists. Aspasia gives financial support to institutions that hire female grant recipients on a permanent basis. Athena awards extra research funding for women scientists who are appointed to a permanent post at a university/ research institution during the scholarship period.
- Earmarked PhD positions for women, which universities, university colleges and research institutes may apply for.

### **Conclusion**

The Committee recommends that the Ministry of Education and Research commences talks with the Research Council with the aim of creating a gender mainstreaming programme. A task force responsible for shaping the content and budget ought to be established. The Committee's suggestions regarding content can be the starting point for a discussion. One prerequisite for creating the programme should be that the Research Council strengthens its internal gender equality work and that the Ministry sets aside the necessary funding. This prerequisite is important to achieve the desired results.

### **8.7 Requirements for allocating posts and funding**

The Committee believes that the measures described here need to be dynamic and flexible, as the gender equality challenge is a complex matter. There is not one reason for the gender imbalance or one measure that can solve the problem. The challenges vary depending on the type of institution, level and field of study. Still, some criteria must be met in order to receive funding and posts.

The applicant (for instance an institution or faculty) must document:

- That the subject or academic field in question is male-dominated.

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<sup>42</sup> See appendix items 2.1 and 2.3

- That the level one aims to improve is clearly male-dominated.
- That there are qualified female applicants
- That the posts will be used to build up a more gender-balanced academic community (critical mass).
- How the posts/measures are part of an overall strategy (this is important in order to further mainstreaming)

The administrator that allocates the means, for instance the Research Council, must ensure that

- The principle of proportionality is adhered to

It is vital that the allocation of earmarked positions is followed closely. These positions must not turn into “the women’s positions” in the sense that women get a pool of positions that is much smaller than the ordinary pool. Those measures that the authorities want to implement should be evaluated continuously so that changes can be made along the way. The Ministry should also create a guide that describes what possibilities the institutions have regarding earmarking and other measures, as well as the prerequisites for allocation.

### **8.8 Measure: National incentive model for appointing women<sup>43</sup>**

The request from the Ministry of Education and Research primarily regards establishing measures and models that will be the basis of a legal assessment. The request particularly concerns measures that involve earmarking or career advancing measures. The Ministry has on several occasions signalled that they want to know more about measures used in other parts of Europe. It turns out that a number of countries recently have initiated measures in which the institutions are rewarded when they appoint women to permanent academic positions.<sup>44</sup> We also found that several Norwegian institutions have done the same.<sup>45</sup> Feedback from the sector indicates that incentives have an encouraging effect. Different types of incentive models might therefore make the institutions act more in accordance with the political goal of qualifying and appointing more women. The first Committee recommended this model in its final report. This measure should therefore be included in the overall assessment. If the Gender Equality Award becomes an annual event it may act as an incentive.

The purpose of an incentive model is to encourage the institutions to hire women in academic positions by using financial incentives. The idea is that each appointed woman will come with partial funding from the Ministry.

This model rests on the same principle as the funding for higher education institutions – they receive funding based on how many credits students produce. A “produced credit” will in this context be a woman hired in a permanent academic position. The model can be shaped in different ways.

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<sup>43</sup> For more details see *Kjønnsbalanse i akademien – gyldne muligheter (Gender balance in academia – golden opportunities)*, final report from the Committee 2004-2006, item 5.1.2 model 5.

<sup>44</sup> See the Dutch programmes Athena (item 2.3) and FOM/v (“Bridging grants” in 2.4). Also see the Austrian Excellencia programme (item 6.1.1) and the Swiss programme (see item 3.1 in the appendix).

<sup>45</sup> For example the University of Bergen, the Norwegian School of Economics and Business Administration and the University of Oslo. Several institutions have incentive schemes for appointing more female professor IIs. The University of Copenhagen has also implemented an extensive incentive scheme, see item 1.1 in the appendix

## **Conclusion**

Incentives are a well-established measure in the sector, and some institutions have already made use of this to increase the number of women in permanent academic positions. The Committee has also received feedback on the positive effect of rewards linked to results. It is therefore the Committee's opinion that the Ministry ought to reconsider this measure.

