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# **BENCHMARKING POLICY MEASURES FOR GENDER EQUALITY IN SCIENCE**

The study was carried out by Elyse Ruest-Archambault with the support of Prof. Nick von Tunzelmann from the Science and Technology Policy Research Unit (SPRU) of the University of Sussex, in collaboration with Dr Simona Iammarino from SPRU, Nick Jagger and Dr Linda Miller from the Institute for Employment Studies. The Serbian team from the Mihajlo Pupin Institute included Prof. Djuro Kutlaca, Dr Dusica Semencenko, Sanja Popvic-Pantic and Maria Mosurovic.

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## Foreword

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Nearly ten years ago, the European Commission adopted a Communication<sup>1</sup> in which it undertook to mobilise women to enrich European research. Since then, correcting the underrepresentation of women in science has been part of a strategic approach to bring forward equal opportunities in the field of scientific research, enhance European competitiveness, and fully realise the European innovation potential.

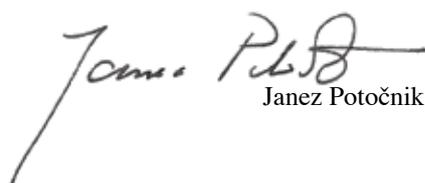
The European Commission has always supported with enthusiasm the objectives of increasing the number of women in scientific professions. In ten years clear progress has been made at national level. However if science is to play a role in society, then it must reflect that society, and with only 18-35% of women in science (depending on whether looking at the private or public sectors), efforts have to be stepped up.

Equally crucial is the objective of mainstreaming gender in scientific research. Not only should the scientific job market include more women at all seniority levels; female researchers, scientists and professors should also be enabled to fully participate in the production of knowledge and research. This firmly underpins the Women and Science work within the framework of our vision for a democratic, innovative and prosperous Europe.

Analysis and comparison of national policies, experts' advice, mentoring schemes, exchange of knowledge, promotion of data collection on students and professionals in science are some of the tools used in the framework of our Women and Science strategy. The Helsinki Group on Women and Science, established in 1999, has contributed to the strategies and avenues to be pursued. Back in 2002, the Helsinki Group produced a report on National Policies on Women and Science in Europe<sup>2</sup>.

Undertaken by a multidisciplinary project team of researchers and professors and firmly based on the 2002 Helsinki Group report, Benchmarking Policy Measures for Gender Equality in Science updates the picture, and skilfully brings together qualitative policy description with quantitative findings to shed light on women in science in the European Union. As for the geographical coverage, the new report covers all EU Member States, Iceland, Israel, Norway, Croatia, Switzerland, Turkey, Albania, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia, Montenegro and Serbia.

Today, Benchmarking Policy Measures for Gender Equality in Science treasures the findings of previous work and brings the analysis further. Starting from an overview of the policies implemented in the different countries covered, this report evaluates them and tests their correlation with indicators measuring the presence of women in science, across different seniority levels. The exercise offers valuable insights on what the policy options are, how they are linked to factual observations, and what the scope for further work on measures for women in science is. The methodology of the report is innovative; its conclusions are occasionally surprising and can be enlightening.

  
Janez Potočnik



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<sup>1</sup> COM(1999) 76 Final of 17.02.1999

<sup>2</sup> European Commission, The Helsinki Group on Women and Science – National Policies on Women and Science in Europe, 2002

## Executive summary

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- The aim of this study is to benchmark the policy measures for gender equality in science in the European Union, its associated members, and the Western Balkan region. Through defining a structure for mapping and classifying the measures, key policies and actions designed to promote gender equality in science were identified. The resulting profiles of national policies and statistics relating to women in science were then analysed to determine the extent to which the identified policies and actions were associated with changes in the proportions of women in science in the EU.
- The national policy reports indicate that much progress has been achieved since the last Helsinki group's report on national policies on women and science (Rees 2002). All the studied countries now have equal treatment legislation, and only three countries (Former Yugoslav Republic of Macedonia, Israel and Switzerland) do not have a ministry with responsibility for women's issues or a Statutory Gender Equality Agency. Five more countries (Denmark, Estonia, France, Latvia and Spain) have declared their commitment to gender mainstreaming since 2002, leaving 12 countries (32%) out of 38 with no mainstreaming plans. All but two countries (Former Yugoslav Republic of Macedonia and Montenegro) offer women's or gender studies courses within their universities, and sex-disaggregated statistics are becoming more available, with only three countries not reporting such data (Luxembourg, Bosnia and Herzegovina, and Montenegro).
- The data collated and reported here indicate that, in all of the studied countries, the situation of women in science still varies according to their position in the career ladder. Looking at the numbers of women in studentships, researcher posts, lectureships and on to professors, the proportion of women decreases considerably at each successive level, as shown in all international literature on the topic.
- In 2004, there were still four countries (United Kingdom, Austria, the Netherlands, and Switzerland) in which less than 20% of Engineering ISCED 5A graduates were women. Seven countries (Greece, Bulgaria, Portugal, the Former Yugoslav Republic of Macedonia, Lithuania, Estonia and Romania) had reached the point at which one third of women graduates in engineering were women – a level that the European Commission (2005) had suggested should be the target for 2010.
- In 2004, there were five countries (Romania, Turkey, Latvia, Portugal and Finland) that had a proportion of women full professors that was above 20%. For the remaining 25 countries, it seems unlikely that they will reach the 25% target recommended by European Commission (2005) by 2010: projections using the compound annual growth rate of each country show that, by 2010, only Slovakia, Iceland and Sweden (in addition to those five countries which were already at or above the 20% level in 2004) will have at least 25% of women professors at grade A (if their growth rate remains unchanged).
- The statistical analyses in this report show that the presence of certain equality measures is linked with the rates of participation of women in science. The proportion of women researchers is negatively correlated with the presence of the following measures: presence of a unit for women in science at the Ministry of Science and the existence of targets, quotas, mentoring schemes, special funding for women in science and paternity leave.
- Several hypotheses are assessed to account for the finding, none of which proves to be sufficient by itself to explain such an outcome, so the most plausible explanation is that a compound of factors contributes. Among these various factors suggested by the competing hypotheses, the fact that R&D employment in lower innovating countries tends to congregate in the relatively lower-paying government and higher education segments rather than in business enterprise R&D appears to be of some significance. Another factor that negatively influences women's representation in research appears to be the size of the country's business enterprise sector.
- In the light of this negative correlation one cannot expect that higher levels of science and technology arising out of greater economic development will solve problems of gender inequality – indeed left to 'market forces' the opposite would be the case. Thus attention to policy-making in this area becomes ever more essential as development proceeds, if gender and related gaps are not to widen. Indeed it is possible that what is being observed is a case of 'reverse causation' – that countries are compelled to introduce more policies oriented to equalizing gender-based inequity as their growth advances.

- However, the presence of several of these same measures (having a unit for women within the Ministry of Science, targets, special funding for women in science and paternity leave) is positively correlated with the proportion of women in professorial grades. Moreover, these measures are often implemented in pairs, where ‘targets’ and ‘equality plans’ are usually either present or absent together in a country. A similar observation of grouping can be made for ‘women and science units’ and ‘funding for women in science’, while mentoring schemes are usually found in countries with ‘university equality plans’. Finally, countries that have implemented mentoring schemes also often tend to have introduced funding for women in science
- One explanation for the correlation between the grouped presence of certain measures and the higher proportion of women professors is that the said measures are more likely to be implemented in countries where there is already a growing body of opinion on the issue of women and science and where there are already significant levels of women in lower grade positions. It is open to question as to how far policies and policy-making can initiate or sustain such a trend.
- The extent to which a country’s national system of innovation is developed is related to the degree to which it is committed to gender mainstreaming, as well as to the degree to which networks for women in science is elaborate. Countries that are Innovation Leaders and Innovation Followers are usually fully committed to gender mainstreaming and have detailed science-based networks. Catching-up countries mostly have partial mainstreaming policies and only more general women’s networks. Finally, mainstreaming policies and women’s networks are usually lacking in trailing countries and the Western Balkan countries.
- The data and the associated statistical analyses indicate that the cause of women’s under-representation in science is often located on the demand side, that is, it derives from employer policies and/or strategies. Therefore, in many cases the solution may depend more upon changing the culture and organisation of the science sector overall rather than on further policy development; this applies most particularly in industrial research and in the business enterprise sector.
- A more detailed understanding of why countries with a larger business enterprise research and development sector have fewer women researchers would be valuable, as the analyses suggest that many of the current supply-side policies are unlikely to change this position. This in turn suggests that there is a need to develop more effective demand-side policies in this area.
- The study has focused on national policies and strategies and it is possible that the types of measures that have a larger impact on women’s participation in science are to be found at a more local level of small-scale initiatives and contributors. Such analyses should be the scope of future work on measures for women in science. Equally, the analysis of this report is based on the presence or absence of policies and not on their quality, effectiveness or impact. This in turn makes it harder to find clear relationships between policies and outcomes. There remains a strong case for these policies to be evaluated at a national level and the outcomes of these evaluations to be fed into the analysis.
- At the same time, there is a need to look at the higher levels of policy-making of each country, as some fundamental perceptions of the gender division of labour are anchored in the basis of the welfare state models, since all models except the Scandinavian share the notion of a male breadwinner. There are however currently no harmonised data available that allow for this hypothesis to be analysed.

## **Availability of statistics**

- As emphasised in the next paragraphs, this study has highlighted the need for more comprehensive data on, firstly, the year of implementation of measures for gender equality in science, in each country; secondly, on women’s participation in the business enterprise sector, specifically at higher decision making levels; thirdly, on the participation of women in science and research funding; fourthly, on salaries of researchers and scientists at comparable levels across countries; and finally, on childcare provisions and time available to men and women scientists for childcare.
- Causality links are difficult to establish without time-series data, and the next step of this study would be to obtain information on year of implementation for each policy measure relating to women in science in each country.

- The problem of women's under-representation in science appears to be most acute in the business enterprise sector, where the lack of sex-disaggregated data is also the worst. Therefore, efforts must be made in that sector to gather more data, as preparation for taking more action. Moreover, existing measures such as quotas and targets are almost exclusively found in the government and higher education sectors. Consequently, it is recommended that such measures be implemented in the business and enterprise sector, as Spain has recently done for example.
- Seven European Union countries (Bulgaria, France, Ireland, Luxembourg, Malta, Romania and Spain) and three associated countries (Croatia, Israel and Turkey) as well as four Western Balkan countries (Albania, Bosnia and Herzegovina, Montenegro and Serbia) do not present any data on funding applicants and beneficiaries segregated by sex. These data are fundamental as the literature shows a gender bias in the current grant allocation systems internationally.
- Moreover, there is a need for harmonised data collected systematically across countries that examine the pay of researchers compared to salaries of other qualified professionals. As a way of allowing for differences in national tax and benefits systems, an indicator could be constructed which shows all researchers' average hourly income as a proportion of the average hourly income for all workers. An indicator for female researchers' pay could also be developed that compares their hourly income with all female workers' hourly wages; a parallel indicator could also be developed for male researchers.
- Finally, the statistical and policy analyses indicate that one of the main factors hindering women's participation in science is the unequal gender division of labour related to housework and family care. In order to achieve equal participation of women and men in science, fundamental work-life balance solutions for dual-career couples and single parents need to be implemented in the business community and society at large.

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# I. Introduction

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## I.1. Purpose of this report

The objective of this report is to benchmark the existing policies for women in science in the European Community Member States, associated countries<sup>3</sup> and Western Balkans<sup>4</sup>, as well as to highlight the best practices in these countries. In order to do so, the key policies and programmes relating to women and science, as well as the national statistical profiles, were identified and analysed with the intention of highlighting the main drivers of progress towards gender equality.

This report constitutes a follow-up to the work of the earlier Helsinki group report on women and science [1]; as such, it updates the information provided in the previous report covering the then EU-15 countries and associated countries; in addition, the current report provides information on the new associated countries, together with the Western Balkan countries that are being reported on here for the first time.

Importantly, this report analyses policy measures for gender equality in science within the framework of national systems of innovation; which to the best of the authors' knowledge has not previously been undertaken. Moreover, a set of new good practices is highlighted throughout the report in order to disseminate successful initiatives in various countries.

Finally, a series of recommendations is made with regard to the necessity to gather additional specific sex-disaggregated data in order to be able to compare countries and analyse the efficiency of the policy measures related to gender equality in science.

## I.2. Methodology

### I.2.1. Linking policies to data

Studying the efficiency of specific policies for the participation of women in science can be problematic since it is difficult to attribute changes in women's representation in science to specific policies and not to other factors in the social environment or to the evolution of society in general. As Mazur (2002:14<sup>5</sup>) suggests, 'many researchers who work on feminist policy formation recognise the problem of uniquely attributing changes in gender relations in women's status to a specific set of policies rather than to other explanatory factors unrelated to public policy'. To curtail this problem, public policies and programmes need to be analysed through studying their content, justifications, and the environment in which they operate, in a socio-economic context.

Institutional approaches examine political organisations and how they structure policy decisions and outcomes. The socio-economic approach focuses on how 'socio-economic factors determine the decision of public actors and affect policy outputs and outcomes' (John 1998:15<sup>6</sup>). This approach is useful to the current study because economic growth and social equity are the main contemporary rationales for promoting equal participation of women in science in most western industrialised countries (Congressional Commission on the Advancement of Women and Minorities in Science Engineering and Technology Development 2000<sup>7</sup>; Sevo 2005<sup>8</sup>; [2]). Moreover, the science policies can be directly linked with different social factors in each country and therefore their analysis necessitates a socio-economic approach.

Such approaches as used in John (1998) are employed to explain how policies are made and implemented, but they can also be applied to analyse the policy content and relations with the data on women's participation in science. Moreover, this combination of methods is appropriate to analyse how, why and when key policies have been developed and implemented. These approaches are particularly relevant in relation to the analysis linked to national systems of innovation, as presented in section 3.2.

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<sup>3</sup> Croatia, Iceland, Israel, Norway, Switzerland, and Turkey.

<sup>4</sup> Albania, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia, Montenegro, and Serbia.

<sup>5</sup> Mazur, A. (2002) *Theorizing Feminist Policy*, Oxford University Press, Oxford

<sup>6</sup> John, P. (1998) *Analysing Public Policy*, Pinter, London

<sup>7</sup> Congressional Commission on the Advancement of Women and Minorities in Science Engineering and Technology Development (2000) *Land of Plenty: Diversity as America's Competitive Edge in Science, Engineering and Technology*, Washington DC: Congressional Commission on the Advancement of Women and Minorities in Science Engineering and Technology Development.

<sup>8</sup> Sevo, R. (2005) *The Policy Push for Women in Science and Engineering*, ACM International Conference Proceeding Series; Article No. 3, Vol. 126, Baltimore

The methodology used to analyse policies for women in science, in addition to the institutional and socio-economic approaches, draws on statistical analyses of the data on percentages of women in science as well as presence of measures in a country. The methodology linked to these analyses is presented in the following section.

### **I.2.2. Statistical analyses methodology**

The statistical analysis section of the present report focuses on the four main questions:

- What relationships are there between women and science policy measures and women and science outcomes?
- What intermediate measures and socio-political indicators are linked to the proportions of researchers that are female?
- What intermediate measures and socio-political indicators are linked to the proportions of professors that are female?
- What interactions between institutions and policy measures could be detected?

Clearly, many other questions can potentially be asked of the data and, perhaps more importantly, of any future improved data collection exercises. However, it was felt that these questions were mostly of policy interest and could, at least partially, be addressed on the basis of the available data.

The data collected for this report were entered into an SPSS (Statistical Package for the Social Sciences) dataset (hereafter called the Measures for Women in Science database). A range of additional indicators were added from the Eurostat website. To make the data comparable with the educational and institutional data collected for this report, wherever possible data from the Eurostat website relating to 2005 were used. Where this was not possible due to missing data, then either more recent, or the latest available Eurostat data were used.

Based on the data, a series of hypotheses were developed and, to test these hypotheses, a range of more focused analyses were performed. The actual techniques applied are described in the following section, where the hypotheses themselves are also set out and the supporting or conflicting evidence is described. Additionally Annex 8 contains analytical details of the logistic and multiple regression results.

The statistical analyses performed in this report mostly indicate correlation (or co-occurrence) between variables, which means that there is a relation between these variables in that systematic changes in the value of one variable are accompanied by systematic changes in the other. For example, a correlation between the presence of targets in a country and the proportion of women in academia grade C means that a country with targets is very likely to have higher proportions of women in grade C than a country with no targets. Correlations do not necessarily indicate causality links, so in the previous example, it is not possible to discern whether it is the targets that are causing the increase of women's proportion in grade C. In order to demonstrate causality links, time variables are minimally needed (e.g. the year of implementation of a policy/measure, or the number of years during which it has been in place). Unfortunately, no such data are presently available for cross-country comparison (see Annex 9 for the limited available data); the development of statistical data over time is one of the main recommendations of this study for further work in this field.

### **I.2.3. Limitations of the methodology**

In this statistical methodology, policy measures in each country become either 'present', 'partially present' or 'absent', with no distinction as to the extent in which they are implemented. For example, a country such as Finland, which has had quotas for women in science for over 10 years, is treated the same as a country that has just recently implemented quotas for women in science, such as Spain. This treatment of these two countries as having similar quotas is clearly a strong and probably misleading assumption.

In addition to being treated ahistorically, the measures are also being treated as statistical variables, losing the complex dynamics and processes related to them as well as their contextual backgrounds. Despite these limitations, statistical tests to verify the accuracy of the results were performed and demonstrated that the study findings were consistent, reliable and had significant implications for policy making in relation to gender equality in science.

## 1.2.4. Availability of statistics

The limited availability of statistics is also a restriction on the analyses carried out in this report. Although data on women in science have recently been made more available in many European countries, especially thanks to the work of the Helsinki statistical correspondents, which led to the publication of *She Figures*<sup>9</sup> reports, there are still important gaps, especially at the higher levels of science such as decision-making and professorial ranks.

The point made by the ETAN group (Osborn 2000:11<sup>10</sup>) is still valid nowadays in many countries: ‘assessing the position of women is made difficult by the absence of reliable, accessible, harmonised data broken down by gender, and where appropriate, also by level’.

However, in this project, with the help of the Helsinki Group on Women and Science members, access was gained to internal national data so that the statistical analyses could be undertaken for the majority of countries, to represent the situation of women in science in Europe accurately. Nevertheless, there is a lack of data in essential areas, which limits the analyses reported here. In particular, many countries do not publish sex-disaggregated data on funding in science, which is fundamental as the literature shows a gender bias in the grant allocation system (see section 2.1.3). Moreover, data relating to the costs of national childcare provisions are available, but no data relating to the numbers of hours for which childcare are available. Since science careers are seldom part-time or flexible, an indicator of the level of provision of childcare or time available to women and men scientists for childcare would be of assistance.

## 2. The policy context

### 2.1. Science and the scientific infrastructure

This section explores the ways in which science differs from other academic and professional fields, in relation to women’s participation and representation. Science hereby refers to what the Frascati Manual defines as scientific and technological activities (OECD 1992, paragraph 16<sup>11</sup>): ‘...systematic activities which are closely concerned with the generation, advancement, dissemination and application of scientific and technological knowledge in all fields of science and technology’. Science, in this report, therefore includes the natural sciences as well as the social sciences.

#### 2.1.1. Science, economic growth and power

The under-representation of women in science is of special concern when the strategic importance of this field is considered; economic growth largely relies on innovation and knowledge, in particular, innovation and knowledge in science and technology (Corsi and Akhunov 2000<sup>12</sup>; Saperstein 2002<sup>13</sup>). Another specificity of the field of science is that it is, with technology, very closely linked with power: understanding and making science provides scientists with a certain power over the rest of the population (Bleier 1988<sup>14</sup>; Maynard 1997<sup>15</sup>). Since men have dominated the fields of science and technology for a long time, they have benefited from a significant amount of power over women.

‘To understand the different relation the sexes have to technology today, we need to recognise the relevance of technology to power and the emergence of power systems in the past [when] technological skills, defined as male property, were both a cause and an effect of male supremacy. Male power over technology is both a product of and a reinforcement for their other power in society’  
(Kirkup and Keller 1992:196<sup>16</sup>).

<sup>9</sup> European Commission (2003a and 2006) *She Figures 2003, She Figures 2006*, Women and Science, Statistics and Indicators, European Communities, Brussels.

<sup>10</sup> Osborn, M., Rees, T., Bosch, M., Herrmann, C., Hilden, J., Mason, J., McLaren, A., Palomba, R., Peltonen, L., Vela, C., Weis, D., Wold, A. and Wennerås, C. (2000) *Science Policies in the European Union: Promoting excellence through mainstreaming gender equality*. A report from the ETAN Network on Women and Science, Luxembourg: Office for Official Publications of the European Communities, online <http://www.cordis.lu/improving/src/hp-women.html>, accessed 20/06/06

<sup>11</sup> OECD, Frascati Manual 1992: *Proposed Standard Practice for Survey of Research and Experimental Development*, September 17, 1992

<sup>12</sup> Corsi, C. and Akhunov, A. eds. (2000) *Innovation and Market Globalisation, The Position of SMEs*, IOS Press, NATO Science Series

<sup>13</sup> Saperstein, J. and Rouach, D. (2002) *Creating Regional Wealth in the Innovation Economy: Models, Perspectives, and Best Practices*, Financial Times Prentice Hall

<sup>14</sup> Bleier, R. ed. (1988) *Feminist Approaches to Science*, Pergamon Press, Oxford

<sup>15</sup> Maynard, M. ed. (1997) *Science and the Construction of Women*, UCL Press, London

<sup>16</sup> Kirkup, G. and Smith Keller, L. eds. (1992), *Inventing Women, Science, Technology and Gender*, Polity/Open University, Cambridge

This connection within science, economic growth and power is relevant to the analyses carried out in this report, as the level of development of national systems of innovation, as well as salaries and R&D budgets are all directly linked to participation of women in science, as suggested in section 3.2.

### 2.1.2. Certain fields of science as ‘masculine’

Some researchers have argued that the ‘harder’ fields of science are masculine in terms of their culture, practice and theorising (Benston 1992<sup>17</sup>; Birke 1994<sup>18</sup>; Maynard 1997<sup>19</sup>; Arnot et al. 1999<sup>20</sup>). Indeed, the supposed attributes of pure science: ‘rational’, ‘limited’, ‘straight’, are linked with what is understood as ‘masculine’ and opposed to ‘feminine’ characteristics such as ‘emotional’, ‘curved’, ‘nurturing’, etc. (Schiebinger 1989<sup>21</sup>). As Fox Keller comments, ‘to learn to be a scientist is to learn the attributes of what culture calls masculinity’ (1992:47<sup>22</sup>). Maynard (1997:1) suggests that because some sciences are regarded as masculine, women’s studies have tended to dissociate from the latter, and adds that maybe the ‘anti-science feeling that seems to exist in women’s studies ... explains why science is still so under-represented [in terms of women]’. The fact that some sciences are seen as ‘masculine’ is criticised because it implies an exclusion of all that is ‘feminine’ (or supposed to be so). According to Phipps (2005:30<sup>23</sup>), ‘The issue of women’s participation in SET can be understood in terms of conflicts between discourses of femininity and those of SET’ (see also Haraway 1989<sup>24</sup>; Henwood 1998<sup>25</sup>; Faulkner 2000<sup>26</sup>; Gilbert 2001<sup>27</sup>).

This context is one of the elements that set out to explain why women are more/less equally represented in certain fields of science compared to other fields (in engineering for example, as illustrated in section 3.1). Moreover, the fact that certain fields of science are perceived as more masculine than others is also relevant in relation to the hypothesis that women researchers are concentrated in areas of R&D that are more ‘feminine’ (see section 3.2). Finally, the perception of certain fields of science as masculine has implications for policy making at lower stages of science education such as primary and secondary levels, which is not within the scope of this report, but is nevertheless of crucial importance to tackling gender equality in science (NSF 2006<sup>28</sup>).

#### Good example of improved gendering of teaching materials in Turkey.

In 2001, the Human Rights in Textbooks project of the Turkish Academy of Sciences was carried out jointly with the History Foundation and the Human Rights Foundation of Turkey, and was financially supported by the European Union and the Open Society Institute. The project led to a report as well as recommendations which were submitted to the Ministry of Education, and included express recommendations regarding the gender balance in school textbooks.

### 2.1.3. Science and Excellence

Many authors have suggested that the existing system of definition and evaluation of scientific excellence is not as gender-neutral as it claims to be. Cole and Singer (1991<sup>29</sup>) found that differences of scientific productivity between men and women resulted from what they term ‘kick-reactions’: in scientific careers, there are a series of ‘kicks’ (negative, positive, neutral) that are followed by ‘reactions’ (negative, positive, neutral). These add up over time: women are more likely to be rejected for grants (‘negative kick’), which in turn affects decisions regarding the award of tenure; further negative kicks and reactions can follow and influence women’s productivity in comparison with men’s. Likewise, Wennerås and Wold (1997<sup>30</sup>) published analyses

<sup>17</sup> Benston (1992) *Women’s voices/ Men’s voices: Technology as Language*, in Kirkup, G. and Smith Keller, L. eds (1992), *Inventing Women, Science, Technology and Gender*, Polity/Open University, Cambridge

<sup>18</sup> Birke, L. (1994) *Interventions in hostile territory*, in Griffins, G., Hester, M., Rai, S. and Roseneil, S. (eds.) *Stirring It: Challenges for Feminism*, London, Taylor & Francis

<sup>19</sup> Maynard, M. ed. (1997) *Science and the Construction of Women*, UCL Press, London

<sup>20</sup> Arnot, M., David, M. and Weiner, G. (1999) *Closing the Gender Gap: Postwar Education and Social Change*, Cambridge: Polity Press

<sup>21</sup> Schiebinger, L. (1989) *The Mind Has No Sex? Women in the Origins of Modern Science*, Harvard University Press, London

<sup>22</sup> Fox Keller, E. (1992) *How Gender Matters, or, Why it’s so Hard for us to Count Past Two*, in Kirkup, G. and Smith Keller, L. eds (1992), *Inventing Women, Science, Technology and Gender*, Polity/Open University, Cambridge

<sup>23</sup> Phipps, A. (2005) *Women’s Education in Science, Engineering and Technology: Researching the Arena of Activity*, Unpublished PhD thesis, Faculty of Education, University of Cambridge

<sup>24</sup> Haraway, D. (1989) *Primate Visions: Gender, Race and Nature in the World of Modern Science*, London: Routledge

<sup>25</sup> Henwood, F. (1998) ‘Engineering difference: discourses on gender, sexuality and work in a college of technology’, *Gender and Education* 10(1), pp. 35-49

<sup>26</sup> Faulkner, W. (2000) ‘The power and the pleasure: How does gender ‘stick’ to engineers?’, *Science, Technology and Human Values* 25(1), pp. 87-119

<sup>27</sup> Gilbert, J. (2001) ‘Science and its ‘Other’: looking underneath ‘woman’ and ‘science’ for new directions in research on gender and science education’, *Gender and Education* 13(3), pp. 291-305

<sup>28</sup> National Science Foundation (2006) *New Formulas for America’s Workforce 2 – Girls in Science and Engineering*, online, <http://www.nsf.gov/pubs/2006/nsf0660/nsf0660.pdf>, accessed 23/11/07

<sup>29</sup> Cole, J. R. and Singer, B. (1991) *A theory of limited differences: Explaining the productivity puzzle in science*. In Zuckerman, H., Cole, J. R. and Brier, J. T. (eds.), *The Outer Circle: Women in the Scientific Community* (pp. 277-310). New York: W. W. Norton & Company.

<sup>30</sup> Wennerås, C. and Wold, A. (1997) *Nepotism and Sexism in Peer-Review*, *Nature*, Vol. 387, 22 May.

showing that ‘peer-reviewers overestimated male achievements and/or underestimated female performance’ in the grant awards of Sweden’s Medical Research Council. Similarly, a more recent study by Bornmann et al. (2007<sup>31</sup>) showed ‘evidence of robust gender differences in grant award procedures ... among grant applicants, men have statistically significant greater odds of receiving grants than women by about 7%’. Even where the grant-awarding processes are gender-neutral, women are less likely to apply for funding, reflecting deep-rooted differences in grant application behaviour, and they are also less likely to be eligible to apply for such funding because they are in fixed-term positions (Blake and La Valle 2000<sup>32</sup>).

‘Gender bias can occur (1) in the characterisation of scientific excellence, (2) in the criteria used to assess it, (3) in the choice of the explicit and implicit indicators for scientific excellence, (4) in the way the criteria are applied to men and women, (5) in the failure to integrate women in scientific networks, and (6) in the procedures through which criteria are applied to people’ (European Commission 2004<sup>33</sup>).

This gender bias in scientific excellence is one of the elements that prevent equal representation of women at all levels of science, and is an important reason why some countries have elected to implement targets and quotas.

### 2.1.4. Working in science

The nature and organisation of science creates obstacles to the participation of women, which are not necessarily found in other fields<sup>34</sup>. The European Commission working document on women and science ([2]:4) reported that ‘scientists have the longest period of qualification, high levels of career insecurity and international mobility as a key element of their careers’. In addition to this, firstly, women lose out financially in relative terms when entering science as the gender wage gap is largest in male-dominated occupations<sup>35</sup>. Secondly, the structure of science funding is highly dependent on external sources, with grants normally being allocated to full-time positions, making it very difficult for part-time work. Thirdly, in certain fields of science, experiments often have to be run and supervised during long and/or outside normal working hours, which can interfere with the scientists’ other outside responsibilities. Fourthly, science and technology are changing at ever-increasing speed, which makes it difficult for scientists to re-enter these fields after taking time out for their families, as their knowledge may become out of date after even short periods away from work.

Moreover, especially in the private sector, science is carried out in large organisations, often located in more remote areas, which can make it difficult to reconcile family responsibilities and work. By comparison, in professions such as accountancy for example, career opportunities can be found in most large towns. Finally, in certain fields of science, work is often performed in laboratories which are physically separated from departments where more women are present, such as the secretariat or administration, therefore further isolating the already few women scientists<sup>36</sup>.

<sup>31</sup> Bornmann, L., Mutz, R. and Daniel, H.-D. (2007) *Gender differences in grant peer review: A meta-analysis*, accepted for publication by the *Journal of Infometrics*, online, <http://arxiv.org/ftp/math/papers/0701/0701537.pdf>, accessed 17/10/07.

<sup>32</sup> Blake, M. and La Valle, I. (2000) *Who Applies for Research Funding?: Key factors shaping funding application behaviour among women and men in British higher education institutions*, A NatCen report for the UK Research Councils and the Wellcome Trust, <http://www.wellcome.ac.uk/assets/wtd003209.pdf> accessed 29/10/07.

<sup>33</sup> European Commission (2004) *Gender and Excellence in the Making*, Directorate-General for Research, Brussels

<sup>34</sup> European Commission (2006a) *Women in Science and Technology – The Business Perspective*, Brussels, European Communities.

<sup>35</sup> Löfström, A. (2004) *Occupational segregation and its consequences*, 25th CEIES seminar: Gender Statistics – Occupational Segregation: extent, causes and consequences.

<sup>36</sup> Ellis, P. (2003) Women in Science-Based Employment: What Makes the Difference?, *Bulletin of Science Technology Society*: 23; 10, online, <http://bst.sagepub.com/cgi/content/abstract/23/1/10>, accessed 11/10/07

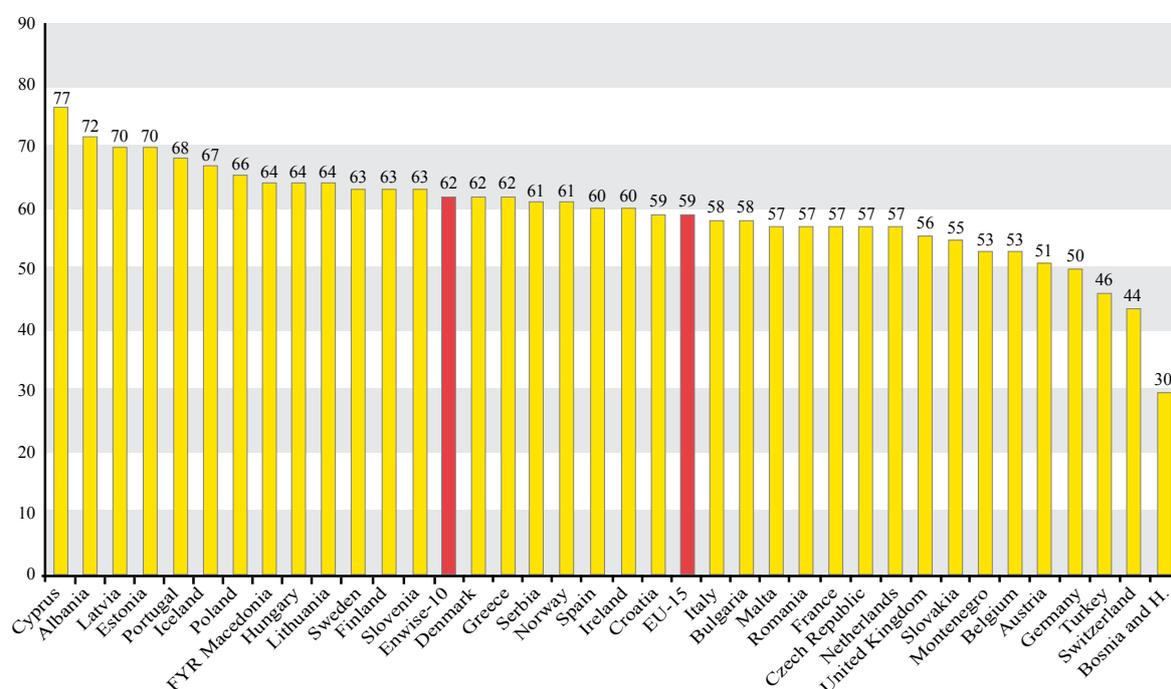
### 3. Results by grade

The situation of women in science varies depending on their position in the science ladder: at higher levels in the hierarchy, from students to researchers to professors, the proportion of women decreases considerably. The findings of the present study, as set out in the following sections, illustrate this phenomenon, which is often referred to as the ‘leaky pipeline’ and which has been the subject of substantial commentary and debate within the women in science literature.

#### 3.1. Graduates

In the countries studied in this report, the proportion of women ISCED 5A graduates in all fields was at least 50% in 2004, except in Turkey, where the proportion was 46%, Switzerland, where it was 44%, and Bosnia and Herzegovina, where it was just 30%. This is illustrated in Figure 1 below.

Figure 1: Percentage of women ISCED 5A graduates in 2004



FR, FI, AL, MT: 2003

Source: compiled from Eurostat ‘Graduates in ISCED 3 to 6 by field of education and sex’ data.

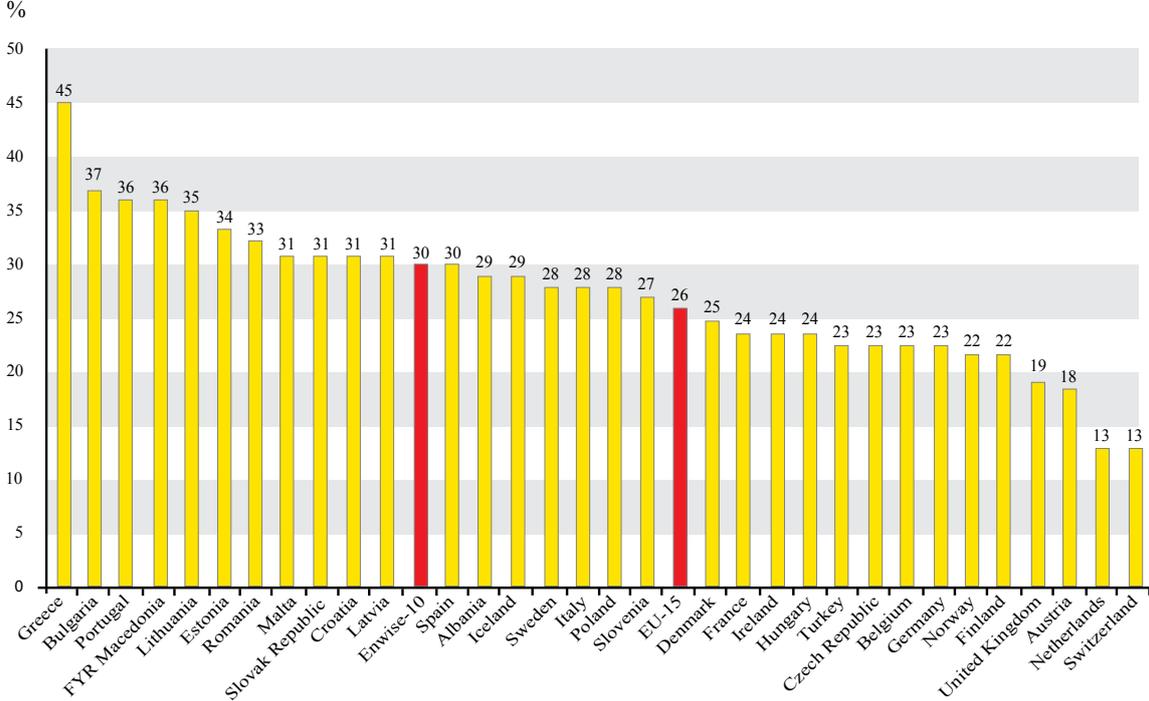
However, in a very ‘masculine’ field such as engineering, far fewer women are represented; well under half of all graduates (see Figure 2). This finding therefore supports the European policy priority stating that: ‘objectives need now to be more narrowly focused, to concentrate essentially on certain disciplines or fields’ (European Commission 2005:13). The main fields of concern identified by the Commission are ‘engineering, manufacturing and construction’ as well as ‘science, mathematics and computing’ (according to the categories defined in Eurostat<sup>37</sup>).

In 2004, only seven countries (Greece, Bulgaria, Portugal, the Former Yugoslav Republic of Macedonia, Lithuania, Estonia and Romania) had reached the point at which one third of women graduates in engineering were women – a level that the European Commission [2] had suggested should be the target for 2010.

<sup>37</sup> Andersson, R. and Olsson, A-K. (1999) *Fields of Education and Training*, Manual, Eurostat, available online: [http://circa.europa.eu/Public/irc/dsis/edtc/library?l=/public/measuring\\_lifelong/classifications/isced97\\_fields/isced97\\_fields\\_manual/\\_EN\\_1.0\\_&a=d](http://circa.europa.eu/Public/irc/dsis/edtc/library?l=/public/measuring_lifelong/classifications/isced97_fields/isced97_fields_manual/_EN_1.0_&a=d), accessed 03/07/07

As Figure 2 also shows, in 2004, there were still four countries (United Kingdom, Austria, the Netherlands, and Switzerland) in which less than 20% of Engineering ISCED 5A graduates were women.

**Figure 2: Percentage of women ISCED 5A graduates in engineering, manufacturing and construction**



FR, FI, AL, MT: 2003

Source: compiled from Eurostat 'Graduates in ISCED 3 to 6 by field of education and sex' data.

In the statistical analysis, the proportion of women ISECD 6 graduates was entered into a calculation to see whether the supply of PhDs has any impact on the proportion of women researchers. The idea here is to evaluate whether a greater supply of women scientists (PhDs) will lead to and 'push' more women into research and higher levels of science. The opposite of this phenomenon is the demand 'pull', where the industry, the research centres or the universities need or demand more women and therefore 'pull' them into these scientific institutions.

The analysis indicates that, for the Business Enterprise Sector (BES), the proportion of women ISCED 6 graduates is not linked with the proportion of women researchers. However, in the Higher Education Sector (HES), the proportion of women ISCED 6 graduates is indeed linked with the proportion of women researchers.

These results indicate that two distinct patterns are at play in these two sectors. In the BES, this suggests that the proportion of women in research is demand-led by the sector, rather than supply-driven. Therefore, there are only as many women in BES as the sector demands (which, in most cases, is not much). By comparison this suggests that in the HES the proportion of women in research is to a larger degree supply-led. This is not surprising, as possessing a PhD is a usual criterion of entry into higher education professions. Therefore, if the problem of low representation of women in research in the BES is to be tackled, it has to be done so from the demand side (e.g. by changing organisational behaviour in the business and enterprise sector).

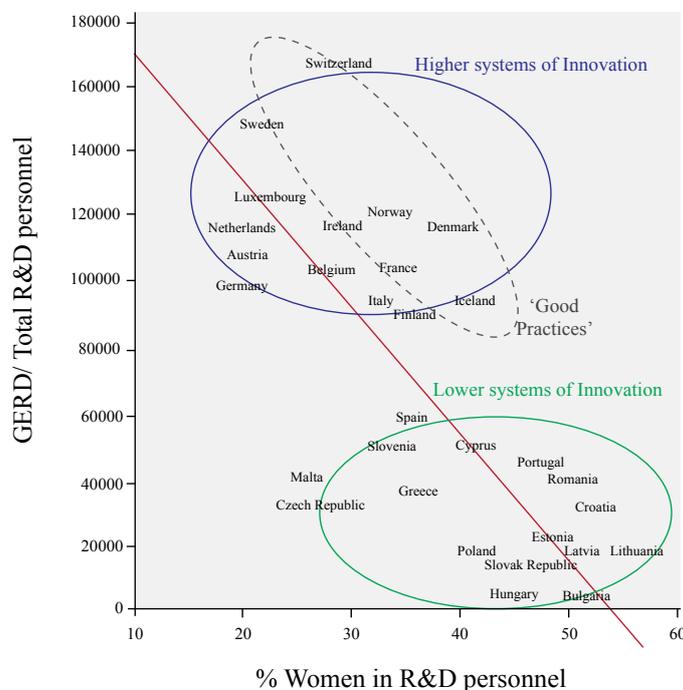
### 3.2. Researchers

The statistical analyses show that the proportion of women at research level is negatively linked with the presence of certain policies or measures for women in science (presence of a unit for women in science at the Ministry of Science, targets, quotas, mentoring, special funding for women in science and paternity leave). In other words, the countries which have high levels of women researchers are less likely to have policies for women in science than other countries with low levels of female researchers. There are various explanations for this, and some of these explanations are discussed in the following sections.

### 3.2.1. Gross domestic expenditure on R&D spent per R&D personnel

Figure 3 below illustrates the gross domestic expenditure on R&D (GERD) per R&D personnel by countries. R&D personnel includes Researchers, Technicians/equivalent staff and other supporting staff as defined in the Frascati Manual (OECD 2002<sup>38</sup>), in all fields.

**Figure 3: Percentage of women in total R&D Personnel relative to the amount of Gross domestic expenditure on R&D (GERD) spent per R&D personnel (in euro), in 2004.**



SE, LU, NL, DE, BE, NO, EL, DK, IS, PT: 2003; LT, LV, SK, SI, CZ, MT: 2005.

Percentages of women in R&D personnel are in Full Time Equivalents except: HG, PL, FI, NO, FR, CH, NL and LU which are in Head Counts.

Source: compiled from Eurostat R&D personnel and Gross domestic expenditure on R&D data.

Firstly, the line of best fit shows a strong negative linkage between a country's expenditure on R&D and their proportion of women in science. The distance of a country from the line of best fit indicates the loss/gain of access and/or control over R&D expenditure, in the same way in which the 'honeypot' indicator did in the Enwise report [3]. If a country is below the line, it shows that there are fewer women in R&D than the R&D expenditure per researcher would predict in that country.

Secondly, the countries in Figure 3 can be clustered into two main groups: the 'Higher Systems of Innovation'<sup>39</sup> group (in the blue circle), which includes what MERIT et al. (2006<sup>40</sup>) define as 'Innovation Leaders' (Sweden, Switzerland, Finland, Denmark and Germany) and 'Innovation Followers' (Iceland, France, Netherlands, Belgium, Austria and Ireland); and the 'Lower Systems of Innovation' group of countries (in the green circle) which includes 'Catching-up' countries (Slovenia, Czech Republic, Lithuania, Portugal, Poland, Latvia, Greece and Bulgaria) as well as the

A pattern emerges in Figure 3 where the highest proportions of women are found in the countries with the lowest R&D expenditure per researcher and the lowest proportions of women are in the sectors with the highest R&D expenditure per researcher (see text for possible explanations).

<sup>38</sup> OECD (2002) *Frascati Manual 2002 The Measurement of Scientific and Technological Activities, Proposed Standard Practice for Surveys on Research and Experimental Development*, OECD Publishing.

<sup>39</sup> "Industrial innovation includes the technical, design, manufacturing, management and commercial activities involved in the marketing of a new (or improved) product or the first commercial use of a new (or improved) process or equipment" (Chris Freeman (1982) *The economics of industrial innovation*, 2nd edition, Frances Printer, London).

<sup>40</sup> Maastricht Economic Research Institute on Innovation and Technology (MERIT) and the Joint Research Centre (Institute for the Protection and Security of the Citizen) of the European Commission (2006) *European Innovation Scoreboard 2006, Comparative Analysis Of Innovation Performance*, online, [www.proinno-europe.eu/doc/EIS2006\\_final.pdf](http://www.proinno-europe.eu/doc/EIS2006_final.pdf), accessed 08/08/07

'Trailing' ones (Estonia, Spain, Italy, Malta, Hungary, Croatia and Slovakia). Within this categorisation system, the only country that constitutes an exception to this pattern is Italy, which appears in the 'High systems of Innovation' group (in the blue circle) although it is considered a 'Trailing' country in the MERIT study. This rather strange classification may be due to certain shorter-term weaknesses in the Italian economy during the period of assessment. Hereafter we reclassify Italy to the 'Innovation Followers' group.

Due to the absence of data, most Western Balkan countries are not represented in the graph. However, they would probably be located in the lower systems of the innovation group. This is because there are few infrastructures in these countries for transfer and diffusion of technologies, linkages between R&D sector and industry, promotion of entrepreneurship, S&T policy development and promotion of public S&T in general.

Finally, Figure 3 also shows that countries with high systems of innovation such as Switzerland, Norway, Denmark, Iceland, and to some extent Ireland (in the black dash circle), have substantially higher proportions of women in R&D than their R&D expenditure per R&D personnel would predict. Therefore, looking closely at the national policies of these countries could indicate 'good practices'. Yet, a careful study of these policies does not indicate a common pattern or difference from other countries. One possible explanation could be that Denmark, Norway and Iceland are Scandinavian social democracies, where the idea of the 'male breadwinner' is not as strong as in the rest of Europe (Esping-Andersen 1990<sup>42</sup>). However, this argument is limited by the notable absence of Sweden in this group. Other countries from the lower systems of innovation group have higher proportions of women in R&D than their R&D expenditure per R&D personnel would lead to indicate. Still, this apparently virtuous position might not be a consequence of desirable policies/measures, as shown below.

Another apparently common feature of the countries with a higher than expected proportion of women researchers is a generally higher rate of female labour market participation. This factor is examined in more detail later. On the other hand, a more complex pattern linked to each country's national system of innovation might explain why their women's employment level is above the norm.