## **9.0 The Committee's priorities**

It is important to clarify the legality of earmarking so that the institutions can implement such measures. The Committee's priorities regarding the implementation of the suggested national measures are:

### **Permanent academic positions**

- Creating a number of permanent academic positions earmarked for women.

### **Post doc. positions**

- Greater national backing for post doc. positions for women. Also broaden the possibility of using different types of post doc./tenure track positions modelled on the Rosalind Franklin, Meervoud and FOM programmes.

### **Qualification grants – for professor**

- A national commitment to increase the number of women professors.

### **A collaborative gender mainstreaming programme administered by the Research Council of Norway**

The measures have not been ranked. In addition the Committee has described measures and models which the institutions themselves can implement. The examples from other European countries will hopefully be inspirational.

If national earmarking measures are implemented, the Committee recommends a continuous evaluation of the process. This is important to ensure that changes can be made along the way, but also to gain more insight into how earmarking works and if it has the desired long-term effect.

# Appendix

## ***European measures***

This is a list of national measures to facilitate career advancement for female scientists and appointment of women (the underrepresented gender) in academic positions in Denmark, the Netherlands, Austria, Switzerland, Sweden, and Germany. The information has been gathered from web presentations, as well as from coordinators for several of the projects. Please note that the measures might be under revision.

The purpose of studying measures in other European countries has been to find models that may be used in Norway. The measures have not been assessed with regard to the current situation for women in science in the countries in question, and many of the measures have not been evaluated on a national level. We therefore want to emphasise that the following survey is not a list of the most suitable measures, but examples of measures that are implemented in different European countries.

This is not a complete survey of the national measures initiated in Europe. Other measures exist that are not suggested as models for Norway.

### **1. Denmark**

The Danish measures are both from the University of Copenhagen and were passed by the university board on March 3 2008.<sup>46</sup>

#### **1.1 Incentive scheme**

The University of Copenhagen will give the faculties a financial reward when they appoint female professors. This will be done in two ways:

- a) The faculties get one extra professorship when they appoint female professors. The additional professorship is open to both genders and will be funded with earmarked administrative funds over a period of five years.
- b) The university sets aside funding for faculties that increase the ratio of women among new professors with five per cent compared to the period from January 1 2006 to December 31 2007. The faculties receive a bonus of up to three million DKR depending on the size of the faculty. The bonus will be paid at the end of 2009.

### **2. The Netherlands**

The Dutch measures are mainly part of programmes administered by the Dutch research council The Netherlands Organisation for Scientific Research (NWO).<sup>47</sup> In addition we present one measure initiated by the University of Groningen.

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<sup>46</sup> In order to implement the measures the university needs an exemption from the Danish Gender Equality Act. As of 2 April.2008 they are in the process of writing an application. It is likely to be a while before the measures can be implemented.

<sup>47</sup> Read more on NWO's gender equality commitment here:  
[http://www.nwo.nl/nwohome.nsf/pages/NWOP\\_5V7DFD\\_Eng](http://www.nwo.nl/nwohome.nsf/pages/NWOP_5V7DFD_Eng)  
<http://www.oecd.org/dataoecd/47/22/35776046.pdf>

## 2.1 Aspasia<sup>48</sup>

*Goal:* Aspasia was launched in October 1999 as a scheme to increase the number of women senior lecturers. Women are generally underrepresented in the upper academic echelons. This pyramidal career structure is particularly present in the world of Dutch scientific education and research.

*Initiative/administration:* The Ministry of Education, the Association of Universities in the Netherlands and NWO.

*Programme description:*

Aspasia old-style: Women lecturers wanting to qualify for the programme wrote a research proposal. Each proposal submitted to NWO had to be supported by the Board involved.

Aspasia new-style: Women wanting to qualify for promotion to senior lecturer or professor via an NWO programme can submit a proposal in the Vidi or Vici round of the Vernieuwingsimpuls Scheme.<sup>49</sup> The recipients will be recommended by NWO to the Boards for promotion; the universities make the decision.

What can be applied for?

Aspasia old-style: The NWO grant covered a 4-year PhD project or a 2-year postdoctoral project and additional research costs of up to 11,000 euros per research trainee or post doc. year. The university took financial responsibility for the lecturer's promotion to senior lecturer and for the senior lecturer candidate's research, including facilities.

Aspasia new-style: Women apply for a Vidi or Vici grant (see [www.nwo.nl/vi](http://www.nwo.nl/vi)). Yearly around 20 Aspasia grants are made available to the Boards that ensure that women Vidi and Vici recipients (round 2005 and following) are promoted to senior lecturers or professors within a year after the grant is awarded.

The Ministry of Education provides 2 million euros for the Aspasia grants on a yearly basis.

## 2.2 MEERVOUD<sup>50</sup>

*Goal:* The MEERVOUD programme aims to help women post docs become university lecturers by creating temporary (part-time) lecturer positions (or similar positions in institutes), with the added guarantee of obtaining a (different) scientific position within their research institution.

*Initiative/administration:* NWO Divisions Earth and Life Sciences (ALW) and Physical Sciences (EW).

*Subjects:* The fields covered by NWO's Earth and Life Sciences and Physical Sciences Divisions.

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<sup>48</sup> Source: [http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA\\_4YYAJV\\_Eng](http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA_4YYAJV_Eng)

<sup>49</sup> The Innovational Research Incentives Scheme was set up in 2000. The aim is to promote innovation in the academic research field. The scheme is directed at providing encouragement for individual researchers and gives talented, creative researchers the opportunity to conduct their own research programme independently and encourages talented researchers to enter and remain in science. Read about the programme here: [http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA\\_4YJDQ3](http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA_4YJDQ3)

<sup>50</sup> Source:

[http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA\\_4XEJPH\\_Eng](http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA_4XEJPH_Eng)  
[http://www.nwo.nl/files.nsf/pages/SPES\\_5VEF3X\\_Eng/\\$file/MEERVOUD%20brochure%202008%20UK.pdf](http://www.nwo.nl/files.nsf/pages/SPES_5VEF3X_Eng/$file/MEERVOUD%20brochure%202008%20UK.pdf)

*Programme description:*

Candidates are selected by the applying research institution. All applications are submitted to one of the participating NWO Divisions.

The MEERVOUD programme has different types of grants:

- *Duo-construction I* is a sort of roof tile construction for existing tenured lectureships. The duo consists of a tenured lecturer who will retire (early) in the near future and a woman (the candidate) who is willing to occupy the formative post of the lectureship. It is recommended (but not obligatory) that both occupy identical scientific disciplinary areas. With this temporary post the successor will tide over the period until the tenured lectureship becomes available. The transitional period (for which a grant can be claimed) lasts for two years minimum and four years maximum.
- In *Duo-construction II* an existing full-time tenured lectureship is converted over a period of four years into two part-time posts. The posts can be filled by a woman and a man or by two women. The period for which subsidy can be granted lasts for two years minimum and four years maximum.
- *Construction III* facilitates an additional tenured lectureship, not associated with an existing one. Funding can be granted for between two and four years.

NWO grants a subsidy for personnel costs equivalent to the amount of 0.6 FTE tenured lectureships with a maximum of four years and material costs of 6000 euros yearly.

The research institute must guarantee a (different) tenure position for the candidate within their institution, subject to a positive end of term evaluation. The minimum FTE for this position is 0.8. In the case of *Duo-construction II* this applies to both researchers.

Between 2000–2005 22 grants were awarded.