### 3.2.2. Hypotheses to explain the link between women in R&D and GERD

There are six hypotheses that might be used to explain the negative link between the proportion of women in R&D and the level of development of the country's national system of innovation: lower salaries of women researchers, lower-paid sectors of R&D, 'feminine' sectors of R&D, higher overall levels of employment for women, a male 'brain drain', and combinations of these.

#### A - The 'lower salaries' hypothesis

The European Commission has reported that the higher the proportion of women in a sector, the lower the hourly earnings of both men and women within that sector [3]. This barrier discourages men from entering professions that are currently female-dominated, or encourages them to leave such areas because they are no longer sufficiently attractive. The resulting hypothesis is that there are more women in R&D in countries in which the salary of R&D personnel is low compared to similar professions or relative to the average income. For example, the Enwise report [3] presented the example of Lithuania in 2001, where a researcher's earnings were equivalent to the average salary (between EUR 280 and EUR 340 at the time).

The statistical analyses show that R&D expenditure per R&D personnel is closely linked with Purchasing Power Parity (PPP) salaries. This suggests that R&D personnel tend to have higher earnings in countries where the GERD per R&D personnel level is high. It would of course be preferable to have direct measures of

'Innovation Leaders' are the countries in which the Summary Innovation Index (SII, made from five composite indices measuring five key innovation dimensions: Innovation drivers, Knowledge creation, Diffusion, Applications and Intellectual property) scores well above that of the EU-25 and the other countries; 'Innovation Followers' have SII scores below those of the Innovation Leaders but above that of the EU-25 and the other countries; 'Catching-up countries' have SII scores well below that of the EU-25 and the innovation leaders, but with faster than average innovation performance improvement; and 'Trailing' countries have SII scores well below that of the EU-25 and the Innovation Leaders, and innovation performance growth which is either below or only just above that of the EU-25 (MERIT et al. 2006<sup>41</sup>).

<sup>41</sup> Maastricht Economic Research Institute on Innovation and Technology (MERIT) and the Joint Research Centre (Institute for the Protection and Security of the Citizen) of the European Commission (2006) *European Innovation Scoreboard 2006. Comparative Analysis Of Innovation Performance*, online, [www.proinno-europe.eu/doc/EIS2006\\_final.pdf](http://www.proinno-europe.eu/doc/EIS2006_final.pdf), accessed 08/08/07

<sup>42</sup> Esping-Andersen, G. (1990), *Three worlds of welfare capitalism*, Polity press, Cambridge.

male and female researcher salaries. A recent Commission funded exercise has estimated male and female researcher salaries<sup>43</sup>. Unfortunately for our purposes the countries with low R&D expenditure per researcher also have relatively small samples in this exercise. This means that critical values for our analysis are based on the weakest evidence. However, given this concern, the available evidence in this report reinforces the analyses carried out above. This emphasises the importance of harmonised data on researcher salaries and other overheads in terms of a clearer understanding of the relationships between salaries on offer and the proportion of researchers that are female.

The available data from the Luxembourg Income Study (LIS<sup>44</sup>) were also studied for this report, but the sample sizes of the household income surveys did not allow robust comparable data to be derived. As a way of allowing for differences in national tax and benefits systems, an indicator could be constructed which shows all researchers' average hourly income as a proportion of the average hourly income for all workers. An indicator for female researchers' pay could also be developed that compares their hourly income with all female workers' hourly wages; a parallel indicator could also be developed for male researchers.

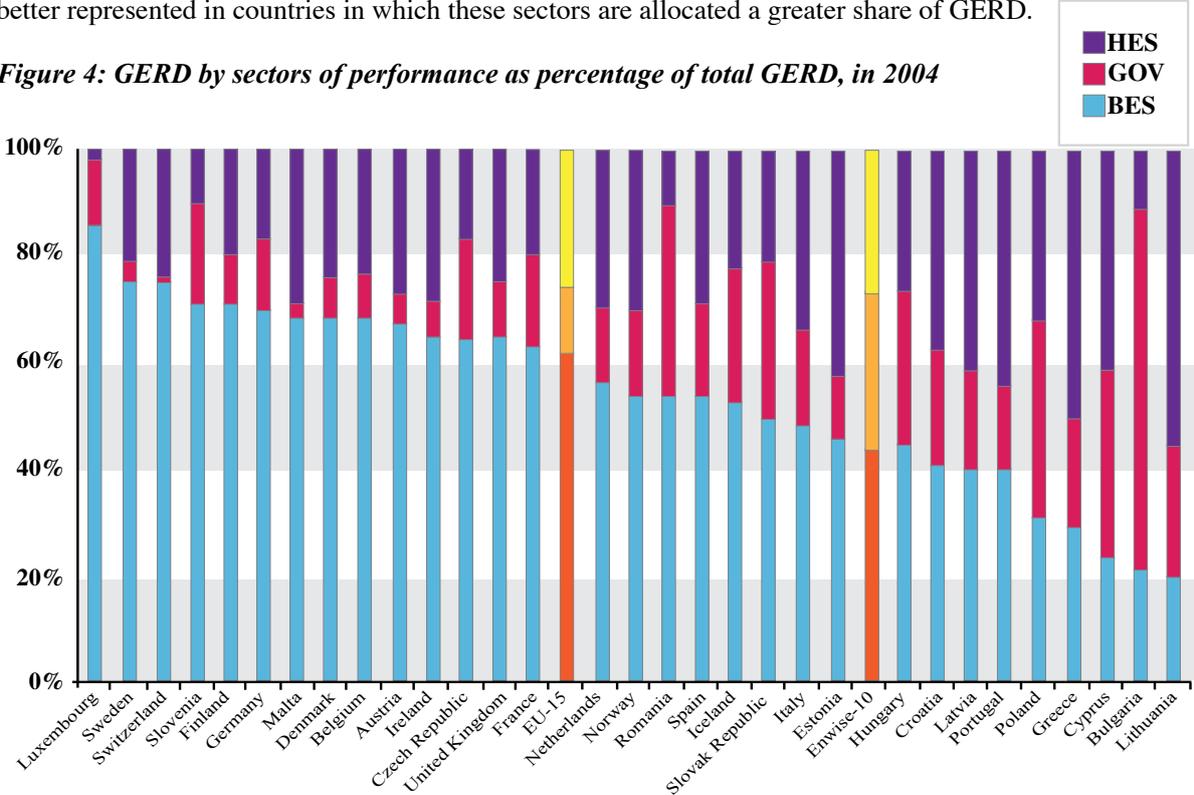
Despite the limitations on data availability and methodology, it appears in this study that hypothesis A is verified: there are more women researchers in countries where the salaries are lower (in science and in general).

**B - The 'lower paid sectors' hypothesis**

Women researchers appear to be more likely to work in sectors with lower R&D expenditure such as the Higher Education Sector (HES) and the Government Sector (GOV). One explanation is that these sectors are traditionally regarded as providing safer and more stable occupations, even though the salaries are lower. Since these sectors also have a lower R&D expenditure per researcher this could partially explain the overall pattern described above.

Figure 4 shows that in Enwise countries and some of the other countries situated in the lower system of innovation group (Greece, Cyprus and Portugal), the BES gets a much smaller share of GERD compared with the EU-15 countries, and the GOV and HES sectors get a relatively bigger share. As more women are employed in these two sectors than in the business enterprise sector, this explains why they are consequently better represented in countries in which these sectors are allocated a greater share of GERD.

**Figure 4: GERD by sectors of performance as percentage of total GERD, in 2004**



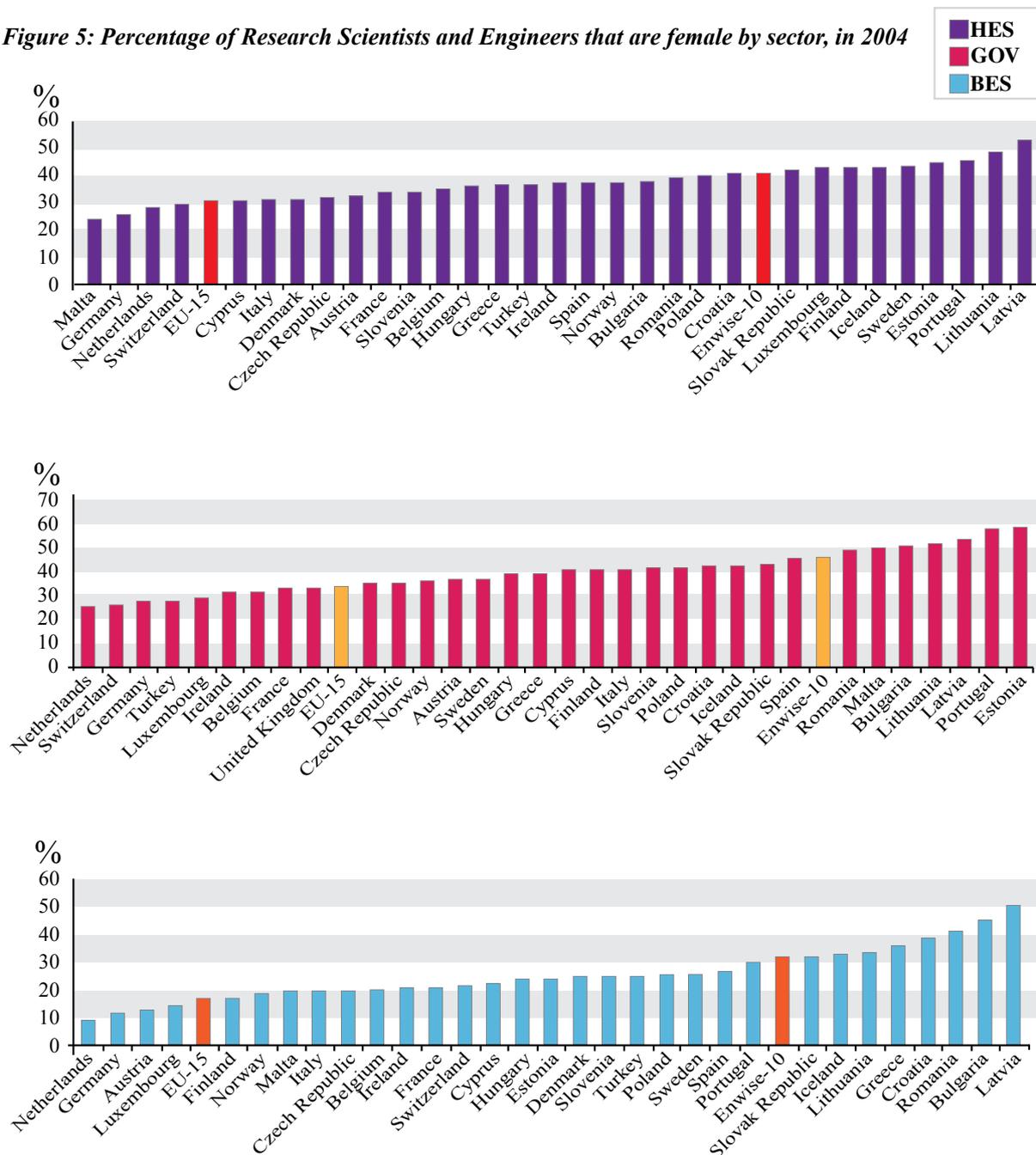
Source: compiled from Eurostat R&D expenditure data.

<sup>43</sup> European Commission (2007) *Remuneration of Researchers in the Public and Private Sectors*, Service Contract REM 01 Final Report. [http://ec.europa.eu/eracareers/pdf/final\\_report.pdf](http://ec.europa.eu/eracareers/pdf/final_report.pdf) downloaded 20/11/07  
<sup>44</sup> See <http://www.lisproject.org/>

Figure 5 shows that generally either the government or the higher education sector has the highest proportion of female researchers. The government sector is more likely to have better female representation; indeed, in many countries women constitute over half of the researchers in the government sector. Moreover, countries such as Latvia and Bulgaria, where women are better represented in BES R&D, invest less in that sector than they do in the other sectors.

Therefore the hypothesis B that countries with lower innovation systems invest their R&D budget in lower paid sectors where women tend to be more present is verified, subject to data and methodological limitations.

Figure 5: Percentage of Research Scientists and Engineers that are female by sector, in 2004

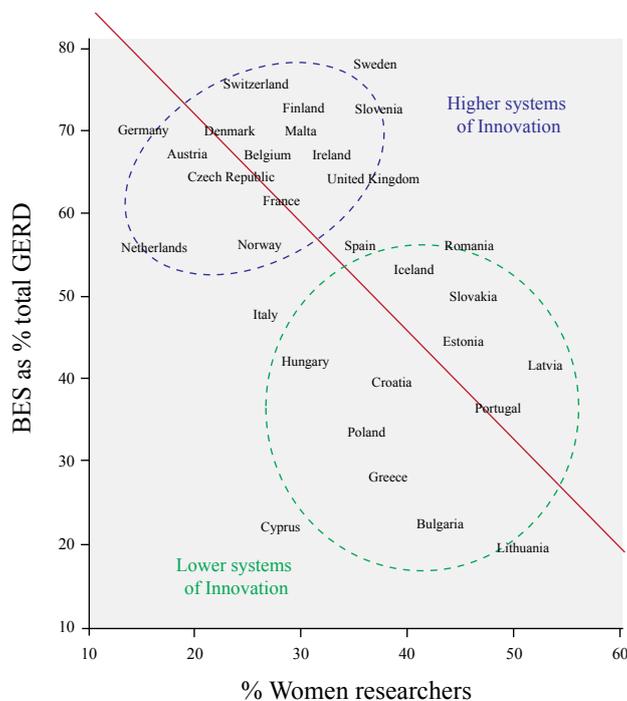


Source: Compiled from Eurostat R&D personnel data.  
 TR: 2002; EL, IS, PT, SE, DK, NO, LU, DE, NL: 2003.

The statistical analyses of the size of the different R&D sectors in relation to the proportion of women researchers suggest that the main determinant of the proportion of female researchers in a country is the relative size of its business enterprise R&D sector. This means that the bigger the BES R&D sector of a country, the less likely it is that this country will have higher proportions of women researchers, as illustrated

in Figure 6. Moreover, it suggests that in countries where research is focused on the private sector, there are also relatively fewer women researchers than in countries where research is focused on the public sector. This is not surprising in a sense, as much of the gender equality promotion in Europe, especially nationally, has been thus far directed to academic settings, for several reasons. One of the reasons is that many universities in Europe are public and Ministries of Education and Science can influence them better than they can influence the business sector and industrial research.

**Figure 6: Percentage of women researchers relative to the percentage of GERD spent on the business enterprise sector, in 2004.**



Source: compiled from Eurostat R&D personnel and Gross domestic expenditure on R&D data.

Equally, the relative size of the business R&D sector is an important determinant of whether or not the country's R&D system is considered a higher or lower system of innovation (the exceptions in Figure 6 being Malta, Iceland, and to a certain extent Italy, which are not located in their respective innovation groups).

These results are consistent with previous findings that have highlighted the fact that the under-representation of women in science is even worse in the industrial sector<sup>45</sup>. Such findings led the European Commission [2] to recommend that by 2010, the proportion of women in industrial research should reach at least one third of the industrial research and development workforce and the total number of female researchers should be doubled.

### C- The 'feminine areas of R&D' hypothesis

The third hypothesis that has been proposed as a way of explaining why the proportion of women researchers is higher in countries that have lower expenditures on R&D is based on the argument that women are more attracted to certain areas of R&D that are more likely to be both the focus for R&D activity in countries with low systems of innovation, and areas that require low levels of funding. Thus, in countries with low systems of innovation, research and development activity is mainly concentrated in what are viewed as more traditionally 'feminine' areas (biology, social services, health, etc.) while in countries with high systems of innovation, R&D is concentrated in more 'masculine' areas (defence, industrial production and technology, etc.).

'In the patriarchal value system, high R&D expenditure, often concentrated in the hard science domains, equates with high prestige and investment. Therefore, there is a triangular relationship between gold, glory and gender, in which high-expenditure areas dominate and social and low cost sciences are under-valued. Nearly half of the total R&D expenditure was performed by the private sector where only 20% of the researchers worked (18% of researchers in BES being women)' ([3]:79).

<sup>45</sup> European Commission (2003a) She Figures 2003, Women and Science, Statistics and Indicators, European Communities, Brussels

The table in Annex 6 indicates the areas in which each country spends its government R&D budget. According to the data in this table, defence (a ‘masculine’ field) is the area in which Spain and the UK invest most of their government R&D budget; however, both these countries have a relatively high proportion of women researchers (over 30%). Additionally, countries that have either high (Greece, Portugal and Sweden) or low (the Netherlands, Germany and Austria) proportions of women researchers spend most of their government funded R&D spending on ‘research financed from General University Funds (GUF)’, which is considered a ‘feminine’ research area.

It appears that the ‘feminine sectors’ hypothesis C is not supported by the available data, at least at this level of aggregation. Moreover, the statistical analysis shows no linkage between the proportion of women researchers and the field in which R&D is carried out.

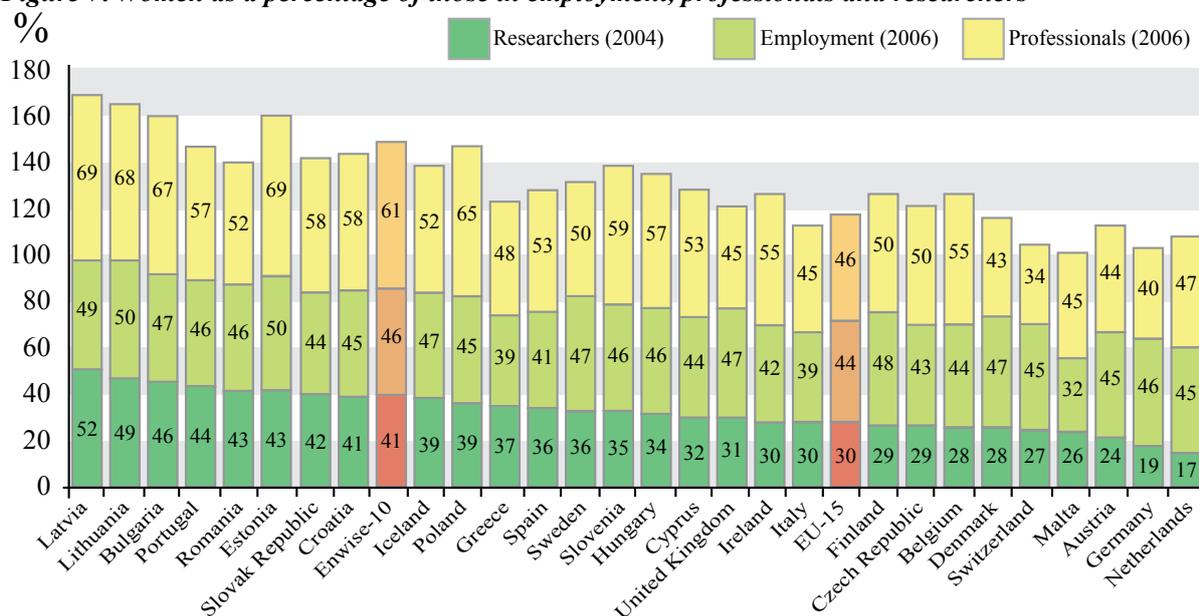
#### D- The ‘higher women employment rates’ hypothesis

One of the explanations proposed by the Enwise report for the higher presence of women researchers in some Enwise countries is that the proportion of women in employment and who are professionals<sup>46</sup> is generally higher in these countries than in the rest of Europe.

Figure 7 shows that the percentage of women researchers generally matches the proportion of women in employment generally. The pattern also appears to be clearest at the low end of the scale, with countries with a low female labour market participation rate also having a low proportion of women researchers. Interestingly, in all the countries there is a higher proportion of professionals that are female than those in employment or those working as researchers.

This ‘higher employment rates of women’ hypothesis is also confirmed by statistical analyses showing that there is a positive link between the level of female labour market participation between the ages of 25 and 50, and the proportion of women researchers. This means that there are higher proportions of women researchers in countries where there are also higher proportions of women in employment.

**Figure 7: Women as a percentage of those in employment, professionals and researchers**



HR, IS, CH: 2005 for Professionals and Employment; BE, NO, SE, PT, IS, EL, DE, DK, NL: 2003 for Researchers; LT, LV, SK, SI, CZ, MT: 2005 for Researchers.

Source: compiled from Eurostat R&D personnel Employment data and Eurostat labour market data.

<sup>46</sup> According to the ISCO categorisation: “Professionals increase the existing stock of knowledge, apply scientific or artistic concepts and theories, teach about the foregoing in a systematic manner, or engage in any combination of these three activities” (<http://www.ilo.org/public/english/bureau/stat/isco/isco88/2.htm>).

There are however other factors that may contribute to this finding. For example, the fact that the proportion of women professionals is higher in Enwise countries than in the rest of Europe might be linked to the fact that salaries for professionals in the Enwise countries are relatively low compared to other occupations in those countries, as per Hypothesis A. In other words, there is less of a pay premium attached to movement from craft and skilled occupations into the professional class in Enwise countries than in non-Enwise countries. This finding can be applied to the Western Balkan countries as well since they present employment patterns that are similar to the Enwise countries.

Then again, Malta, Cyprus, Greece, and Spain have higher proportions of women researchers than the EU-15 average, but not necessarily higher proportions of women professionals and women in employment than the EU-15 averages.

### **E- The ‘male brain drain’ hypothesis**

A further hypothesis that has been suggested to explain the higher proportion of women in R&D in countries with lower systems of innovation is the ‘brain drain’ or emigration of scientists away from those countries and towards the richer, more innovative regions. If male scientists are more likely to depart than females (this is arguable, as some authors suggest that actually, women migrate more than men), this leaves a higher proportion of women in the native country. Unfortunately, there are no harmonised data available yet to verify this hypothesis. The data that are available concern the gender and country of origin of scientific and technological migrants to specific countries such as the United States. These partial data, although indicating that the majority of migrants are male, suggest that the gender breakdowns are not very different from the proportions of PhD graduates and the numbers involved are probably insufficient to skew the gender breakdown significantly amongst those remaining.

### **F- The ‘multi-factor’ hypothesis**

The final hypothesis is based on the idea that the actual factors that influence the proportion of women researchers may be a combination of all, or some, of the factors in the preceding hypotheses. Of course, the proportion of women researchers is also the result of socio-cultural and historical contexts specific to each country and region. The unavailability of data to analyse these social qualitative factors limits the following analysis, but the statistical calculations still show strong enough results to be presented here.

Moreover, given the fact that many of the factors in the analysis are to some degree overlapping, it can be difficult to determine which of the many factors is most important. Therefore, this hypothesis was explored by using a statistical approach which took the most important factor, and then, keeping that one constant, took the next most important factor, until additional factors added nothing of significance to the analysis. Clearly this approach can be utilised only for those potential factors where the data are adequate.

This approach, known as stepwise regression, showed that, overall, the main factor, which negatively influences the female proportion of researchers, is the relative size of the business enterprise R&D sector in terms of the numbers of researchers employed. This means that countries with large business enterprise R&D sectors have lower proportions of women researchers than countries with small business R&D sectors.

The second factor, which positively influenced the female proportion of researchers, is the proportion of those in employment aged between 25 and 50 that were female. This suggests that countries with higher levels of women in employment also have higher proportions of women researchers.

This analysis also indicated that some factors do not appear to influence the proportion of women researchers. These are: the proportion of ISCED 6 graduates who are female; R&D expenditure per research personnel; business sector R&D expenditure per business sector Full Time Equivalent (FTE) researcher; and the wage gap between males and females for professionals. The details of this stepwise regression and all others mentioned in this text are contained in the statistical Annex 8.

Several of the elements set out in the preceding hypotheses sections therefore contribute towards explaining why the ‘Researcher’ variable used in the statistical analyses is sometimes significant, and often with a

The hypothesis D that there are more women researchers in countries where the general levels of women employment are higher is only partially supported by the data from all countries studied here.

There is a need for sex-disaggregated data on migration of male and female scientists to verify if the magnitude of the phenomenon of a supposed excess ‘brain drain’ of males influences the proportions of women in science in departing countries.

counter-intuitive negative relationship. The proportion of women in R&D can therefore be considered as a negative index of the level of development of a country's national innovation system. This suggests that more advanced national systems of innovation tend to involve proportionally fewer women as researchers. However, this lower involvement of women in research is clearly not an indicator of success or progress. Moreover, these innovation leaders are currently investing great resources and efforts to increase proportions of women in science in their countries in order to ensure continuous economic growth (see previous section 2.1.1). Evidently, this raises issues for policy-makers in countries with lower systems of innovation, which are likely to become more innovative in the future, causing an increase in researchers' salaries and (potentially) a decrease in women's share of R&D personnel. It is of course not suggested here that since the more innovative countries are faring well (in terms of innovation and economic growth) with lower proportions of women, trailing countries should reduce their levels of female participation in science in order to achieve higher innovative levels. As mentioned previously, this would not fit with genuine development goals or sustainable progress. Instead, what is highlighted here is that countries with lower systems of innovation should aim to increase their levels of innovation while keeping higher proportions of women in research, to attain the situation of countries from the 'good practice' group in Figure 3: Switzerland, Norway, Denmark and Iceland.

Therefore, there is a vital need to monitor the evolution of the proportions of women in science in 'lower systems of innovation' countries, and implement measures to prevent the participation of women decreasing in these countries, as they become more innovative.

### 3.3. Professors

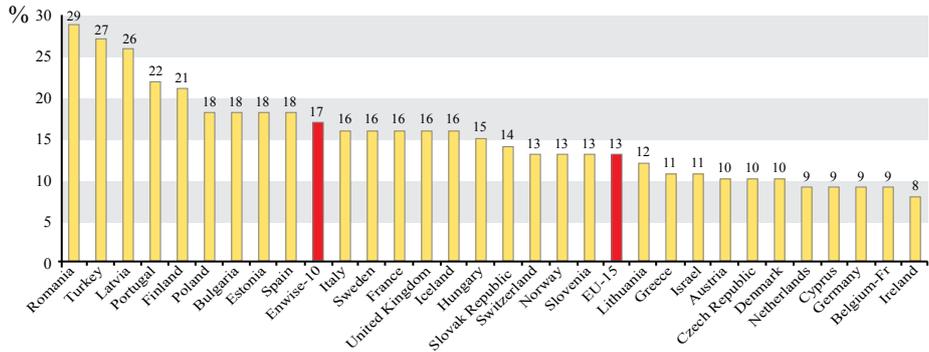
At the moment, the data on seniority within academia are more robust than for the government and business enterprise sectors. Therefore, the proportion of women professors is the best indicator of the extent of vertical segregation seen in employment in science across the countries of interest.

Figure 8 shows that in 2004, there were only five countries (Romania, Turkey, Latvia, Portugal and Finland) that had a proportion of women full professors that was above 20%. In 2002, only three had more than 20%: Latvia, Portugal and Finland (European Commission 2005).

It seems unlikely that the 25 countries who have not yet reached 20% of women full professors will reach the 25% target recommended by European Commission [2] by 2010: projections using the compound annual growth rate of each country (see Annex 7 for data) show that, by 2010, only Slovakia, Iceland and Sweden (in addition to those five countries which were already at or above the 20% level in 2004) will have at least 25% of women professors at grade A who are women (if their growth rate remains unchanged).

**University funding in Flanders (Belgium)**  
 In the new distributive code for higher education funds (starting 2007) in Flanders, dynamic personnel management is rewarded through a diversity coefficient. A percentage of the total government contribution to universities and institutes for higher education will be allocated on the basis of the share in the personnel of women or of persons who received their doctoral degree at that specific university or who worked at that specific university for several years.

Figure 8: Proportion of Women Grade A professors (%) in 2004



CY, NO, PT, TR: 2003; IL, FR: 2001, EL: 2000  
 Source: WiS Database - The numbers are in FTE except DE, CZ, EL, LT, NO, SK, HU, FR, IT, LV, RO, IE which are in Head Count

An analysis that sought to include all the potentially relevant factors that could influence the proportion of full professors that were female was carried out. This stepwise multiple linear regression is similar to the analysis used to examine the determinants of the proportion of researchers that were female (section 3.2). The only factor that proved to have a link to the proportion of women professors grade A, using this approach, was the proportion of ISCED 6 graduates that were female. This indicates that the countries in which proportions of female professors are higher are the same countries in which numbers of female PhD graduates are higher.

#### **Female experts in universities and research boards in the Former Yugoslav Republic of Macedonia**

In 2007, the head of the Department for Science and Technology in the Former Yugoslav Republic of Macedonia government was a woman. Moreover, in the National Scientific Council, established in 2004, about 35% of the members are women experts. Additionally, the scientific and technical boards are usually composed of between 35-40% of female experts. Finally, in 2007 also, the rector of University St. Klement Ohridski in Bitola was a woman, and in the period 1994-1998, University St. Cyril and Methodius was led by a woman rector.

## **4. Results for policies and measures**

### **4.1. Legislation**

Equal opportunity legislation can have significant effects on the participation of women in science, by preventing and sanctioning discrimination based on sex, but also by having an impact on gender balance in public bodies and scientific committees, through quotas and targets for example.

Since all countries have some form of legislation assuring equal opportunities for women and men, it is difficult to statistically analyse the efficiency of this policy. Likewise attempts to analyse the impact of the presence or absence of a Ministry for Women are also difficult, as most countries also have one by now. The other problem is that data on when policies and institutions came into being are needed to determine which policies or institutions drive other policies or outcomes. Certainly, equal opportunity legislation and ministries for women are efficient measures to increase female participation in science, but the extent of the effectiveness of these policies cannot be studied quantitatively with the available data.

A time-series analysis would need to be undertaken in order to begin to establish the extent to which equal opportunity legislations or the presence of a Ministry for Women are effective. The difficulty in doing so is that for many of the countries only limited time-series data are available, insufficient for the analyses that would be necessary (see Annexe 9). This provides additional support for the suggestion that future efforts should focus on collating the necessary time-series data.

Regarding legislation relating to equal pay and reducing wage gaps, statistical analysis does not show any direct correlation between the extent of the wage gap and the participation of women in science. However, the quality of the currently available data relating to wages in science limits the coverage of the analyses that can be conducted at present and there is a need for more detailed and complete statistics on this topic.

### **4.2. Mainstreaming**

Commitment to gender mainstreaming involves more than just using individual measures such as legislation or work-life balance initiatives. Mainstreaming as such necessitates the following prerequisites: 'a political will, specific gender equality policy, sex-disaggregated statistics, knowledge of gender relations, knowledge of the administration, necessary funds and human resources, participating of women in decision-making bodies.' (Council of Europe 1998:15<sup>47</sup>)

<sup>47</sup> Council of Europe (1998) Gender Mainstreaming – Conceptual framework, methodology and presentation of good practices. Strasbourg.

Since the last Helsinki report, seven more countries have become partially or entirely committed to gender mainstreaming: Denmark, Estonia, France, Ireland, Latvia, Malta, and Spain, which leaves 12 countries out of 38 with no mainstreaming plans. Some countries are committed to gender mainstreaming in official documents but do not have special plans or budgets for implementing it, which explains the ‘partial’ cases in Annex 1.

‘Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in any area and at all levels. It is a strategy for making the concerns and experiences of women as well as of men an integral part of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres, so that women and men benefit equally, and inequality is not perpetuated. The ultimate goal of mainstreaming is to achieve gender equality.’  
(United Nations Economic and Social Council 1997<sup>48</sup>)

### 4.3. Women in Science Institutions

In certain countries, there are units for women within the Ministries of Science. Those units are specifically dedicated to improving the participation, advancement and representation of women in science. Moreover, these units can act as a think tank to develop knowledge on gender and women’s issues.

Statistical analysis shows that countries with units for women in science are more likely than countries without such units to have high proportions of women academic staff grade C and low proportions of researchers. As described in section 3.2 above, countries with higher levels of women researchers are mostly countries with low systems of innovation and few infrastructures for science and technology policies. Therefore, those countries are also less likely to have policies and measures for women in science.

As for the positive correlation between the presence of units for women in science and the proportions of women at grade C, this can either indicate that women in science units serve to increase the numbers of women professors, or that, once a critical mass of women professors is reached, this influences subsequent policy-making and leads to a call for such units to be created. Again, time-line analyses are needed to establish causality links and demonstrate the level of effectiveness of units for women in science. Finally, some of these units have been implemented too recently to observe their impact.

### 4.4. Targets and quotas

As described in detail in the international literature on women and science, the implementation of quotas, and to a certain extent targets, for women in science can be quite contentious. On one hand, they can be perceived as discriminatory (in this case against men) or as causing backlash and tokenism. On the other hand, they can be seen as necessary and suitable, particularly in areas of science where gender segregation is very entrenched and difficult to change. Moreover, as mentioned in section 2.1.3, quotas and targets can compensate for and tackle the apparent gender bias in science and its institutions.

The statistical analysis shows that there is a limited positive correlation (at 10% significance level) between the presence of targets for women in science in a country and the proportion of women in academic staff grade C in that country. This correlation is perhaps not surprising as such targets typically aim at enhancing the entry of women into certain (usually higher grade) positions, such as professorships.

The use of targets is also negatively correlated with the proportion of women researchers in a country, so that countries with high proportions of women researchers are less likely to have targets than countries with low participation of women in R&D. The same negative relationship is observed for the impact of quotas on proportion of women researchers.

Eight countries out of 38 have quotas for women in science, and out of those eight, six belong to the higher systems of innovation group as defined in Figure 3. It might be expected that the presence of quotas would also be positively related to the proportion of women professors, as quotas are usually set in higher decision-making levels, but it is not. In the studied countries, most quotas for women in science regulate the proportion of women in decision-making bodies or selection committees in the university or government, and do not

<sup>48</sup> <http://www.ilo.org/public/english/bureau/gender/newsite2002/about/defin.htm>

apply directly to proportions of women professors or in specific positions. Data on the year of implementation of quotas and the subsequent time-line analyses would be extremely useful to studying the efficiency of this type of measure more thoroughly.

## 4.5. Networks, role models and mentoring

The last Helsinki report ([1]:21) commented that there is 'little systematic evaluation of role models and mentoring schemes, and there is a concern that they can divert senior women scientists from their own careers, as both measures can be costly in terms of time'. Nevertheless, in 2002, Catalyst<sup>49</sup> published a study indicating that surveyed women identified 'lack of senior or visibly successful female role models'(64%) and 'lack of mentoring'(61%) as among the top five barriers to the advancement of women in organisations.

'One of the factors resulting from, and in turn contributing to, the under-representation of women in science and research is the perceived isolation and lack of support experienced by individual women scientists within their sector. Networking can therefore contribute in a very practical way to redressing the gender balance in research, in terms of supporting and empowering women scientists in their careers.' (*European Commission 2003b:1*<sup>50</sup>)

The correlation analyses undertaken as part of the current work shows that there appears to be little or no correlation between the presence of networks for women in science and the proportion of women post-graduate students, researchers or professors. This is not surprising as networking is a multifaceted phenomenon, which cannot be analysed thoroughly through statistical analyses. To demonstrate any real impact of networks on women's education or employment outcomes in science, new indicators and data on empirical evidence are needed, that pay more attention to the efficacy of the networks rather than just their presence or absence.

The analyses did show that the presence of mentoring activities is strongly inversely linked with the percentage of researchers that are female. Therefore, there is a high likelihood of having mentoring activities in countries where there are lower proportions of women researchers. Again, the efficiency of the mentoring activities could not be studied due to lack of time-of-implementation data, which could also permit a clearer understanding of the pattern of causality between these variables (e.g. introducing more mentoring in adverse situations).

## 4.6. Universities and research

For the purpose of this report, gender studies were distinguished from women's studies in considering university course provision as well as research activities, in line with the convention adopted in the previous Helsinki report [1]. However, as illustrated by Braidotti (2002<sup>51</sup>), the definition and differentiation of these categories of studies vary widely depending on countries, cultures and traditions. Firstly, all countries have courses and research programmes in both women and gender studies except France, Slovenia and Bosnia and Herzegovina. Secondly, the statistical regression analysis shows that the presence or absence of such studies is not significantly correlated with the proportion of women in science. Hence it was decided to keep those categories separate in order to better accommodate national differences.

Special funding for women in science is used to provide scholarships for female students and for fellowships or chairs reserved for women, as well as a range of other kinds of financial incentive directed at women in science. The regression analyses show that the presence of special funding for women in science is positively correlated with the proportion of women in grade A academic positions, but negatively correlated with the proportion of women researchers. As with the other measures, the negative correlation with the proportion of women researchers suggests that special funding initiatives are a reaction to the under-representation of women in science, and illustrate that the countries with higher proportions of women researchers are also the countries with less developed national systems of innovations and therefore policies.

**'Excellentia' programme in Austria.** This programme is designed to increase the number of female university teachers at Austrian universities. It is a financial incentive programme through which the employment of women professors is rewarded. This helps to improve the appointment practices of universities in favour of women. Universities that appoint women professors and thus increase the current number of professorships held by women receive a financial reward (EUR 33 880).

<sup>49</sup> Catalyst (2002) *Women in Leadership: A European Business Imperative* ([www.catalystwomen.org](http://www.catalystwomen.org))

<sup>50</sup> European Commission (2003b) *Directory of Networks of Women Scientists*, online, [http://ec.europa.eu/research/science-society/pdf/women-sc-net-guide\\_en.pdf](http://ec.europa.eu/research/science-society/pdf/women-sc-net-guide_en.pdf), accessed 31/10/07

<sup>51</sup> Braidotti, R. (2002) *The Uses and Abuses of the Sex/ Gender Distinction in European Feminist Practices*, in Griffin, G., and Braidotti, R., eds. (2002) *Thinking Differently, A Reader in European Women's Studies*, Zed Books, London

The positive correlation between special funding measures and the proportion of women grade A professors reflects the fact that special funding measures are likely to be introduced in countries actively seeking to address gender imbalance in science, where there is already a raised level of awareness about the issues involved. Therefore, such measures tend to be introduced in countries where a growing body of opinion on the issue, as well as significant levels of women in lower grade positions, are already found. The introduction of funding or other special measures therefore has only limited impact on lower level posts but has more impact in terms of encouraging the movement of women upwards through the occupational hierarchy.

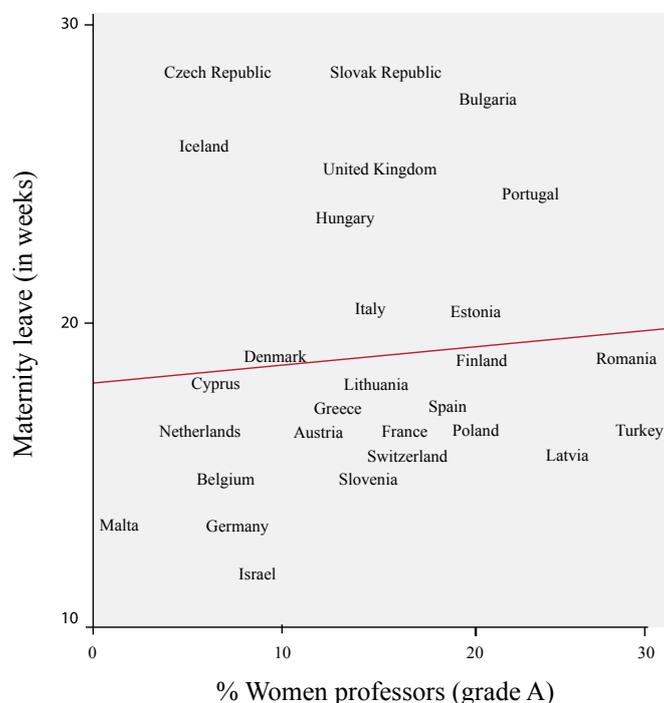
The presence of equal opportunity plans in universities does not show any correlation with the proportion of women in science, at any level. However, as noted in section 4.8.1, there is a linkage between university equality plans and targets; indeed, targets are usually integrated in equality plans.

## 4.7. Work–life balance

### 4.7.1. Maternity leave

In the countries studied in this work, the domestic division of labour is unevenly distributed and women carry out most of the household and child-caring tasks. Therefore, women are more likely to take a career break due to childcare responsibilities and then are also more likely to want to work part-time in order to be able to balance home and work. Hence, public policies concerning childcare, parental leave and measures to reintegrate mothers into their careers all play some part in influencing women’s decisions to work – or continue to work – in science. Indeed, a 2007 study by the UK National Institutes of Health Women<sup>52</sup> suggested that scientists are not pursuing advanced research careers because of a heavier burden of family responsibility, amongst other things. These findings are corroborated by the recent the analysis of the questionnaire on ERA Green Paper which stated that ‘an overwhelming majority (88%) [of female researchers] agreed that providing for working and funding conditions that foster a better work/life-balance will positively affect the number of women in research careers’ (Yellow Window Management Consultants 2007:5<sup>53</sup>).

**Figure 9: Percentage of women full professors in relation to length of maternity leave, in 2004.**



Source: compiled from Eurostat R&D personnel and the Measures for Women in Science database

<sup>52</sup> Ledin, A., Bornmann, L., Gannon, F. and Wallon, G. (2007) *A persistent problem, Traditional gender roles hold back female scientists*, European Molecular Biology Organisation, EMBO reports, Vol 8, No 11.

<sup>53</sup> Yellow Window Management Consultants (2007) *Analysis of the responses to the on-line consultation on the future of ERA – Science in Society Issues, report to the European Commission*, DG Research.

The average maternity leave for the EU members and associated countries is between 18 and 19 weeks, with the variation resulting from the fact that, in some countries, part of the leave can be taken by the mother or the father, as in Sweden for example. The statistical analysis shows no correlation with the length of maternity leave and the proportion of women in science. Indeed, Figure 9 illustrates graphically that the proportion of women full professors (grade A) and the length of maternity leave are not linked. A similar figure can be observed for the proportion of researchers. This is consistent with the results of the study by Del Boca (2006:28<sup>54</sup>), which showed that ‘highly educated women’s employment is more responsive to initiatives in the workplace provided by the firm (e.g. in-site childcare), rather than the availability of public childcare’.

### 4.7.2. Paternity leave

Paternity leave hereby refers to a leave that can be taken only by the father. Paternity leave is different from parental leave, which can be taken by either parent. While most fathers take some parental leave, the men’s share of the total parental leave taken in the studied countries remains very low [4]. It is precisely in response to this fathers’ reluctance to take parental leave that many countries have instituted defined periods of leave reserved for fathers.

The statistical analyses show that paternity leave is implemented in countries where the proportion of women in grade A professorial roles are higher than in countries where there are no paternity leave provisions. Again, since paternity leave measures have been introduced only quite recently for most countries, more details about the nature and motivations of these policies, as well as longer periods of observation, are needed in order to get a clearer understanding of this relationship.

### 4.7.3. Returnees

Finally, some countries have implemented programmes targeted at women returnees to facilitate their return to scientific careers after a period away from work to take care of children. However, the statistical analysis does not show any correlation between the presence of measures for returnees and the proportion of women in science.

This suggests either that, at present, these measures are insufficient to bring about real change to enable women to participate within the science workforce; or that, even with these measures in place, the science setting is insufficiently attractive to women to render them willing to return, even once this has been made more feasible.

#### Equal Opportunities in junior and post-doc grant applications in the Czech Republic

Since 2006, following a recommendation from the National Contact Centre for Women in Science, the Grant Agency of the Academy of Science of the Czech Republic prolongs the maximum age limit of 35 years, in the case of junior grant applicants, by 2 years for each child. Moreover, if the application is successful, the primary investigator can postpone the start date of the project by up to nine months. Similarly, since 2007, the rules of the Czech Science Foundation for postdoctoral research grants explicitly exempt the period spent on maternity and parental leave from the maximum limit of time allowed to apply after the completion of PhD studies.

## 4.8. Comparative analyses

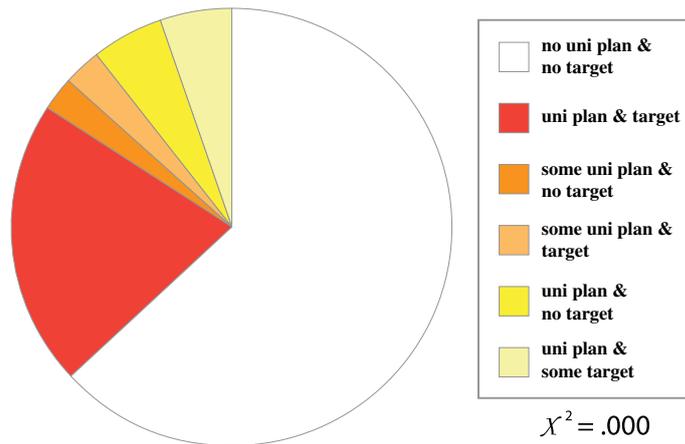
### 4.8.1. Groups of measures

By looking at the correlations between the various policy measures it is possible to identify some pairs of policies or institutions that are usually either present or absent together. Some of these groupings may appear obvious, but knowing that there are linkages between these policies, combined with an idea of when the policies were introduced, allows a better understanding of the dynamics driving policy developments. This in turn allows efforts to be initially focused on those policies that precede other policies.

The clearest pair of measures is between ‘targets’ and ‘equality plans at universities’ as shown in Figure 10. Here the vast majority of countries have neither policy; however, of the 12 countries with a ‘university equality plan’ eight of them also have ‘targets’ in place and a further two have ‘some targets’. This could suggest that an easy and achievable output of equality plans is the setting of targets in universities, as most equality plans include targets. A closer study of the type of university plans in the 12 countries shows that this is the case in most countries. The statistical factor ( $\chi^2$ ) under the legend shows that the association between equality plans and targets is extremely strong (see Annex 8 for further discussion of the statistical methods used).

<sup>54</sup> Del Boca, D. (2006) Dual careers: public policies and companies’ strategies, in European Commission (2006a) Women in Science and Technology – The Business Perspective, Brussels.

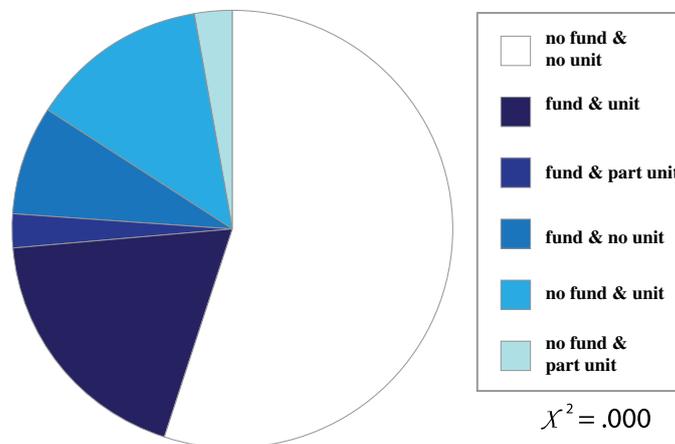
**Figure 10: The overlap between targets and university equality plans**



Source: Analysis of the Measures for Women in Science database

The other notable bundle of policies was ‘women and science units’ and ‘funding for women in science’ (see Figure 11). This is perhaps to be expected, as usually funding has to be distributed by a specific body or unit. Again, the bulk of the countries, in this case 21 out of 38, have neither a ‘women and science unit’ nor ‘funding for women in science’. However, of the 13 countries with a ‘women and science unit’ seven of them have ‘funding for women in science’. Additionally one of the two countries with a ‘partial women and science unit’ also has ‘funding for women and science’ in place. The association is also statistically very strong (see the  $\chi^2$  statistic).

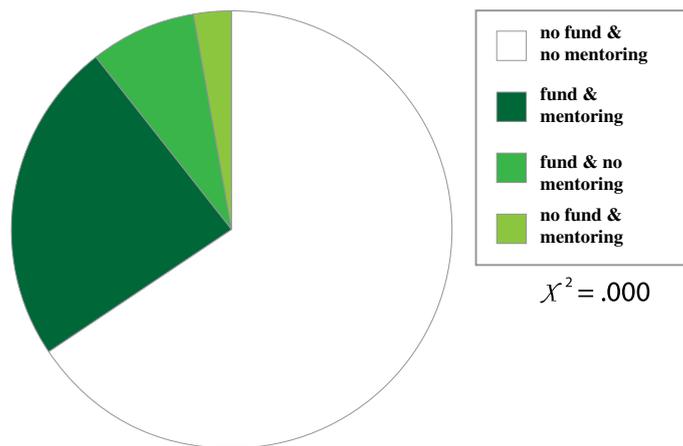
**Figure 11: The overlap between women and science units and funding for women and science**



Source: Analysis of the Measures for Women in Science database

The final groups of measures of note are those between ‘mentoring’ and ‘university equality plans’ as well as between ‘mentoring’ and ‘funding for women in science’. Figure 12 shows the overlap between mentoring and funding for women and science. This suggests that one of the purposes to which such funding is put is the support of mentoring schemes. Again the bulk of the countries that provided such data (25 out of 38) do not have either. However, of the 9 countries with mentoring schemes, all of them also have funding for women and science and 9 out of the 12 countries with funding for women and science also have mentoring schemes.

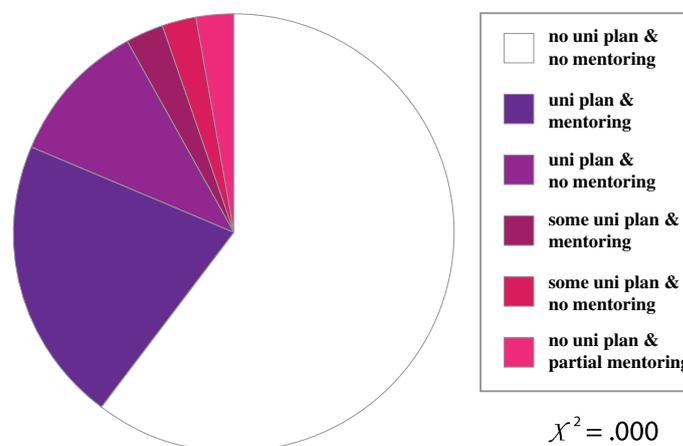
**Figure 12: The overlap between mentoring and funding for women and science**



Source: Analysis of the Measures for Women in Science database

Figure 13 shows a clear overlap between mentoring and university equality plans, with all eight countries that have mentoring schemes also having university equality plans. It is possible that a sequence of policies arrive at mentoring via two routes. The first stems from equal opportunity legislation, leading to women and science units, which then leads to funding for women and science and then to mentoring. The second route follows from equal opportunity legislation to university equal opportunity plans, and then on to mentoring schemes. In practice the actual sequences may be a complex mix of both routes.

**Figure 13: The overlap between mentoring and university equal opportunity plans**



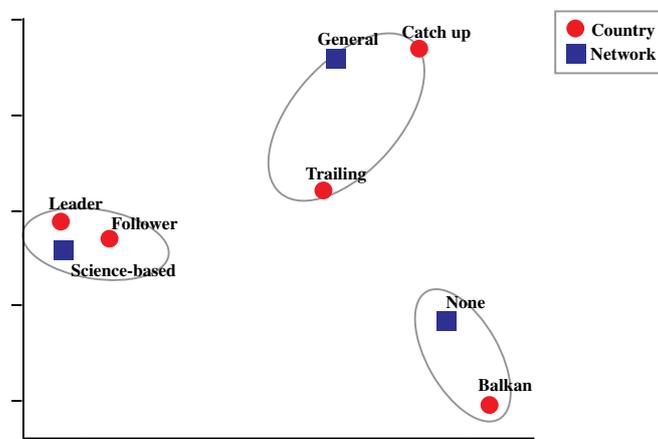
Source: Analysis of the Measures for Women in Science database

Having measures present in pairs or groups has implications for policy making because of the presumption that individual policies may not be effective, and that to make them work involves a package or ‘raft’ of measures. Attention may also have to be paid to the sequence in which the measures are introduced. Unfortunately the data in this study, which lack a time dimension, cannot establish the ‘ideal’ pattern or sequence that ought to be chosen.

## 4.8.2. Networking, mainstreaming and innovation systems

Statistical analyses were performed to study the links between the types of countries (defined according to their national system of innovation group, plus the Western Balkans) and the presence of certain policies. The graphs in Figures 14 and 15 show that some types of countries are more likely to have certain types of policies.

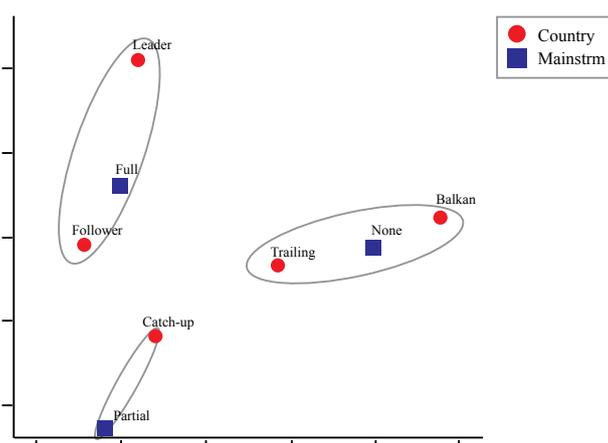
**Figure 14: Correspondence analysis of country type and gender mainstreaming policies**



Source: Analysis of the Measures for Women in Science database

The correspondence between the type of country and the type of policy measure emerges when points lie close to one another (see Annex 8C for some further details on this statistical technique). In Figure 14, Innovation Leaders (especially) and Innovation Followers lie close to the point for Full mainstreaming, which means that most countries which are committed to gender mainstreaming belong to the Innovation Leaders and Followers groups (in the north-west area of the figure). Catching-up countries mostly have Partial mainstreaming policies (in the south-west area), while Trailing countries and the Western Balkans usually have no mainstreaming policies (towards the north-east). Note that the geographical orientation of the diagram is unimportant here; what is noteworthy is the demonstration that innovation success at national level is closely associated with the extent of mainstreaming policies (Full/Partial/None).

**Figure 15: Correspondence analysis of country type and women's networks for science**



Source: Analysis of the Measures for Women in Science database

Figure 15 illustrates that the type of country is associated with the extent of women's scientific networks. Detailed science-based networks are usually found in countries that are Innovation Leaders or Followers. More general women's networks are present in Catching-up countries and to some extent in Trailing countries; while the Balkans suffer from an absence of any women's networking.

## 5. Conclusions

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This report suggests that some progress has been achieved in terms of gender equality in science since the last Helsinki group report on women and science [1]. The data collected illustrate that, as already suggested in the existing international literature on women in science, in all studied countries, even today, the higher up the science ladder one looks, the fewer women are to be found in science: moving from students to researchers to professors, the proportion of women decreases with each successive level. Moreover, according to the data in this report, by 2010, only very few countries will have reached the levels of women's participation in science, at graduate and professorial levels, suggested by the European Commission [2].

The statistical analyses show that the presence of certain equality measures is linked with the rates of participation of women in science. On the one hand, there is a negative correlation between the presence of various measures in a country and the proportion of women researchers in that country. This is due to higher proportions of women in research in countries with lower systems of innovation, which, on the one hand, generally means fewer science policies (and policies for women in science) and on the other hand, implies lower investments and salaries in science.

More specifically, the fact that R&D employment in lower innovating countries tends to congregate in the relatively lower-paying government and higher education segments, rather than in business enterprise R&D, appears to be of some significance. Another factor negatively influencing women's representation in research appears to be the size of the country's business enterprise R&D sector. This means that the countries where the R&D is oriented towards the private sector have lower proportions of women researchers than countries oriented towards the public R&D sector.

Moreover, the data and the associated statistical analyses show that the cause of women's under-representation in science often is located on the demand side, that is, derived from employer policies and/or strategies, and therefore in many cases the solution is related to changing the culture and organisation of the science sector overall; this applies most particularly in industrial research and in the Business Enterprise Sector.

On the other hand, the presence of certain measures is positively correlated with the proportion of women at professorial grades. Although causality links are difficult to establish, it has been observed that these measures are often implemented in pairs or groups. While this study, because of its limited scope, could not analyse causality links between measures and proportions of women and science, the findings indicate that a future study could point to different degrees of efficiency for different measures when introduced singly or in parallel with other instruments.

Furthermore, these measures are often implemented in pairs, where 'targets' and 'equality plans' are usually either present or absent together in a country. A similar observation of grouping can be made for 'women and science units' and 'funding for women in science', while mentoring schemes are usually found in countries with 'university equality plans'. Finally, countries that have implemented mentoring schemes also often tend to have introduced funding for women in science.

One explanation for the correlation between the grouped presence of certain measures and the higher proportion of women professors is that the said measures are more likely to be implemented in countries where there is already a growing body of opinion on the issue of women and science and where there are already significant levels of women in lower grade positions. It is an open question as to how far policies and policy-making can initiate or sustain such an opinion.

The extent to which a country's national system of innovation is developed is linked to its degree of commitment to gender mainstreaming, as well as to the degree of elaboration of its networks for women in science. Innovation Leaders and Innovation Followers are usually fully committed to gender mainstreaming and have detailed science-based networks. Catching-up countries mostly have partial mainstreaming policies and only more general women's networks. Finally, mainstreaming policies and women's networks are usually lacking in trailing countries and the Western Balkan countries.

Finally, although sex-disaggregated statistics have been made increasingly available in the last few years, some countries' data still do not fully cover vertical and horizontal aspects of gender inequalities in science. This is of particular concern in countries with lower systems of innovation, which are likely to become more innovative in the future, causing an increase in researchers' salaries and (potentially) a decrease in women's share of R&D personnel. There is consequently a vital need to monitor the evolution of the proportions of women in science in these countries.

## 6. Recommendations

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- The analysis of statistics on women in research has shown that women are better represented in countries where the salaries of researchers are proportionally low and the national systems of innovation are less developed. As those countries become more innovative and improve their science and technology infrastructures, it is likely that the researchers' salaries will increase proportionally which, if current patterns are replicated, may serve to decrease women's share of R&D personnel. There is consequently a vital need to implement measures and policies to counter-act any potential future decline of women's participation in research in countries with lower systems of innovation.
- This study has highlighted the need for more comprehensive data on, firstly, the year of implementation of measures for gender equality in science, in each country; secondly, on women's participation in the business enterprise sector, specifically at higher decision-making levels; thirdly, on the participation of women in science and research funding; fourthly, on salaries of researchers and scientists at comparable levels across countries; and finally, on childcare provisions and time available to men and women scientists for childcare.
- The problem of women's under-representation in science appears to be most acute in the Business Enterprise Sector, where the lack of sex-disaggregated data is also the worst. Therefore, efforts must be made in that sector to gather more data, as preparation for taking more action. Moreover, existing measures such as quotas and targets are almost exclusively found in the government and higher education sectors. Consequently, it is recommended that such measures be implemented in the business and enterprise sector, as Spain has recently done for example.
- Causality links are difficult to establish without time-series data, and the next step of this study would be to obtain information on year of implementation for each policy measure relating to women in science in each country. Consequently upon such data becoming available it would be possible to use epidemiological techniques and survival analysis techniques to determine any correlations between introduction of the policies and the proportions and levels of women in science over time and also the ways in which these policies impact conjointly, in the years following their introduction.
- It should be noted that some of the policies or measures showed no correlation with the proportion of women in science. The study has focused on national policies and strategies and it is possible that the types of measures that have more impact on women's participation in science are to be found at a more local level of small-scale initiatives and contributors. Such analyses should be within the scope of future work on measures for women in science. Equally, we have based the analysis on the presence or absence of policies, not on their quality, effectiveness or impact. This in turn makes it harder to find clear relationships between policies and outcomes. There remains a strong case for these policies to be evaluated at a national level and the outcomes of these evaluations to be fed into the analysis.
- At the same time, there is a need to look at the higher levels of policy-making of each country, as some fundamental perceptions of the gender division of labour are anchored in the basis of the welfare state models: it has been argued that all models share the notion of a male breadwinner except the Scandinavian one (Esping-Andersen 1990<sup>55</sup>). There are however currently no harmonised data available that allow for this kind of hypothesis to be analysed. There is also a case here for collecting and reporting data on the migration of scientists. However, it may be more feasible to collect data from those countries to which migrants move, as this is often more readily available than data on migrants collected in the countries from which they depart.
- Moreover, there is a need for harmonised data collected systematically across countries that assess the pay of researchers compared to salaries of other qualified professionals. We examined the available data from the Luxembourg Income Study (LIS), but found that the sample sizes of the household income surveys did not allow robust comparable data to be derived. As a way of allowing for differences in national tax and benefits systems, an indicator could be constructed which shows all researchers' average hourly income as a proportion of the average hourly income for all workers. An indicator for female researchers' pay could also be developed that compares their hourly income with all female workers' hourly wages; a parallel indicator could also be developed for male researchers.

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<sup>55</sup> Esping-Andersen, G. (1990), *Three worlds of welfare capitalism*, Polity press, Cambridge.

- A more detailed understanding of why countries with a larger business enterprise research and development sector have fewer women researchers would also be valuable, as the analyses suggest that many of the current supply-side policies are unlikely to change this position. This in turn suggests that there is a need to develop more effective demand-side policies in this area.
- Additionally, the statistical and policy analyses indicate that one of the main factors hindering women's participation in science is the unequal gender division of labour related to housework and family care. In order to achieve equal participation of women and men in science, fundamental work–life balance solutions for dual-career couples and single parents need to be implemented in the business community and society at large.
- Finally, there is a need for a follow-up of the present report once the time-line data on year of implementation of gender equality policies and measures become available. This follow-up will ensure the analysis of this data and show the levels of efficiency of each measure, as well as the causality links between them and proportions of women in science.

## References

- [1] Rees, T (2002) *The Helsinki Group on Women in Science: National Policies on Women in Science in Europe*, Brussels: European Commission.
- [2] European Commission (2005) *Women and Science, Excellence and Innovation – Gender Equality in Science*, Working Document.
- [3] European Commission (2003) 'Waste of talents: turning private struggles into a public issue'; *Women and Science in the Enwise countries, A report to the European Commission from the Enwise Expert Group on women scientists in the Central and Eastern European countries and in the Baltic States*, Luxembourg.
- [4] Moss, P. and O'Brian, M. (2006) *International Review of Leave Policies and Related Research 2006*, DTI Publications, London.
- [5] Sterner, G. and Biller, H. (2007) *Gender Mainstreaming in the EU Member States, Progress, Obstacles and Experiences at Governmental level*, online, <http://www.sweden.gov.se/sb/d/8600/a/75096;jsessionid=aHDmu0hR9Vwg>, accessed 20/03/07

## List of acronyms

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ANEF	National Association of Feminist Studies (France)
AV	Agriculture and veterinary
BES	Business Enterprise Sector
BMBF	Federal Ministry of Education and Research (Germany)
BMFSFJ	Ministry for Family Affairs, Senior Citizens, Women and Youth (Germany)
CEC-WYS	Central European Centre for women and youth in science (Slovenia)
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CEWS	Centre of Excellence Women and Science (Germany)
CNR	National Research Council (Italy)
CPO	Committee for Equal Opportunity (Italy)
DGSPW	General Directorate of Women's Status and Problems (Turkey)
DTI	Department of Trade and Industry (United Kingdom)
EC	European Commission
ED	Teacher training and education science
EFTA	European Free Trade Association
EN	Engineering
ENWISE	Enlarge Women in Science to East
EOM	Equal Opportunity Managers (Switzerland)
ETAN	European Technology Assessment Network
ETH	Federal Institute of Technology (Switzerland)
FÁS	The Training and Employment Authority (Ireland)
FEOP	Federal Equal Opportunity Programmes (Switzerland)
fFORTE	Women in Research and Technology (Austria)
FTE	Full Time Equivalent
GBAORD	Government budget appropriations or outlays for research and development
GERD	Gross Expenditure on Research and Development
GIC	Gender Issue Committee (Malta)
GOV	Government Sector
ICT	Information and communication technology
H	Humanities and arts
HEI	Higher Education Institutions
HES	Higher Education Sector
HW	Health and Welfare
IES	Institute for Employment Studies
IoT	Institute of Technology (Ireland)
ISCED	International Standard Classification of Education
LIS	Luxembourg Income Study
MCST	Malta Council for Science and Technology (Malta)
MIUR	Ministry for University and Research (Italy)
MPI	Mihajlo Pupin Institute
NCPE	National Commission for the Promotion of Equality between Men and Women (Malta)
NCW	National Council of Women (Malta)
NGO	Non Governmental Organisation
NIS	National Institute of Statistics (Bulgaria)
NKTH	National Office for Research and Technology (Hungary)
NMWR	National Machinery for Women's Rights (Cyprus)
NPEOWM	National Programme for Equal Opportunities for Women and Men (Slovenia)
NWO	Netherlands Organisation for Scientific Research (Netherlands)
OECD	Organisation for Economic Co-operation and Development
OEO	Office of Equal Opportunities (Slovenia)
OST	Office of Science and Technology (Ireland)
R&D	Research and Development
RING	Interdisciplinary and Inter-University Network on Gender (France)
SE	Services
SET	Science, Engineering and Technology
SFI	Science Foundation Ireland (Ireland)

SMC	Science, mathematics and computing
SNSF	Swiss National Science Foundation (Switzerland)
SPRU	Science and Technology Policy Research Unit
SPSS	Statistical Package for the Social Sciences
SS	Social sciences, business and law
S&T	Science and Technology
UKRC	UK Resource Centre for Women in SET
UNDP	United Nations Development Programme
WEU	Women and Equality Unit (United Kingdom)
WiTEC	European Association for Women in Science and Technology

# Annex I:

## Summary chart of equality measures

Measure / Country	AT	BE	BG	CY	CZ	DK	EE	FI	FR	DE	EL	HU	IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SK	SI	ES	SE	UK
1- Equal treatment law	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2- Ministry for Women's affairs./ Statutory Gender Equality Agency	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3- Commitment to Gender Mainstreaming	x					x	x	x	x	x			x	x	x	x	x		x					x	x	x	
4- Women in Science Unit	x				x				x	x			x	x			x							x	x		x
5- Quotas	x	x						x			x			x											x	x	
6- Targets	x							x		x															x	x	x
7- Sex-disaggregated statistics	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x		x	x		x	x	x	x	x	x	x
8- Networks for women in science	x	x				x		x	x	x			x						x				x		x		x
9- Mentoring for women in science	x							x		x			x						x							x	x
10- Women Studies	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x
11- Gender Studies	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x
12- Gender equality plan in universities	x					x		x		x			x					x	x						x	x	x
13- Special funding available to women in science	x							x	x	x			x						x						x	x	x
14- Resources for returnees	x									x									x								x
15- Paternity leave	x	x				x	x	x	x	x	x	x	x		x	x			x		x	x		x	x	x	x

**Legend:**

- X : Yes, already in Rees (2002)
- X : Yes (new)
- : Partially\*

Blank cell = no

\* 'Partially' means: for *Mainstreaming*: the country might be committed to gender mainstreaming in official documents but does not have special plans for implementing it; for *Targets*: it means that one, but not all, scientific body/ies might have targets; for *Sex-disaggregated Statistics*: it means that some, but not all, data are sex-disaggregated; for *Networks*: it means that there is only one (or very few) network/s for women in science; for *Women's/Gender Studies*: see individual country's explanation in policy reports; for Gender Equality Plan in Italy there are Equal Opportunity Committees in Universities but not necessarily plans as such.

## Associated countries and Western Balkans

Measure / Country	AL	BA	HR	MK	IS	IL	ME	NO	RS	CH	TR
1- Equal treatment law	X	X	X	X	X	X	X	X	X	X	X
2- Ministry for Women's Affairs/ Statutory Gender Equality Agency	X	X	X		X		X	X	X		X
3- Commitment to gender mainstreaming		X	X		X			X			
4- Women in Science Unit					X	X		X			
5- Quotas								X			
6- Targets					X			X		X	
7- Sex-disaggregated statistics			X		X			X		X	
8- Networks for women in science								X		X	
9- Mentoring for women in science								X		X	
10- Women Studies	X	X			X	X		X	X	X	X
11- Gender Studies	X				X	X		X	X	X	X
12- Gender equality plan in universities					X			X			
13- Special funding available to women in science						X		X		X	
14- Resources for returnees										X	
15- Paternity leave					X	X		X	X		

### Legend:

X : Yes, already in Rees (2002)

X : Yes (new)

□ : Partially\*

Blank cell = no

\* 'Partially' means: for *Mainstreaming*: the country might be committed to gender mainstreaming in official documents but does not have special plans for implementing it; for *Targets*: it means that one, but not all, scientific body/ies might have targets; for *Sex-disaggregated Statistics*: it means that some, but not all, data are sex-disaggregated; for *Networks*: it means that there is only one (or very few) network/s for women in science; for *Women's/Gender Studies*: see individual country's explanation in policy reports; for Gender Equality Plan in Italy there are Equal Opportunity Committees in Universities but not necessarily plans as such.

# Annex 2: Summary national reports and statistical profiles

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## EU Member States

### Austria

#### 1. Legal framework

The equal opportunity legislation in Austria is covered at constitutional, federal and university level<sup>1</sup>. Though full university autonomy was implemented with the University Act 2002, the former high legal standards concerning women in universities were preserved and integrated into the new autonomy model.

#### 2. Commitment to Gender Mainstreaming

A cabinet decision of 11 July 2000 committed Austria to gender mainstreaming. An inter-ministerial working group supports and accompanies implementation of gender mainstreaming at federal level. The working group includes representatives of all the ministries and of relevant top-level institutions.

#### 3. Women in Science Institutions

The Federal Ministry of Science and Research<sup>2</sup>, together with its Women and Science Unit, and the Women's Political Advisory Board to the Minister, provide for the policy framework and develop, recommend and fund programmes for the advancement of women at Austrian universities and other research institutions. They also ensure that gender aspects are included in all new university control mechanisms. The statutory sex equality agency for the Federal service is affiliated with the Ministry for Women's Issues<sup>3</sup>. It deals with discrimination occurring in all functions and positions and employment groups of Federal State agencies including autonomous universities.

#### 4. Targets and quotas

The 40% target quotas for women and all other advancement of women regulations stipulated in the Act on Equal Treatment in Federal Service (1993) are applicable to autonomous universities. Universities are otherwise free to agree to more favourable affirmative-action provisions in their advancement plans. Gender aspects were also included in all new university control mechanisms, such as the new 'indicator based budget' and the 'performance agreements' between the universities and the government<sup>4</sup>. Some 20% of the university budget is being paid out or withheld according to performance-related indicators, with two of those eleven indicators being related to the advancement of women in academic posts. Through the performance agreements, concrete targets are set for the advancement of women in academic posts until 2009, and a special gender monitoring system including gender benchmarks is in preparation.

#### 5. Networks, mentoring, and specific activities

Approximately two-thirds of the 22 Austrian universities offer career-promoting activities. A quarter of the Austrian universities offer mentoring activities for women scientists and students. Continuous awareness-raising and PR work is being done through the awarding of prizes, studies, publication series, exhibitions and platforms for the presentation of successful women scientists. The national *Women in Research and Technology Initiative* (fFORTE)<sup>5</sup> is a comprehensive programme to support and promote women in the natural sciences and technical fields. The Science Ministry's programme line *fFORTE academic* aims to support women in universities and in basic research. The main initiative is *Excellentia*, a financial incentive programme through which the employment of female professors is rewarded. The goal is to double the number of female professors by the year 2010.

#### 6. Universities and research

Equal treatment and the advancement of women at universities are strongly embodied through legislation, advancement plans, new control mechanisms and financial incentive programmes, as well as through

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<sup>1</sup> Mukherjee-Cosmidis, S. (2002) *Women and Science: Review of the situation in Austria*, Helsinki Group on women and science.

<sup>2</sup> <http://www.bmwf.gv.at/>

<sup>3</sup> <http://www.frauen.bka.gv.at>

<sup>4</sup> Mukherjee-Cosmidis, S., personal communication by email, 26/07/07.

<sup>5</sup> <http://www.fforte.at/english.php>

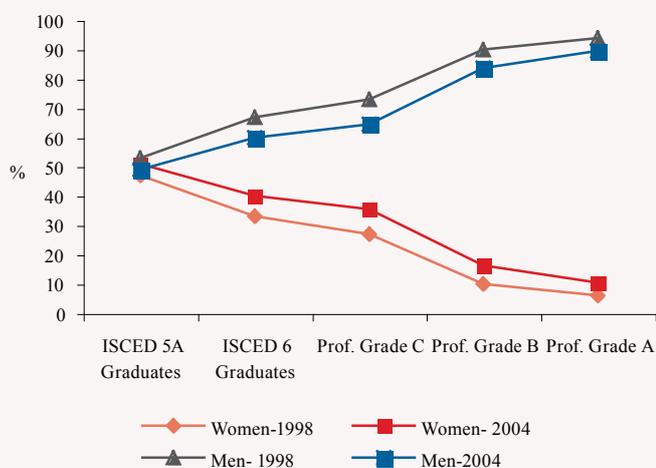
structural and financial support. Between 2002 and 2006 approximately EUR 8 m were spent on the *fFORTE academic* programme line. Another EUR 10 m were co-financed by the European Social Fund between 2000 and 2006 for 24 projects supporting the structural embedding of equal treatment at the universities and EUR 2.2 m/year are provided by the Science Ministry for two career development programmes for qualified females<sup>6</sup>. Additional special funds were allocated to integrate gender in the development of university profiles and management strategies such as *Gender Impact Assessment* or *Gender Controlling*. Gender studies and feminist research are offered in the university curricula throughout Austria as optional courses.

The supervisory bodies (called *working parties on equality issues*) are set up at each university to provide protection against gender-based discriminatory decisions. Coordination desks for gender studies and feminist research are organised in a decentralised way at Austrian universities and are responsible for overseeing all matters of women-specific research and teaching.

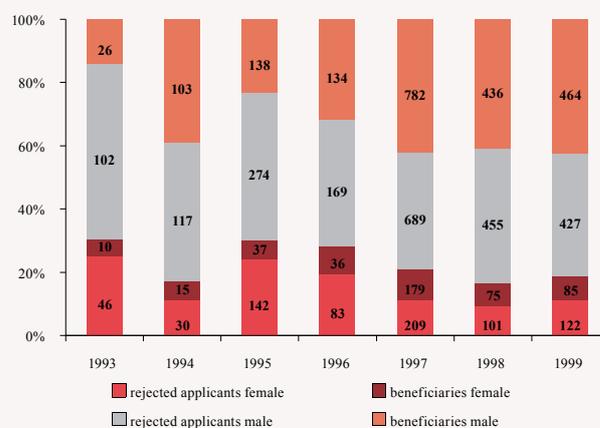
## 7. Work–Life Balance

Maternity leave, time during which working is prohibited, is between 16 to 20 weeks, starting eight weeks before the anticipated delivery date. Paternity leave can be taken up to two weeks following birth. The maternity leave is followed by parental leave, for both women and men, which can extend up to 36 months, during which time family allowance and childcare subsidies are provided. In case of part-time employment childcare subsidies are reduced accordingly. Women scientists and students are supported by a nation-wide web portal on childcare ‘UniKid’<sup>7</sup> and through Children’s Offices and Childcare Contact Points<sup>8</sup> at universities which offer advice about the availability of inexpensive, flexible, walk-in childcare facilities near to or on campus, with hours tailored to the special needs of researchers and students. Part-time scholarships and grants with flexible age limits and childcare subsidies are also offered.

**Relative share of women & men in a typical academic career**



**Funding applicants and beneficiaries**

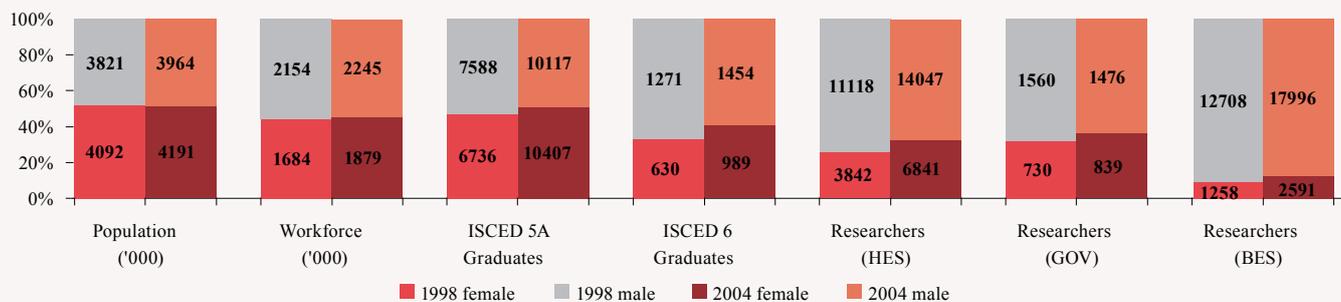


<sup>6</sup> <http://www.fwf.ac.at/en/projects/richter.html#richter>

<sup>7</sup> [http://www.unikid.at/index\\_e.htm](http://www.unikid.at/index_e.htm)

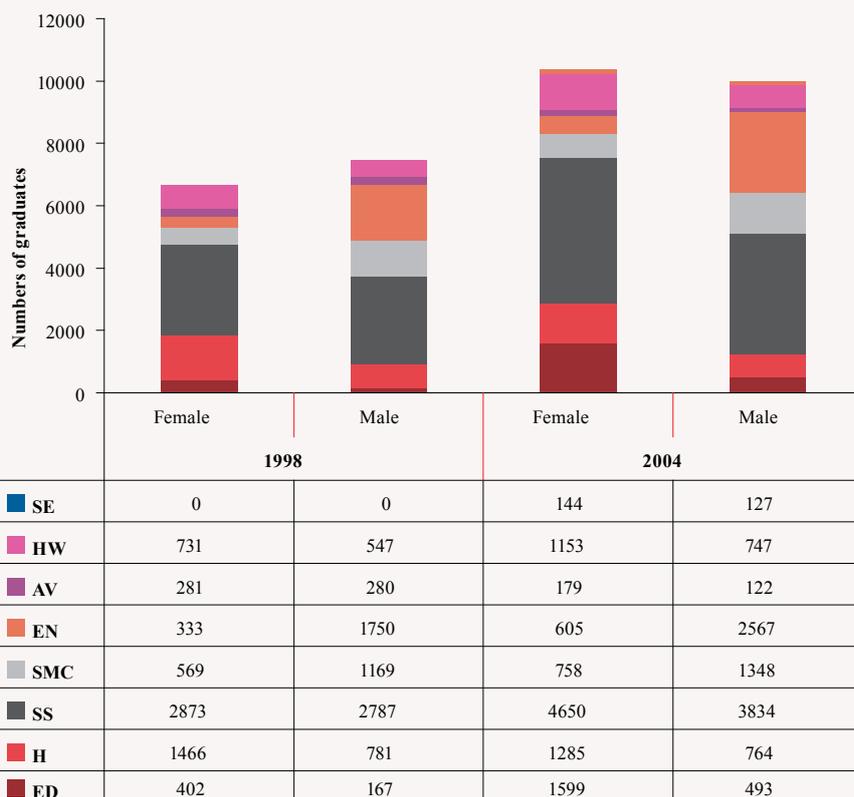
<sup>8</sup> <http://www.univie.ac.at/kinder/index.php?id=10&L=1>

### Overall presence of women in the population, workforce, education and research

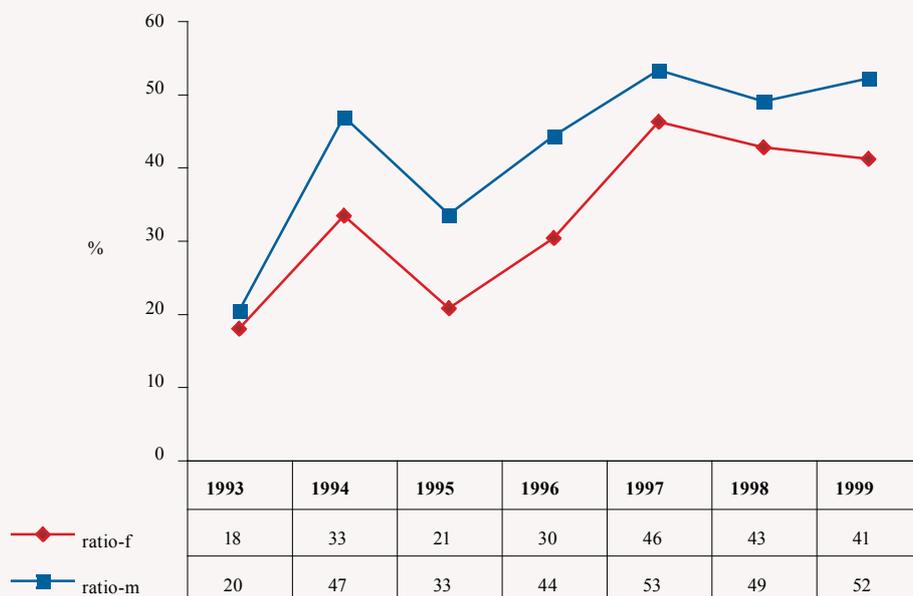


Exception to the reference year: Population and workforce: 1998-06

### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding



# Belgium

## 1. Legal framework:

At the federal level, there are numerous laws on equal opportunities<sup>9</sup>, for example the 1999 Law on equality of treatment between men and women in relation to work conditions, access to employment and advancement<sup>10</sup> and the 1984 Law on positive action for women<sup>11</sup>. At the community and region levels, the Flemish community/region, the French community, the Walloon region, as well as the German community, all produce their own equality decrees<sup>12</sup> relating to employment.

## 2. Commitment to Gender Mainstreaming

Although the various equal opportunities institutions in Belgium are committed to gender mainstreaming, there are no governmental plans yet to introduce either a gender equality policy or gender mainstreaming. However, a National Action plan on gender mainstreaming is being prepared [5]. At the French Community level the Directorate for Equal Opportunities and the Public Administration School<sup>13</sup> intends to train their personnel in gender issues, but due to lack of funding the project has been postponed for now. In the Flemish government, the Equal Opportunities Commission aims at mainstreaming gender and diversity policy through the method of open coordination.

## 3. Women in Science Institutions

At the federal level, the Council for Equal Opportunities between Men and Women<sup>14</sup> and the Institute for Women and Men's Equality<sup>15</sup> (which inherited the responsibilities of the Directorate for Equal Opportunities of the Federal Public Service for Employment, Work and Social Dialogue<sup>16</sup> in 2003) are responsible for equal opportunity issues. At the communities' level, the Management for Equal Opportunity<sup>17</sup>, for the French community, and the Flemish Ministry of Mobility, Social Economy and Equal Chances cell in Flanders<sup>18</sup>, are the bodies responsible for equal opportunity issues in general. At the regional level, the Walloon government has established a Council for Equality between men and women<sup>19</sup>. In science, the Belgian Federal Science Policy Office<sup>20</sup>, the institution responsible for education and scientific research of the French community<sup>21</sup>, and the Department of Economy, Science and Innovation in Flanders<sup>22</sup>, do not have a unit for women in science. However, the Flemish *Science Information Action Plan*<sup>23</sup>, which raises awareness about science in society and promotes science amongst youngsters, has a special section dedicated to 'Girls and Science'<sup>24</sup>. Moreover, in 2008 the Flemish minister responsible for science and innovation will present a new action plan for the enhancement of the attractiveness of researchers' careers. Special attention will be paid to diversity and gender equality measures.

## 4. Targets and quotas

At the Flemish community level, 'all officially established advisory boards who advise government or individual ministers [and the boards of directors of the Flemish public institutions, including the Institute for the Promotion of Innovation in Industry which is the main funding board for industrial research] must have a maximum of two thirds of one sex'<sup>25</sup>. Since 1999, the Walloon-Brussels Community Government has been committed to achieving women-men parity on advisory committees<sup>26</sup>.

## 5. Networks, mentoring, and specific activities

The Belgian Women in Science (BeWiSe) organises workshops and activities to achieve 'equal and full participation of women in all scientific disciplines and at all levels'<sup>27</sup>. Since 1978, the RoSa Documentation

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<sup>9</sup> Institut pour l'égalité des femmes et des hommes (2007) *Egalite entre Travailleurs Feminins et Masculins, Droit Communautaire Europeen/Droit Belge Federal, Documentation De Base*, Brussels.

<sup>10</sup> 'Loi du 7 mai 1999 sur l'égalité de traitement entre hommes et femmes en ce qui concerne les conditions de travail, l'accès à l'emploi et aux possibilités de promotion, l'accès à une profession indépendante et les régimes complémentaires de sécurité sociale'

<sup>11</sup> *Recommandation du Conseil du 13 décembre 1984 relative à la promotion des actions positives en faveur des femmes*

<sup>12</sup> De Schutter (2007) *Combattre la discrimination fondée sur l'orientation sexuelle en matière d'emploi : législation dans quinze États membres de l'UE; Résumé du Chapitre 4 sur la Belgique*, Belgium.

<sup>13</sup> *École d'administration publique*, Lemmens, N. personal communication by email 14/11/07

<sup>14</sup> *Conseil de l'égalité des chances entre hommes et femmes* <http://www.conseildelegalite.be/navigatieframesetfrans.htm>

<sup>15</sup> *Institut pour l'égalité des femmes et des hommes* <http://www.iefh.fgov.be/>

<sup>16</sup> *SPF Emploi, Travail et Concertation sociale* <http://www.emploi.belgique.be/home.aspx>

<sup>17</sup> *Direction de l'Égalité des Chances* <http://www.egalite.cfwb.be/articles.asp?ID=6&siteID=1>

<sup>18</sup> <http://www.gelijkekansen.vlaanderen.be/organisatie/inhoud.htm>

<sup>19</sup> *Conseil Wallon de L'egalite Entre Hommes et Femmes* [http://www.cesrw.be/pages/73\\_1.html](http://www.cesrw.be/pages/73_1.html)

<sup>20</sup> [http://www.belspo.be/belspo/about/index\\_en.stm](http://www.belspo.be/belspo/about/index_en.stm)

<sup>21</sup> *Administration générale de l'enseignement et de la recherche scientifique de la Communauté française de Belgique* - <http://www.enseignement.be>

<sup>22</sup> <http://www.ewi-vlaanderen.be/>

<sup>23</sup> *Wetenschapsinformatieplan*

<sup>24</sup> Dumolyn, B. personal communication by email, 14/09/07

<sup>25</sup> Verlaeck, K. and Bollen, L. (2002) *Women And Science: Review of the situation in Flanders (Belgium)*

<sup>26</sup> Lemmens, N. personal communication by email, 23/08/07

<sup>27</sup> [http://bewise.naturalsciences.be/index\\_html](http://bewise.naturalsciences.be/index_html)

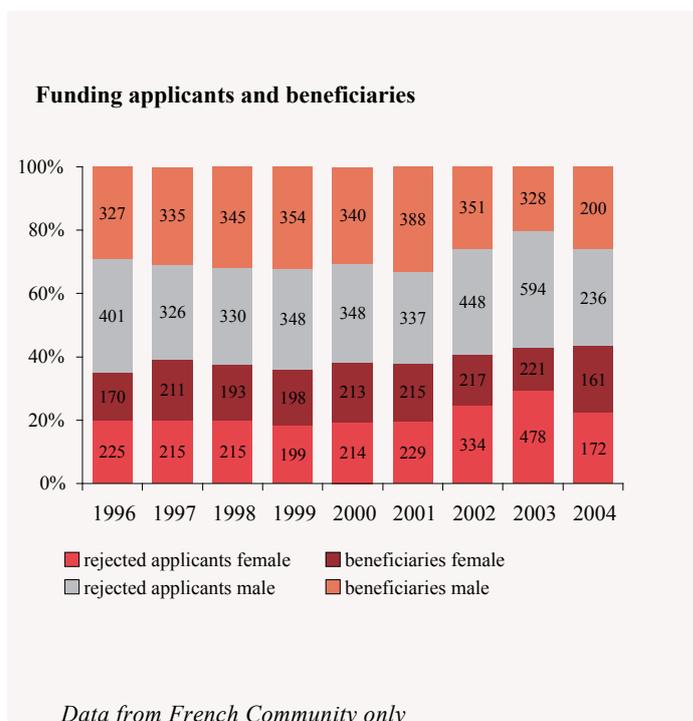
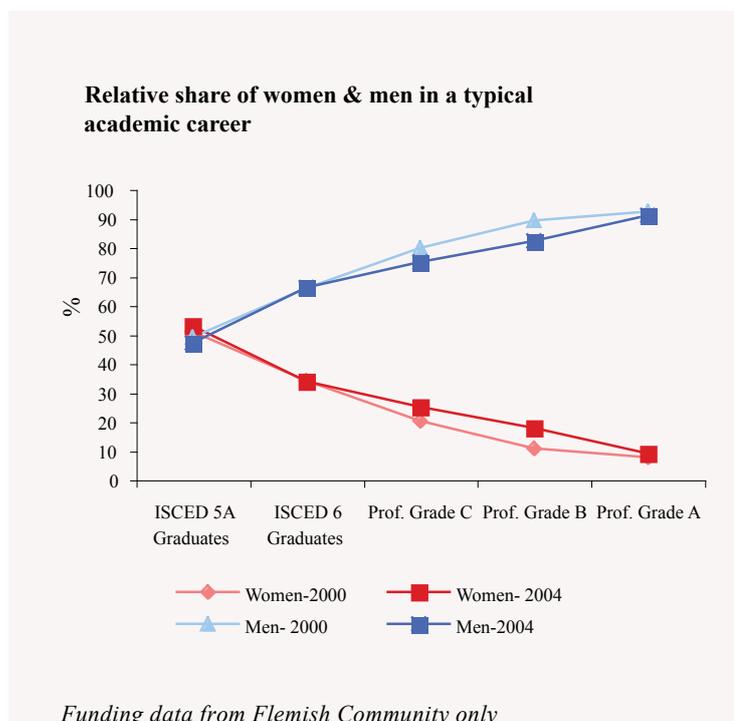
Centre and Archives on Feminism, Equal Opportunities and Women's Studies offers information and documentation on women, with a section on women in science<sup>28</sup>. The Sofia network promotes and develops research on women, feminism and gender. For example, it organises conferences on the state of the art in feminism and gender studies and activities in Belgium and has carried out an inventory of all the activities in this field in Belgium since 1995<sup>29</sup>. The Royal Flemish Engineering Society<sup>30</sup> has a workgroup *Woman and Engineering*, which undertakes special actions to encourage girls to study engineering.

## 6. Universities and research

There are gender and women's studies programmes at Belgian universities. The Flemish universities have the autonomy to pursue their own policies, of which diversity and equal chances are a clear priority. Each Flemish university has set up a cell or service for diversity and equal chances within their administrative structure. Moreover, in the Flemish community, there is the Policy Research Centre on Equal Opportunities, which opened in 2002.

## 7. Work–Life balance measures

In Belgium, maternity leave is 15 weeks and fathers have a right to 10 days' paternity leave, of which three are compulsory. Parental leave is three months per parent per child [4]. Additionally, various work–life balance measures, such as career interruption possibilities in the private and public sectors as well as parental leave, have been implemented in Belgium<sup>31</sup>.



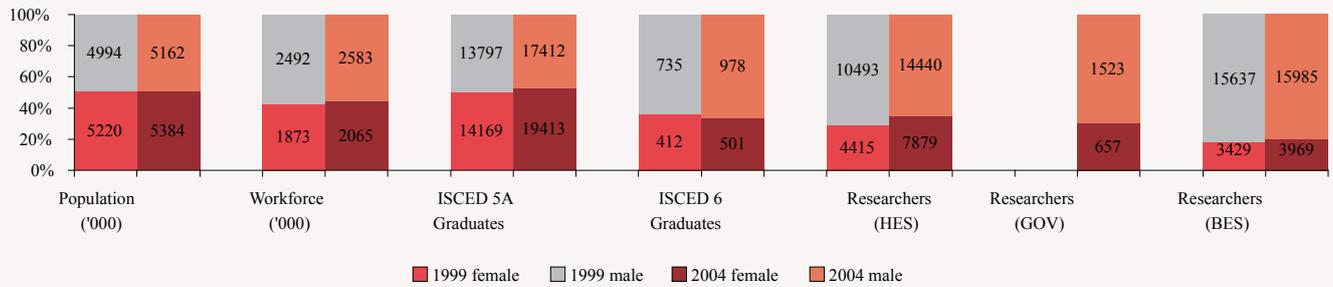
<sup>28</sup> <http://www.rosadoc.be/site/rosa/english/algemeen/index.htm>

<sup>29</sup> [http://www.sophia.be/index.php/genderstudies\\_database?CAKEPHP=197e7be090cb86e499d62a2cd66730d9](http://www.sophia.be/index.php/genderstudies_database?CAKEPHP=197e7be090cb86e499d62a2cd66730d9)

<sup>30</sup> Koninklijke Vlaamse Ingenieursvereniging, <http://www.kviv.be/EngFr/index.html>

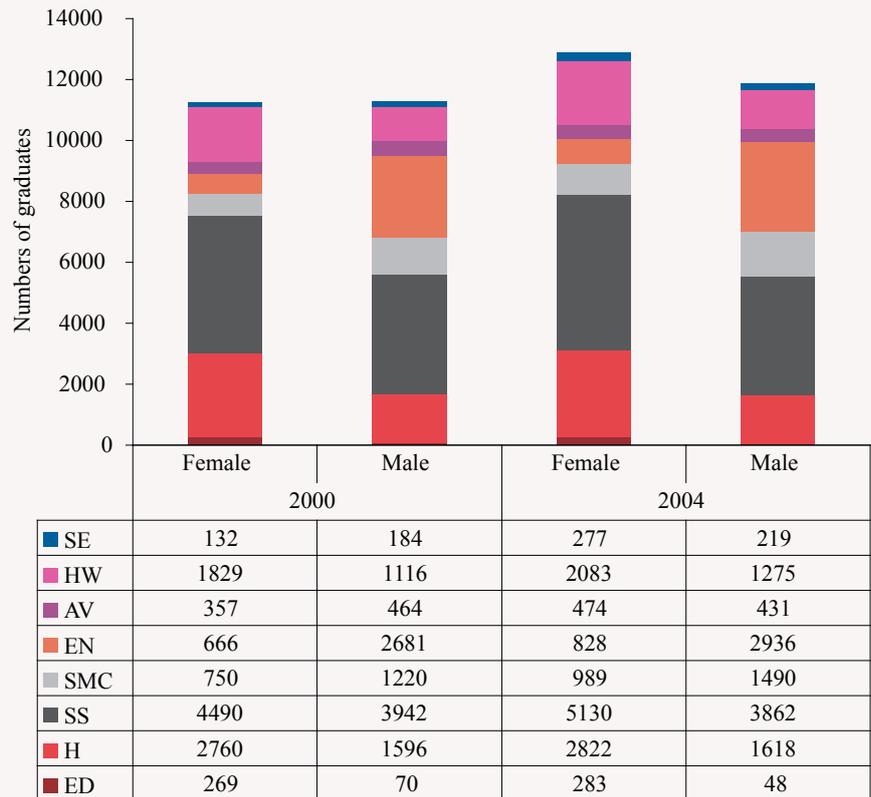
<sup>31</sup> Ibid

### Overall presence of women in the population, workforce, education and research



Exception to the reference year: Population and workforce: 1998-06

### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding



Funding data from Flemish Community only

# Bulgaria

## 1. Legal framework

The legal framework is based on the Family Code (1985, 1992), the Labour Code (the last amendment of which in 2001 introduced the principle of equal pay for women and men - Article 243), the Bulgarian National Action Plan on Employment (2004) (which includes a section on the promotion of equal opportunities for women and men), the Law on Protection against Discrimination (in force since January 2004), and The National Plan for the Promotion of Equality between Women and Men of 2006<sup>32</sup>.