### **2.3 Athena<sup>51</sup>**

*Goal:* With this grant, the Division for the Chemical Sciences (CW) wants to achieve the transfer of women in the large group of post docs with a temporary appointment to a tenured scientific position. This programme will encourage the appointment of talented female researchers within chemistry, who have acquired a Veni subsidy, to tenured assistant professorships (or a similar permanent position at a research institute).

*Initiative/administration:* Division for the Chemical Sciences (CW) in NWO

*Programme description:* The grant will be allocated to female researchers who have been awarded a Veni subsidy<sup>52</sup> from the Division for Chemical Sciences and who during the course of the Veni project receive a tenured appointment as assistant professor at a university or a comparable position at a research institute.

The Athena grant is worth € 100,000 and is awarded to the Veni recipient for a maximum period of three years. The premium can be used for the salary of the candidate and for the appointment of additional personnel (PhDs, post docs, technicians), costs for the acquisition

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<sup>51</sup> Read more about Athena here:

[http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA\\_6ZXCX3\\_Eng#docs](http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOA_6ZXCX3_Eng#docs)

<sup>52</sup> This type of grant offers researchers who have only recently completed their doctorates the opportunity to develop their ideas over a three-year period. [http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOP\\_5VTGL4\\_Eng](http://www.nwo.nl/subsidiewijzer.nsf/pages/NWOP_5VTGL4_Eng)

of materials and equipment and/or databases, travel costs and visits to conferences and research institutes.

Applications can be made after the award of a Veni subsidy.

#### **2.4 FOM/v (FOM)<sup>53</sup>**

*Goal:* The incentive scheme FOM/v was launched in 1999 and consists of a number of measures to help promote women physicists in the Netherlands.

The programme is administered by The Foundation for Fundamental Research on Matter (FOM).

Two of the programme's measures are relevant to the Committee's assignment:

a) Post doc. fellowships: FOM awards post doc. fellowships for women for up to three years provided that the recipient spends at least one year at a guest institution outside the Netherlands.

b) Bridging grants: These are grants that will help the institutions appoint female scientists. FOM can cover salary expenses for up to five years for a female scientist. The requirement is that the institution offers the scientist a permanent position after the grant period ends.

#### **2.5 Rosalind Franklin Fellowships<sup>54</sup>**

*Goal:* The programme aims to raise the proportion of women at the highest levels of the institution.

*Initiative/administration:* A fellowship programme of the University of Groningen

*Programme description:* With this fellowship the University of Groningen wants to attract female scientists with a special area of expertise. They will be given the opportunity to establish their own line of research, eventually receiving a full professorship through tenure track.

The Rosalind Franklin fellowships follow the tenure track career path at the faculties that award them. Several of the faculties have the following system: Over a period of maximum five years the scholarship holders have the chance to qualify for associate professor. After an additional five years the candidates are considered for promotion to professor. However, some faculties have a different career path.<sup>55</sup>

In the first round of advertisements seven women received a Rosalind Franklin Fellowship. The second round (2005-2007) included the whole university and led to the appointment of 17 women. In the current round (2008-2009) 23 positions within all disciplines are available.

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<sup>53</sup> Read more (Dutch):

[http://www.fom.nl/live/overfom/netwerken/FOMv\\_netwerk/artikel.pag?objectnumber=23204&referpagina=14625](http://www.fom.nl/live/overfom/netwerken/FOMv_netwerk/artikel.pag?objectnumber=23204&referpagina=14625)

<sup>54</sup> Read the advertisement here: <http://www.rug.nl/corporate/onderzoek/rff/index?lang=en>

<http://www.rug.nl/gmw/onderzoek/rff/index>

Read more about the programme here: [www.rug.nl/rff](http://www.rug.nl/rff)

<sup>55</sup> From the Faculty of Behavioural and Social Sciences' advertisement: "Following a favourable evaluation after (maximally) six years, the fellow will be awarded tenure and promotion to the rank of Associate Professor; after another three years a further promotion to «adjunct professor», i.e. associate professor with ius promovendi can follow. Finally, after a further three years another evaluation will take place and if this proves favourable, promotion to Full Professor will follow."



### 3. Switzerland

The Swiss measure is a federal programme to promote gender equality at the universities.

#### 3.1 The Swiss federal gender equality programme for the universities

*Goal:* To increase the female proportion of professors in Switzerland. Between 2008 and 2011 the goal is to increase the ratio women among Swiss professors to 25 per cent.

*Initiative/administration:* In 1999 and 2003 the Swiss government granted 2 x 16 million Swiss francs to support gender equality programmes at Swiss universities.<sup>56</sup> The programme was administered by the Swiss University Conference.<sup>57</sup> From 2008 the Rectors' Conference of the Swiss Universities (CRUS) are responsible for the federal gender equality programme for the universities. This programme, which succeeds the previous one, is called «Equal opportunities» and will run until 2011.

*Programme description:*

Module 1 is an incentive scheme for universities that hire women scientists in leading positions, module 2 is a mentor programme, while module 3 focuses on measures to help women combine a career in science with family life. Module 1 is most relevant to the Committee's assignment:

Module 1 – Incentive scheme: The 1.10–1.35 million Swiss francs p. a. provided by the federal government are distributed to the 10 cantonal universities at the end of each academic year according to the number of newly hired full and associate female professors.

In 1999 the ratio of women professors was seven per cent; in 2006 it had gone up to 14 per cent. Hence, the proportion of female professors has been doubled during the programme period.

### 4. Sweden

The Swedish measure is a federal programme administered by VINNOVA.

#### 4.1 VINNMER<sup>58</sup>

*Goal:* By using the measures approved by the EU court the programme seeks to facilitate career advancement for women scientists through increasing their opportunities both nationally and internationally within Sweden's strategically important research areas<sup>59</sup>

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<sup>56</sup> This description is based on information on the first phase of the programme from 2000 to 2007. According to the programme coordinator, Gabriela Obexer, the programme continues without any big changes from 2008 to 2011.

<sup>57</sup> Read more about the programme at the Swiss University Conference:

<http://www.cus.ch/wEnglisch/beitraege/chancengleichheit/index.php>

<sup>58</sup> Sources: <http://www.vinnova.se/In-English/Activities/Strong-research-and-innovation-environments/VINNMER/>

[http://www.vinnova.se/upload/dokument/Verksamhet/Starka\\_FoI-miljoer/VINNMER/VINNMERprogrammedescriptENG.pdf](http://www.vinnova.se/upload/dokument/Verksamhet/Starka_FoI-miljoer/VINNMER/VINNMERprogrammedescriptENG.pdf)

<http://www.vinnova.se/Verksamhet/Starka-forskings--och-innovationsmiljoer/VINNMER/>

<sup>59</sup> In the shaping of VINNMER EU labour laws have been taken into account. The programme is highly flexible. It refers to former cases in which affirmative action has been used (Badeck et al. C-158/97, Marschall C-405/95, Lommers C-476/99, Abrahamsson et al. C407/98).

The long-term objective of the VINNMER programme is to help increase the number of postgraduates that in the future can head universities/colleges, centres, research institutes and companies. One of the weaknesses that VINNOVA has identified in the current system is that relatively few women qualify compared to the number of men. VINNMER therefore aims to increase the opportunities for women postgraduates to qualify as researchers after gaining their PhDs.

*Initiative/administration:* VINNOVA (The Swedish Governmental Agency for Innovation Systems), a public authority that aims to promote growth and prosperity throughout Sweden.

*Programme description:* The programme is primarily aimed at women who have a PhD and who have obtained their post doc. qualification. It is not, therefore, intended for those who apply for traditional post doc. funding immediately after acquiring their PhDs. The programme is directed towards people who conduct needs-driven research within one of VINNOVA's operational fields and in co-operation between a university/college and operations in the private/public sector.