## 2. Women in Science Institutions

A list of the institutional mechanisms for equal opportunities in Bulgaria can be found on the Equal Opportunity Department's website<sup>33</sup> at the Ministry of Labour and Social Policy (as an illustration, there is the Human Rights and Religious Affairs Committee – Subcommittee of Women Rights and Gender Equality<sup>34</sup>, the Discrimination Prevention Committee<sup>35</sup>, and the National Council on Equality between Women and Men at the Council of Ministers<sup>36</sup>, amongst others). There is no unit for women and science at the Ministry of Science and Education<sup>37</sup>, nor at the Bulgarian Academy of Science<sup>38</sup>. A National Steering Committee on Women and Science was set up in 2002. However the Committee has neither office nor funding, making it difficult to carry out any activities<sup>39</sup>.

Limited sex-disaggregated data is presently available in Bulgaria. At the national level, the main source of sex-disaggregated data in science is the National Institute of Statistics (NIS<sup>40</sup>). The data are available from 1970 and contain relevant information about Women in Science since 1994. In 2002 the NIS published its most detailed evaluation of equality and equal opportunity between women and men so far<sup>41</sup>.

## 3. Network, mentoring, and specific activities

There are many associations in the field of equal opportunities for women and men (e.g. the Centre of Women Studies and Policies<sup>42</sup>, the Bulgarian Gender Research Foundation<sup>43</sup>, the Bulgarian fund for women<sup>44</sup> and the Bulgarian Association of University Women<sup>45</sup>). In science, the Applied Research and Communications Fund<sup>46</sup> is involved in the *Technology Partnerships for Women Innovators*<sup>47</sup> project. This project is committed to working with and assisting women in science and in business.

## 4. Universities and research

At Sofia University, the Faculty of Philosophy set up a Centre for Gender Studies<sup>48</sup> in 2000. The Centre offers a masters degree programme, based on an interdisciplinary approach and large international cooperation.

## 5. Work–Life Balance

Maternity leave is available to employed women and starts 45 days before the anticipated delivery date. The duration is 135 days for the first child, 150 days for the second child, 180 days for third child and 120 days for the fourth or further children. During their leave, mothers receive 90% of their salary.

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<sup>32</sup> <http://www.gender-equality.webinfo.lt/results/bulgaria.htm>

<sup>33</sup> <http://www.mlsp.government.bg/equal/equalen/overviewm.asp>

<sup>34</sup> <http://www.parliament.bg/?page=ns&lng=en&nsid=5&action=show&gid=169>

<sup>35</sup> <http://kzd-nondiscrimination.com/>

<sup>36</sup> <http://www1.government.bg/ras/index.html>

<sup>37</sup> <http://www.minedu.government.bg/opencms/opencms/>

<sup>38</sup> <http://www.bas.bg/index-en.html>

<sup>39</sup> Sretenova, N., personal communication by email, 17.04.07

<sup>40</sup> <http://www.nsi.bg>

<sup>41</sup> Delinesheva, M. and Kmetova, T. (2004) *Overview of Gender Equality Issues in Bulgaria*, Sofia: Centre for Women's Studies and Policies

<sup>42</sup> <http://www.cwsp.bg/htmls/home.php>

<sup>43</sup> [www.bgrf.org/en](http://www.bgrf.org/en)

<sup>44</sup> [www.bgfundforwomen.org](http://www.bgfundforwomen.org)

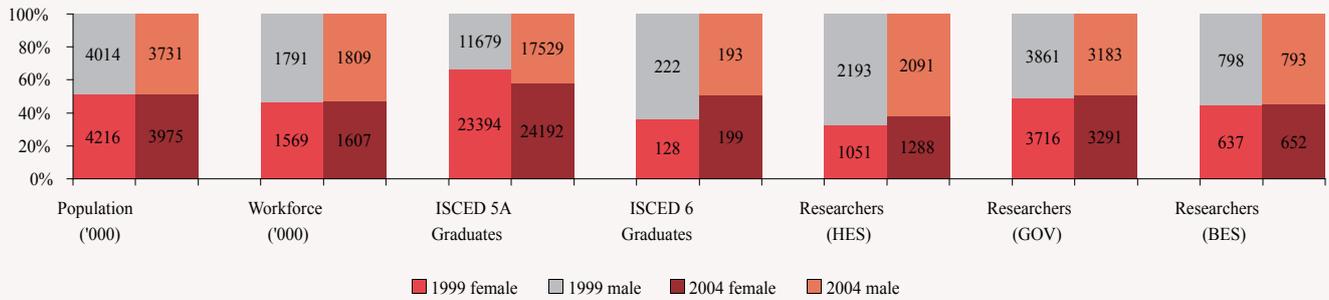
<sup>45</sup> <http://www.ifuw.org/bulgaria/>

<sup>46</sup> <http://www.arcfund.net/>

<sup>47</sup> [www.wenett.eu](http://www.wenett.eu)

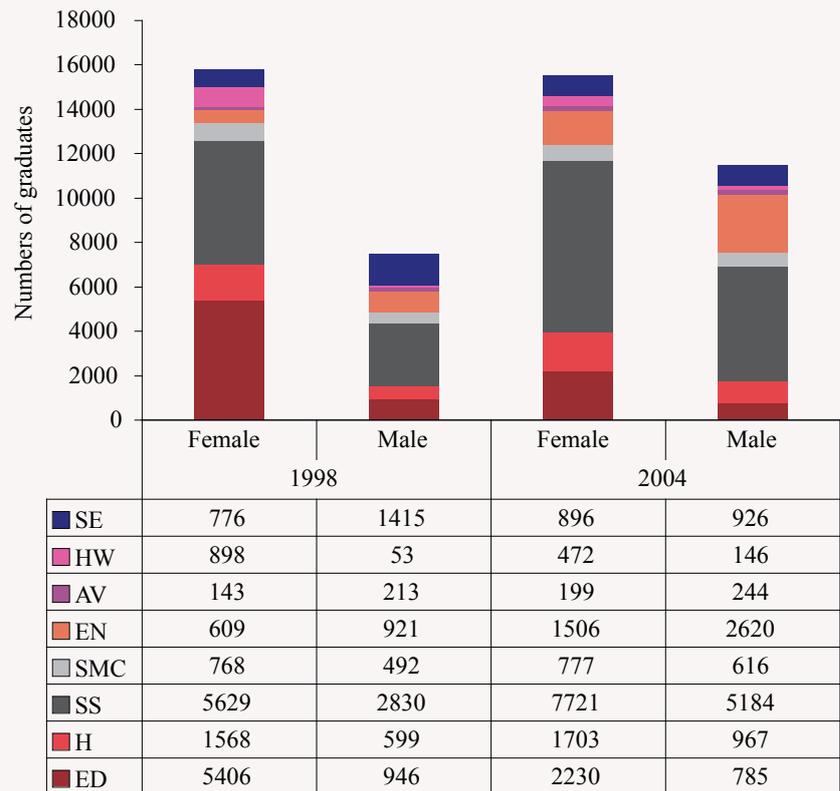
<sup>48</sup> [www.uni-sofia.bg/resources/gsc](http://www.uni-sofia.bg/resources/gsc)

### Overall presence of women in the population, workforce, education and research

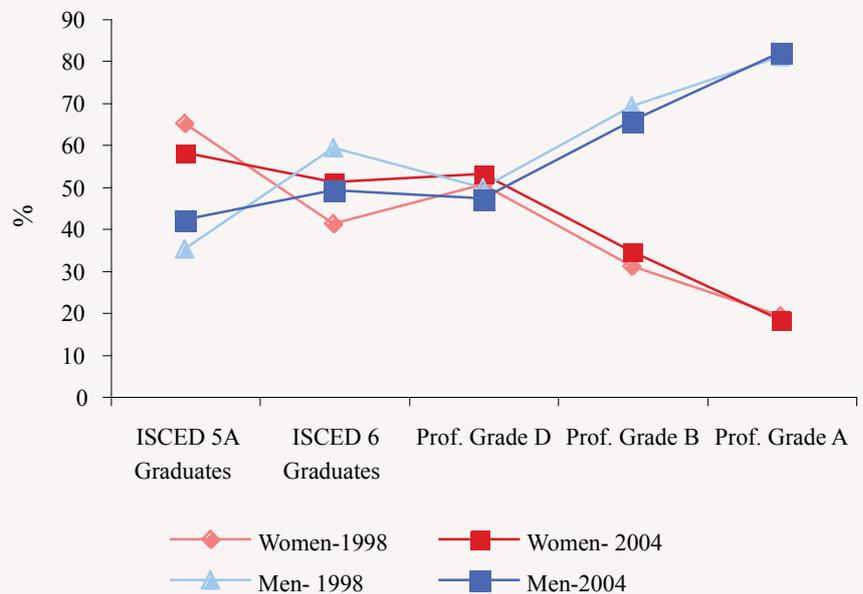


Exception to the ref. year: Population: 1999-06; Workforce: 2000-06

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Prof. A, B and D in Head Count for 1998

# Cyprus

## 1. Legal framework

In order to bring Cypriot legislation in line with relevant international instruments, in 2002, legislative measures relating to gender equality were passed including the Equal Treatment of Men and Women in Employment and Vocational Training Law (2002), the Equal Pay between Men and Women for the Same Work or for Work of Equal Value Law (2002), the Maternity Protection Law (amendment 2002), the Parental Leave and Leave on Grounds of Force Majeure Law (2002), and the Equal Treatment of Men and Women in Professional Social Insurance Schemes Law (2002)<sup>49</sup>.

## 2. Commitment to Gender Mainstreaming

Gender Mainstreaming is not included within the Cyprus National Action Plan on Employment 2004–2006 and it has been commented that *‘the gender concept is often completely absent from the targeted measures proposed and the policies in discussion’*<sup>50</sup>. However, Cyprus is reputed to be preparing a national plan for gender mainstreaming [5].

## 3. Women in Science Institutions

The National Machinery for Women’s Rights (NMWR) is responsible for equal opportunities in general. It is a system of four bodies: the Council for Women’s Rights, the Ministerial Committee for Women’s Rights, the National Committee for Women’s Rights and the General Secretariat of the NMWR<sup>51</sup>. At the science level, neither the Cyprus Scientific and Technical Chamber<sup>52</sup> nor the Research Promotion Foundation<sup>53</sup> has units for women in science.

## 4. Universities and research

The Mediterranean Institute of Gender Studies<sup>54</sup> is located in Cyprus and studies gender and women’s issues in the Mediterranean region. It does not have a specific focus on science. In terms of gender and women’s studies in the University of Cyprus, there is only a research theme within the Department of Education<sup>55</sup>.

## 5. Work–Life balance

Maternity leave is 18 weeks<sup>56</sup> in Cyprus. Moreover, ‘specific targets have been set through the National Action Plan for Employment 2004–2006 for increasing the number of children in childcare’ (Pavlou 2005).

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<sup>49</sup> Pavlou, S. E. (2005) *Equal Opportunity Policy In Cyprus*, online, <http://www.rosadoc.be/site/maineng/pdf/athena%20papers/pavlou.pdf>, accessed 17/03/07.

<sup>50</sup> Panayotou, A. (2004) *Assessment of the 2004 National Action Plan for Employment from a Gender Perspective*, Cyprus,

<sup>51</sup> Republic of Cyprus Planning Bureau (2004) *Community Initiative Programme (Cip)*, “Equal”, online, [http://www.planning.gov.cy/planning/Planning.nsf/eedc8ad57b44327ec2256f0400349c35/78b7a6749d6b9fb9c2256fe40029f304/\\$FILE/%CE%A0.%CE%9A.%CE%A0%20EQUAL.doc](http://www.planning.gov.cy/planning/Planning.nsf/eedc8ad57b44327ec2256f0400349c35/78b7a6749d6b9fb9c2256fe40029f304/$FILE/%CE%A0.%CE%9A.%CE%A0%20EQUAL.doc), accessed 17/03/07

<sup>52</sup> [http://www.etek.org.cy/page.aspx?page\\_id=84](http://www.etek.org.cy/page.aspx?page_id=84)

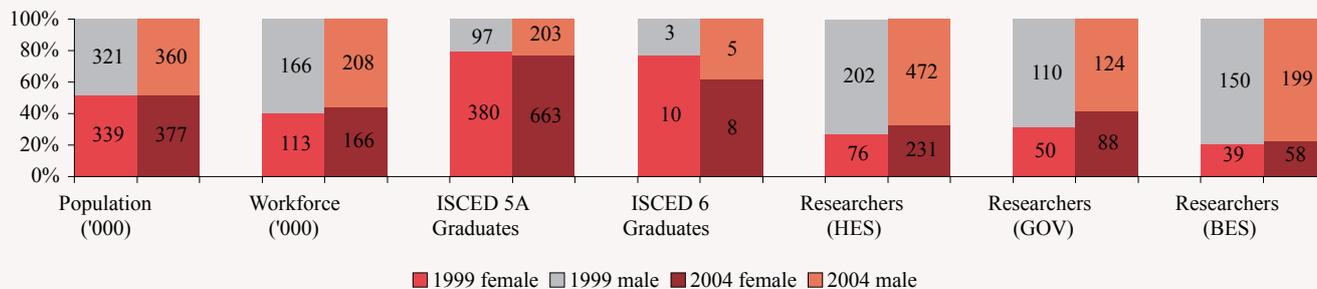
<sup>53</sup> <http://www.research.org.cy/index.php?s=2>

<sup>54</sup> <http://www.medinstgenderstudies.org/wp/>

<sup>55</sup> <http://www.ucy.ac.cy/epa/aboutE/aboute.html>

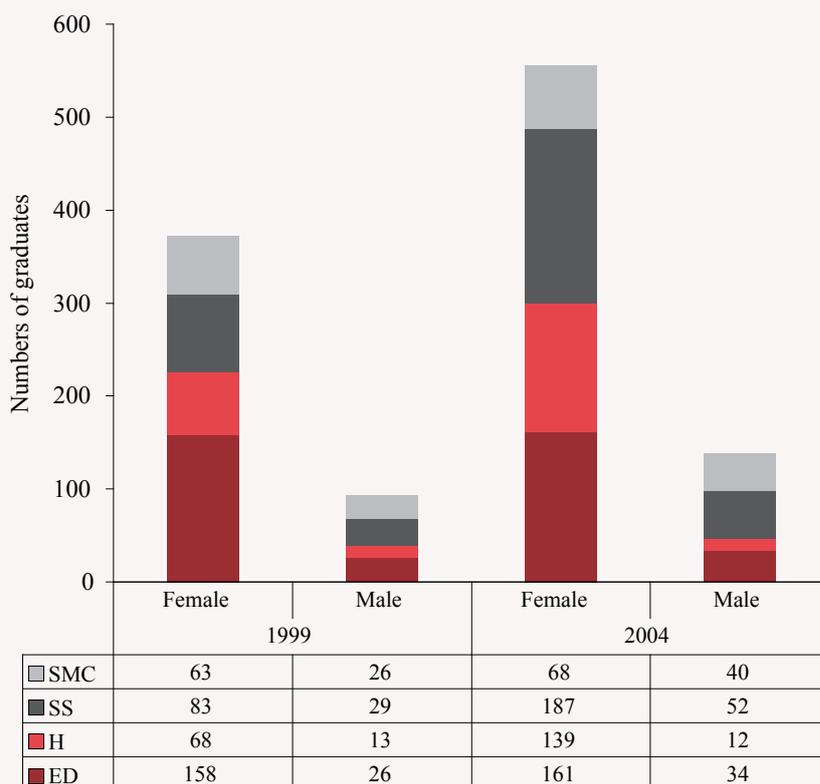
<sup>56</sup> <http://cyprus.angloinfo.com/countries/cyprus/cywork9.asp>

### Overall presence of women in the population, workforce, education and research

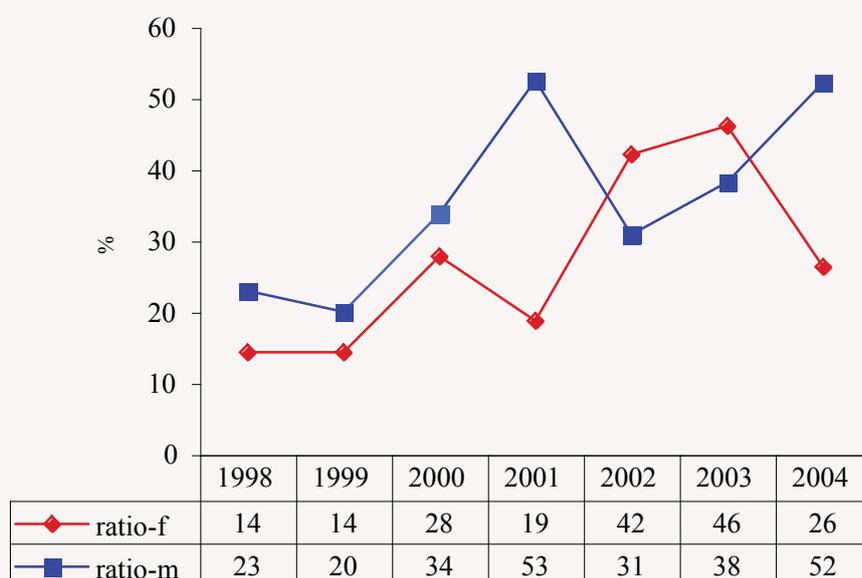


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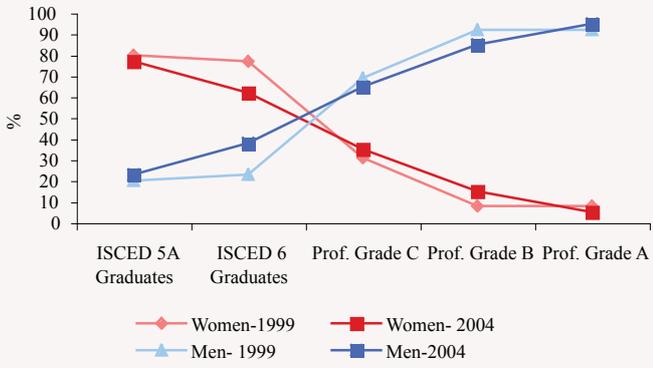
### Evolution of ISCED 5A (1st degree) by field of study



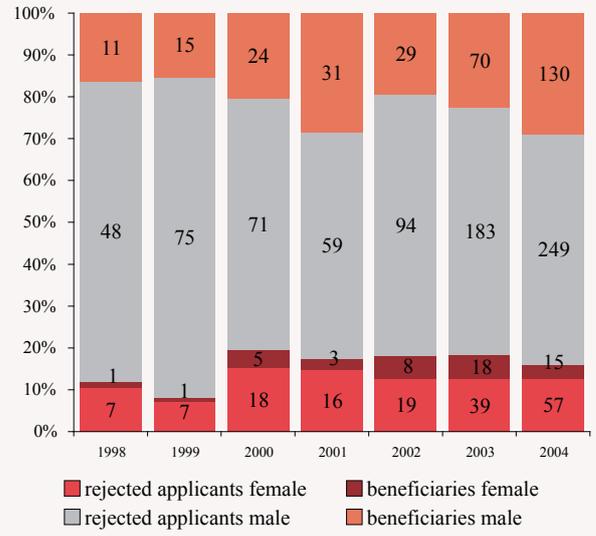
### Success rates of women and men in funding



### Relative share of women & men in a typical academic career



### Funding applicants and beneficiaries



# Czech Republic

## 1. Legal framework

The Labour Code and the Employment Acts were significantly amended in 2004 to include equal treatment and prohibit discrimination; the Czech legal framework now fulfils almost all formal requirements of European law.

## 2. Commitment to Gender Mainstreaming

Although the Czech Republic is committed to gender mainstreaming in governmental documents [5], the implementation process<sup>57</sup> has been very slow and criticised by various Non Governmental Organisations (NGOs) and gender scholars. The Czech Government ‘included the application of mainstreaming among its prime tasks ... but a misunderstanding of the concept of gender mainstreaming can be seen in the reports from other bodies. The Ministry of the Environment, for example, notes that because “the environment... is the same for all, the issue of equality between women and men is not explicitly dealt with in the strategic and conception materials”<sup>58</sup>.

## 3. Women in Science Institutions

The Governmental Council for Equal Opportunities for Men and Women was established in 2001<sup>59</sup> and is responsible for gender equality in general. To date it has never addressed the issue of women in science as an area, which is also true of the governmental priorities and procedures for the Implementation of Equal Opportunities. At the science level, the National Contact Centre – Women in Science – was established at the Institute of Sociology of the Academy of Sciences with the financial support of the Ministry of Education, Youth and Sports, and ‘aims to contribute to shaping gender discourse in R&D, to shaping science policy and human resource policy ... especially with respect to the position of women in science’<sup>60</sup>.

## 4. Networks, mentoring, and specific activities

Despite the disruption of grass-roots movements and institutions which has weakened and eliminated some organisations aimed at supporting professional women<sup>61</sup>, there are some associations for women in the Czech Republic. For example, since its establishment in 2001 the National Contact Centre for Women in Science has taken on the role of representing and promoting the interests of women in science and has served to push for changes (e.g. over the work–life balance issue). It has run and continues to run numerous projects such as *Woman of the Month* or *Young Talents* to show the experiences of young women scientists at the beginning of their careers. In 2007, the National Contact Centre for Women in Science joined the European Platform for Women Scientists as an associate member. There are various associations and networks involved in gender and education but none are aimed at science<sup>62</sup>.

## 5. Work–Life Balance

Maternity leave is 28 weeks<sup>63</sup>. There is no paternity leave [4], but there is a parental leave of three years which can be used by both men and women. Men and women can stay at home on parental support for an additional year, so in total, parents can receive support up to four years of a child’s age. The parental leave is both for men and women although it is hardly used by men due to the gender pay gap and to social stereotypes: the share of men receiving parental benefit for 2001–2003 was only 0.9% (Havelkova 2005).

## 6. Statistics

The very large increase of ISCED 5A graduates between 1998 and 2004 in Czech Republic can be explained by the fact that some diplomas have been upgraded from magisterial courses to ISCED 5A Masters. Since 2007 the Czech Statistics Office has been collecting higher education R&D and pedagogical staff according to credentials (assistant professor, associate professor and full professor) segregated by sex.

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<sup>57</sup> The Governmental Priorities and Procedures for the Implementation of Equal Opportunities for Men and Women, see <http://www.mpsv.cz/en/1991>. Each year, the government produces a Report on the fulfilment of priorities. For a critique of this (the 2004 Shadow Reports), see [http://www.feminismus.cz/download/shadow\\_report/](http://www.feminismus.cz/download/shadow_report/).

<sup>58</sup> Havelkova, B. (2005:26) Equal Opportunities for Women and Men Monitoring law and practice in Czech Republic, Open Society Institute

<sup>59</sup> <http://www.mpsv.cz/en/2020>

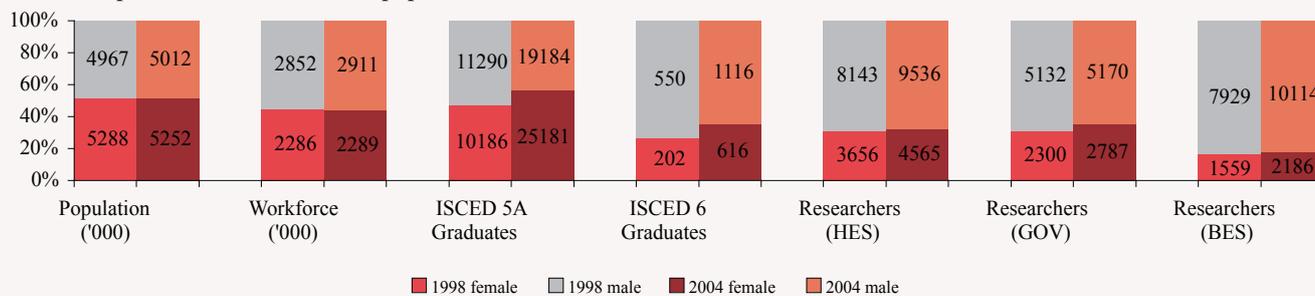
<sup>60</sup> <http://www.zenyaveda.cz/html/index.php?s1=1&s2=7>

<sup>61</sup> Linkova, M. personal communication by email 15/10/07.

<sup>62</sup> Králíková, A. and Sokačová, L. (2006) *Women's and Gender NGOs in the Czech Republic*, Friedrich-Ebert-Stiftung, Prague.

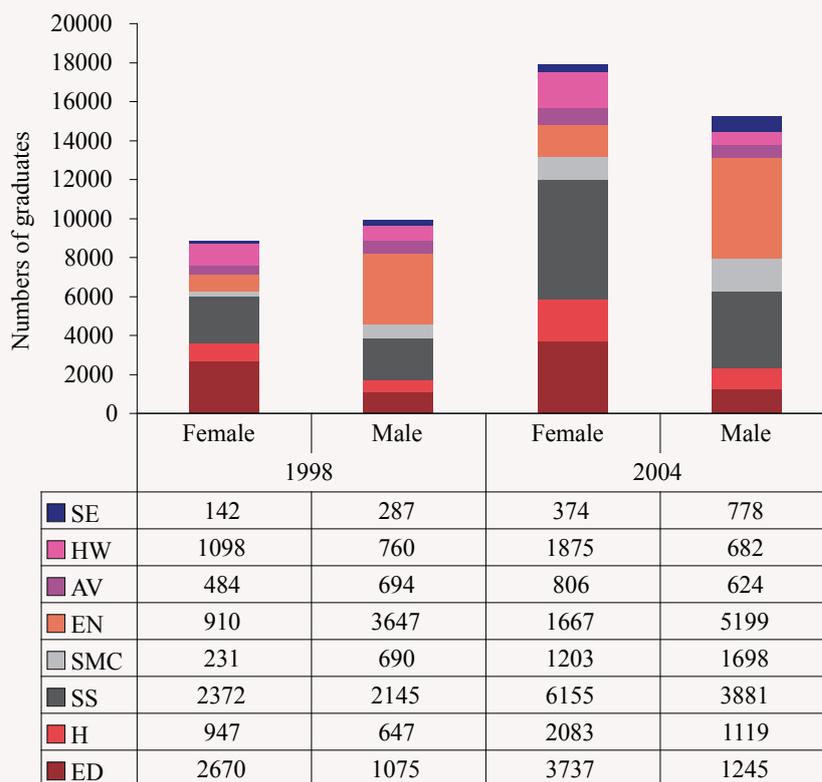
<sup>63</sup> <http://www.cesifo-group.de/pls/guestci/download/CESifo%20DICE%20Report%202006/CESifo%20DICE%20Report%204/2006/dicereport406-db6.pdf>

### Overall presence of women in the population, workforce, education and research

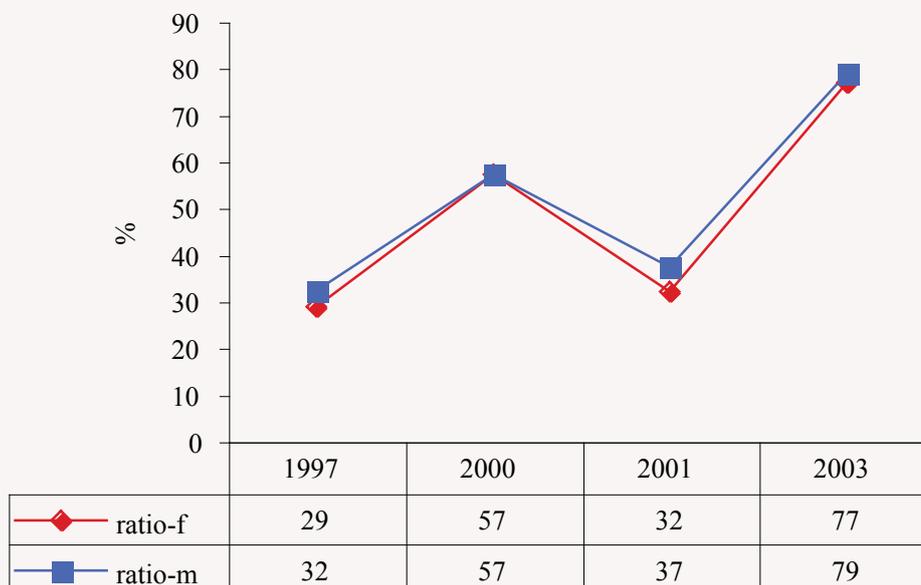


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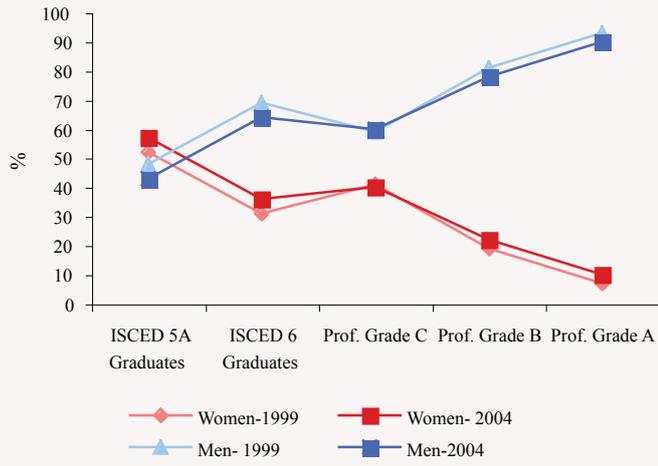
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

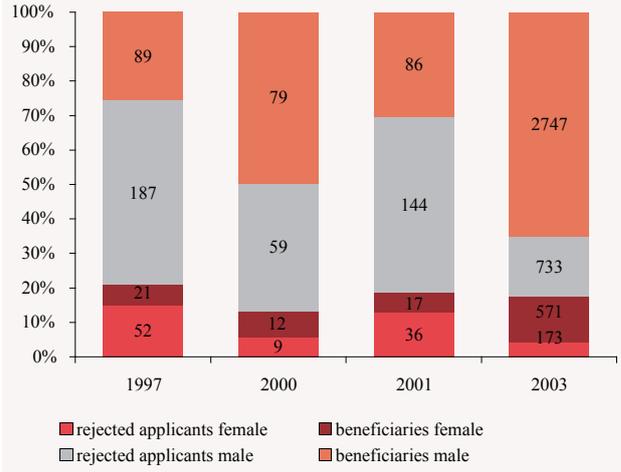


### Relative share of women & men in a typical academic career



*Prof. A, B, and C are in Head Count*

### Funding applicants and beneficiaries



# Denmark

## 1. Legal framework

The Gender Equality (Consolidation) Act (no. 553 of 2 July 2002<sup>64</sup>) regulates the area of gender equality in Denmark. The purpose of this Act is to promote gender equality, including equal integration, equal influence and equal opportunities in all functions in society on the basis of women's and men's equal status. The purpose of the act is also to counteract direct and indirect discrimination on the ground of gender and to counteract sexual harassment.

## 2. Commitment to Gender Mainstreaming

Denmark has adopted gender mainstreaming and the Gender Equality (Consolidation) Act states that 'public authorities within their respective areas of responsibility shall seek to promote gender equality and incorporate gender equality in all planning and administration'<sup>65</sup>.

## 3. Women in Science Institutions

The Ministry for Gender Equality<sup>66</sup> is responsible for equal opportunities in general. The Ministry of Science, Technology and Innovation<sup>67</sup>, jointly with the Ministry for Gender Equality, formed a *Think Tank on More Women in Research*<sup>68</sup>, which published a report in 2005 containing recommendations to increase women's participation in science. However there are no units for women in science in the previously stated science institutions.

Among other things, the *Think Tank* recommends that the universities define objectives in their development contracts with the Ministry of Science, Technology and Innovation or in independent strategies on recruitment and gender equality. The objectives should be measurable, in writing and accessible to the public; and there should be an annual follow-up. The *Think Tank* also recommends that the Parliament allocate resources for a new initiative to promote talented young women in science.

## 4. Targets and quotas

Although there are neither targets nor quotas relating to women in science in Denmark, the Equal Opportunity Act stipulates that 'public committees, commissions and similar bodies set up by a minister for the purpose of laying down rules or for planning purposes of importance to society should consist of an equal number of women and men'<sup>69</sup>.

## 5. Networks, mentoring, and specific activities

The Coordination for Gender Studies in Denmark is in charge of 'initiation, internationalisation, and dissemination of gender research'<sup>70</sup>. It is located at the University of Copenhagen.

The Women's Council<sup>71</sup> is an umbrella organisation for 51 organisations with a total of more than one million members. The Women's Council works for women's rights as well as social, professional, economic and cultural interests.

KVINFO<sup>72</sup> is the Danish Centre for Research on Women and Gender. Its primary goal is to inform the general public of the results of women's studies and gender research in Denmark and internationally. KVINFO's core activity is its library with over 20,000 books and journals, political publications on equal opportunities and women's issues. Among other things KVINFO's service include a database on women professionals, a mentor network programme and a web magazine.

## 6. Universities and research

After the *Think Tank on More Women in Research* published its report in 2005, a number of universities formulated specific objectives concerning the proportion of female researchers in their development contracts for 2006-2008; for instance, the University of Southern Denmark aimed to increase the proportion of female researchers by 1% a year in the period 2006-2008<sup>73</sup>.

The development contracts for the period 2006-2008 are currently being replaced by a new set of contracts covering the period 2008-2010, but this general commitment to increase the proportion of female researchers is also apparent in the new set of development contracts.

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<sup>64</sup> <http://ligeuk.itide.dk/Default.asp?ID=194>

<sup>65</sup> <http://eng.social.dk/index.aspx?id=6b4eeb6e-37a7-42a5-96e5-1e10b43c0771>

<sup>66</sup> <http://ligeuk.itide.dk>

<sup>67</sup> <http://videnskabsministeriet.dk/site/frontpage>

<sup>68</sup> Pedersen, L. (2005) *Bringing All Talent into Play – More Women in Science*, The Minister for Science and the Minister for Equality's Think Tank on more women in research, Denmark.

<sup>69</sup> <http://eng.social.dk/index.aspx?id=6b4eeb6e-37a7-42a5-96e5-1e10b43c0771>

<sup>70</sup> <http://www.sociology.ku.dk/koordinationen/english/>

<sup>71</sup> [www.kvindaadet.dk](http://www.kvindaadet.dk)

<sup>72</sup> [www.kvinfo.dk](http://www.kvinfo.dk)

<sup>73</sup> Kirkegaard, H.-L., personal communication by email, 11/01/08

Moreover, the Ministry of Science, Technology and Innovation has launched a research programme for young female researchers. In the period of 2006-2008 DKR 45 m will be granted to research projects in natural and technology sciences. Both men and women are welcome to apply for the grants but if two applicants are just as qualified, the applicant from the underrepresented gender will receive the grant.

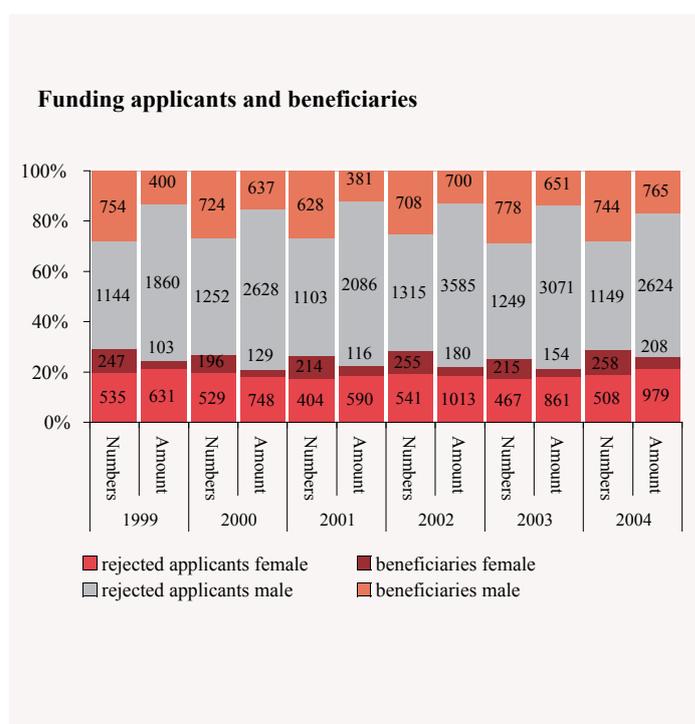
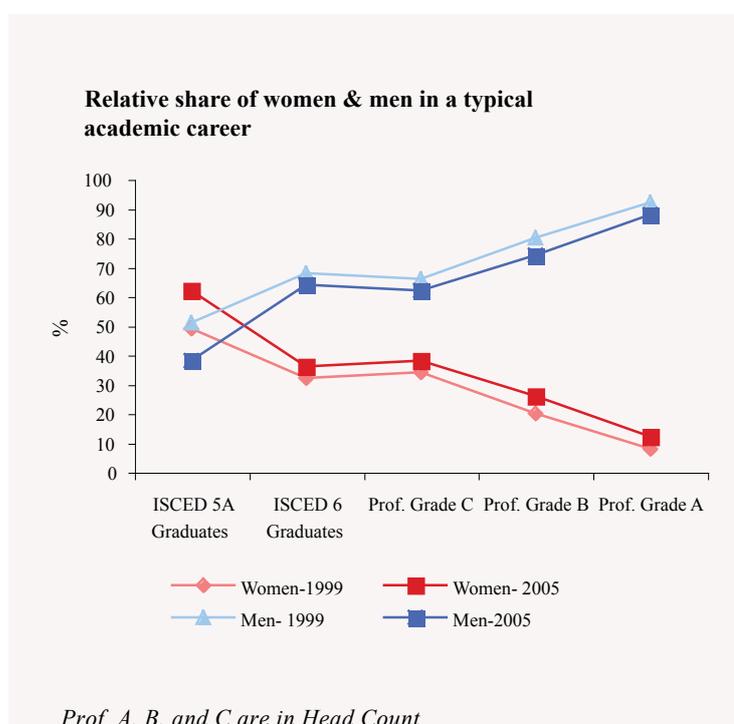
Finally, like other public institutions in Denmark, the universities should account for their achievements in gender equality, every second year, to the Ministry of Science, Technology and Innovation. Based on the feedback from the universities, the ministry writes a report on gender equality to the Ministry for Gender Equality.

### 7. Work–Life Balance

Maternity leave is 18 weeks, paternity leave is 2 weeks and parental leave is 32 weeks (per family), until the child is 48 weeks old [4].

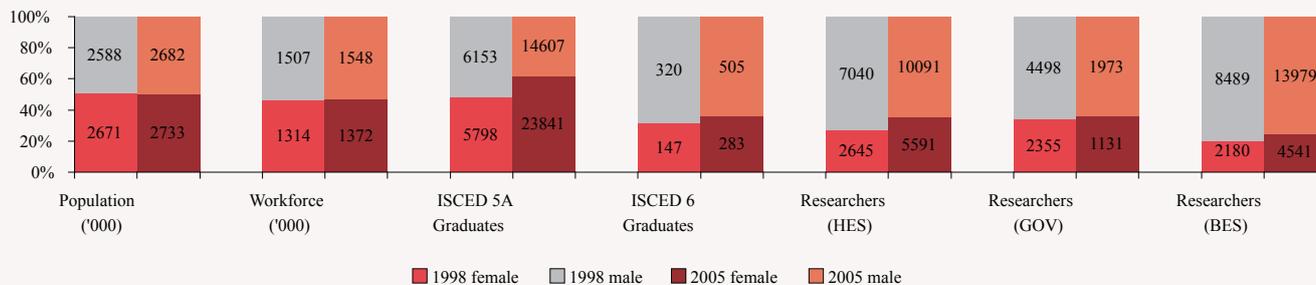
### 8. Statistics

The very substantial increase of ISCED 5A graduates between 1998 and 2005 in Denmark can be explained by the fact that some diplomas, such as those for nurses and primary school teachers for example, have been upgraded from ISCED 5B to 5A<sup>74</sup>.



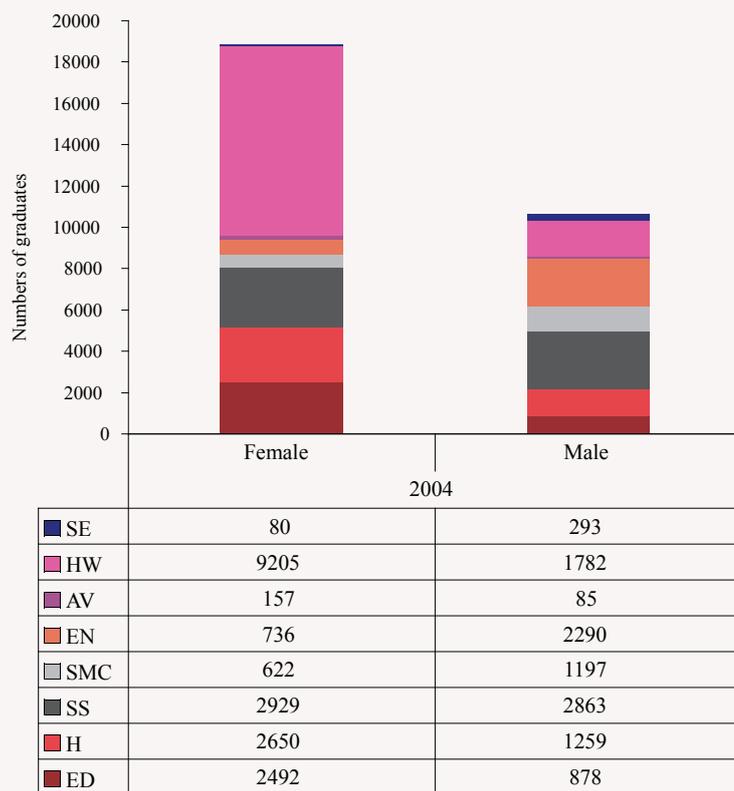
<sup>74</sup> Jensen, L., Statistics Denmark, personal communication by email, 05/07/07

### Overall presence of women in the population, workforce, education and research

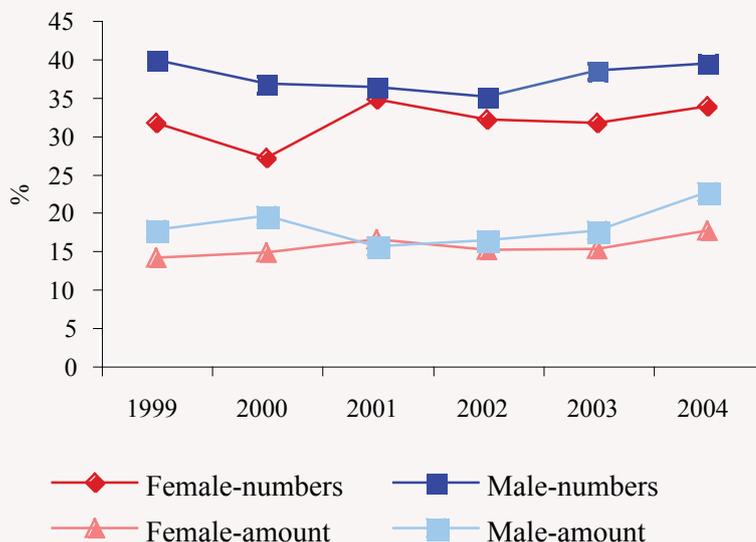


Exception to the ref. year: Population and workforce: 2006; Res (BES): 1998-03

### ISCED 5A (1st degree) by field of study



### Evolution of success rates in funding



## Estonia

### 1. Legal framework

The Gender Equality Act came into force in 2004 and ‘for the first time, Estonian legislation defines terms such as *gender equality*, *equal treatment*, as well as *direct* and *indirect* discrimination, and *sexual harassment*’<sup>75</sup>. In 2004, the Act on Parental Benefit and the Act on Employment Contracts also entered into force and prohibit unequal treatment.

### 2. Commitment to Gender Mainstreaming

Estonia is committed to gender mainstreaming through the Gender Equality Act; however, there are no specific resources allocated to gender mainstreaming [5].

### 3. Women in Science Institutions

The Gender Equality Department<sup>76</sup> of the Ministry of Social Affairs is responsible for the elaboration of gender equality politics in general. There are no units for women in science in the Estonian science institutions (Ministry of Education and Research<sup>77</sup>, Estonian Science Foundation<sup>78</sup>, Estonian Academy of Science<sup>79</sup>). The Statistical Office of Estonia’s annual statistical reports on education are sex-disaggregated but some information on its website is not<sup>80</sup>.

### 4. Networks, mentoring, and specific activities

Estonia is part of Nordic networks such as Innovative Women in the North<sup>81</sup> and the Baltic states network: Women in Science and High Technology<sup>82</sup>; an Estonian WiTEC<sup>83</sup> (European Association for Women in Science and Technology) was formed in 2000 and is hosted at the Tallinn University of Technology.

### 5. Universities and Research

The Unit of Gender Studies (1995<sup>84</sup>) at the University of Tartu acts as an academic programme, research and information centre. Although they do not offer full BA or MA degree course, they offer separate courses. It is also possible to take additional courses on gender studies at the Tallinn University since 2003 (organised by The Estonian Women’s Studies and Resource Centre).

### 6. Work–Life Balance

Maternity leave is 20 weeks; there is a paternity leave of 14 days available (from 2008, this will be a full-paid leave<sup>85</sup>); and parental leave is 45 weeks [4]. From 2007 on, fathers can also take a six-month full-paid parental leave. However, according to Sepper and Linntam (2005:31) ‘it is still very rare that fathers take parental leave, although they have been granted this right [by] law for many years’.