#### International qualification – researcher qualification through international collaboration between Centres of Excellence in research and innovation

The aim of this programme is to create postdoctoral researcher qualification opportunities (not post doc.). This takes place through promotion of collaboration between Centres of Excellence in research and innovation (R&I environments) in Sweden and within prominent international communities abroad.

#### National qualification – researcher qualification through college/research institute/industry/public sector collaboration

This part of the programme comprises a greater range of types of researcher qualification. Its purpose is to create postdoctoral researcher qualification opportunities (not post doc.) by mobility through different categories of people in Sweden. The aim is to advance collaboration/cooperation between research communities at universities/colleges and industry/the public sector as well as between colleges and research institutes and research institutes and industry/the public sector.

VINNOVA has allocated resources for the period of 2007-2014 which, in conjunction with co-financing, will result in an investment comprising a total contribution exceeding SEK 0.5 billion.

## **5. Germany**

In Germany the Ministry of Education and Research has begun implementing a State programme to increase the number of female professors.

### **5.1 Professorinnenprogramm<sup>60</sup>**

*Goal:* With a € 150 million programme over the next five years, the German Ministry for Education and Research and the Federal States will fund 200 positions for new female professors at German universities. The programme aims at closing the gap between the high number of highly qualified women and the low number of women in leadership positions.

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<sup>60</sup> Read more (in German): <http://www.bmbf.de/foerderungen/12320.php>

*Programme description:* The programme provides funding for appointing women to tenured W2 or W3 professorships. The appointment may be for a position becoming vacant or to be created in the future (early appointment) or for a position which is already vacant (regular appointment).

Over a period of maximum 5 years, up to 3 initial appointments per university may be funded. The maximum amount per appointment and year is € 150,000, of which half will be provided by the Federation and half by the respective Federal State.

One prerequisite for the funding of individual positions is the successful evaluation of a gender action plan submitted by the university under the programme's remit. These gender action plans will be evaluated by an independent group of experts from academia, science organisations, research and HEI management.

## 6. Austria

The Austrian measures are part of the fForte programme, which is a collaboration between four federal ministries. In addition there are two funding programmes for women administered by the Austrian Science Fund (FWF Der Wissenschaftsfonds).

### 6.1 fFORTE: Women in Research and Technology<sup>61</sup>

The purpose of the fForte programme is to promote girls and women on all levels of education within the SET subjects (science, engineering and technology), and to further women's careers in science. The programme consists of a broad range of measures.

fFORTE: Women in Research and Technology<sup>62</sup> is a collaboration between four Austrian federal ministries – the Ministry of Science and Research (BMWf), the Ministry of Transport, Innovation and Technology (BMVIT), the Ministry of Economics and Labour (BML) and the Ministry of Education, Arts and Culture (BMBWF). The programme also receives support from the Austrian Council for Research and Technology Development.

#### 6.1.1 *Excellentia* : A High Potentials Programme for Austrian Universities<sup>63</sup>

*Excellentia* is part of the fFORTE programme and aims to double the proportion of female professors in Austria between 2005-2010.

*Excellentia* is an incentive scheme in which Austrian universities receive 33.880 euros for each new female professor that they appoint. One prerequisite is that the ratio of women at the university goes up. From 2005 to 2006 12 universities have participated in the *Excellentia*

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<sup>61</sup> According to a press release on the programme 17.12.2007:

[http://www.ots.at/presseaussendung.php?schluessel=OTS\\_20071217\\_OT0078&ch=technologie](http://www.ots.at/presseaussendung.php?schluessel=OTS_20071217_OT0078&ch=technologie)

<sup>62</sup> Read more about WIT here: [http://wit.tuwien.ac.at/about\\_wit/index\\_en.html](http://wit.tuwien.ac.at/about_wit/index_en.html).

Read more about fForte: <http://www.fforte.at/> (tysk).