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<sup>75</sup> Sepper, M-L. and Linntam, M. (2005) *Equal Opportunities for Women and Men, Monitoring law and practice in Estonia*, Open Society Institute

<sup>76</sup> <http://www.sm.ee/eng/pages/index.html>

<sup>77</sup> <http://vana.hm.ee/uus/hm/client/index.php?1>

<sup>78</sup> <http://www.etf.ee/index.php?setlang=eng>

<sup>79</sup> <http://www.akadeemia.ee/en/>

<sup>80</sup> [http://pub.stat.ee/px-web.2001/I\\_Databas/Social\\_life/02Education/08Higher\\_education/08Higher\\_education.asp](http://pub.stat.ee/px-web.2001/I_Databas/Social_life/02Education/08Higher_education/08Higher_education.asp)

<sup>81</sup> <http://www.quinest.ee/eng/index.htm>

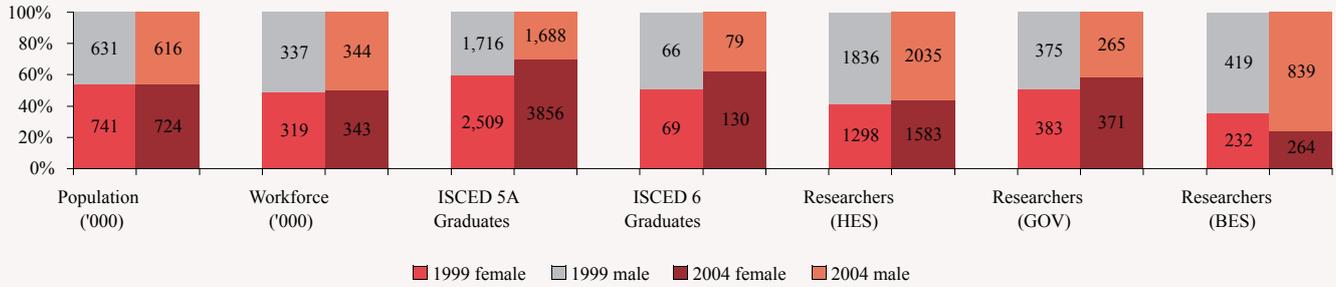
<sup>82</sup> <http://www.basnet-fp6.eu/>

<sup>83</sup> [http://www.witec-eu.net/html/network\\_estonia.htm](http://www.witec-eu.net/html/network_estonia.htm)

<sup>84</sup> <http://www.ut.ee/gender/?ln=2>

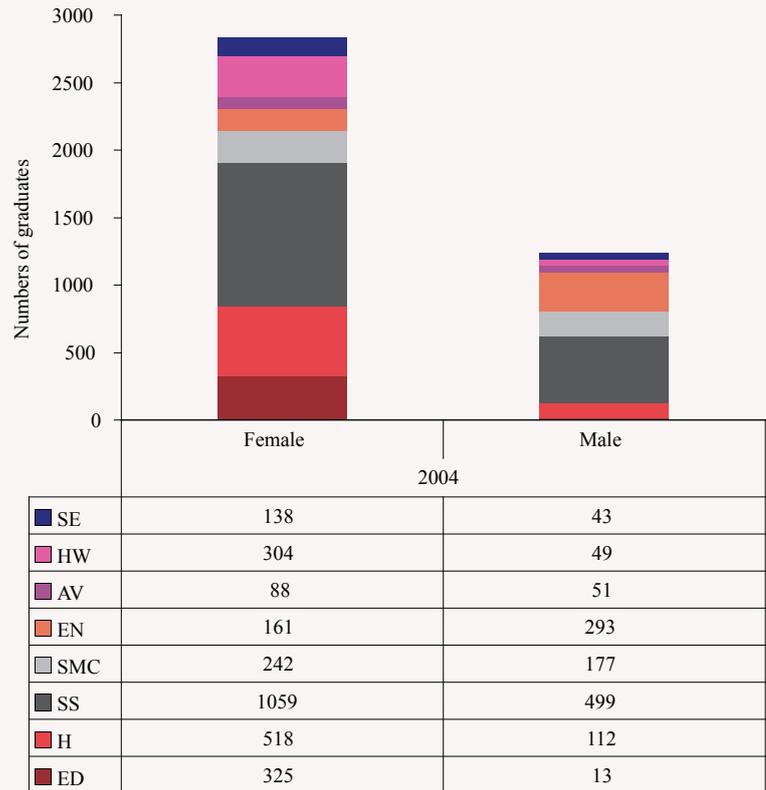
<sup>85</sup> Lepa, R., personal communication by email 07/12/07

### Overall presence of women in the population, workforce, education and research

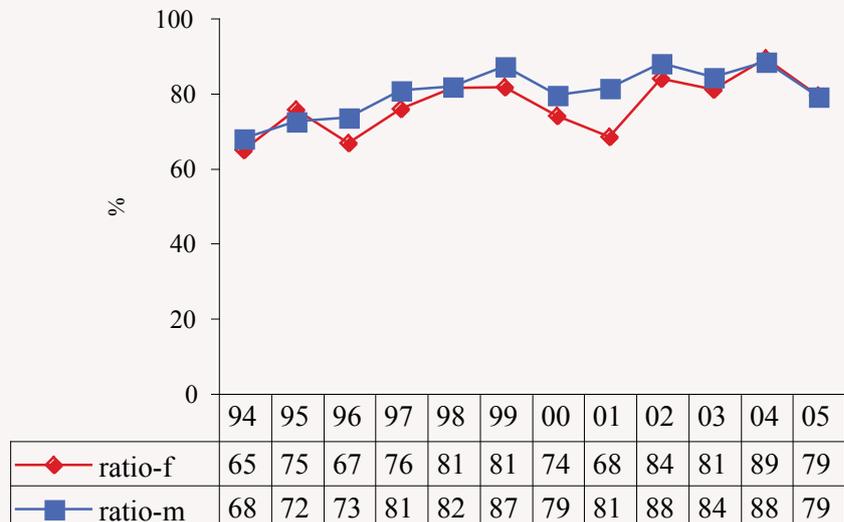


Exception to the ref. year: Population and workforce: 1999-06

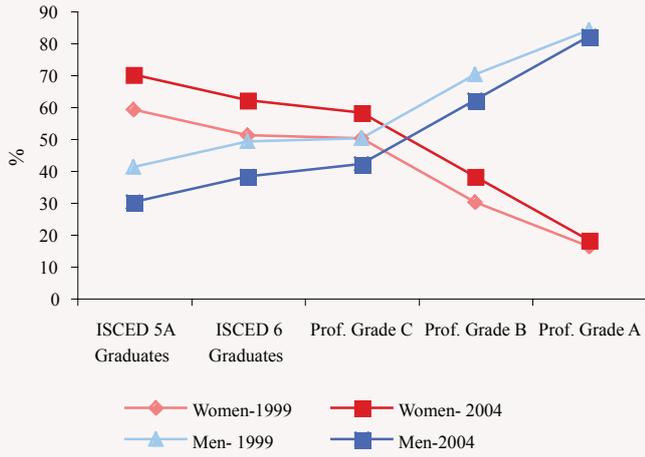
### ISCED 5A (1st degree) by field of study



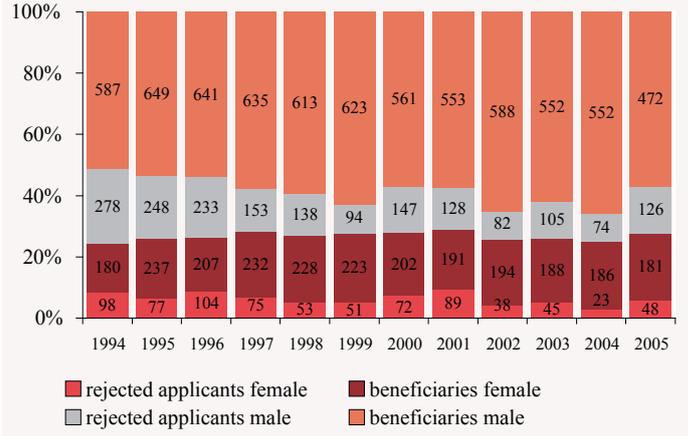
### Success rates of women and men in funding



### Relative share of women & men in a typical academic career



### Funding applicants and beneficiaries



# Finland

## 1. Legal framework

The Act on Equality between Women and Men<sup>86</sup>, last amended in 2005, has been in force since 1987. Since 1995, the Act legislates on the quota related to the proportion of women in governmental institutions and is aimed at preventing gender discrimination, promoting equality between men and women and improving women's position in working life. Moreover, the Equality Ombudsman issued, in 1990, guidelines to universities on how to promote gender equality (Husu 2007<sup>87</sup>). Finally, in 2007, the Finnish Ministry of Finance issued a recommendation for the promotion of gender equality in governmental offices<sup>88</sup>.

## 2. Commitment to Gender Mainstreaming

The Finnish Government is committed to gender mainstreaming [5] and The Academy of Finland as well as several universities have adopted gender mainstreaming as a strategy (Husu 2007).

## 3. Women in Science Institutions

General equality matters are the responsibility of the Ministry of Social Affairs and Health; the practical implementation of equal opportunity is assured by the Ombudsman for Equality, the Gender Equality Unit, and the Council for Equality<sup>89</sup>. However, in Finland, all ministries have the responsibility to promote gender equality within their own sphere of competence. Ministries have no specific units for women in science, as this is the line of policy accepted and pursued in Finland. The Academy of Finland, the main research funding organisation, has an Equality Working group and an Equality Plan that states that the minority gender should occupy at least 40% of all research posts, expert positions and working group appointments. The Equality Plan states that: 'if the percentage of the underrepresented gender falls below 40 per cent for the position in question, of two applicants who are equally qualified or only slightly differ in their level of qualification, the representative of the underrepresented gender shall be selected'<sup>90</sup>.

## 4. Targets and quotas

According to the Act on Equality between Women and Men, 'the proportion of both women and men in government committees, advisory boards and other corresponding bodies ... must be at least 40 per cent, unless there are special reasons to the contrary'. As a result, national research councils and the national science and technology council have reached gender balance.

## 5. Networks and mentoring

The University of Helsinki started in 1998 a European network on gender equality in higher education. The University moderates the electronic discussion list of that network, *eq-uni*, which has over 440 members from over 30 countries. The Association for Women's Studies<sup>91</sup> presents information on women and gender studies, publishes the only Finnish women's studies journal, and started one of the first Electronic networks of women's studies in Europe. The University Network for Women's Studies 'aims at improving cooperation in both teaching and research, as well as at facilitating communication'<sup>92</sup>. The National Council of Women of Finland is the umbrella organisation of women's organisations in Finland (that is, for organisations such as the Finnish Medical Women's Association and Women Agronomists in Finland; a comprehensive list is available on their website<sup>93</sup>).

In science, the Finnish WiTEC branch is involved in projects for women in science, such as *Tina*<sup>94</sup>, which aims at reducing the division between men's and women's professions. The *Weme.fi* web community is aimed at supporting the networking of women in engineering fields as well as their career promotion<sup>95</sup>. Women Researchers in Helsinki is an association, re-established in 2006, which brings together women from different scientific disciplines and at different stages of their research careers and works to improve the position of women within the scientific community<sup>96</sup>. New mentoring programmes for women researchers are being launched by universities, who also offer support in research project management<sup>97</sup>.

## 6. Universities and research

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<sup>86</sup> <http://www.tasa-arvo.fi/Resource.phx/tasa-arvo/english/authorities/legislation/actonequality.htm>

<sup>87</sup> Husu, L. (2007) *Women in Universities in Finland: Relative Advances and Continuing Contradictions*, in Mary Ann Danowitz Sagaria (ed.) *Women, Universities, and Change. Gender Equality in the European Union and United States*. New York: Palgrave Macmillan.

<sup>88</sup> Recommendation for the promotion of gender equality in governmental offices 17 April 2007. Ministry of Finance.

<sup>89</sup> <http://www.genderequality.fi/Resource.phx/eng/subject/gendr/index.htm>

<sup>90</sup> <http://www.aka.fi/>

<sup>91</sup> <http://www.uta.fi/jarjestot/suns/eng/index.htm>

<sup>92</sup> [http://www.helsinki.fi/hilma/en\\_ja\\_ru/index\\_en.htm](http://www.helsinki.fi/hilma/en_ja_ru/index_en.htm)

<sup>93</sup> <http://www.naisjarjestojenkeskusliitto.fi/english.html>

<sup>94</sup> [http://tina.tkk.fi/english/index\\_eng.htm](http://tina.tkk.fi/english/index_eng.htm)

<sup>95</sup> <http://www.weme.fi/>

<sup>96</sup> <http://blogit.helsinki.fi/tutkijanaiset/index.htm>

<sup>97</sup> Ministry of Education (2007) *Action programme for the development of researcher training and research careers for 2007–2011*.

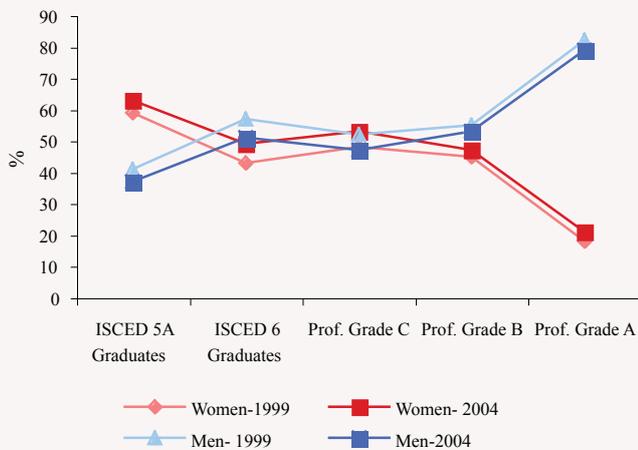
Gender and women's studies are well developed in Finland. Gender equality plans are produced in universities and there are specific professorships for women in women's studies centres (not earmarked for women, but for the field of women's studies – also male scholars could in principle apply for them). Most universities have gender equality committees (which network nationally and have a national email discussion list, Husu 2007), one (Helsinki) has a full-time gender equality adviser, and several have conducted gender equality surveys. Finnish women's and gender studies have been assessed to be of a high standard and competitive, for example as recipients of external funding<sup>98</sup>.

### 7. Work–Life Balance

Maternity leave is 17.5 weeks; paternity leave is 18 working days, plus a further 12 'bonus' days for fathers who take the last two weeks of parental leave; parental leave is 158 working days per family<sup>99</sup>. A new government programme (April 2007) proposes measures to increase the well-being of families by, among other things, extending the paternal leave by two weeks. It is intended that the costs of family leave will be distributed more equally than at present by sharing them out between employers of male- and female-dominated fields and by increasing the amount of funding provided by the government. The funding period granted by the Academy of Finland may be extended on the basis of maternity, paternal and parental leaves. The Academy of Finland entitles a 20% increase in grants to researchers with minor dependants (Equality Plan 2005–2007)<sup>100</sup>.

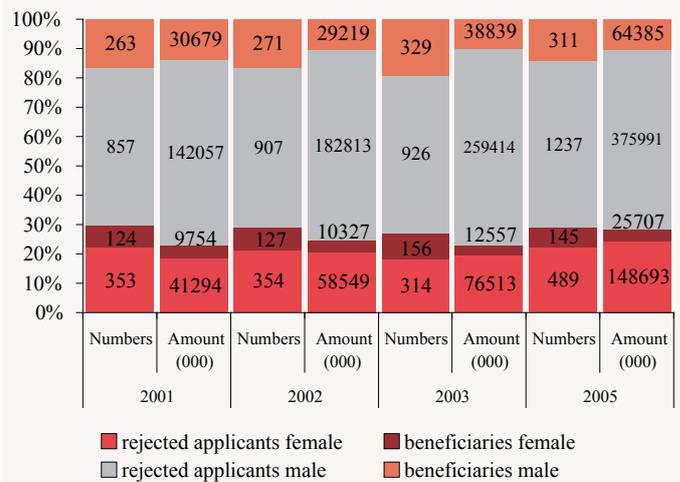
University teachers are among the groups which use their paternity leave rights least compared to most other occupational groups. The higher the education level, the more children men have, whereas the contrary is true for women.

**Relative share of women & men in a typical academic career**



Prof A, B and C data are in Head Count  
Exception to ref. year: ISCED 5A and 6:1999-03

**Funding applicants and beneficiaries**

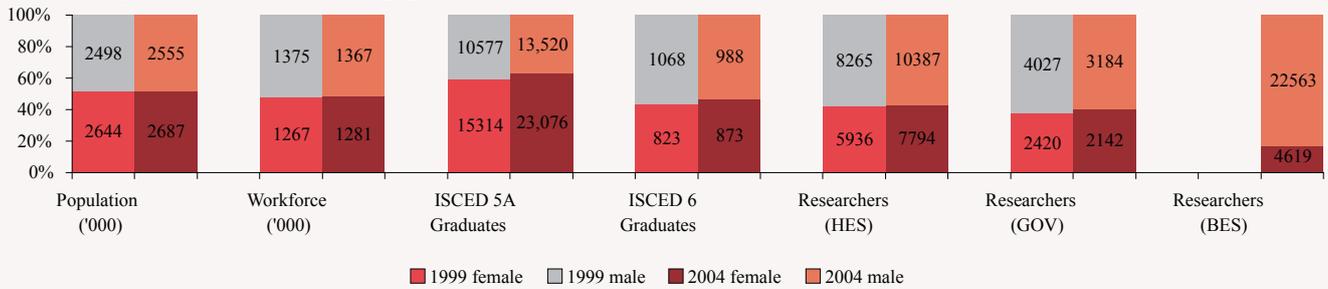


<sup>98</sup> Academy of Finland (2002) *Women's Studies and Gender Research in Finland. Evaluation Report.*

<sup>99</sup> <http://www.stm.fi/Resource.phx/publishing/documents/8849/index.htm>

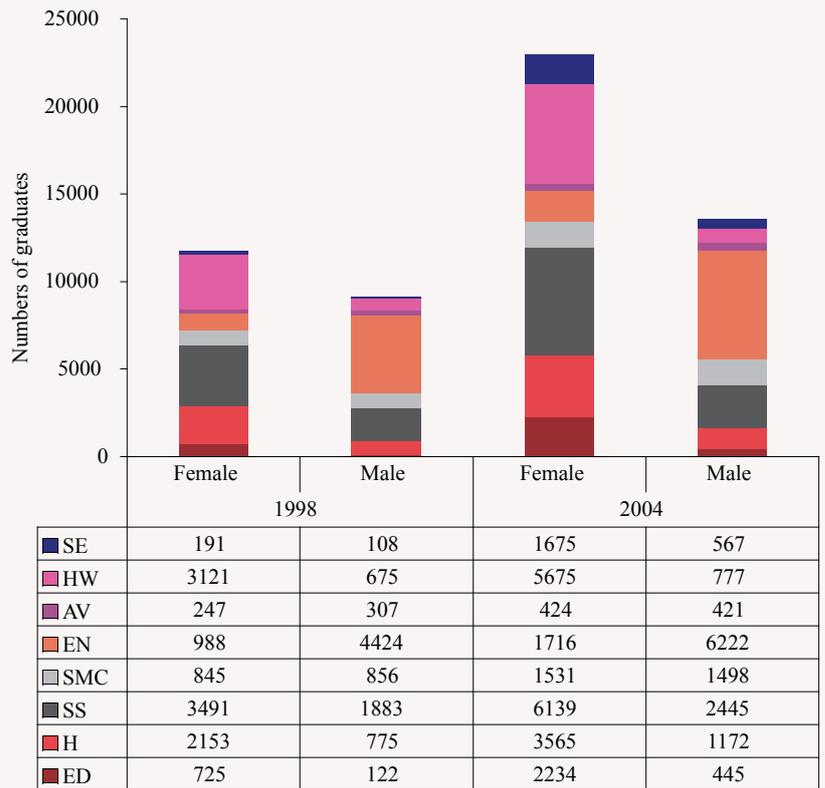
<sup>100</sup> [http://www.aka.fi/modules/page/show\\_page.asp?id=488C2CC0667B4D8BB9D56F7F66291F6E&tabletarget=data\\_1&MENU\\_2\\_activeclicked=16163A65D5354FB2AC20DACF755A4B28&MENU\\_2\\_open=true&pid=70983D3C99624961926BACD636146B0A&layout=aka\\_eng\\_sisa](http://www.aka.fi/modules/page/show_page.asp?id=488C2CC0667B4D8BB9D56F7F66291F6E&tabletarget=data_1&MENU_2_activeclicked=16163A65D5354FB2AC20DACF755A4B28&MENU_2_open=true&pid=70983D3C99624961926BACD636146B0A&layout=aka_eng_sisa)

### Overall presence of women in the population, workforce, education and research

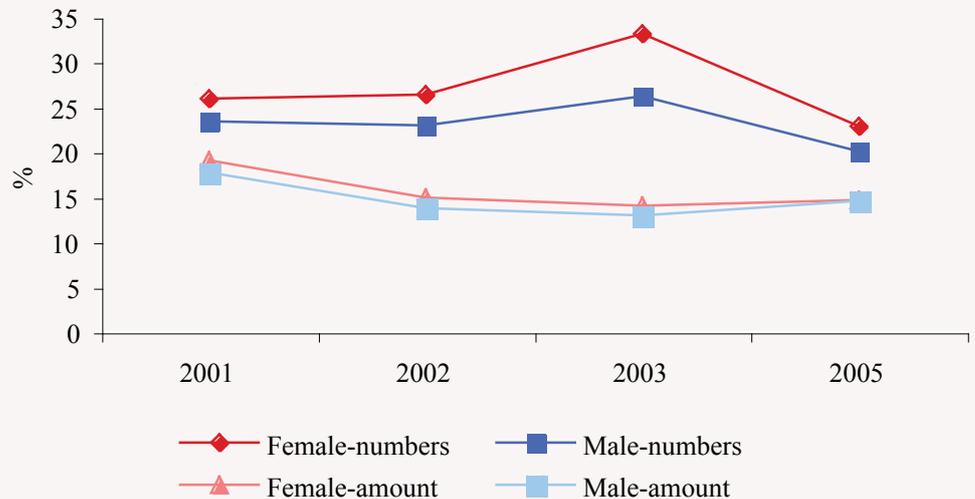


Exception to the ref. year: Population and workforce: 1999-06; ISCED 5A:1998-03; ISCED 6: 1998-04

### Evolution of ISCED 5A (1st degree) by field of study



### Evolution of success rates in funding



# France

## 1. Legal framework

The Ministry for Social Cohesion and Parity lists many laws covering equal opportunities between men and women in France<sup>101</sup>. One of them is the Law on Professional Equality between Men and Women<sup>102</sup>. Equal representation of women in science is also mentioned twice in the Law for Research of 2005<sup>103</sup>.

## 2. Commitment to Gender Mainstreaming

France has a gender mainstreaming plan for which EUR 27.4 million were allocated for 2006 [5]; however, Mazur<sup>104</sup> suggests that France has only made ‘symbolic reforms’, which lack institutional backing and funding.

## 3. Women in Science Institutions

The delegate Ministry for Social Cohesion and Parity<sup>105</sup> is in charge of the implementation of the government’s policies for gender equality in general. The Ministry of Research’s Mission for Parity in Science and Technology between Women and Men<sup>106</sup>, created in 2001, is responsible for gender equality in science. There is also a unit for women in science<sup>107</sup> at the main French research institute, the National Centre for Scientific Research (CNRS).

A new inter-ministerial ‘Convention on equality between boys, girls, women and men in the educational system’<sup>108</sup> was signed in June 2006 between the Ministry for Employment, Housing and Social Cohesion and the Ministry for Higher Education and Research. More specifically, the Ministers agree to take action to encourage girls and women into scientific fields.

## 4. Targets and quotas

Although public selection committees have to be composed of at least one third of each sex<sup>109</sup>, this quota does not apply to higher education or research.

## 5. Networks, mentoring, and specific activities

The Women and Science Association<sup>110</sup> is active in promoting and reinforcing women’s position in science; in 2006 they published, in partnership with Women and Mathematics<sup>111</sup> as well as Women and Engineering<sup>112</sup>, a booklet entitled *Women and science... beyond stereotypes*<sup>113</sup> to help teachers tackle stereotypes about women and science. The Ministry for Research’s Mission for Parity in Science and Technology between Women and Men also asked these three associations to set up the website *Elles en science*<sup>114</sup> and join their efforts to encourage girls into SET. There is also the association *Elles Bougent*<sup>115</sup> which is active in mentoring young girls and promoting science careers.

Since its creation in 2001, the Ministry of Research’s ‘Mission for parity in science and technology between women and men’ has introduced the *Prix Irène Joliot-Curie*, which recognises and promotes women’s achievement in science.

## 6. Universities and research

There is no history of women’s studies being taught in French universities on any great scale, although some teaching has been taking place since the late 1970s, under the guise of gender studies within traditional disciplines. However, there are no departments of women’s studies or gender studies in the country and there never has been<sup>116</sup>. The National Association of Feminist Studies (ANEF<sup>117</sup>), which aims to promote teaching and research on gender, was created in 1989. There is also a national interdisciplinary network of

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<sup>101</sup> [http://www.femmes-egalite.gouv.fr/se\\_documenter/textes\\_de\\_loi/textes\\_de\\_reference/ressources\\_02.htm](http://www.femmes-egalite.gouv.fr/se_documenter/textes_de_loi/textes_de_reference/ressources_02.htm)

<sup>102</sup> <http://www.legifrance.gouv.fr/WAspad/UnTexteDeJor?numjo=MESX0004004L>

<sup>103</sup> Hermann, C., personal communication by phone, 10/09/07

<sup>104</sup> Mazur, A. (2004) La France est-elle toujours le pays des réformes symboliques?, *Travail, genre et sociétés*, p 173-181.

<sup>105</sup> *Ministère délégué à la cohésion sociale et à la parité*: <http://www.femmes-egalite.gouv.fr/>

<sup>106</sup> <http://www.enseignementsup-recherche.gouv.fr/parite/>

<sup>107</sup> *Mission pour la place des femmes au CNRS*, <http://www.cnrs.fr/mpdf/>

<sup>108</sup> <http://www.recherche.gouv.fr/parite/convention/convention06.pdf>

<sup>109</sup> <http://www.legifrance.gouv.fr/texteconsolide/PUHV4.htm>

<sup>110</sup> [http://www.int-evry.fr/femmes\\_et\\_sciences/accueil/index-2.htm](http://www.int-evry.fr/femmes_et_sciences/accueil/index-2.htm)

<sup>111</sup> <http://www.femmes-et-maths.fr/>

<sup>112</sup> <http://www.femmes-ingenieurs.org/>

<sup>113</sup> [http://www.int-evry.fr/femmes\\_et\\_sciences/accueil/index-2.htm](http://www.int-evry.fr/femmes_et_sciences/accueil/index-2.htm)

<sup>114</sup> [www.elles-en-sciences.org](http://www.elles-en-sciences.org)

<sup>115</sup> <http://www.ellesbougent.com>

<sup>116</sup> Le Feuvre, N., personal communication by email, 27/08/07

<sup>117</sup> *Association nationale des études féministes*: <http://www.anef.org/>

academics working on gender (RING<sup>118</sup>), which was set up in the mid-1990s. More recently, the Association for Researchers in Feminine Studies, Gender and Sexuality<sup>119</sup> was created for students and young researchers in the field and it has links with both the ANEF and the RING.

The Ministry for Employment, Housing and Social Cohesion awards the Prize for Scientific and Technical Vocation for Girls<sup>120</sup> which consists of 600 scholarships of EUR 1000 each for girls who choose to study in male-dominated science fields at higher education level.

## **7. Work–Life Balance**

Maternal leave is 16 weeks for a first or second child, then 26 weeks from the third child on; as from 2002, fathers can take paternal leave of two weeks; parental leave can be taken by any parent until the child reaches the age of three [4]. France also introduced a 35-hour working week in 2001, although the direct effects of this on work–life balance are somewhat ambivalent<sup>121</sup>.

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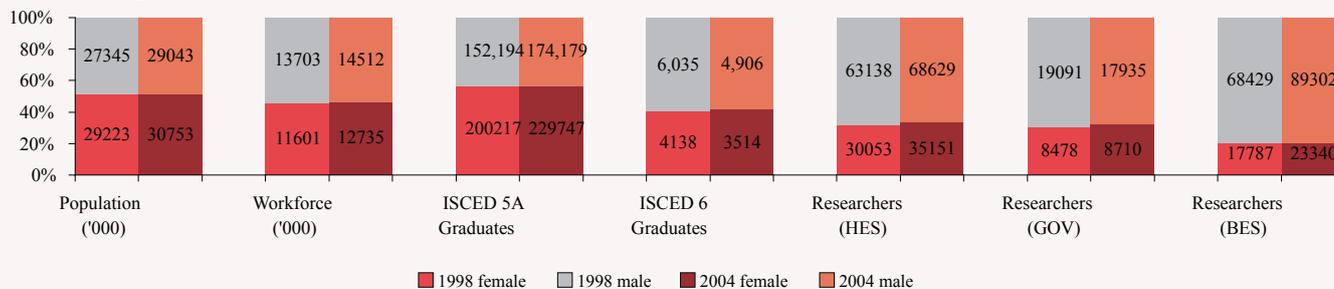
<sup>118</sup> Réseau interdisciplinaire, inter-universitaire sur le genre: <http://www.univ-paris8.fr/RING/>

<sup>119</sup> <http://www.efgies.org/>

<sup>120</sup> [http://www.femmes-egalite.gouv.fr/grands\\_dossiers/dossiers/education/docs/arrete\\_pvst\\_260107.pdf](http://www.femmes-egalite.gouv.fr/grands_dossiers/dossiers/education/docs/arrete_pvst_260107.pdf)

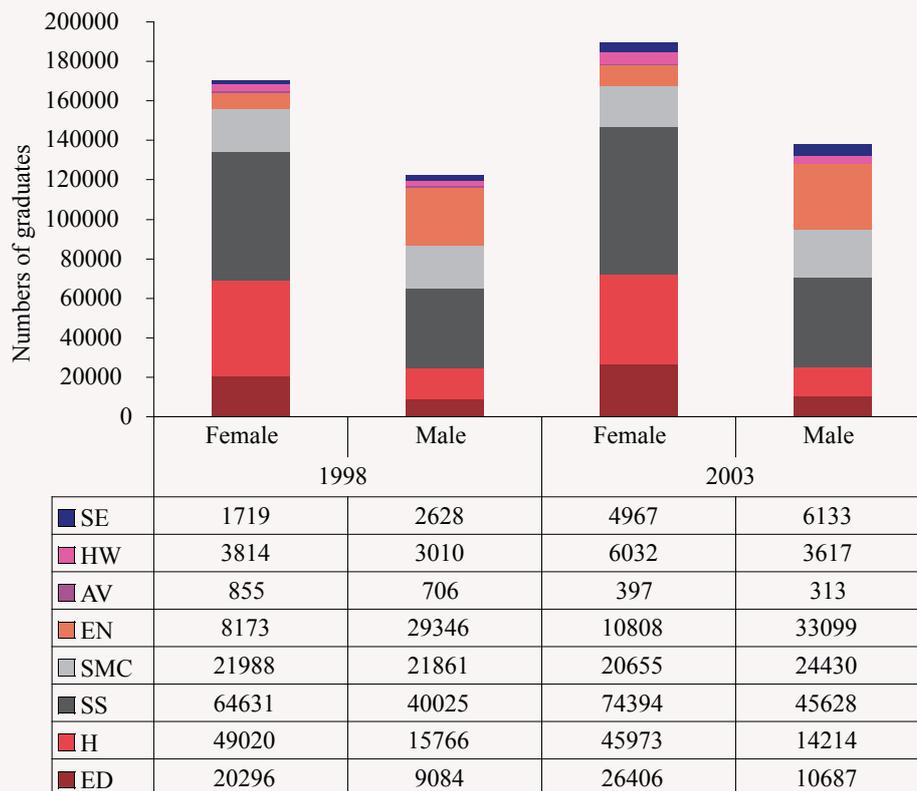
<sup>121</sup> Fagnani, J. and Letablier, M.-T. (2005) *La politique familiale française : de la protection des mères au soutien à la parentalité*, in Maruani M. (dir.), *Femmes, genre et sociétés. L'état des savoirs*, Paris, La Découverte

### Overall presence of women in the population, workforce, education and research

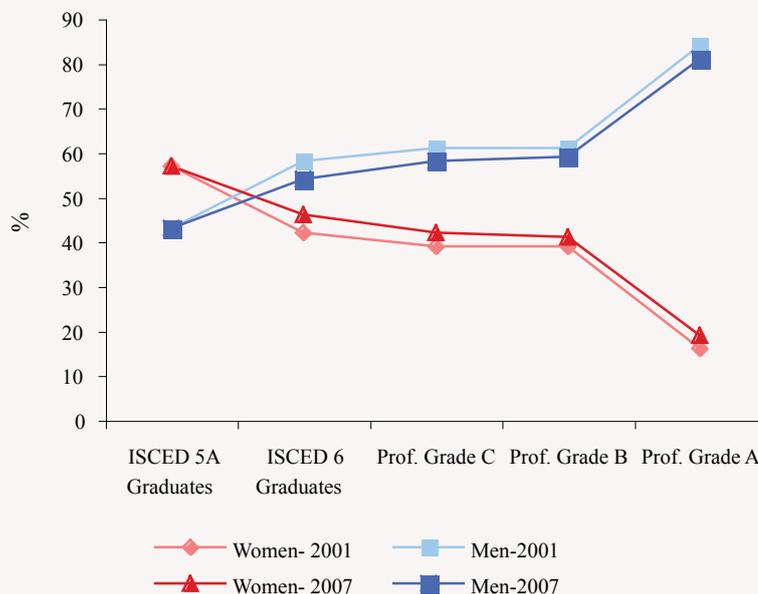


Exception to the ref. year: Population and workforce: 1998-06; ISCED 5A and 6: 1998-03; Res (all): 2000-04

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Except.: ISCED 5A: 2004-06; ISCED 6: 2003-06

# Germany

## 1. Legal framework

In August 2006, the German Bundestag passed the General Equal Treatment Act<sup>122</sup>, which covers all forms of discrimination, including gender. Due to the recent (2006) reform of the federal system, the Länder will be solely responsible for legislation concerning Higher Education Institutions (HEIs); the former Framework Act for Higher Education was abolished in 2007. All state laws regarding the HEIs define equality as a responsibility of those HEIs.

## 2. Commitment to Gender Mainstreaming

The German federal as well as the state governments are committed to gender mainstreaming.

## 3. Women in Science Institutions

At the Federal level, equal opportunities in general are the responsibility of the Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ<sup>123</sup>). In the area of science, the Federal Ministry of Education and Research (BMBF<sup>124</sup>) has set up the Equal Opportunities in Education and Research Division and funds several programmes promoting equal opportunities in the German research institutions. One example of a BMBF-funded initiative is the Centre of Excellence Women and Science (CEWS<sup>125</sup>). This is a national platform for information and networking for female scientists which offers training seminars and peer mentoring projects. CEWS also works for the German steering committee for women in science which is part of the *Common Science Conference* (GWK). The BMBF also hosts *FIF! - Women into EU-Research*<sup>126</sup> which serves as a contact point with the Directorate-General for Research of the EU Commission, and cooperates with the BMBF- division responsible for programmes for gender equality in education and research, with Equal Opportunities in Education organisations as well as with national women's networks<sup>127</sup>. In 2006, the Council for Research launched the *Offensive for Equal Opportunities*, which was signed by all top scientific bodies, with all of them defining specific, but mostly not quantified targets. In July 2007, the Council issued further far-reaching recommendations (July 2007<sup>128</sup>).

At state level, each Länder government has a unit/division within its Ministry for Science and Research which has responsibility for gender equality and partly allocates special funds for gender equality and gender research programmes. Up till now, the federal and state levels worked together in the Commission for Educational Planning and Research Promotion, and established a programme (2001-2006) on gender equality in science with a budget of EUR 30 million per annum<sup>129</sup>.

## 4. Targets and quotas

Quotas are still under discussion in Germany<sup>130</sup>. Mostly, target objectives seek to enlarge the proportion on women at all levels of research, relative to their presence in the pool of qualified persons. These objectives are often integrated into the target agreements between the states and the universities.

## 5. Networks, mentoring, and specific activities

There are many networks and mentoring activities for women in science in Germany, and these can be found listed on the CEWS website<sup>131</sup>.

## 6. Universities and research

At the beginning of 2007, there were 22 study programmes with a focus on gender at German universities, with 112 chairs awarded in gender studies and overwhelmingly held by women. In addition there are 32 inter- or trans-disciplinary gender studies centres at universities, of which eight include junior researcher training groups<sup>132</sup>. The Humboldt-Universität in Berlin hosts the Gender Competence Centre, which is an independent research and consultancy institution externally financed by the BMFSFJ<sup>133</sup>.

The Fraunhofer research institutes have implemented programmes for the recruitment of girls in natural sciences, as well as a mentoring programme for young female staff in their institutes. They additionally aim

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<sup>122</sup> *Allgemeines Gleichbehandlungsgesetz*, [http://ec.europa.eu/employment\\_social/fundamental\\_rights/legis/lgms\\_en.htm](http://ec.europa.eu/employment_social/fundamental_rights/legis/lgms_en.htm)

<sup>123</sup> *Bundesministerium für Familie, Senioren, Frauen und Jugend*, <http://www.bmfsfj.de/>

<sup>124</sup> *Bundesministerium für Bildung und Forschung* - <http://www.bmbf.de/en/474.php>

<sup>125</sup> <http://www.cews.org/cews/en/index.php>

<sup>126</sup> *Frauen in die EU-Forschung*

<sup>127</sup> <http://www.euburo.de/arbeitsbereiche/fraueneuforschung>

<sup>128</sup> <http://www.wissenschaftsrat.de/texte/8036-07.pdf>

<sup>129</sup> <http://www.cews.org/hwp/>

<sup>130</sup> Hartung, B., personal communication by email, 18/05/07

<sup>131</sup> <http://www.cews.org/informationpool/cipnetzwerke.php?cat=34>

<sup>132</sup> Graduiertenkollegs, DFG-funded; Data are collected at the ZE of Free University Berlin, <http://www.fu-berlin.de/zefrauen/arbeitschwerpunkte/datensammlung/index.html>

<sup>133</sup> <http://www.genderkompetenz.info/eng/science/>

to extend childcare facilities and have launched a programme *Discover Gender* to integrate gender aspects into different fields of research.

The Max-Planck Society has been implementing women advancement programmes since 1997. It offers special research positions for young women and aims at a work–life balance.

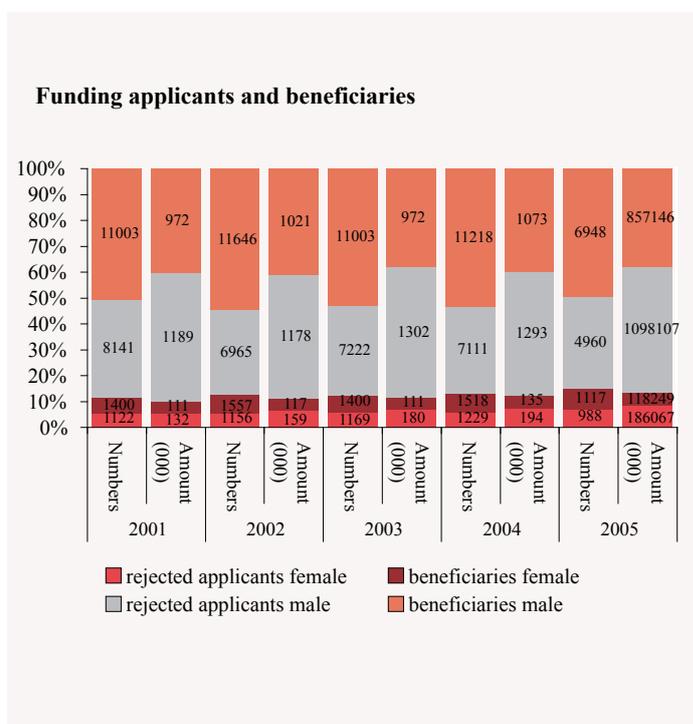
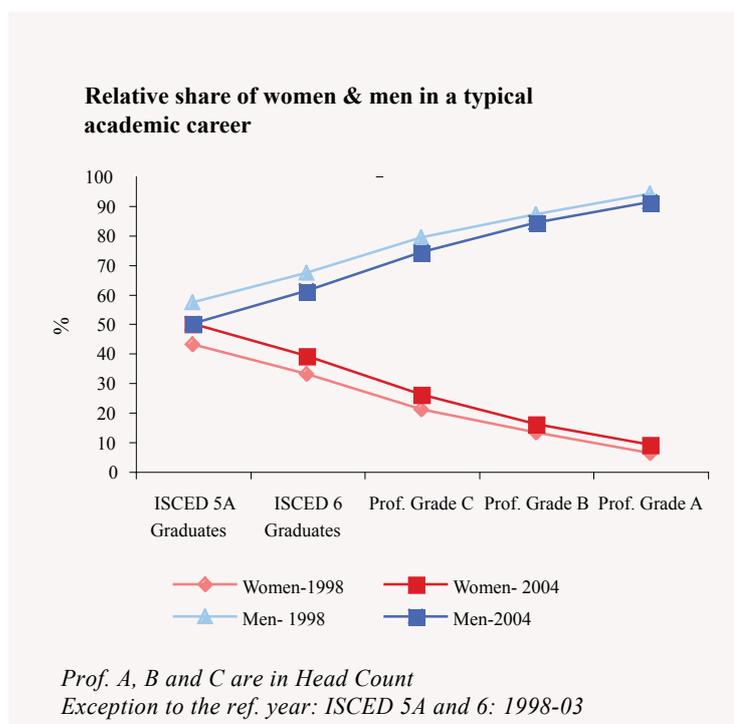
The Helmholtz Association of German Research Centres has a *Five-Point Programme to Promote Equal Opportunity*; one of the ‘points’ is aimed at facilitating re-entry into science and research careers after a family break<sup>134</sup>.

The Leibniz-Gemeinschaft has promoted equal opportunity since 1998 and has a high proportion of women scientists. The implementation of equal opportunity is also checked in their regular evaluation.

## 7. Work–Life Balance

The German law allows a total of 14 weeks of paid maternity leave; if both parents take leave, there is an entitlement of 14 months of parental leave, with each parent having to take at least two months; if only one parent takes leave, then only 12 months are allowed. Each parent can take up to three years of unpaid leave to stay at home with the child until s/he is eight years old.

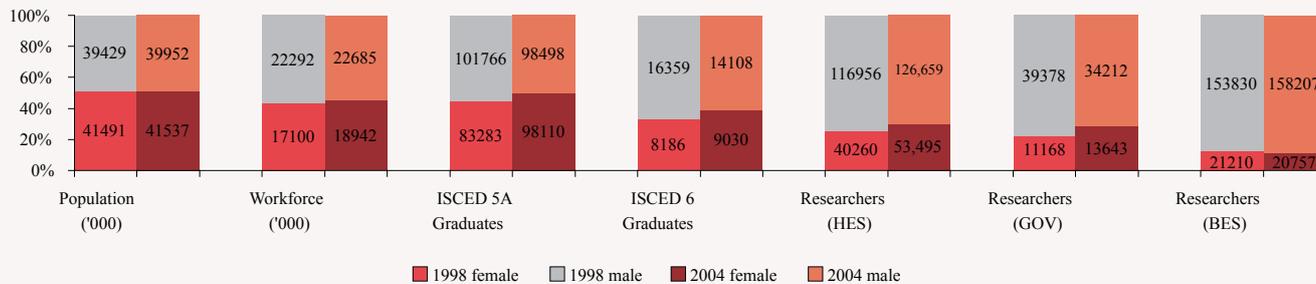
The Christiane Nüsslein-Volhard Foundation for the promotion of science and research supports women PhD students by providing financial assistance for childcare and domestic help<sup>135</sup>.



<sup>134</sup> [http://www.helmholtz.de/en/Working\\_at\\_Helmholtz/Equal\\_Opportunity/The\\_Five-Point\\_Programme\\_to\\_Promote\\_Equal\\_Opportunity.html](http://www.helmholtz.de/en/Working_at_Helmholtz/Equal_Opportunity/The_Five-Point_Programme_to_Promote_Equal_Opportunity.html)

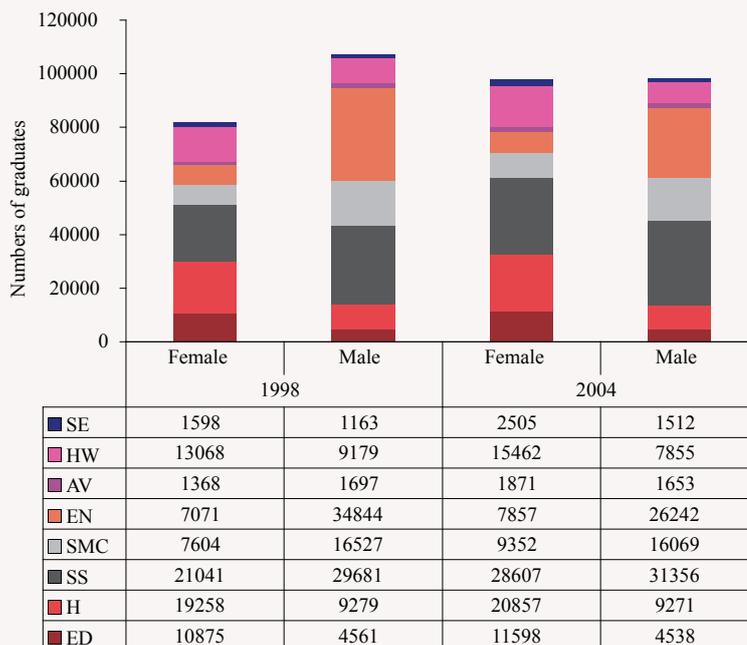
<sup>135</sup> <http://www.cnv-stiftung.de/content/goals.html>

### Overall presence of women in the population, workforce, education and research

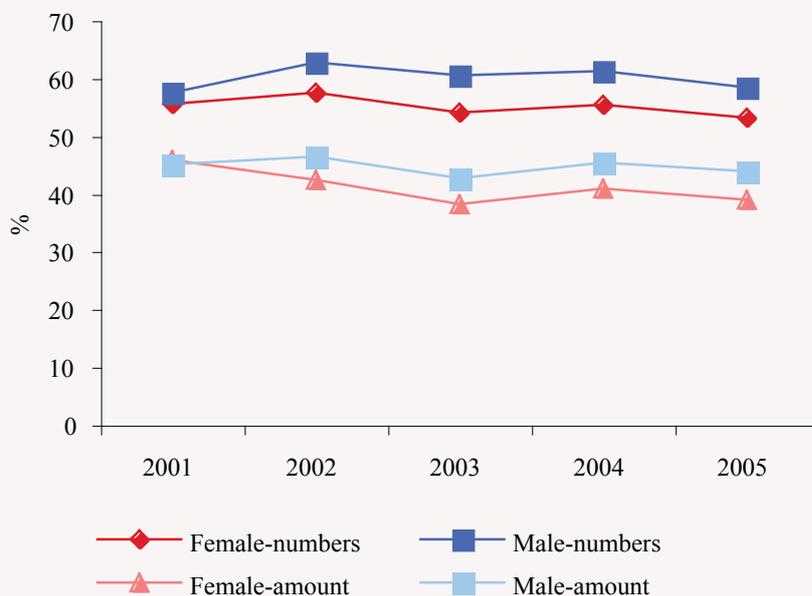


Exception to the ref. year: Population and workforce: 1998-06; Res (HES): 2000-05; Res (GOV): 1999-04; Res (BES): 2001-03

### Evolution of ISCED 5A (1st degree) by field of study



### Evolution of success rates in funding



## Greece

### 1. Legal framework

In 2006, the Law on Equal Treatment between Men and Women in the Field of Employment, Labour and Occupation was passed<sup>136</sup>. Under this law, a Department of Gender Equality of the Supreme Labour Council was established at the Ministry of Employment and Social Protection to implement the provisions of this law.

### 2. Commitment to Gender Mainstreaming

Greece does not have a gender mainstreaming plan but rather a general gender equality plan. Even though in some policy areas, such as regional policy, public and local administration, structural funds and education, gender mainstreaming has been implemented; there are no specific resources for gender mainstreaming [5].

### 3. Women in Science Institutions

The Research Centre for Gender Equality is supervised and funded by the General Secretariat for Equality of the Ministry of the Interior, Public Administration and Decentralisation. The Research Centre conducts social research on gender equality issues aimed at ‘improv[ing] women’s status and enabl[ing] their advancement in all areas of life’<sup>137</sup>. The General Secretariat for Gender Equality<sup>138</sup> is the governmental agency which plans, implements and monitors policies on equality between men and women in all sectors. In science, the General Secretariat of Research and Technology<sup>139</sup> mentions gender equality in its *Operational Programme for Competitiveness* but does not have a specific unit for women<sup>140</sup>.

### 4. Targets and quotas

Law 2839/2000 requires a minimum of one third of each sex to be represented in all decision-making bodies such as boards of government bodies at national and local level<sup>141</sup>.

### 5. Networks, mentoring, and specific activities

There is a Greek Women Engineers’ Association<sup>142</sup>. In 2006, the General Secretariat for Research and Technology created the Periktione network, which serves women researchers and scientists in Greece and the whole Mediterranean, Balkan and Black Sea region. It recently asked for a gender balanced quota system to be set up ‘for the appointment of presidents and directors of research centres and institutes, as well as for women participating on research advisory bodies, evaluation committees and research teams’. In order to achieve this goal, the Periktione network introduced an amendment to the new law on research and development which is intended to go before Parliament by the end of 2007<sup>143</sup>.

### 6. Universities and research

The last Helsinki report [1:42] for Greece suggested that ‘the promotion of female young researchers’ participation will be fulfilled by giving a 1.05 bonus for every female candidate upon achieving the final grade following their scientific evaluation’. This measure was only allocated in 2001 by the General Secretary for Research and Technology. However, as the measure was criticised by the research community, it was withdrawn in the second call for proposals the following year. There are no other positive measures in universities<sup>144</sup>.

### 7. Work–Life Balance

Maternity leave is 17 weeks, paternity leave is 2 days at the time of the child’s birth and there is an unpaid parental leave of three and a half months per child available for each parent [4].

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<sup>136</sup> <http://eurofound.europa.eu/eiro/2006/09/articles/gr0609049i.html>

<sup>137</sup> <http://www.kethi.gr/english/kethi/home.htm>

<sup>138</sup> <http://www.isotita.gr/en/index.php>

<sup>139</sup> [http://www.gsrt.gr/default.asp?V\\_LANG\\_ID=2](http://www.gsrt.gr/default.asp?V_LANG_ID=2)

<sup>140</sup> Maratou-Alipranti, L., Dafna, K., Yannakopoulou, L., Kymperi, Z., and Repa, P. (2002) *Women and Science: Review of the situation in Greece*, Helsinki Group on women and science.

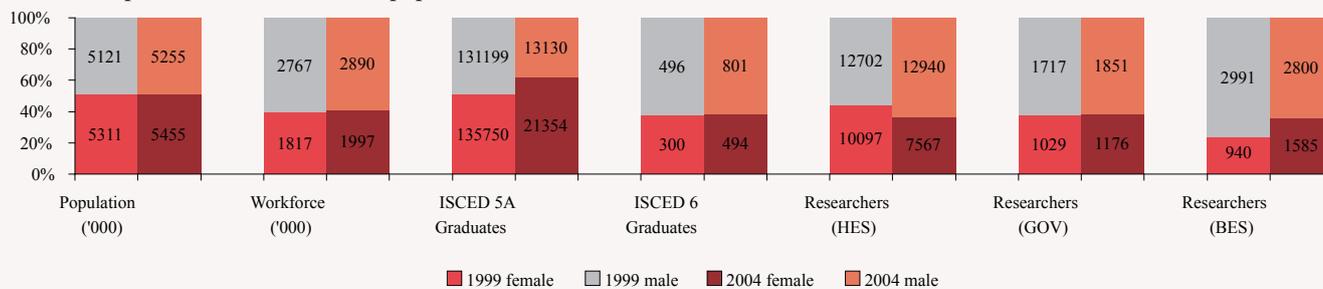
<sup>141</sup> Stratigaki, M., personal communication by email, 10/05/07

<sup>142</sup> <http://www.edem-net.gr/edemsiteen/index.htm>

<sup>143</sup> Dafna, K., personal communication by email, 16/04/2007

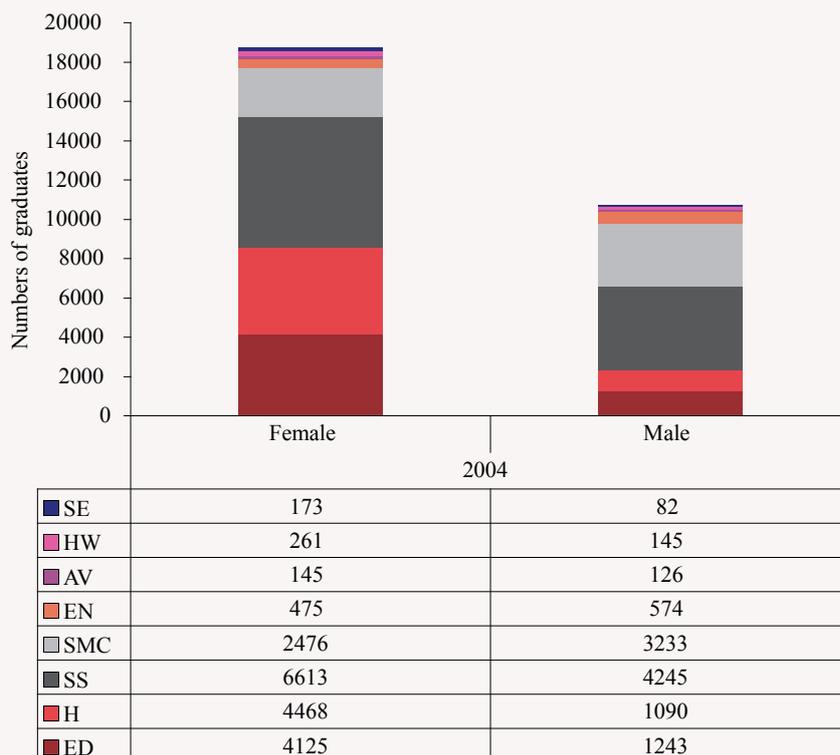
<sup>144</sup> Dafna, K., personal communication by email, 16/04/2007.

### Overall presence of women in the population, workforce, education and research

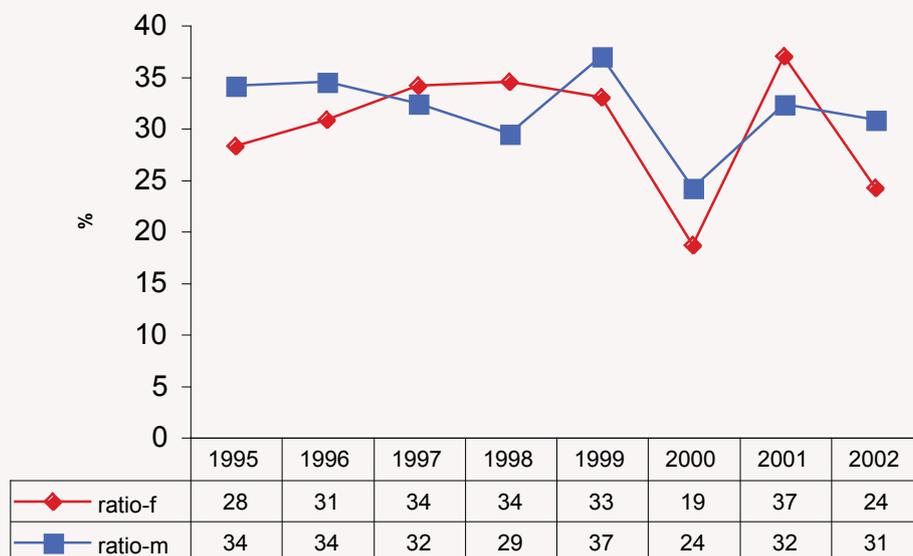


Exception to the ref. year: Pop. and workforce: 1999-06; ISCED 5A:1997-04; ISCED 6:1998-04; Res (all): 1999-03

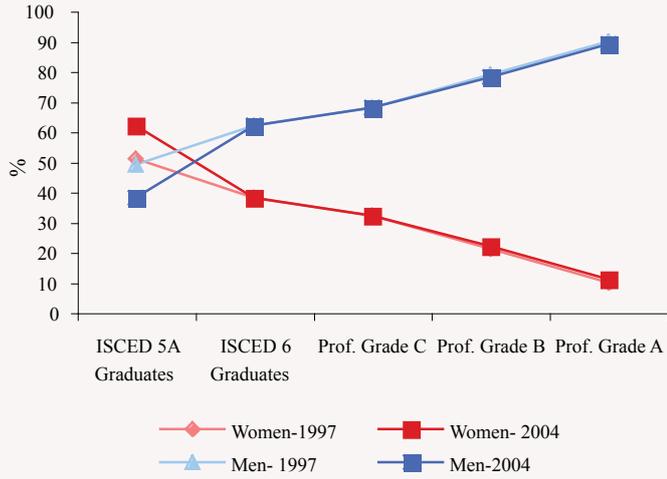
### ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

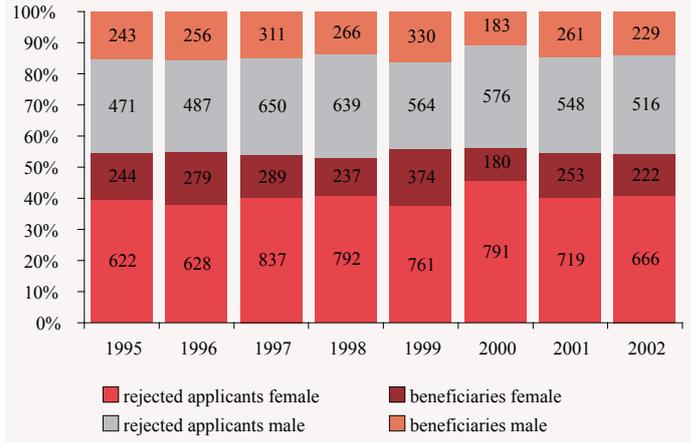


### Relative share of women & men in a typical academic career



Prof A, B and C are in Head Count in 1997  
Exception to the ref. year: ISCED 6: 1998-04

### Funding applicants and beneficiaries



# Hungary

## 1. Legal framework

In Hungary, the equal opportunity legislation is covered by the 2004 Act on Equal Treatment and the Promotion of Equal Opportunities. The Act covers the public sector and some of the private sector (it does not cover family law, for example). Furthermore, the Act deals with all forms of discrimination, not only gender. The Act initiated the creation of a public prosecutor, the Equal Treatment Authority (2005), which is responsible for ‘controlling/monitoring the observation of equal treatment principle’<sup>145</sup>.

## 2. Commitment to Gender Mainstreaming

According to Krizsán and Pap (2005:23), ‘Thus far Hungary has not adopted any strategic policy document introducing gender mainstreaming. The concept of gender mainstreaming is mentioned in the 2003 Annual Report of the Government Office for Equal Opportunities<sup>146</sup> indicating that gender mainstreaming serves the establishment of a coherent women’s policy that is consistent in all respects with the aims of the EU’.

## 3. Women in Science Institutions

The institution in charge of gender equality in general, the Department for Gender Equality, used to be based within the Governmental Office for Equal Opportunities. In October 2004 however, this Department became part of the Ministry for Youth, Family, Social Affairs and Equal Opportunities, which is led by the Minister for Equal Opportunities. Since May 2006 the Ministry of Social Affairs and Labour has assumed responsibility for gender equality in general. Regarding science, the issue of women in science is included within the responsibilities of the National Office for Research and Technology (NKTH<sup>147</sup>), which operates a Task Force on this topic. The NKTH – part of the Agency for Research Fund Management and Research Exploitation – replaced the Research and Development Department of the Ministry of Education in January 2004. Moreover, since January 2007, NKTH is under the auspices of Ministry of Economy and Transport. There is no unit for women in science in the NKTH but the legislation creating the Research and Technological Innovation Fund declared that ‘evaluation criteria will favour proposals with strong measures of promoting gender equality and opportunities for women’<sup>148</sup>.

Gender equality issues are also included in the *Science, Technology and Innovation* mid-term strategy of Hungary. Besides the Research and Technological Innovation Fund operated by the National Office for Research and Technology, the basic research support organisation is the Hungarian Scientific Research Fund, in which there is no unit for women in science. The Hungarian Science and Technology Foundation has specific projects on women in science and its members prepared the Hungarian contribution to the Enwise report<sup>149</sup>.

## 4. Network, mentoring

Some scientific institutions have put in place programmes to increase women’s participation in science. For example, the Chemical Research Centre<sup>150</sup> in the Hungarian Academy of Sciences has a project to increase the visibility of science careers for women. There exist networks and associations for women in general but not particularly in science; a list can be found at this website<sup>151</sup>.

## 5. Universities and research

The Budapest University of Technology and Economics hosts the Hungarian branch of WiTEC. WiTEC Hungary published a report on best practice<sup>152</sup>, prepared a document reporting the ‘statistical measurement of the women teaching and researching at the university’ (ibid.) and published a report on tackling the stereotypes on women in science<sup>153</sup>.

## 6. Work–Life Balance

Maternity leave is 24 weeks<sup>154</sup>. The new Article 138/A of the Act on Equal Treatment and the Promotion of Equal Opportunities has ‘a symbolic message prescribing that upon the birth of his child, a father shall be entitled to five days of paid leave, which the employer shall allocate within the two-month period following the date of birth on the days requested by the father’ (Krizsán and Pap 2005:17).

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<sup>145</sup> Krizsán, A. and Pap, E. (2005:74) Equal Opportunities for Women and Men Monitoring law and practice *in Hungary*, Open Society Institute.

<sup>146</sup> Government Office for Equal Opportunities, *Tárcaütökör 2003* (Government Office Review, 2003 -Budapest: *Esélyegyenlőségi Kormányhivatal*).

<sup>147</sup> <http://www.nkth.gov.hu/main.php?folderID=775>

<sup>148</sup> [http://www.kpi.gov.hu/index.php?WG\\_NODE=WebPageReader&WG\\_OID=PAGf2e4707331ff08a3b](http://www.kpi.gov.hu/index.php?WG_NODE=WebPageReader&WG_OID=PAGf2e4707331ff08a3b)

<sup>149</sup> [http://www.tetalap.hu/index\\_e.html](http://www.tetalap.hu/index_e.html)

<sup>150</sup> [www.chemres.hu](http://www.chemres.hu)

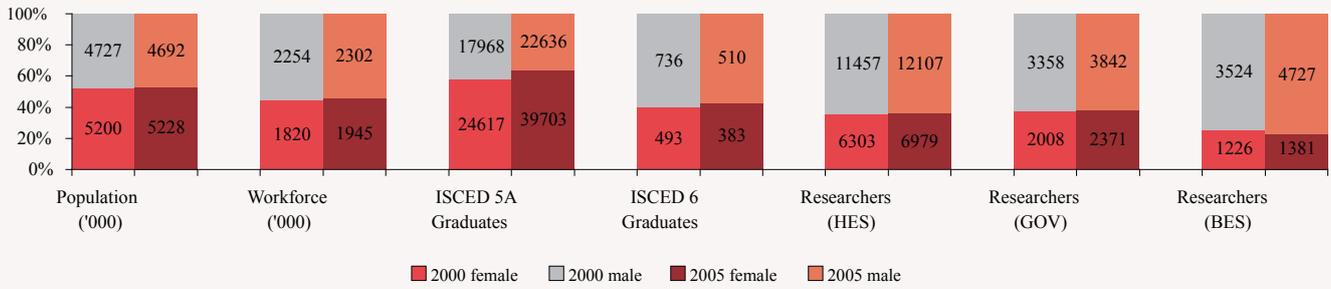
<sup>151</sup> <http://www.distel.ca/womlist/countries/hungary.html>

<sup>152</sup> BUTE and WiTEC (date unknown) *Best Practice – Hungary, Increasing Women’s Participation and Improving their Professional Career in SET*, online, [http://docs.tetalap.hu/witec/best\\_practice\\_HU\\_ENG.pdf](http://docs.tetalap.hu/witec/best_practice_HU_ENG.pdf), accessed 02/02/07

<sup>153</sup> BUTE and WiTEC (2005) *Tackling Stereotypes, Maximising the potential of women in SET, WiTEC Hungary – Report*, Budapest.

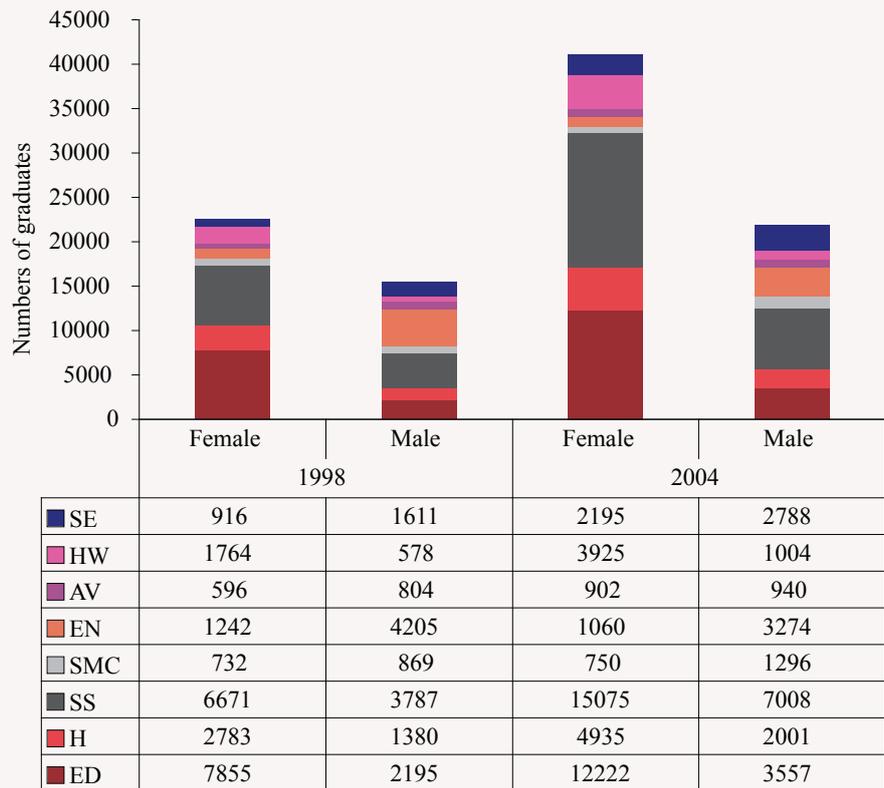
<sup>154</sup> <http://www.cesifo-group.de/pls/guestci/download/CESifo%20DICE%20Report%202006/CESifo%20DICE%20Report%204/2006/dicereport406-db6.pdf>

### Overall presence of women in the population, workforce, education and research



Exception to the ref. year: Population and workforce: 2000-06; ISCED 5A and 6: 1998-04

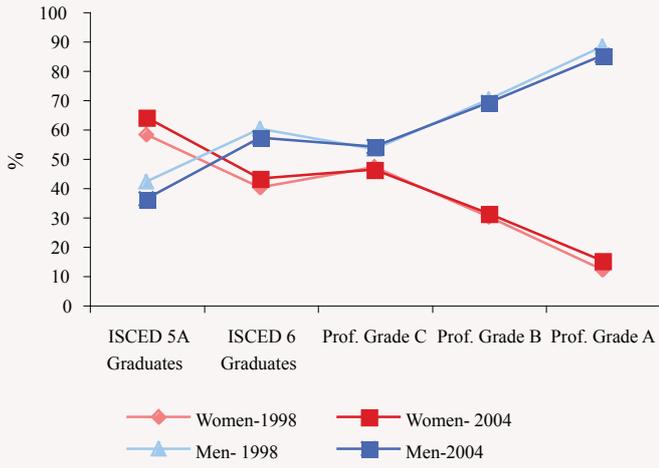
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

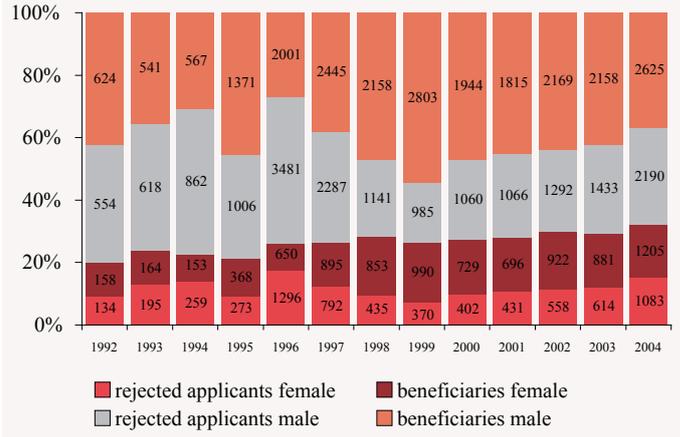


### Relative share of women & men in a typical academic career



*Prof A, B and C are in Head Count*

### Funding applicants and beneficiaries



# Ireland

## 1. Legal framework

The Equality Act of 2004<sup>155</sup> covers equal opportunities legislation in Ireland; it amended and consolidated the previous acts on equality of treatment in the workplace.

## 2. Commitment to Gender Mainstreaming

Ireland is committed to gender mainstreaming and spent nearly EUR 6 million<sup>156</sup> on positive actions and gender mainstreaming initiatives in 2006 [5].

## 3. Women in Science Institutions

The Department of Education and Science has a Gender Equality Unit<sup>157</sup> which formulates Gender Equality Policy Guidelines for teachers and parents, in relation to education in general, not specifically science. The Department of Justice, Equality and Law Reform has a Gender Equality Section<sup>158</sup> which is responsible for equality between men and women in Ireland and hosts the National Development Plan Gender Equality Unit<sup>159</sup> which focuses on gender mainstreaming.

The Office of Science and Technology (OST) at the Department of Enterprise, Trade and Employment does not have a unit for women in science. The OST encouraged their agencies to undertake specific initiatives pertaining to gender including Science Foundation Ireland (SFI) offers programmes for Women in Science but it has no unit for women in science. The Advisory Science Council is undertaking a study on the attractiveness of researcher careers in Ireland as part of the Strategy for Science, Technology and Innovation 2006-2013<sup>160</sup> and gender issues will be addressed in this context.

## 4. Targets and quotas

According to the Universities Act (1997: Section 12), universities are required ‘to promote gender balance and equality of opportunity among students and employees of the university’. There are no specific targets or quotas however. On the other hand, in the Civil service, the Government, in June 2000, set a specific goal that one-third of posts at Assistant Principal level should be filled by women within five years<sup>161</sup>. The target was met as by 2003, 33% of Assistant Principals were female<sup>162</sup>.

## 5. Networks, mentoring, and specific activities

The Women in Technology and Science organisation was inaugurated in November 1990 to actively promote women in technology and science in Ireland<sup>163</sup>. The National Women’s Council of Ireland<sup>164</sup> is the national representative organisation for women and women’s groups in Ireland. FÁS, the Training and Employment Authority, through their female bursary<sup>165</sup> programme, provides opportunities for women to broaden their career options into new and non-traditional areas of work. *Mentorlink* is a project funded by the Equality for Women Measure under the Regional Operational Programmes of the National Development Plan, 2000-2006 and is an initiative of the School of Engineering in the Institute of Technology, Tallaght.

## 6. Universities and research

Science is an integral part of the school curriculum but is not compulsory at primary level. Gender and women’s studies are taught at Irish universities, and there is a Women’s Education Research and Resource Centre<sup>166</sup> at University College Dublin. The Universities Act requires all the universities to have equality policies (that includes gender balance; see for example the policy of Dublin City University<sup>167</sup>) and the Institute of Technology (IoT) Act requires the same for the IoTs.

In 2005, Science Foundation Ireland (SFI) introduced three programmes to address the under-representation of women in Irish science and engineering research: the *Scholarship for Young Women in Engineering*, the *Principal Investigator Career Advancement Award* and the *Institute Development Award*<sup>168</sup>. To date, SFI has

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<sup>155</sup> <http://www.oireachtas.ie/documents/bills28/acts/2004/A2404.pdf>

<sup>156</sup> [http://www.ndpgenderequality.ie/about\\_genmain/about\\_genmain\\_1.html](http://www.ndpgenderequality.ie/about_genmain/about_genmain_1.html)

<sup>157</sup> <http://www.education.ie/home/home.jsp?maincat=17216&pcategory=17216&ecategory=17249&language=EN>

<sup>158</sup> <http://www.justice.ie/80256E01003A21A5/vWeb/pcJUSQ5YPK5Z-en>

<sup>159</sup> <http://www.ndpgenderequality.ie>

<sup>160</sup> <http://www.entemp.ie/publications/science/2006/sciencestrategy.pdf>

<sup>161</sup> <http://www.finance.irlgov.ie/documents/equality/GenderEqualityA4.pdf>

<sup>162</sup> Department of Education and Science (2007) *Sé Sí Gender in Irish Education*, online. [http://www.education.ie/servlet/blobServlet/des\\_sesi\\_ch8.html](http://www.education.ie/servlet/blobServlet/des_sesi_ch8.html), accessed 11/11/07

<sup>163</sup> <http://www.witsireland.com/>

<sup>164</sup> <http://www.nwci.ie/>

<sup>165</sup> <http://www.fas.ie/en/Allowances+and+Grants/Female+Bursary.htm>

<sup>166</sup> <http://www.ucd.ie/werrc/>

<sup>167</sup> <http://www.dcu.ie/equality/HEAreview2002.pdf>

<sup>168</sup> [http://www.sfi.ie/content/content.asp?section\\_id=474&language\\_id=1](http://www.sfi.ie/content/content.asp?section_id=474&language_id=1)

awarded Scholarships, in partnership with DELL, to 20 female school-leavers pursuing engineering at third-level; funded the research programmes of 10 internationally competitive female researchers who had previously taken periods of family-related leave, and supported pilot projects in three Higher Education Institutions to enhance the participation of women in science and engineering research activities and research management.

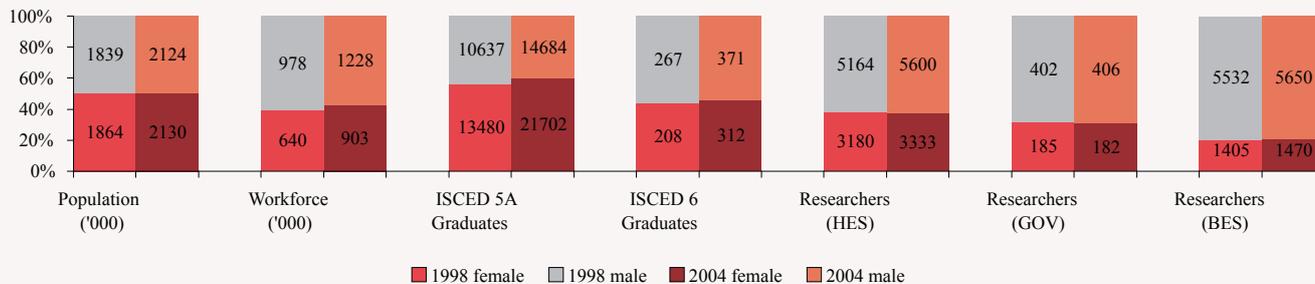
#### **7. Work–Life Balance**

Paid Maternity leave is 26 weeks, unpaid maternity leave is 16 weeks, three days' paid paternity leave are available, and parental leave of 14 weeks per parent per child is unpaid. Other flexible working options that are available in the public sector include part-time working, flexi-time, job sharing, term time, and career breaks<sup>169</sup>. FÁS also offers programmes for women returnees.

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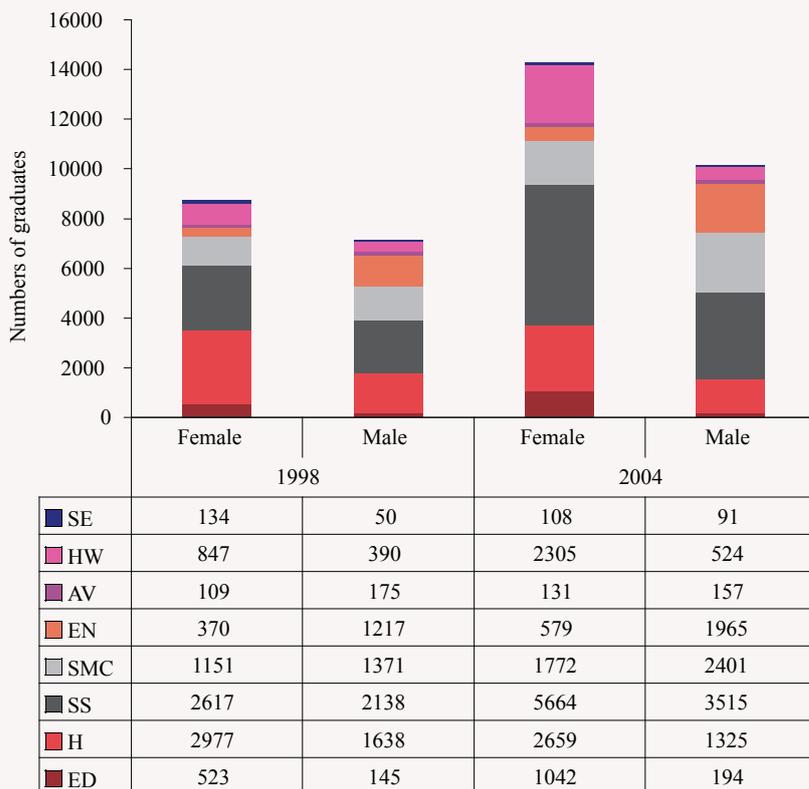
<sup>169</sup> <http://www.welfare.ie/schemes/families/mb.html>

### Overall presence of women in the population, workforce, education and research

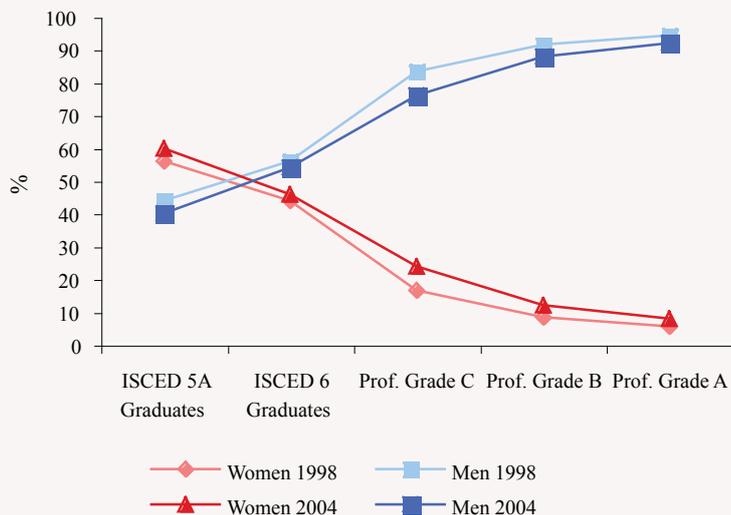


Exception to the ref. year: Population and workforce: 1998-06; Res(HES): 2002-04; Res(GOV): 2002-05; Res(BES): 2001-04

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



# Italy

## 1. Legal framework:

Since 1947, The Italian Constitution (art 37) ensures parity between male and female workers. In 1997 the law L.903 defined the framework for equal treatment for men and women at work. In 1991 L. 125<sup>170</sup> introduced measures for positive action to ensure equal opportunities in the workplace. In 2006 all the existing laws on equal opportunity converged into one all-inclusive legislative decree<sup>171</sup>.

## 2. Commitment to Gender Mainstreaming

Italy is committed to gender mainstreaming since 1996. The Ministry for Equal Opportunity<sup>172</sup>, established in 1997, has a specific office on the issue. The Government has recently issued a specific Directive (GU 173 27.07.2007) for mainstreaming in the Public Administration.

## 3. Women in Science Institutions

All major research institutions have a Committee for Equal Opportunity (CPO). The National Research Council (CNR<sup>173</sup>) has a CPO (established in 1999) which uses positive action tools to promote equal opportunity for women (achieving 30% of women in all CNR departments, increasing childcare services, etc.). The CNR hosts the Commission for the Promotion of Women in Science (1999), which addressed the broader community of women in science. In 2007, the Agency for new technologies, energy and the atmosphere<sup>174</sup> adopted the Minerva Code<sup>175</sup> for transparency in recruitment and promotion<sup>176</sup> on request of the CPO.

The Ministry for University and Research (MIUR) works in partnership with the Equal Opportunity Ministry through the Network for Equal Opportunity, which is a tool for gathering and disseminating equal opportunity information to the main actors in Italy. The MIUR also manages a specific programme: the National Operative Programme<sup>177</sup> which, since 2000, has been dedicated to integrating the equal opportunity principle at all levels of science, technology and research throughout the regions of Italy<sup>178</sup> lagging behind in development. Moreover the regional and provincial administrations have Commissions for Equal Opportunities (e.g. Friuli Venezia Giulia<sup>179</sup> or Toscana<sup>180</sup>). These are not directly aimed at women in science, but often organise meeting on the issue inviting the Helsinki Group national representatives.

## 4. Targets and quotas

Both genders must, by law, be represented in the evaluation panels for recruitment in public posts<sup>181</sup>. At least one third of the members of the commissions for public competitions both for recruitment and promotion should be of the other gender<sup>182</sup> and political parties must present at least one third of all candidates from one sex in electoral competition for the renewal of the EU Parliament.

## 5. Networks, mentoring, and specific activities

The Association for Women and Science<sup>183</sup> was founded in 2003. University of Bologna hosts the Italian branch of the WiTEC, which published a report on women in universities in Italy<sup>184</sup>. The Association for a Free University of Women<sup>185</sup> has a science and technology working group and organises various activities related to women's issues in general.

## 6. Universities and research

All major universities (for example the University of Lecce<sup>186</sup>), have an Equal Opportunity Committee. Furthermore there are many academic women's centres or women's studies centres in Italy. Finally, some universities have equal opportunity plans.

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<sup>170</sup> <http://www.genderbudget.it/doc/Legge125-91.pdf>

<sup>171</sup> <http://www.retepariopportunita.it/>

<sup>172</sup> <http://www.pariopportunita.gov.it/>

<sup>173</sup> *Consiglio Nazionale delle Ricerche* - <http://www.cnr.it/sitocnr/Englishversion/Englishversion.html>

<sup>174</sup> <http://www.enea.it/>

<sup>175</sup> <http://www.eracareersaustria.at/conference/slides/vallerga.pdf>

<sup>176</sup> [http://www.anpri.it/ENEA/enea2007/com\\_071106\\_%20Progress%20.htm](http://www.anpri.it/ENEA/enea2007/com_071106_%20Progress%20.htm)

<sup>177</sup> <http://www.ponricerca.miur.it/Public/PonRicerca/Home/Home.aspx>

<sup>178</sup> Basilicata, Calabria, Campania, Puglia, Sardegna and Sicilia

<sup>179</sup> <http://www.consiglio.regione.fvg.it/pagine/pariopportunita/pagine/chisiamo.asp>

<sup>180</sup> [http://www.consiglio.regione.toscana.it/pari-oppportunita/attivita/programmi\\_sintesi/prog\\_2004.htm](http://www.consiglio.regione.toscana.it/pari-oppportunita/attivita/programmi_sintesi/prog_2004.htm)

<sup>181</sup> Delli Colli, F., and Vallerga, S. (2001) *Women and Science: Review of the Situation in Italy*, Italian national report, Helsinki Group on women and science.

<sup>182</sup> Osborn, M., Rees, T., Bosch, M., Hermann, C., Hilden, J., Mason, J., McLaren, A., Palomba, R., Peltonen, L., Vela, C., Weis, D., Wold, A. and Wennerås, C. (2000) *Science Policies in the European Union: Promoting excellence through mainstreaming gender equality*. A report from the ETAN Network on Women and Science, Luxembourg: Office for Official Publications of the European Communities.

<sup>183</sup> <http://www.women.it/scienze/>

<sup>184</sup> <http://ilo.unibo.it/home/women/women-it.html>

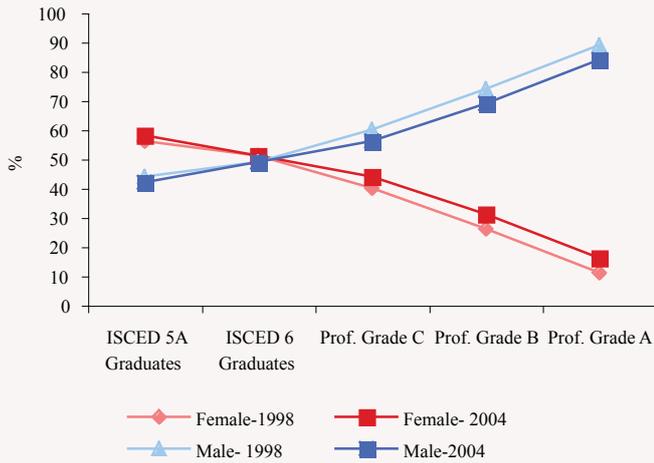
<sup>185</sup> <http://www.universitadedelledonne.it/english/index.html>

<sup>186</sup> <http://www.pariopportunita.unile.it/>, for other committees in other universities see: <http://host.uniroma3.it/comitati/pariopportunita/links.htm#B>

### 7. Work–Life balance

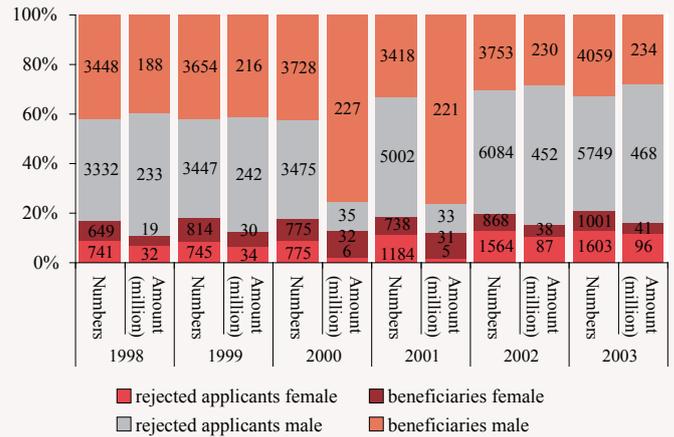
Maternity leave is 20 weeks, paternity leave is 12 weeks but only available if the father is the sole or main carer, parental leave is six months for mothers and six months for fathers (seven if the father takes up his 12 weeks of paternity leave), but the total amount of leave taken by two parents cannot exceed 10 months (or 11 if the father takes all his 12 weeks of paternity leave) [4].

**Relative share of women & men in a typical academic career**

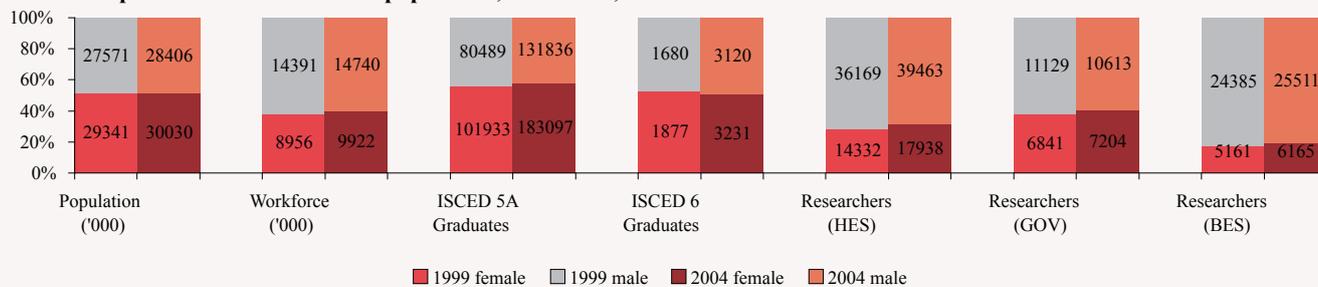


*Prof. A, B and C are in Head Count*

**Funding applicants and beneficiaries**

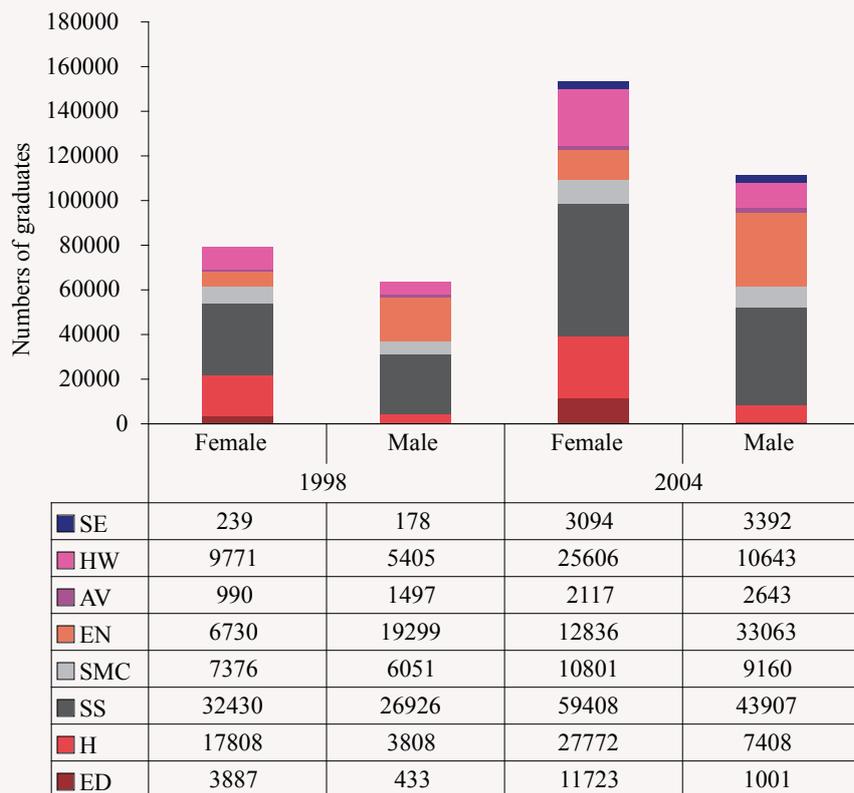


### Overall presence of women in the population, workforce, education and research

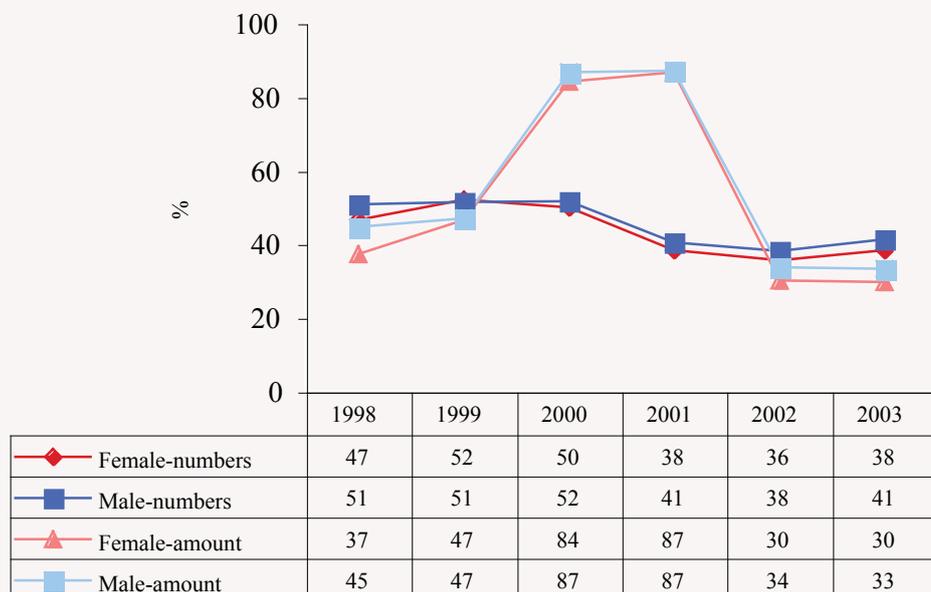


Exception to the ref. year: Population and workforce: 1999-06

### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding



# Latvia

## 1. Legal framework

The Labour Law<sup>187</sup> adopted in 2002 covers equal opportunities legislation in Latvia. Moreover, the Labour Law was amended in 2005 to restrict discrimination against women in employment.

## 2. Commitment to Gender Mainstreaming

Latvia is committed to gender mainstreaming and has plans for gender equality policy and gender mainstreaming; however, there are no specific resources for the latter [5].

## 3. Women in Science Institutions

Since 2003, gender equality in Latvia has been the responsibility of the Ministry of Welfare, and consists of a Gender Equality Council and a Women's Inter-parliamentary Cooperation Group, amongst other institutions<sup>188</sup>. There is no unit for women in science in the Latvian Council of Science<sup>189</sup>, or in the Ministry for Education and Science<sup>190</sup>.

## 4. Networks, mentoring, and specific activities

There are some associations for women in Latvia but none related to science. For example, the resource centre for women Marta<sup>191</sup> promotes the protection of women's rights and the betterment of the socioeconomic situation of women.

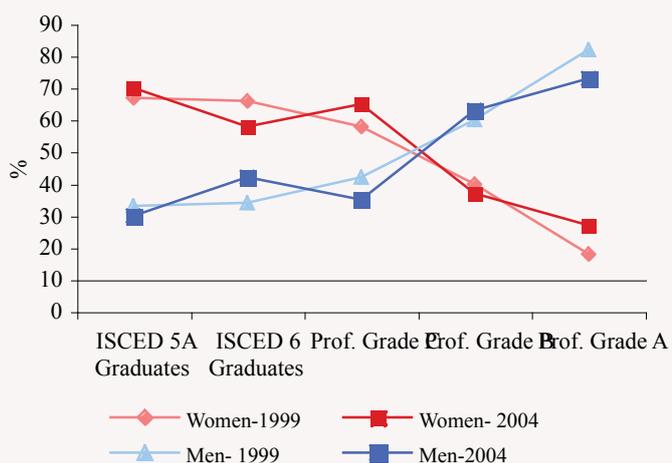
## 5. Universities and research

Gender and women's studies are offered at the University of Latvia<sup>192</sup>. The lack of appropriate financing in science is one of the main problems faced by Latvian institutions, and as the financing improves – following the entry into the EU – some argue that the women/men ratio in science is going to change in favour of men<sup>193</sup>.