<http://set-career.eu/ifac-project/fforte-a-successfully-implemented-initiative-in-austria> (engelsk)

Other links:

[http://www.ostina.org/index2.php?option=com\\_content&task=view&id=2753&pop=1&page=0&Itemid=1](http://www.ostina.org/index2.php?option=com_content&task=view&id=2753&pop=1&page=0&Itemid=1)

[http://cordis.europa.eu/fetch?CALLER=EN\\_NEWS&ACTION=D&SESSION=&RCN=28873](http://cordis.europa.eu/fetch?CALLER=EN_NEWS&ACTION=D&SESSION=&RCN=28873)

[http://www.ots.at/presseaussendung.php?schluessel=OTS\\_20071217\\_OT0078&ch=technologie](http://www.ots.at/presseaussendung.php?schluessel=OTS_20071217_OT0078&ch=technologie)

<sup>63</sup> Read more about the programme (in German)

<http://www.bmwf.gv.at/submenu/wissenschaft/gender/excellentia/>

programme. 17 universities have appointed 43 female professors and have thereby received 1.5 million euros.

### 6.1.2 Doc fFORTE

DOC fFORTE is part of the fFORTE academic. The goal is to get more women PhD students within the fields of technology, the natural sciences, medicine, biology, and mathematics. In time this will increase the number of women in leading positions, also in the business world. The Doc fForte scholarship is awarded by the Österreichische Akademie der Wissenschaften.

Doc fForte is directed at highly qualified women. The candidate should be under the age of 27 and must have received her master's degree or diploma within the last two years. The scholarship is for 30.000 euros per year for a maximum of three years.<sup>64</sup>

## 6.2 Projects administered by FWF Der Wissenschaftsfonds

With financial support from the Austrian Federal Ministry of Science and Research the Austrian Science Fund (FWF) offers extremely well-qualified female scientists who are working towards a career in the university sector the chance of a two-stage funding for a total of six years.

The career development programme for female scientists is divided into the **Hertha Firnberg Programme for post docs**, which aims to support women at the start of their science careers, and the **Elise Richter Programme for senior post docs**, which aims to provide scientists with the necessary qualifications to apply for professorial positions within Austria or abroad.

### 6.2.1 Postdoc-Programm Hertha Firnberg<sup>65</sup>

*Goal:* Improving the career prospects for women in universities - offers very generous support for women at the start of their science career or following maternity leave.

*Programme description:* Hertha Firnberg is a post doc. programme for women. In order to receive funding the scientist must hold a PhD, have published articles in international science journals, be under the age of 41 at the time of applying, or have been a post doc. for not more than four years. The programme makes allowances for maternity leave. The applicant can receive support for 36 months; 52.790 euros in salary per year, and 8 000 euros for equipment, research assistants and travel costs.

### 6.2.2 Senior Postdoc-Programm Elise Richter<sup>66</sup>

*Goal:* Support the academic career of highly qualified female scientists and scholars and to further their university career. After completing the programme participants ought to be able to apply for a professorship, either locally or abroad. ("Habilitation" or equal qualification)

*Programme description:* The applicant must have post doc. experience from Austria or abroad, have published articles in international journals and have started on a research project

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<sup>64</sup> Sources: <http://stipendien.oeaw.ac.at/doc-fforte-frauen-in-forschung-und-technologie>, as well as contact with Eva Gutknecht, staff member at the Verwaltungsstelle für Stipendien und Preise der Österreichischen Akademie der Wissenschaften.

<sup>65</sup> Read more about the post doc. programme Hertha Firnberg: <http://www.fwf.ac.at/de/projects/firnberg.html#firnberg>

<sup>66</sup> Read more about Senior Postdoc-Program Elise Richter Program: <http://www.fwf.ac.at/de/projects/richter.html>

that will qualify her for a professorship. The programme has no age limit. It is possible to receive funding for 12 to 18 months, with 59.670 euros in salary (senior post doc. salary), and project-related costs of up to 15.000 euros. Of this, 2.000 euros can be used for mentors.