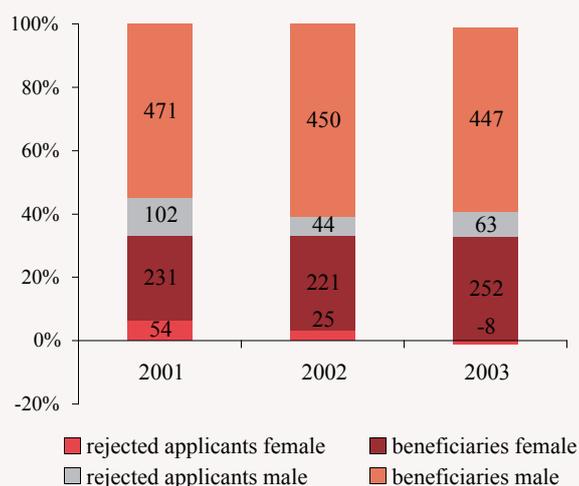
## 6. Work–Life Balance

Maternity leave is 112 calendar days<sup>194</sup>, parental leave is 18 months up to the child's 8th birthday<sup>195</sup>, and paternity leave is 10 calendar days<sup>196</sup>.

Relative share of women & men in a typical academic career



Funding applicants and beneficiaries



<sup>187</sup> <http://www.vdi.lv/admin/files/LabourLaw.pdf>

<sup>188</sup> <http://www.lm.gov.lv/?sadala=774>

<sup>189</sup> <http://www.lzp.lv/>

<sup>190</sup> <http://www.izm.gov.lv/default.aspx?tabID=1&lang=5>

<sup>191</sup> <http://www.marta.lv/vnew.php?lang=en&id=1>

<sup>192</sup> Cimdirina, A. and Gertner, D. (2000) *Women and Science: Review of the situation in Latvia*, Helsinki Group on women and science.

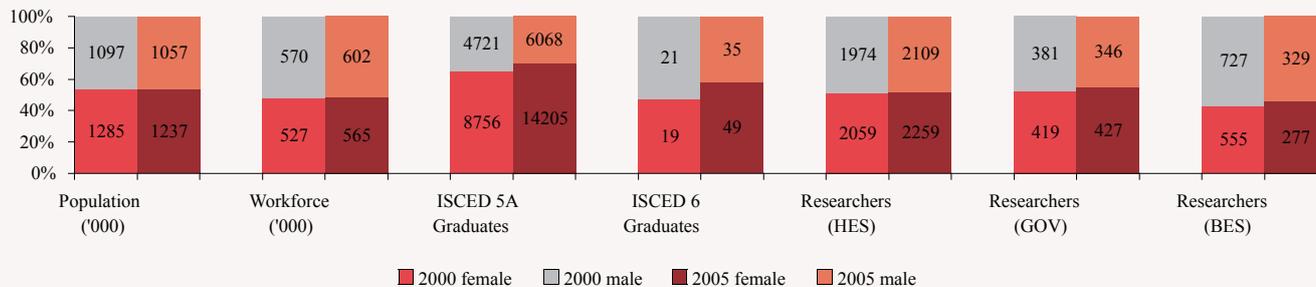
<sup>193</sup> Karule-Gailite, E., personal communication, 18/09/07

<sup>194</sup> <http://www.ilo.org/public/english/region/eurpro/budapest/download/gender/latvia.pdf>

<sup>195</sup> [http://www.coe.int/T/E/Human\\_Rights/Equality/PDF\\_CDEG\(2004\)14%20FINAL\\_E.pdf](http://www.coe.int/T/E/Human_Rights/Equality/PDF_CDEG(2004)14%20FINAL_E.pdf)

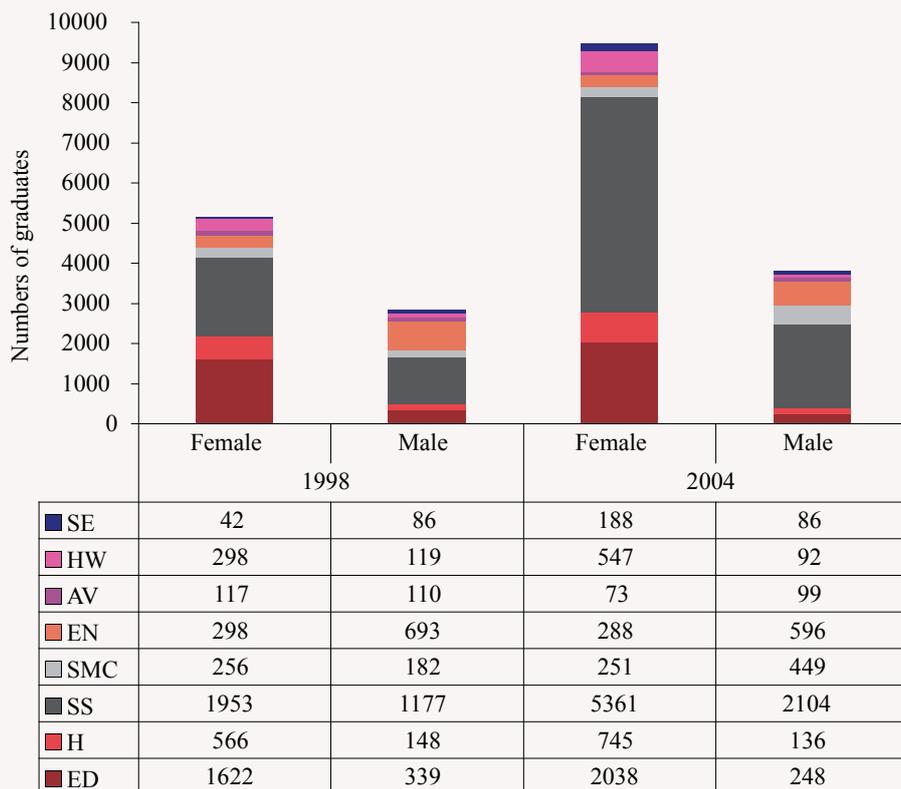
<sup>196</sup> <http://www.ssa.gov/policy/docs/progdesc/ssptw/2006-2007/europe/latvia.html>

### Overall presence of women in the population, workforce, education and research

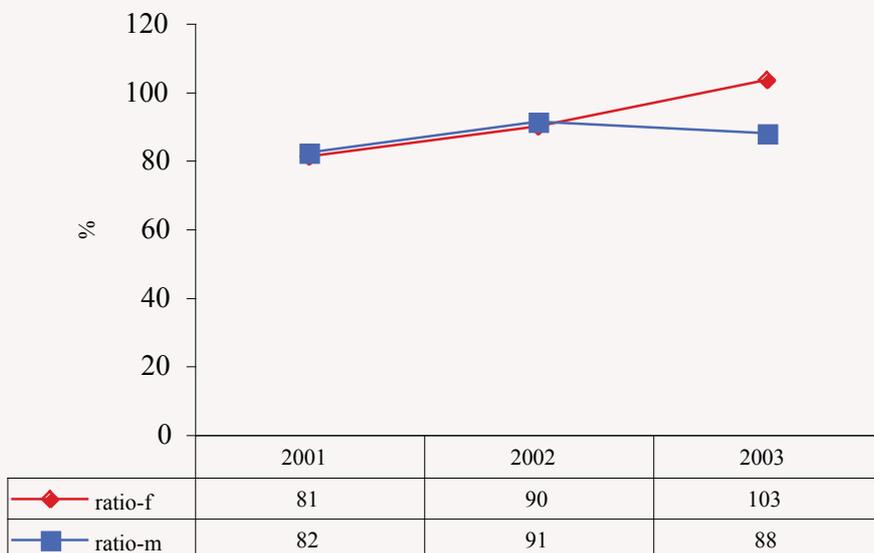


Exception to the ref. year: Population and workforce: 2000-06; ISCED 5A and 6: 2000-04

### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding



# Lithuania

## 1. Legal framework

The Law on Equal Opportunities for Women and Men was amended in 2004 to ensure that it complied with relevant EU Directives, and the Law on Equal Treatment entered into force in 2005<sup>197</sup>.

## 2. Commitment to Gender Mainstreaming

Lithuania is committed to gender mainstreaming [5]; ‘a two year-long National Programme on Equal Opportunities for Women and Men was launched in 2003, introducing the concept of gender mainstreaming for the first time in any legal act’ (Mackeviciute 2005:68); and the Government approved the extension of the Programme for 2005-2009<sup>198</sup>.

## 3. Women in Science Institutions

The Office of the Equal Opportunities Ombudsperson<sup>199</sup> is the independent state institution in charge of the supervision and implementing gender equality in Lithuania. There is also a Gender equality division within the Ministry of Social Security and Labour<sup>200</sup>, a Centre for Equality Advancement<sup>201</sup>, and a Women’s Issues Information Centre<sup>202</sup>, who all deal with equal opportunities between men and women in general.

At the science level, neither the Ministry of Education and Science<sup>203</sup> nor the Science Council of Lithuania<sup>204</sup> has a specific unit for women. However, since March 2000, one or two representatives are responsible for gender equality in each Ministry (including the Ministry for Science and Education) and they created the inter-ministry Equality Commission for Women and Men, led by the Ministry of Labour and Social Security<sup>205</sup>. In this context, the question of mentoring for women in science is on the agenda of the Ministry of Science and Education at the time of writing.

There is a national programme on equal opportunities for women and men (2005-2009) which covers education and science, amongst other areas, and aims to integrate gender equality into education systems, as well as provide more favourable conditions for women to pursue careers in science<sup>206</sup>.

## 4. Networks, mentoring, and specific activities

There are various associations for women in Lithuania. At an international level, the Baltic States Network on Women in Science and High Technology<sup>207</sup>, financed by FP6, was initiated by Lithuanian physicists. Subsequently, in 2006, a Network of women in High Technology was established<sup>208</sup>.

## 5. Universities and research

Gender and women’s studies are taught in some Lithuanian universities<sup>209</sup>. The Vilnius University Gender Studies Centre<sup>210</sup> undertakes specific research and work on women and science and publishes the annual journal *Feminism, Society, Culture*.

## 6. Work–Life Balance

Maternity leave is 18 weeks<sup>211</sup> and paid paternity leave is one month<sup>212</sup>. Childcare leave can be taken by either parent (or other relative that takes care of the child) who is paid 70% of the salary until the child reaches 1 year<sup>213</sup>. ‘As of 2002, social scholarships of about EUR 35 are given to students who raise a child alone or with an unemployed studying spouse.’ (Mackeviciute 2005:32).

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<sup>197</sup> Mackeviciute, I. (2005) *Equal Opportunities for Women and Men, Monitoring law and practice in Lithuania*, Open Society Institute.

<sup>198</sup> Taljunaite, M., personal communication by email, 15/10/07

<sup>199</sup> <http://www.lygybe.lt/en/>

<sup>200</sup> [http://www.socmin.lt/popup2.php?nr=1&item\\_id=948&\\_m\\_e\\_id=9&\\_menu\\_i\\_id=395](http://www.socmin.lt/popup2.php?nr=1&item_id=948&_m_e_id=9&_menu_i_id=395)

<sup>201</sup> <http://www.gap.lt/about>

<sup>202</sup> <http://www.lygus.lt/about.php>

<sup>203</sup> <http://www.smm.lt/en/>

<sup>204</sup> <http://www.lmt.lt/indexe.php>

<sup>205</sup> Taljunaite, M. personal communication by email, 22/10/07

<sup>206</sup> [http://www.coe.int/T/E/Human\\_Rights/Equality/PDF\\_MEG-6\\_NR\\_Lithuania.pdf](http://www.coe.int/T/E/Human_Rights/Equality/PDF_MEG-6_NR_Lithuania.pdf)

<sup>207</sup> <http://www.basnet-fp6.eu/>

<sup>208</sup> Taljunaite, M., personal communication by email, 22/10/07

<sup>209</sup> [www.ku.lt/en/iro/doc/f\\_health.doc](http://www.ku.lt/en/iro/doc/f_health.doc), [http://www.moterys.lt/index.php?set\\_lang\\_id=en](http://www.moterys.lt/index.php?set_lang_id=en)

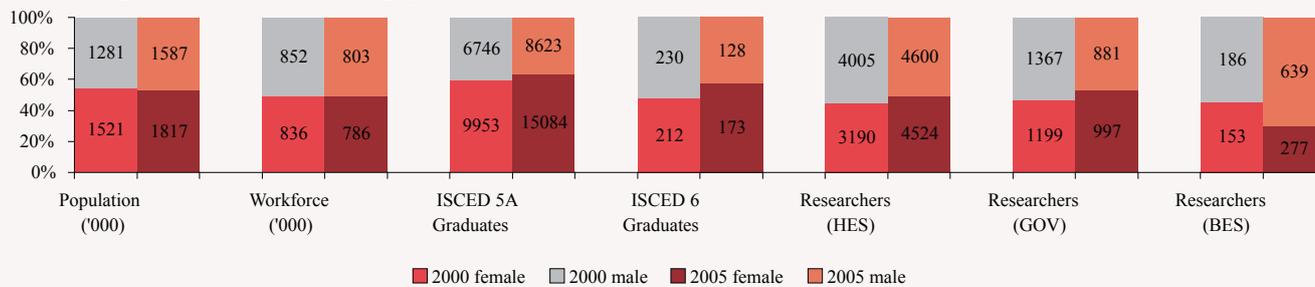
<sup>210</sup> [http://www.moterys.lt/index.php?show\\_content\\_id=717](http://www.moterys.lt/index.php?show_content_id=717)

<sup>211</sup> [http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc\\_l?p\\_id=282350](http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_l?p_id=282350)

<sup>212</sup> <http://www.dadcomehome.org/old/en/>

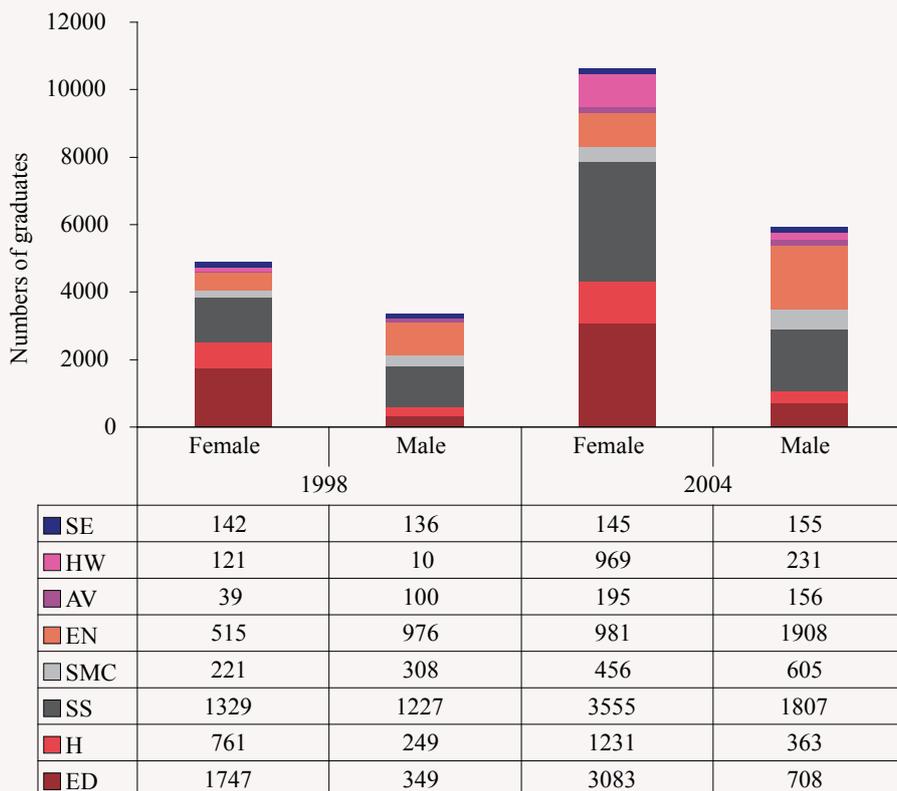
<sup>213</sup> Centre for Equality and Advancement (2005) Fathers on Parental Leave, Eugrimas, online, [http://www.jafnretti.is/D10/\\_Files/Fathers%20Parental%20Leave.pdf](http://www.jafnretti.is/D10/_Files/Fathers%20Parental%20Leave.pdf), accessed 25/10/07

### Overall presence of women in the population, workforce, education and research

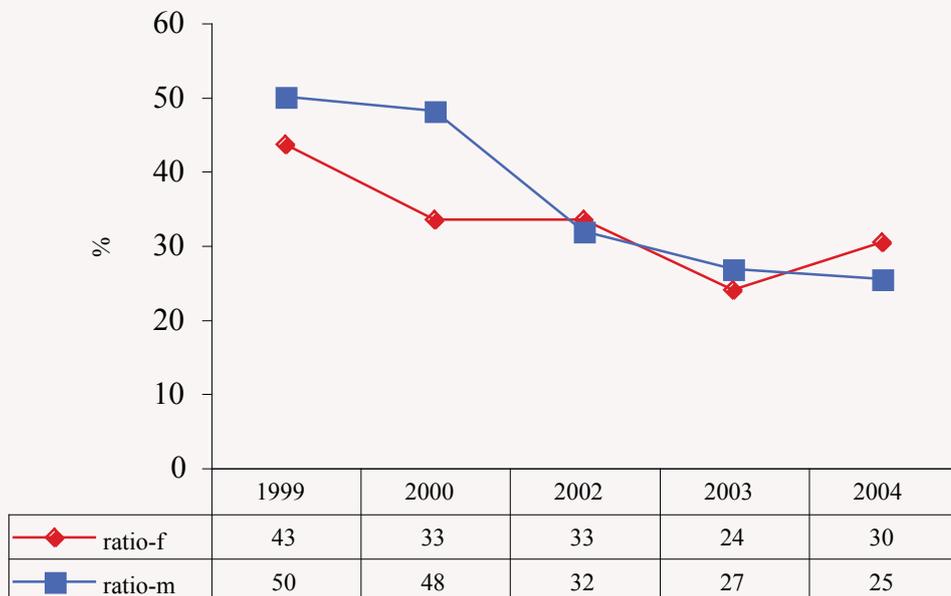


Exception to the ref. year: Population and workforce: 2000-06; ISCED 5A and 6: 2000-04

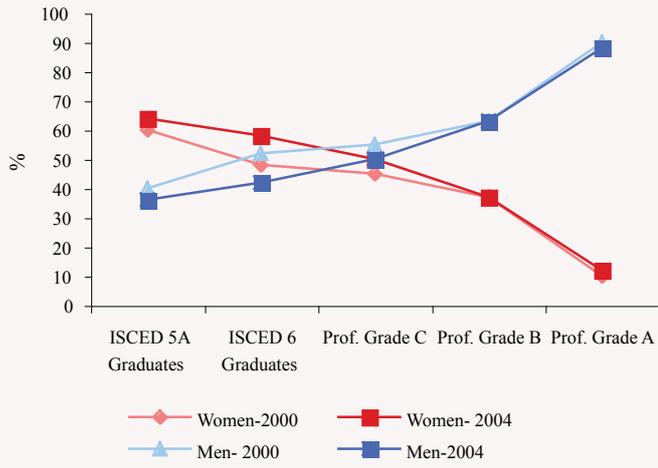
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

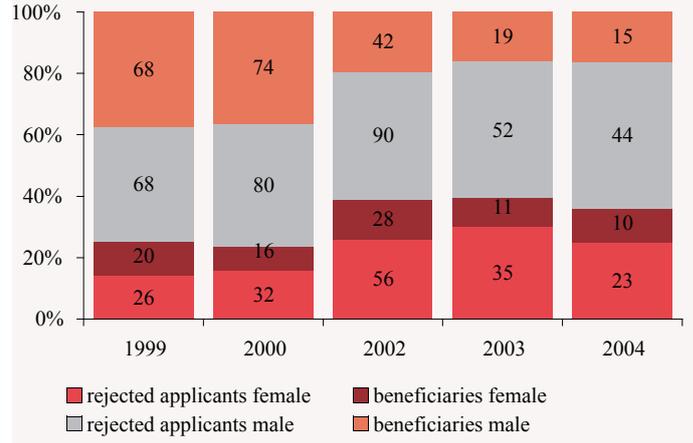


### Relative share of women & men in a typical academic career



Prof. A, B and C are in Head Count 83

### Funding applicants and beneficiaries



# Luxembourg

## 1. Legal framework

The Law on Equal Treatment of Men and Women (1981<sup>214</sup>) provides the equal opportunity legislation in Luxembourg.

## 2. Commitment to Gender Mainstreaming

Luxembourg is committed to gender mainstreaming and has plans for gender equality policy and gender mainstreaming; however, there are no specific resources for gender mainstreaming [5].

## 3. Women in Science Institutions

The Ministry of Equal Opportunity is responsible for gender issues in Luxembourg. It organised a workshop on gender and science in 2004. The Ministry of Culture, Higher Education and Research<sup>215</sup> and the National Research Fund<sup>216</sup> do not have units for women in science. The Central Statistical and Economic Studies Service presents some sex-disaggregated data on women in science.

## 4. Networks, mentoring, and specific activities

There are many women's associations in Luxembourg (e.g. National Council of Women in Luxembourg<sup>217</sup>) but none that are especially for women in science. In 2005, a mentoring event, *Forsche forschende Frauen*<sup>218</sup>, was held to link teenage girls with scientists<sup>219</sup>. Cid-Femmes<sup>220</sup>, an organisation for women in politics, culture and business, sets up Girls' Day – Boys' Day<sup>221</sup> events during which girls learn how to do traditionally male activities (like mechanical and car engineering) and boys do the opposite. The Delegate for Women and Equal Opportunity issues at the University of Luxembourg is working on the construction of an informal network Gender Research – Network – Luxembourg in collaboration with the Ministry of Equal Opportunity and the Ministry of Culture, Higher Education and Research, as well as the National Research Funds<sup>222</sup>.

## 5. Universities and research

The University of Luxembourg was created in 2003 and a Delegate for Women and Gender Issues<sup>223</sup> was appointed to advise the Rector. The University also has a Laboratory for Research on Gender Studies. Gender and women's studies are not yet widely taught but the Delegate for Women and Gender Issues is presently working on creating a masters programme in gender studies, as well as implementing childcare services for university employees, amongst other things.

## 6. Work–Life Balance

Maternity leave is 16 weeks<sup>224</sup>; parental leave is 6 months per parent; paternity leave is 2 days.

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<sup>214</sup> [http://www.mega.public.lu/legislation/base\\_legale/index.html](http://www.mega.public.lu/legislation/base_legale/index.html)

<sup>215</sup> <http://www.mcesr.public.lu/index.html>

<sup>216</sup> [http://www.fnr.lu/SIML\\_FNR/Channel/FNRen.nsf/fs\\_Root?OpenFrameset](http://www.fnr.lu/SIML_FNR/Channel/FNRen.nsf/fs_Root?OpenFrameset)

<sup>217</sup> <http://www.cnfl.lu/structure/historique.htm>

<sup>218</sup> <http://www.al.lu/physics/Activit%C3%A9s%20scientifiques/Forsche%20forschende%20Frauen.pdf>

<sup>219</sup> It was organised by the Ministry of Culture, Higher Education and Research, the Ministry of Equal Opportunities, the National Research Fund and the University of Luxembourg.

<sup>220</sup> <http://www.cid-femmes.lu/>

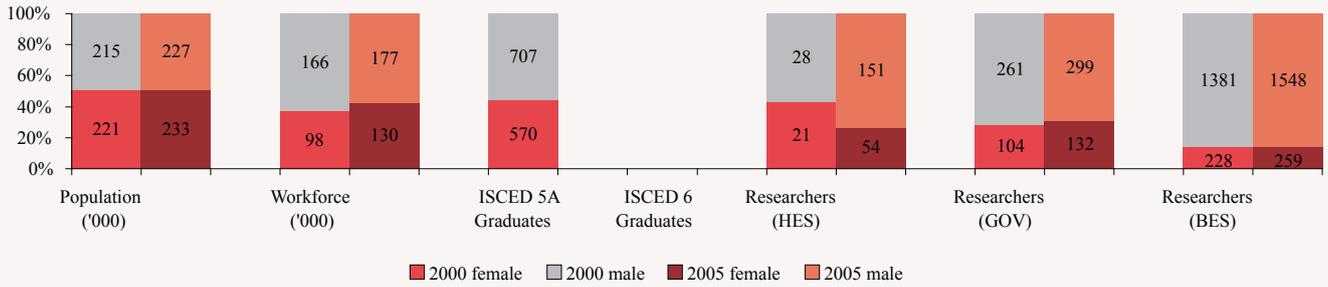
<sup>221</sup> <http://www.girls-day.lu/>

<sup>222</sup> University of Luxembourg (unknown) *Rapport d'activités 2005, Service aux questions féminines et du genre*, frauen.gender@uni.lu

<sup>223</sup> [http://www.uni.lu/1\\_universite/organigramme/la\\_deleguee\\_aux\\_questions\\_feminines](http://www.uni.lu/1_universite/organigramme/la_deleguee_aux_questions_feminines)

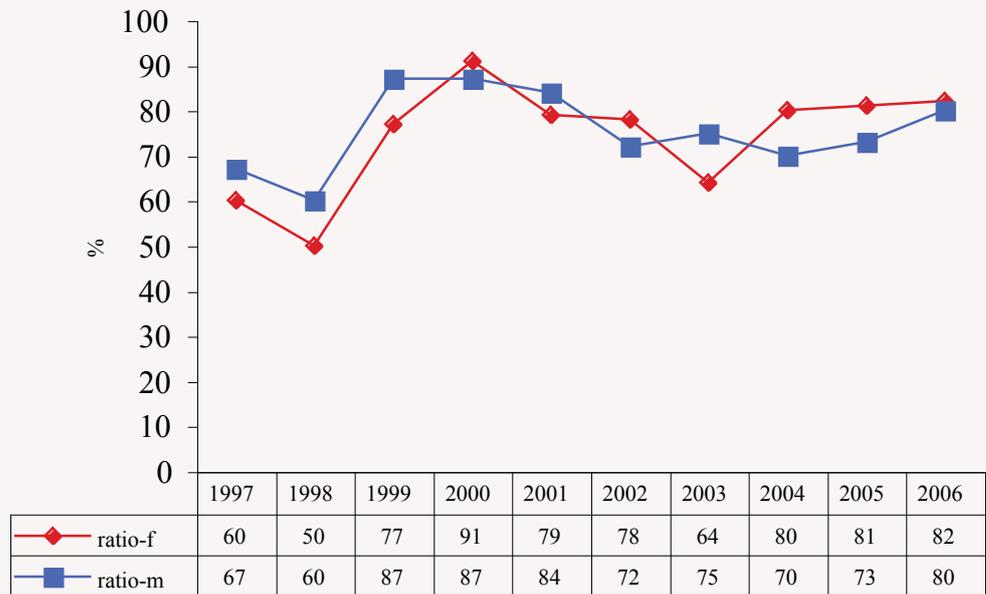
<sup>224</sup> <http://eurofound.europa.eu/emire/LUXEMBOURG/MATERNITYLEAVE-LX.html>

### Overall presence of women in the population, workforce, education and research

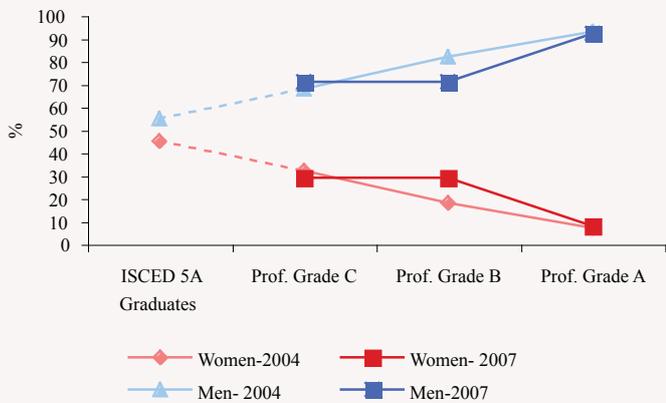


Exception to the ref. year: population: 2000-06; ISCED 5A: 1998; Res (all): 2003-05

### Success rates of women and men in funding

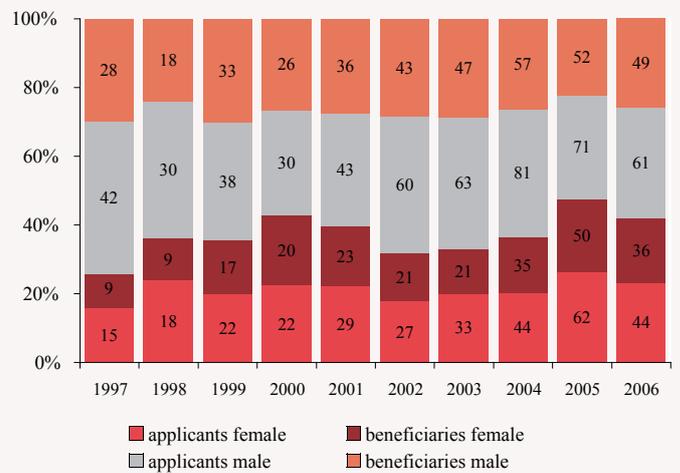


### Relative share of women & men in a typical academic career



Exception to ref. year: ISCED 5A: 1998

### Funding applicants and beneficiaries



# Malta

## 1. Legal framework

The Constitution of the Republic of Malta was amended in 1993 to promote the equal rights of men and women<sup>225</sup>. That same year, the Civil Code was also amended to remove certain provisions perceived to discriminate against women. Equal pay legislation was introduced in 1969 and was subsequently reinforced in the Employment and Industrial Relations Act of 2002. More recently, the Equality for Men and Women Act (2003) was adopted.

## 2. Commitment to gender mainstreaming

Gender mainstreaming is the responsibility of all heads of departments (HoDs) in Malta. A 2000 directive by the prime minister empowered all HoDs to allocate funds to gender mainstreaming out of the budget voted for that department. The actual amount is at the discretion of the HoD. The allocations are audited to ensure fairness and correctness<sup>226</sup>.

## 3. Women in Science Institutions

The National Commission for the Promotion of Equality between Men and Women (NCPE) – which incorporated the former Commission of the Advancement of Women and the Department for Women in Society<sup>227</sup> – was created in 2004 by the Equality for Men and Women Act<sup>228</sup>. In 2005, the NCPE set up a Gender and Science Sub-Committee, to specifically deal with matters relating to Gender and Science in Malta. An example of their projects is *Gender Mainstreaming - the Way Forward*, a project to carry out research on the introduction of family-friendly measures in the workplace, on gender pay review and on gender mainstreaming at a national level.

The Malta Council for Science and Technology (MCST) is a small organisation consisting of 10 people (of whom more than half are women). There is no dedicated unit responsible for promoting women in science at MCST. This is also the case at the Ministry of Education, where projects related to women in science include an audit on the proportion of women in science<sup>229</sup> and ‘gender focal points’ – projects oriented towards mainstreaming gender in education, though not necessarily in science<sup>230</sup>.

The National Statistics Office of Malta<sup>231</sup> disaggregates data according to sex. However, owing to the relatively low number of women involved, there have been, to date, few studies on issues related to women in science and technology<sup>232</sup>. In order to address this, the NCPE Gender Gap in Science and Technology in Malta – Tackling the Issues project includes collation of data and the establishment of a database on the fragmented studies already being carried out in Malta.

## 4. Targets and quotas

There are no targets for women in science specifically in Malta but general female employment and childcare targets are set in the Gender Equality Action Plan (2005 – 2007<sup>233</sup>).

## 5. Networks, mentoring, and specific activities

The National Council of Women (NCW<sup>234</sup>), founded in 1964, is a non-governmental organisation comprising individual members and national organisations. Although its purpose is not directly linked to gender equality in science, the NCW is concerned with equal employment and topics such as women’s IT literacy and female entrepreneurship.

The Foundation for Women Entrepreneurs (Malta) ‘has been set up for the promotion of opportunities, awareness building, training and research in the field of women entrepreneurs’<sup>235</sup>. The *Gender Gap in Science and Technology in Malta - Tackling the Issues* project includes a media and promotion campaign to overcome gender stereotypes in science among students, teachers, parents and the general public.

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<sup>225</sup> Sciriha, I. (2001) *Women and Science: Review of the situation in Malta*, Helsinki Group on women and science.

<sup>226</sup> Sciriha, I., personal communication by email, 24/11/07

<sup>227</sup> <http://www.msp.gov.mt/services/subpages/content.asp?id=1595>

<sup>228</sup> <http://www.equality.gov.mt/page.asp?p=8534&l=1>

<sup>229</sup> <http://www.mcst.org.mt/administration/research.asp>

<sup>230</sup> <http://www.education.gov.mt/edu/eduforum/edu21/pg2.htm>

<sup>231</sup> <http://www.nso.gov.mt/>

<sup>232</sup> Sciriha, I., personal communication by email, 06/04/07

<sup>233</sup> [http://www.msp.gov.mt/esf/publications/etc\\_gender\\_equality\\_action\\_plan.pdf](http://www.msp.gov.mt/esf/publications/etc_gender_equality_action_plan.pdf)

<sup>234</sup> <http://www.ncwmalta.com/newsviewsdetail.asp?i=130>

<sup>235</sup> <http://www.women.org.mt/>

## 6. Universities and research

The University of Malta<sup>236</sup> has a Gender Issue Committee (GIC<sup>237</sup>) to advise the University Council on issues of gender equality. The GIC implemented several measures promoting women and men in science: it instigated a mentoring scheme<sup>238</sup> (2005) which provides students with support throughout their studies and directions towards a rewarding career; it sponsors seminars on science; and it participates in the NCPE/ University Action Committee for the promotion of Science<sup>239</sup>.

The University offers courses in gender and women's studies run by the Faculty of Education and by the Faculty of Economics, Management and Accountancy. Research indirectly related to women's welfare is carried out in the Faculty of Medicine and Institute of Health Care.

## 7. Work–Life Balance

When joining the EU, Malta had to bring its maternity leave period up to the EU minimum (from 13 to 14 weeks) but the 14th week is unpaid<sup>240</sup>. The law provides for parental leave to be taken by either male or female workers, but it is extremely rare for a father to take it<sup>241</sup>.

As from 2005, there is a tax credit for women returning to employment in general, although not particularly to scientific careers<sup>242</sup>.

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<sup>236</sup> <http://www.umsl.edu/services/abroad/universities/malta.html>

<sup>237</sup> <http://home.um.edu.mt/gender/gicomm.html>

<sup>238</sup> <http://staff.um.edu.mt/iscl/mentor1.pdf>

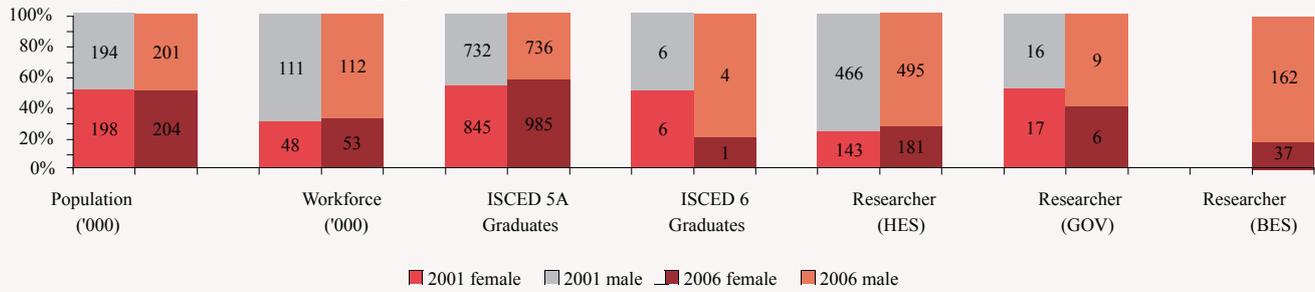
<sup>239</sup> <http://msp.gov.mt/ministry/content.asp?id=717>

<sup>240</sup> [http://www.eracareers.org.mt/info\\_work.asp](http://www.eracareers.org.mt/info_work.asp)

<sup>241</sup> <http://www.ncwmalta.com/newsviewsdetail.asp?i=162>

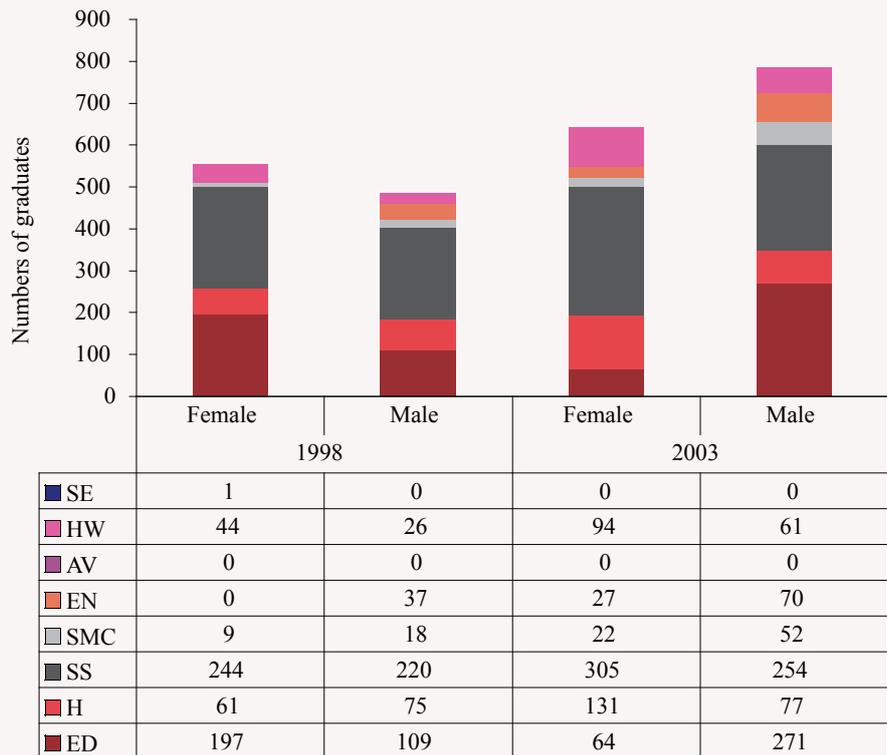
<sup>242</sup> <http://www.doi.gov.mt/en/legalnotices/2005/04/LN110.pdf>

### Overall presence of women in the population, workforce, education and research

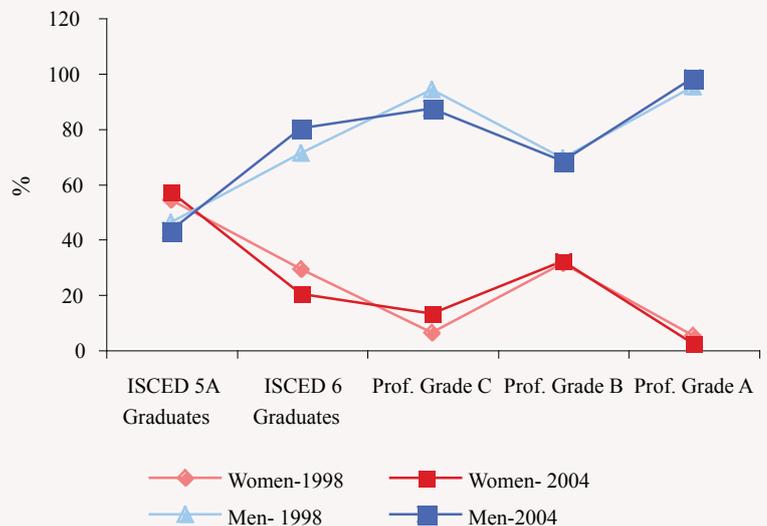


Exception to the ref. year: ISCED 5A and 6: 1999-03; Res (HES, GOV): 2002-06; Res (BES):2001-05

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Exception to the ref. year: ISCED 5A and 6:1998-03

# The Netherlands

## 1. Legal framework

Equal opportunities are covered by the Equal Treatment (Men and Women) Act. 'In addition, the Dutch Civil Code and the Central and Local Government Personnel Act both contain several articles that prohibit discrimination between men and women in the workplace'<sup>243</sup>.

## 2. Commitment to Gender Mainstreaming

The Netherlands are committed to gender mainstreaming and has mixed plans for gender equality policy and gender mainstreaming [5]. Moreover, every ministry is committed to make an equality plan which is sent to Parliament on a regular basis.

## 3. Women in Science Institutions

The Ministry of Education, Culture and Science coordinates gender equality policies in general in the Netherlands<sup>244</sup>. This Ministry and its Advisory Council for Science and Technology Policy<sup>245</sup> do not have a unit for women in science. However, because of its coordinating responsibility, the Ministry of Education, Culture and Science has a Directorate for Equality. Moreover, each ministry has an advisor for equality as a contact for the Ministry of Education. The national research council, the Netherlands Organisation for Scientific Research (NWO), has a special programme for women in science which includes numerous measures to increase women's participation.

## 4. Targets and quotas

There are no general quotas or targets for women in science in the Netherlands. However, every NWO board, council or committee must have at least one female member<sup>246</sup>. Besides, the Netherlands are working to increase the percentage of female professors to 15%<sup>247</sup>.

## 5. Networks, mentoring, and specific activities

There is a national expert organisation on girls/women and science/technology<sup>248</sup> which works to increase girls' and women's participation in science and technology at all levels. Mottier<sup>249</sup> lists a number of networks for women in science such as the *Network for Women in Earth Sciences*<sup>250</sup>, *Technika 10*<sup>251</sup> and the *Dutch Network for Women in Computer Science, Mathematics and Physics*<sup>252</sup>, who also provide a mentoring service.

## 6. Universities and research

Gender and women's studies are taught at Dutch universities and there is a Netherlands Association for Women's Studies<sup>253</sup>. The NWO has programmes for women in science: the *Meervoud*<sup>254</sup> programme is designed to enable female post-docs engaged in the natural sciences and mathematics to obtain positions as university lecturers; and the *Aspasia* programme, which is a temporary scheme to increase the number of women senior lecturers in all sciences. Finally, within the Innovative Impulse Scheme there is a special component designed for Women.

## 7. Work–Life Balance

Maternity leave is 16 weeks, paternity leave is 2 working days at the birth of a child, parental leave is 13 times the number of working hours per week per parent per child, to be taken up to the child's 8<sup>th</sup> birthday<sup>255</sup> [4]. In the recently launched new emancipation policy plan, measurements are announced to double the parental leave to 26 times the number of working hours<sup>256</sup>.

The NWO has numerous work–life balance measures to increase women's participation, such as abolition of age limits wherever possible and extension of time-limits (on grounds of pregnancy, parental leave or part-time appointments in combination with care responsibilities)<sup>257</sup>.

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<sup>243</sup> [http://internationalezaken.szw.nl/index.cfm?fuseaction=dsp\\_rubriek&rubriek\\_id=13037](http://internationalezaken.szw.nl/index.cfm?fuseaction=dsp_rubriek&rubriek_id=13037)

<sup>244</sup> <http://www.minocw.nl/english/>

<sup>245</sup> <http://www.awt.nl/?id=16>

<sup>246</sup> [http://www.nwo.nl/nwohome.nsf/pages/NWOP\\_5V7FVT\\_Eng](http://www.nwo.nl/nwohome.nsf/pages/NWOP_5V7FVT_Eng)

<sup>247</sup> Schaap-Koenen, Y., personal communication by email, 05/12/07

<sup>248</sup> [www.vhto.nl](http://www.vhto.nl)

<sup>249</sup> Mottier, I. (2001) *Science networks in the Netherlands*, online, <http://www.mariecurie.org/src/meet/womandsc/report2.pdf>, accessed 29/03/07

<sup>250</sup> [www.vrouwen.net/gaia](http://www.vrouwen.net/gaia)

<sup>251</sup> [www.technika10.nl](http://www.technika10.nl)

<sup>252</sup> [www.nimf.nl](http://www.nimf.nl)

<sup>253</sup> <http://www.genootschapvrouwenstudies.nl/>

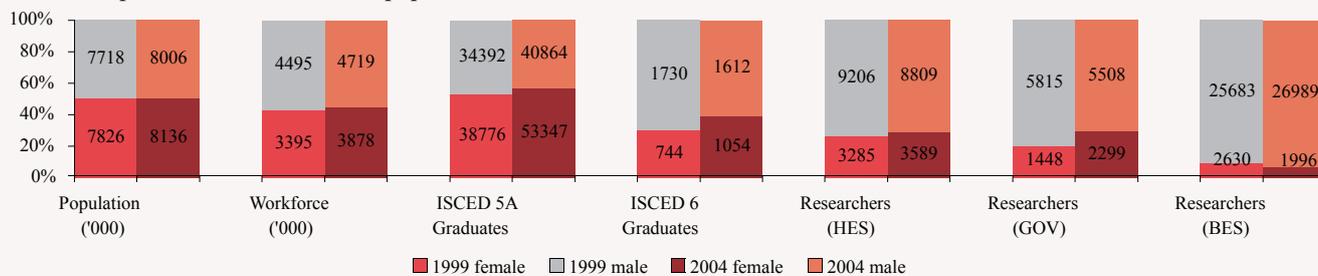
<sup>254</sup> [http://www.nwo.nl/nwohome.nsf/pages/NWOP\\_5V7FYQ\\_eng](http://www.nwo.nl/nwohome.nsf/pages/NWOP_5V7FYQ_eng), this programme will at least last until 2008.

<sup>255</sup> For example, a full-time job of 38 hours a week gives a leave entitlement of 494 hours.

<sup>256</sup> Meer kansen voor vrouwen. Emancipatienota 2008-2011. Ministerie O.C en W. nov.2007.

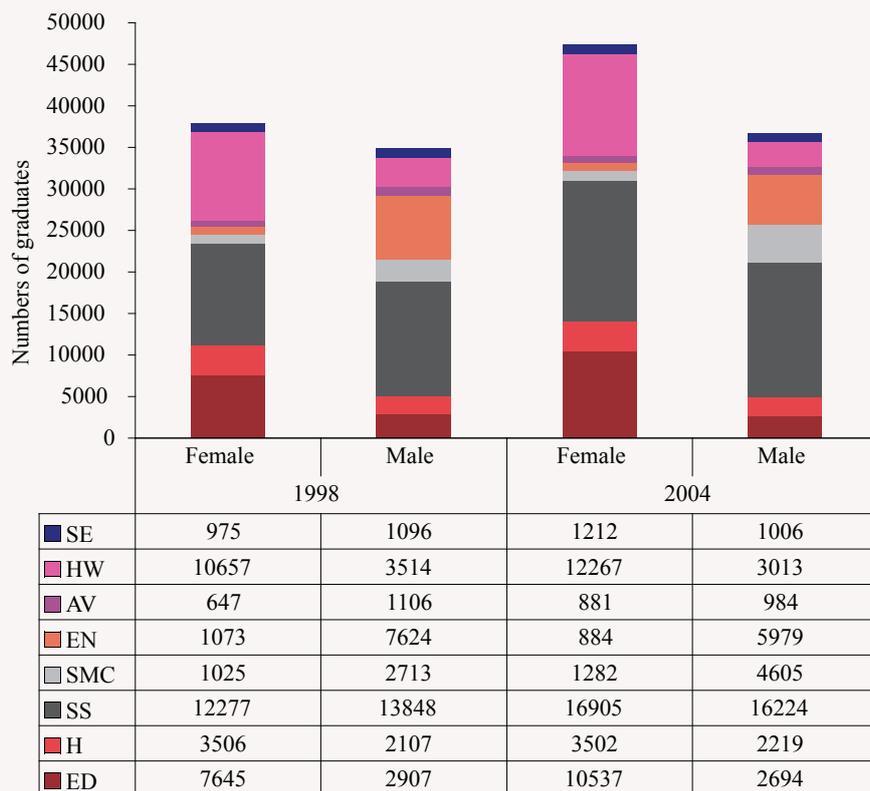
<sup>257</sup> [http://www.nwo.nl/nwohome.nsf/pages/NWOP\\_5V7DFD\\_Eng](http://www.nwo.nl/nwohome.nsf/pages/NWOP_5V7DFD_Eng)

### Overall presence of women in the population, workforce, education and research

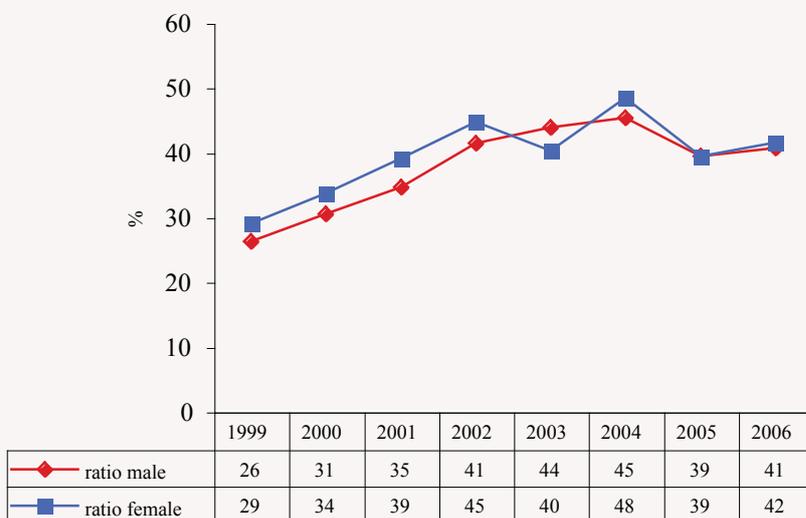


Exception to the ref. year: Population and workforce: 1999-06; Res (HES): 1999 (FTE)-2003; Res (GOV, BES): 2001-05

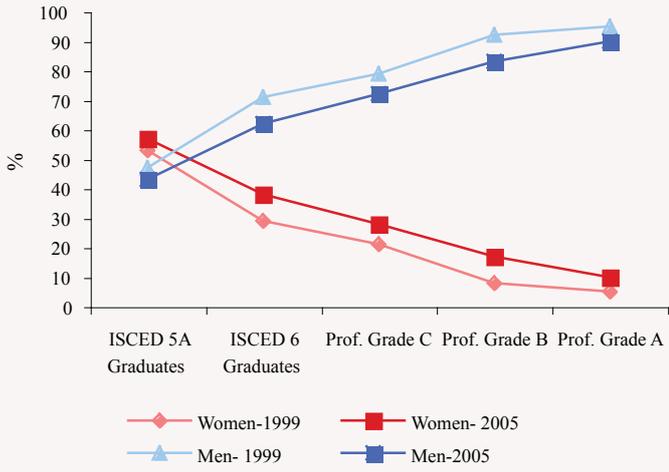
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

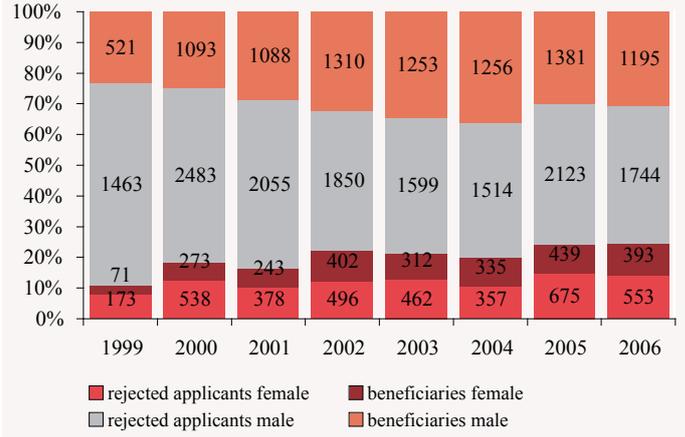


### Relative share of women & men in a typical academic career



Exception to the ref. year: ISCED-- 5A: 1999-04

### Funding applicants and beneficiaries



## Poland

### 1. Legal framework

A new chapter of the Labour Code entitled Equal Treatment of Women and Men came into force in 2002 and constitutes the legislation on gender equality in Poland<sup>258</sup>; however, there is no general anti-discrimination law that contains a definition of discrimination against women<sup>259</sup>.

### 2. Women in Science Institutions

The Governmental Plenipotentiary for Equal Status of Women and Men was abolished in 2005 and the mechanism for the promotion of gender equality is now the Department for Women, Family and Counteracting Discrimination<sup>260</sup> at the Ministry of Labour and Social Policy. There is concern that, in this new setting, insufficient focus will be given to the 'specific nature of discrimination against women, limiting attention to discrimination against women to the field of employment'<sup>261</sup>. The Ministry for Science and Higher Education promotes gender balance in research and development by financing research projects: since 2002, it has granted financial support to 22 research projects dealing with the issue of women's participation in R&D activities; 12 of which have dealt with women in science<sup>262</sup>. There is a coordinator of women and science issues in the Ministry for Science and Education<sup>263</sup>. The Foundation for Polish Science<sup>264</sup> does not offer any programme/scholarship specifically targeting women in science. Some data from the Central Statistical Office<sup>265</sup> are sex-disaggregated.

### 3. Universities and research

There are gender and women's studies courses in some universities in Poland (e.g. University of Warsaw<sup>266</sup>, the Women's Studies Interdisciplinary Research Group<sup>267</sup> of Adam Mickiewicz University). There are also two MA programmes in Women's/Gender Studies: one at the Jagiellonian University in Kraków<sup>268</sup> and one at the University of Lodz<sup>269</sup>, which is taught in English.

### 4. Work–Life Balance

Maternity leave is 18 weeks (of which the last 4 can be taken by the father); both women and men can take up to 3 years of childcare leave until the child reaches the age of 4. However, Zielinska (2005:55) has observed that: 'There are no specific programmes to encourage men to take a greater role in family life, to change attitudes regarding family responsibilities, or to encourage the sharing of parental leave schemes by both parents. Nor are there any specific programmes to support flexible working arrangements or to address gender equality within social security schemes'.

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<sup>258</sup> Zielinska, E. (2005) *Equal Opportunities for Women and Men Monitoring law and practice in Poland*, Open Society Institute.

<sup>259</sup> <http://www.undp.org.pl/en/aktualnosci.php?news=804>

<sup>260</sup> <http://www.mps.gov.pl/index.php?gid=893>

<sup>261</sup> CEDAW (2007:3) Concluding comments of the Committee on the Elimination of Discrimination against Women: Poland, Committee on the Elimination of Discrimination against Women.

<sup>262</sup> Maciejewska, M., personal communication by email, 26/06/07

<sup>263</sup> [http://www.eng.nauka.gov.pl/meinen/index.jsp?place=Menu01&news\\_cat\\_id=-1&layout=0](http://www.eng.nauka.gov.pl/meinen/index.jsp?place=Menu01&news_cat_id=-1&layout=0)

<sup>264</sup> [http://www.fnp.org.pl/ang/programy/programy\\_aktualne.html](http://www.fnp.org.pl/ang/programy/programy_aktualne.html)

<sup>265</sup> <http://www.stat.gov.pl/english/index.htm>

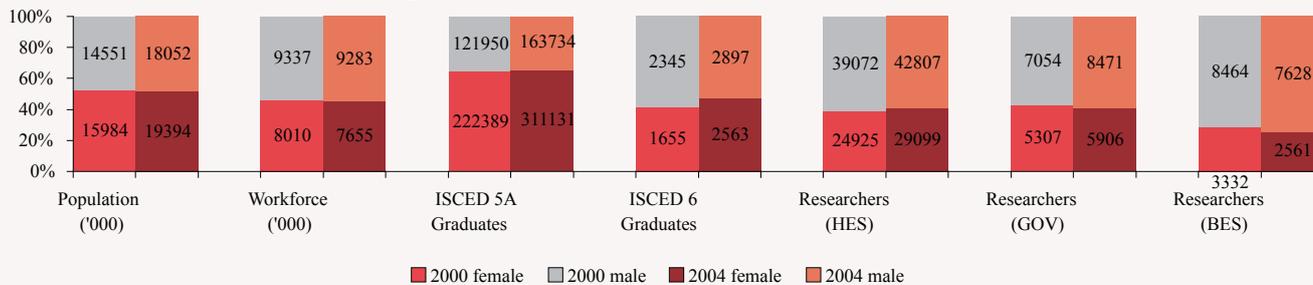
<sup>266</sup> <http://www.iss.uw.edu.pl/eng/ekipa.html#izbspp>, others at <http://www.zenskestudie.edu.yu/wgsact/poland/index.html>

<sup>267</sup> <http://www.staff.amu.edu.pl/~pakszyse/eng.html>

<sup>268</sup> <http://www.uj.edu.pl/index.html>

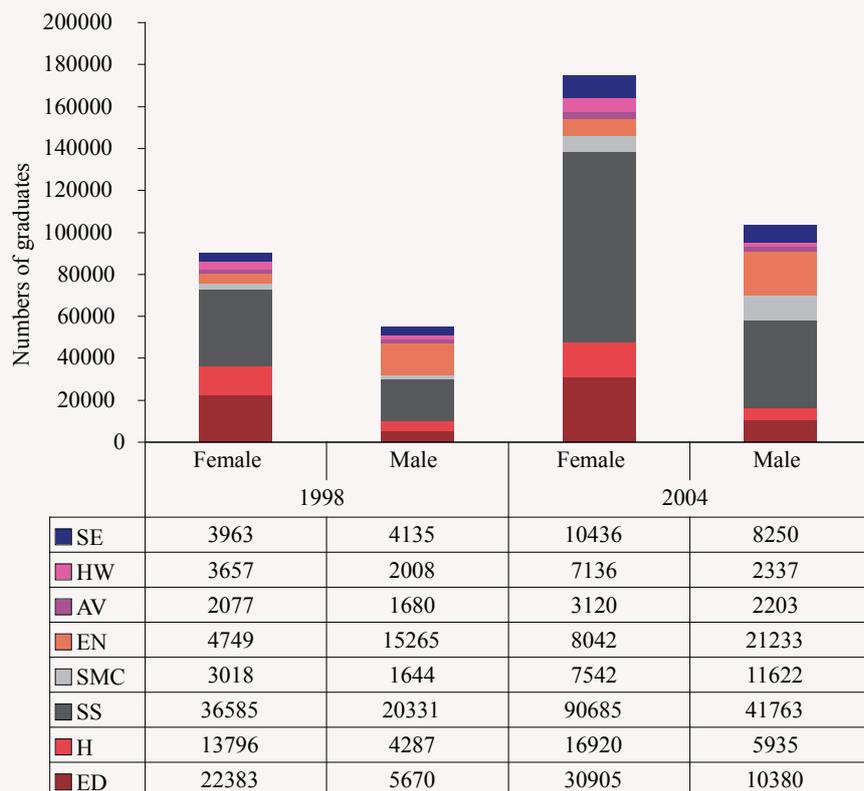
<sup>269</sup> <http://www.uni.lodz.pl/index.php/studia/studiesinenglish>

### Overall presence of women in the population, workforce, education and research

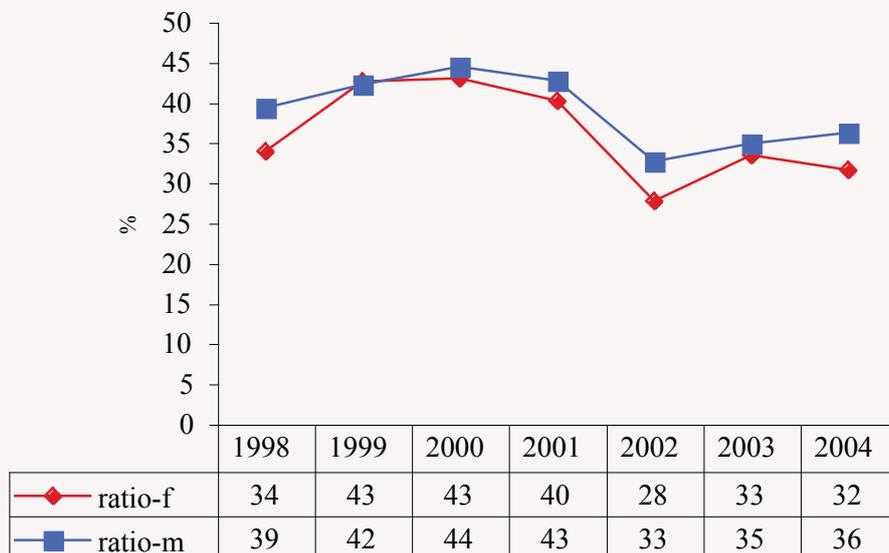


Exception to the ref. year: Population and workforce: 2000-06; ISCED 6: 1999-04

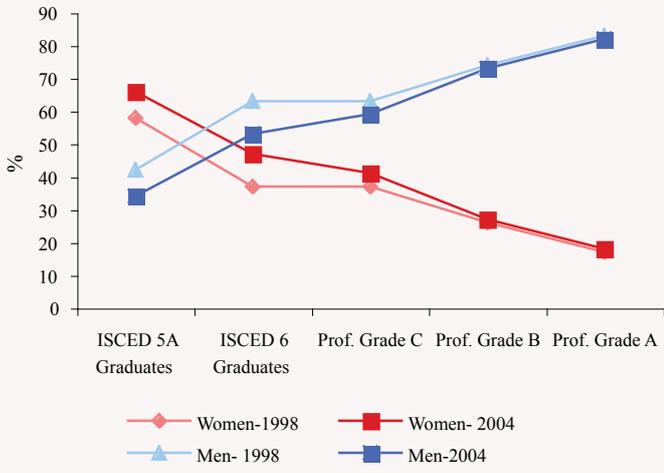
### Evolution of ISCED 5A (1st degree) by field of study



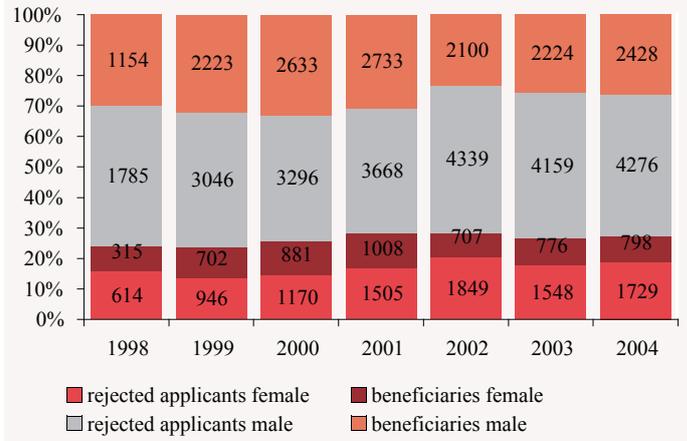
### Success rates of women and men in funding



### Relative share of women & men in a typical academic career



### Funding applicants and beneficiaries



## Portugal

### 1. Legal framework

The Labour Code (last amended in 2004) and other laws, such as the Constitutional Law n° 1/97<sup>270</sup> on the responsibility of the State to promote equal opportunity, cover equal opportunities between women and men in Portugal.

### 2. Commitment to Gender Mainstreaming

Portugal is committed to gender mainstreaming; however, there are no specific resources for gender mainstreaming [5]. The Third Plan for Equality – Citizenship and Gender was recently approved (2007<sup>271</sup>) and aims to increase the integration of gender perspectives into all political and social fields.

### 3. Women in Science Institutions

The Commission for Citizenship and Gender Equality<sup>272</sup> is responsible for gender equality in general. The Commission for Equality at Work and in Employment<sup>273</sup> (in the Ministry of Work and Social Solidarity) is in charge of equality in employment. In Science, the Ministry of Science and Technology and Higher Education<sup>274</sup>, the Foundation for Science and Technology<sup>275</sup> and the Observatory for Sciences and Technologies<sup>276</sup> do not have units or programmes for women in science. However, there is a Counsellor for Equality in the Commission for Citizenship and Gender Equality, who is responsible for the implementation of Sectoral Equality Plans in each Ministry.

### 4. Networks, mentoring, and specific activities

There are various associations of women in Portugal, such as the Network of Youth for Women's Equality<sup>277</sup> and the Women's Entrepreneurs' Club<sup>278</sup>. In the area of science, the Portuguese Association of Women Scientists<sup>279</sup> acts as a forum for women scientists, amongst other things.

### 5. Universities and research

Gender and women's studies are taught at Portuguese universities. There is a Portuguese Association of Women's Studies<sup>280</sup>, and there are women's studies journals. There is also a Portuguese Association of Historical Research on Women, which is represented in the Consultative Council of the Commission for Citizenship and Gender Equality.

### 6. Work–Life Balance

Maternity leave is 120 days, paternity leave is 20 days, of which 5 are obligatory and must be taken in the first month after childbirth; unpaid parental leave is 3 months per parent [4].

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<sup>270</sup> <http://www.fd.unl.pt/jp/dmulher.htm>

<sup>271</sup> Resolution of the Council of Ministries n.º 82/2007, Diário da República, 1.ª série, N.º 119, 22 June 2007

<sup>272</sup> <http://www.cidm.pt/>

<sup>273</sup> <http://www.cite.gov.pt>

<sup>274</sup> <http://www.mctes.pt/index.php>

<sup>275</sup> <http://www.fct.mctes.pt/>

<sup>276</sup> <http://www.oces.mctes.pt/index.php>

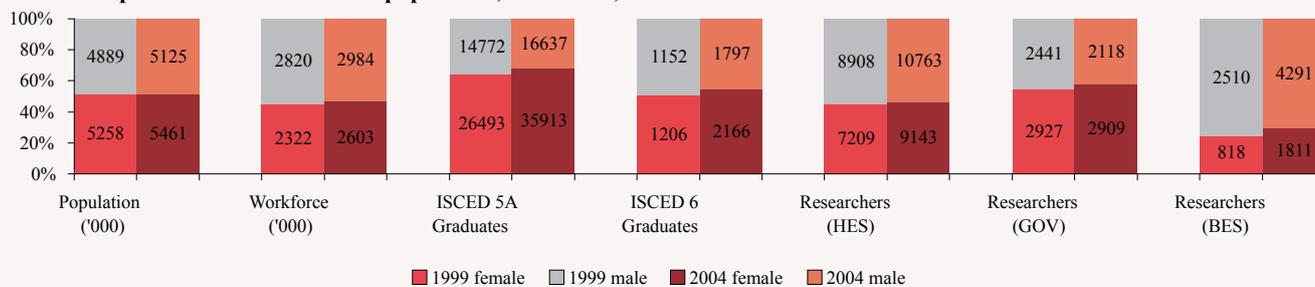
<sup>277</sup> <http://redejovensigualdade.org.pt/drupal/node/3>

<sup>278</sup> <http://www.pme.online.pt/gca/?id=140>

<sup>279</sup> <http://www.dq.fct.unl.pt/qa/amonet.htm>

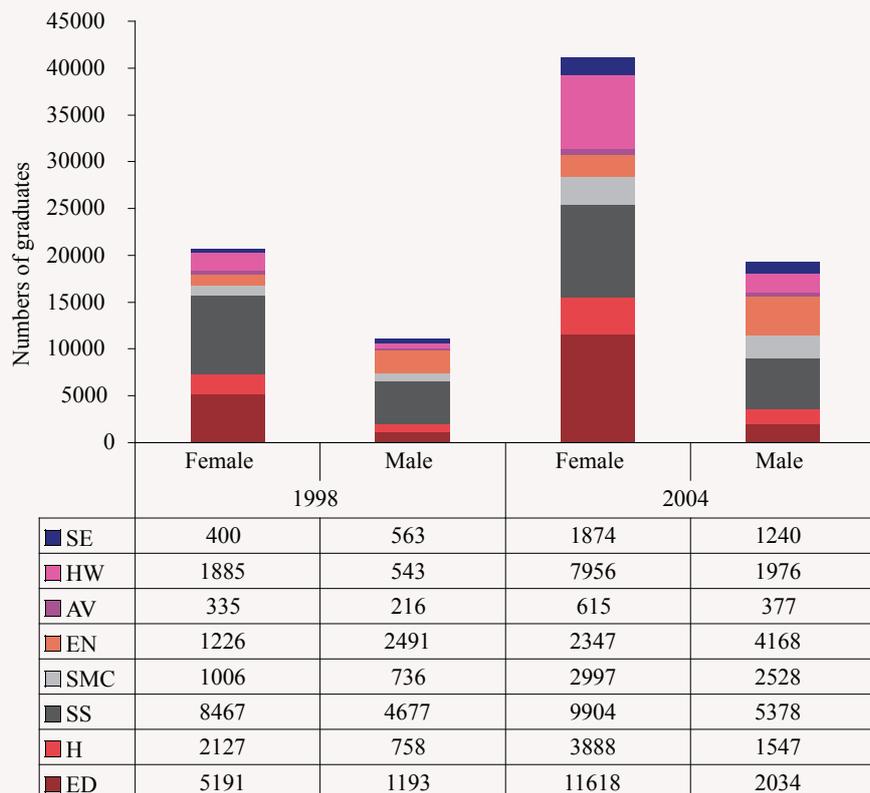
<sup>280</sup> <http://www.apem.web.pt/>

### Overall presence of women in the population, workforce, education and research

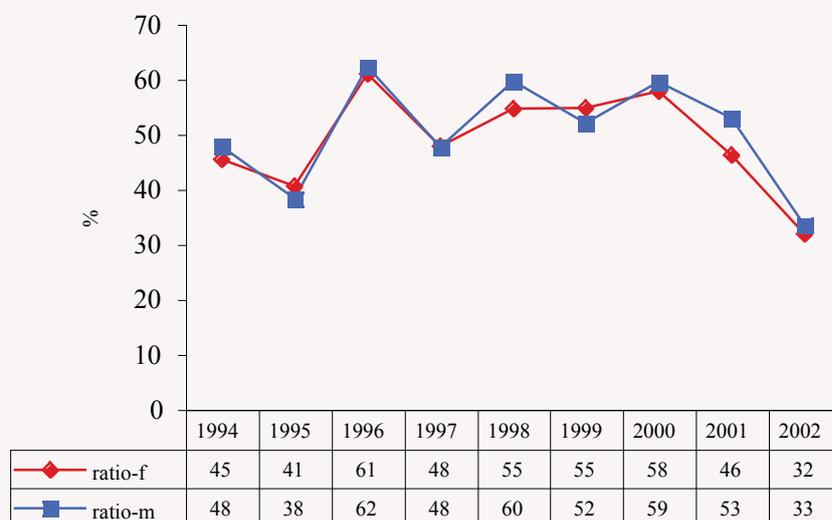


Exception to the ref. year: Population and workforce: 1999-06; Res (all): 1999-03

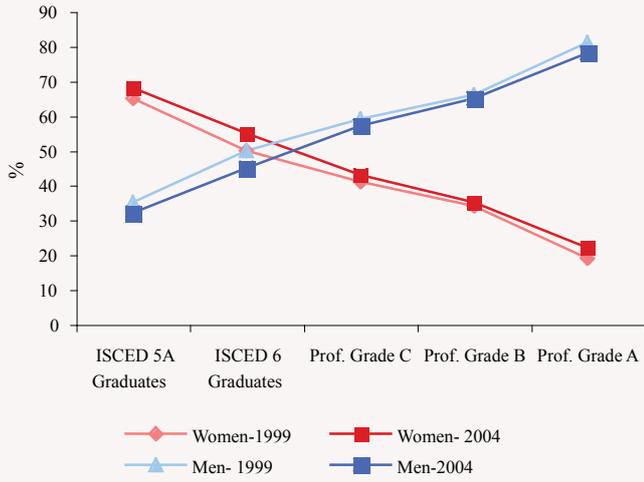
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

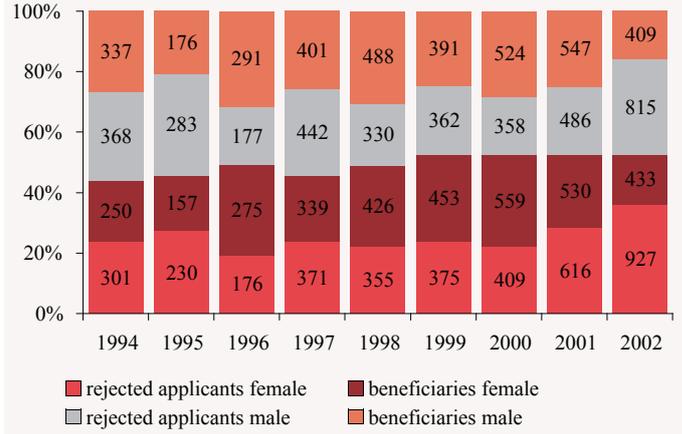


### Relative share of women & men in a typical academic career



Except. ref. year: Prof A, B and C: 1999-03

### Funding applicants and beneficiaries



# Romania

## 1. Legal framework

The legal framework is based on the Romanian Constitution, the National Action Plan for Equal Opportunities for Women and Men (2000) and the Law on Equal Opportunities for Women and Men (2002).

## 2. Women in Science Institutions

There are various institutions in charge of gender equality in general in Romania: the most important is the National Agency for Equal Chances (2005<sup>281</sup>) which coordinates the Consultative Inter-Ministerial Commission on Equality of Treatment for Men and Women<sup>282</sup> and is under the head of the Ministry of Labour and Social Protection<sup>283</sup>. There is also a Parliament Commission for Equal Chances and Treatment (2000<sup>284</sup>) and a National Commission for Equal Opportunity for men and women, which is a consultative board for implementing policies in the field in all fields of activity.

In science, the Ministry for Education and Research<sup>285</sup> does not have a unit for women in science and the National Authority for Scientific Research<sup>286</sup> deals with gender equality within its Science and Society Department.

## 3. Targets and quotas

There is no use of quotas or targets for women in science related positions. Quotas were carefully observed before 1987, but were then abandoned, being considered a communist legacy. The result was a severe drop in the number of women in top positions in science. Now only one rector in Bucharest Polytechnic and a vice-rector in Galati University<sup>287</sup> are women.

## 4. Network, mentoring

There are many associations for women in Romania. For example, there is a Women's Association of Romania<sup>288</sup>, a National Confederation of Romanian Women<sup>289</sup>, and an Association for Women Entrepreneurship Development, amongst others. The National Resource Centre for Women within the Chamber of Commerce and Industry of Romania organises mentoring projects and supports women entrepreneurs.

In science, the Central European Centre for Women and Youth in Science<sup>290</sup> has a Romanian partner at the ACPC Research Centre of the Faculty of Automatics and Computer Science, University Politehnica of Bucharest. GendeRomania<sup>291</sup> is a network for scholars in gender in Romania but also in the whole of central and eastern Europe. There is a Society for Feminist Analysis<sup>292</sup> as well as a Romanian Gender Centre for Women in Science and Technology<sup>293</sup>. Finally, there is a Woman in Science and Technology Association<sup>294</sup>.

## 5. Universities and research, and specific activities

Gender and women's studies are taught at some universities such as the National School of Political Science in Bucharest<sup>295</sup>. A course on feminism is taught at the Faculty of Philosophy, University of Bucharest, and a module on Women, Culture and Society is taught at the Faculty of Sociology, and the Department of Social Work in the same university. There is also an interdisciplinary group for gender studies<sup>296</sup> at the Babes-Bolyai University. There is a Romanian Association of University Women<sup>297</sup> affiliated to the International Federation of University Women<sup>298</sup>.

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<sup>281</sup> <http://www.anes.ro/>

<sup>282</sup> <http://www.ilo.org/public/english/region/eurpro/budapest/download/gender/romania.pdf>

<sup>283</sup> <http://www.mmssf.ro/website/en/index.jsp>

<sup>284</sup> <http://www.cdep.ro/pls/parlam/structura.co?ide=20&idl=2>

<sup>285</sup> <http://www.edu.ro/>

<sup>286</sup> [http://www.mct.ro/ancs\\_web/index.php?action=view&idcat=5](http://www.mct.ro/ancs_web/index.php?action=view&idcat=5)

<sup>287</sup> Ionescu, M., personal communication by email, 17.04.07

<sup>288</sup> <http://www.afr.ro/english/indexen.htm>

<sup>289</sup> <http://www.cnfr.ro/>

<sup>290</sup> Central European Centre for Women and Youth in Science is a project funded by the European Commission under Framework Programme 6 in the Structuring the ERA specific programme.

<sup>291</sup> <http://www.feminism.ro/about.htm>

<sup>292</sup> <http://www.anasaf.ro/en/index.html>

<sup>293</sup> <http://www.optoel.ro/asocatie.HTM>

<sup>294</sup> [timus@nipne.ro](mailto:timus@nipne.ro)

<sup>295</sup> [http://www.unibuc.ro/en/bursecat\\_gest\\_en](http://www.unibuc.ro/en/bursecat_gest_en)

<sup>296</sup> <http://www.gender.salve.ro/>

<sup>297</sup> Contact person: Maria A. Ciochirca; [mcio22@yahoo.com](mailto:mcio22@yahoo.com)

<sup>298</sup> <http://www.ifuw.org>

## **6. Work–Life Balance**

In Romania, maternity leave is two years. Maternity benefit is 85% of the salary and the benefit is payable for 126 days, covering the period before and after childbirth. Fathers are entitled to five days of paternity leave. Following the maternity leave, either parent can be granted paid leave with 85% of the salary to raise the child until the age of two.

‘There are no state policies to promote women’s participation in the labour market, such as promoting flexible working arrangements, or supporting women to re-enter the labour market after taking leave to care for children. There are no state policies or initiatives to reduce the gender pay gap’<sup>299</sup>. Nevertheless, private enterprises offer flexible working arrangements (part-time jobs) for women who study<sup>300</sup>.

## **7. Statistics**

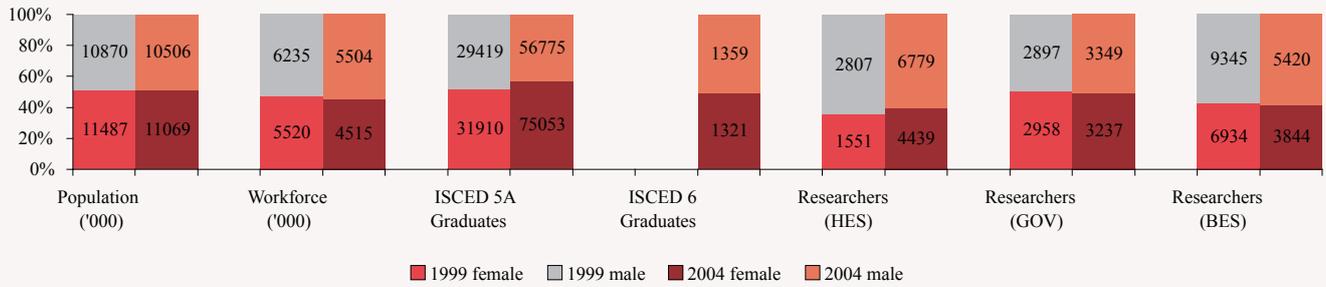
The important increase in ISCED 5A graduates numbers can be explained by the fact that, between 1998 and 2004, certain magisterial studies became masters studies and the conditions for obtaining this latter degree became more flexible.

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<sup>299</sup> Open Society Institute (2005:96) *Equal Opportunities for Women and Men, Monitoring law and practice in new member states and accession countries of the European Union*, Overview, Budapest.

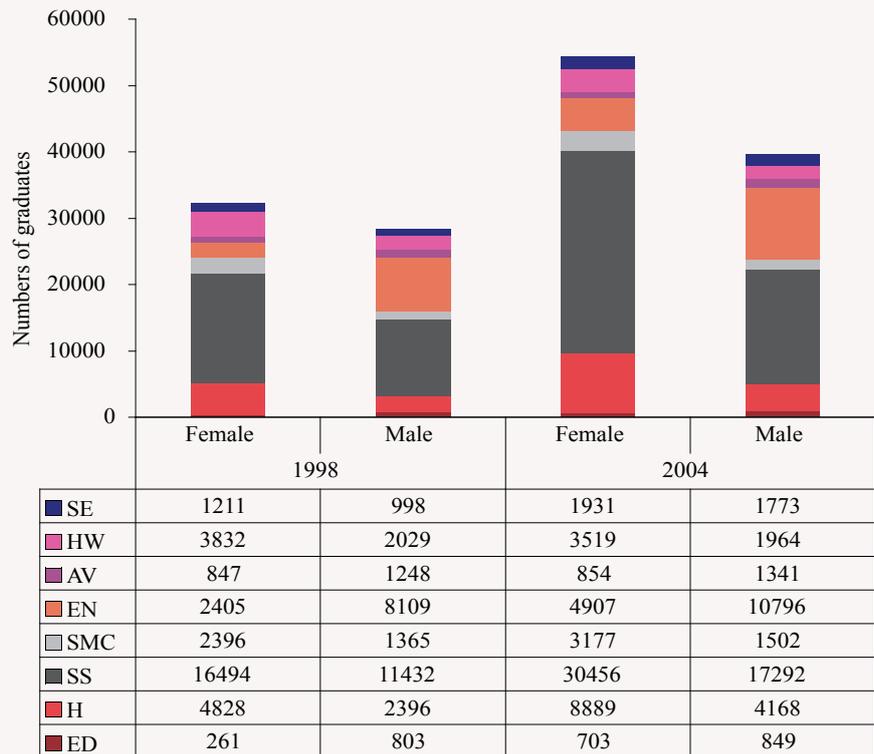
<sup>300</sup> Ionescu, M., personal communication by email, 17.04.07

### Overall presence of women in the population, workforce, education and research

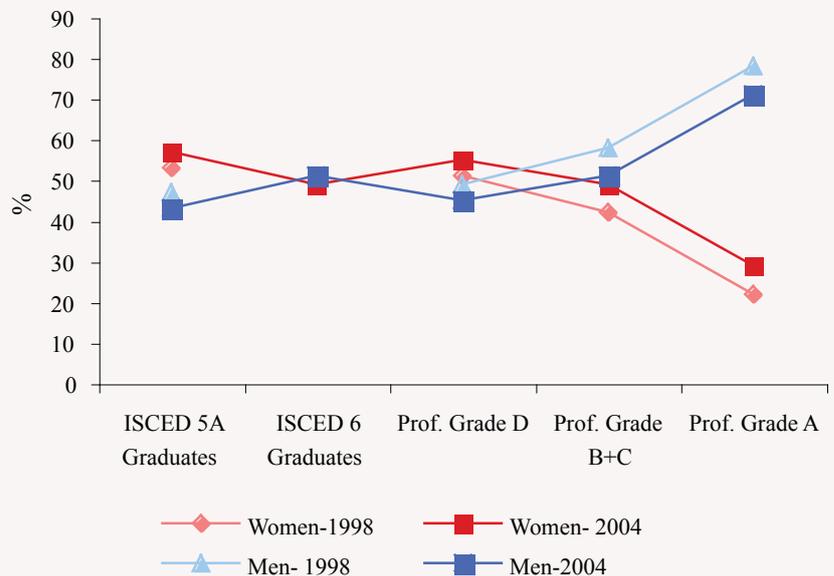


Exception to the ref. year: Population and workforce: 1999-06

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Prof. A, B, C and D in Head Count

## Slovak Republic

### 1. Legal framework

The main equal treatment legislation is the Anti-discrimination Act of 2004; the Labour Code (2003) also covers the principle of equal pay for equal work.

### 2. Commitment to Gender Mainstreaming

It is not clear if the Slovak Republic is committed to gender mainstreaming. Some argue it is, to the extent requested by the EU<sup>301</sup>; others [5] argue that Slovakia is not yet committed to gender mainstreaming. According to Debreceniova and Ocnasova (2005:48<sup>302</sup>): ‘A new complex gender mainstreaming policy document should substitute both the National Action Plan and the Concept of Equal Opportunities’ in 2005. Therefore it would seem that Slovakia is in the process of becoming committed to gender mainstreaming.

### 3. Women in Science Institutions

The Department for Gender Equality and Equal Opportunities sits within the Ministry of Employment, Social Affairs and Family<sup>303</sup> and is in charge of gender equality and combating all forms of discrimination in general. The central organ for science and technology in the Slovak Republic is the Ministry of Education<sup>304</sup> and there is no unit for women in this Ministry. The Statistical Office of the Slovak Republic<sup>305</sup> disaggregates some data according to sex, for example in higher education. However, as Debreceniova and Ocnasova (2005:64) write, ‘public access to information about gender equality is generally low and complicated’.

### 4. Networks, mentoring, and specific activities

A list of women’s networks is available on this website<sup>306</sup>. There is a Society of Women in Science and Technology in Slovakia<sup>307</sup>; this is listed under the Association of Slovak Scientific and Technological Societies.

### 5. Universities and research

Gender and women’s studies are taught at Slovakian universities, and there is a Gender Studies Centre<sup>308</sup> at the Comenius University. A committee for equal opportunities was established in 2005, in the Slovak Academy of Sciences, which is the most important research institution in Slovakia<sup>309</sup>.

### 6. Work–Life Balance

Maternity leave is 28 weeks – it can be taken by the father if he is the one taking care of the child. Women and men can take parental leave up until the child reaches three years.

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<sup>301</sup> Piscová, M., personal communication by email, 05/06/07

<sup>302</sup> Debreceniova, J. and Ocnasova, Z. (2005) *Equal Opportunities for Women and Men, Monitoring law and practice in Slovakia*, Open Society Institute.

<sup>303</sup> <http://www.employment.gov.sk/new/index.php?SMC=1&id=1641>

<sup>304</sup> <http://www.minedu.sk/>

<sup>305</sup> [http://www.statistics.sk/webdata/english/index2\\_a.htm](http://www.statistics.sk/webdata/english/index2_a.htm)

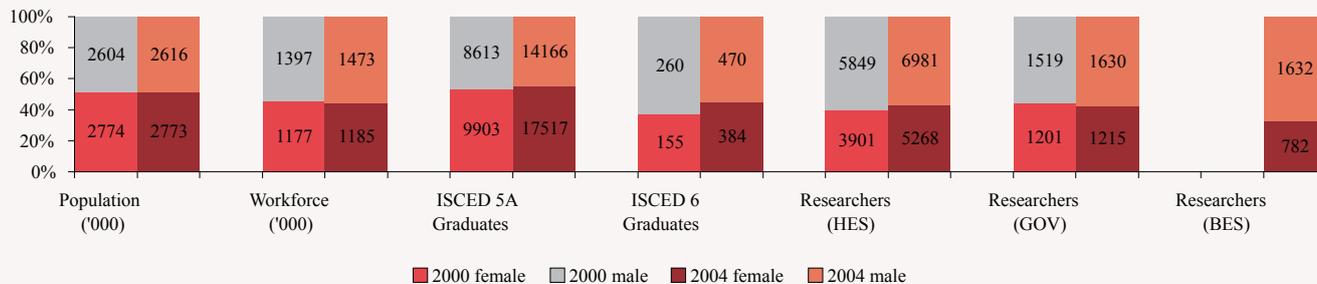
<sup>306</sup> [www.distel.ca/womlist/countries/slovakia.html](http://www.distel.ca/womlist/countries/slovakia.html)

<sup>307</sup> [http://www.zsvts.sk/a\\_odb\\_spol.asp](http://www.zsvts.sk/a_odb_spol.asp)

<sup>308</sup> [http://genderstudies.fphil.uniba.sk/index.php?option=com\\_content&task=view&id=738&Itemid=9](http://genderstudies.fphil.uniba.sk/index.php?option=com_content&task=view&id=738&Itemid=9)

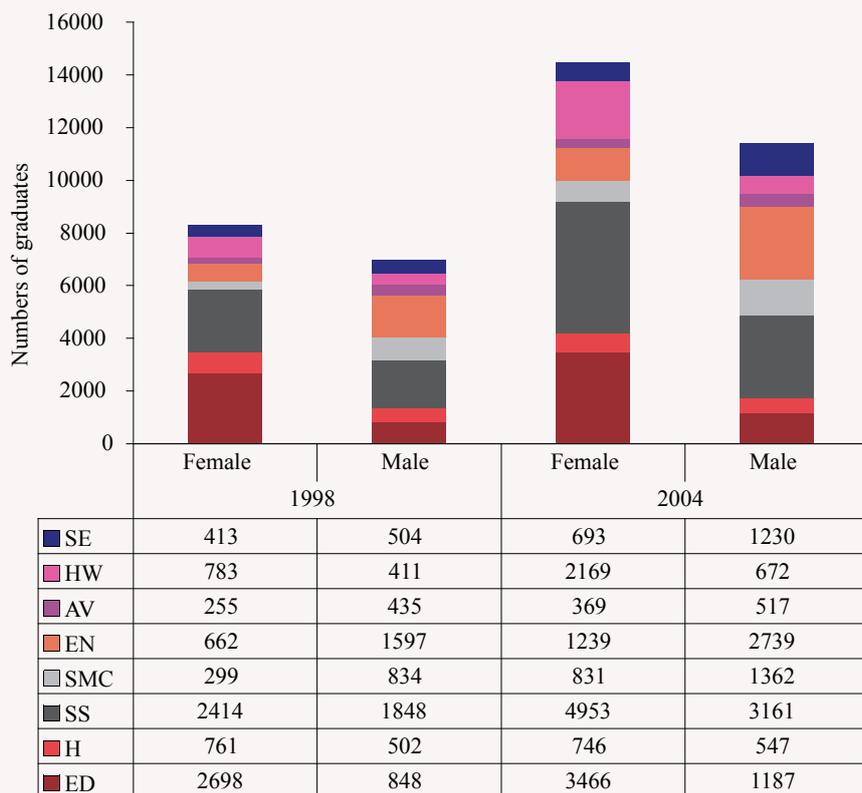
<sup>309</sup> Piscova, M. personal communication by email, 22/10/07

### Overall presence of women in the population, workforce, education and research

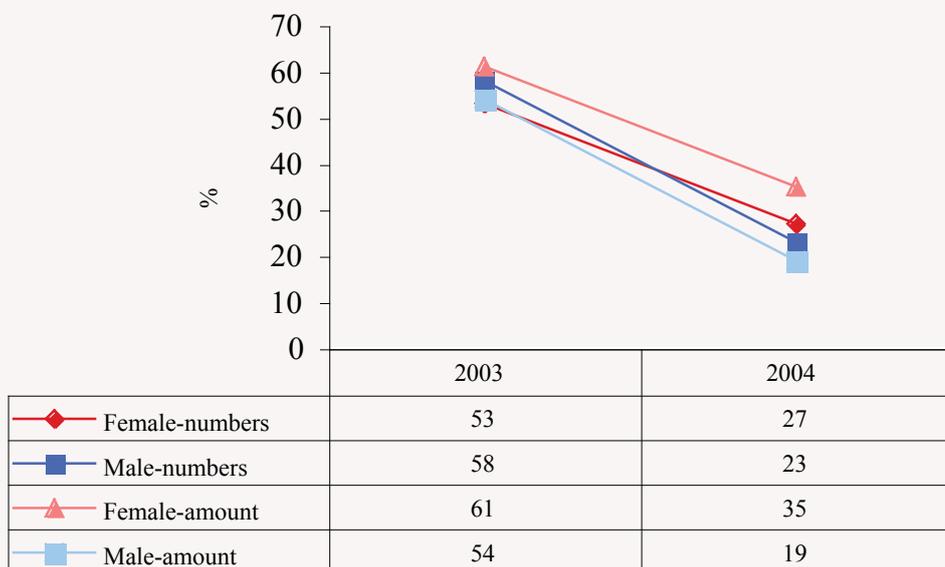


Exception to the ref. year: Population and workforce: 2000-06; Res (HES, GOV): 1999-05; Res (BES):2005

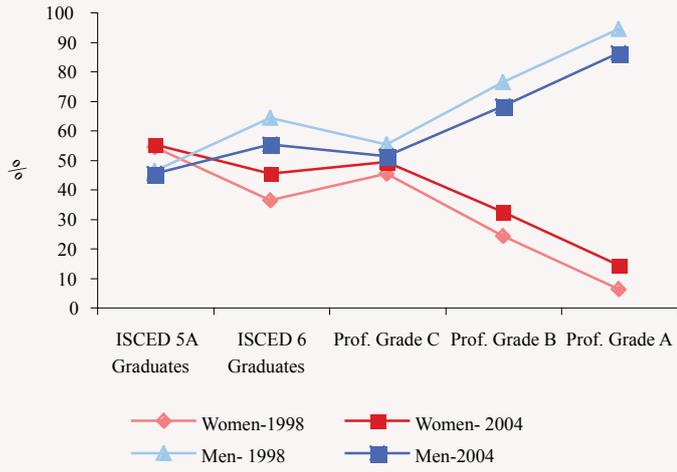
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

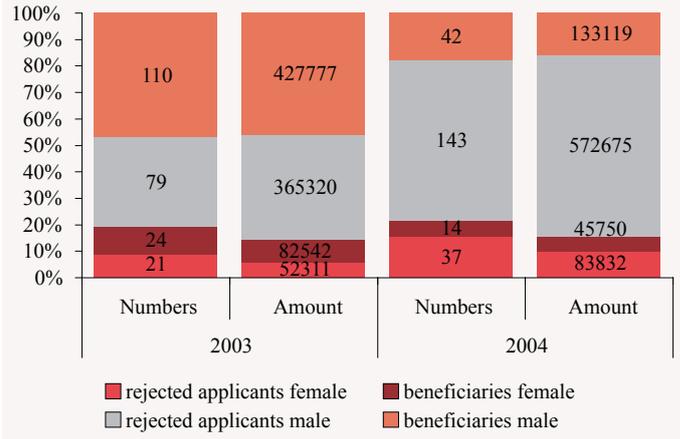


### Relative share of women & men in a typical academic career



Prof. A, B and C are in Head Count

### Funding applicants and beneficiaries



# Slovenia

## 1. Legal framework

The legal framework for equal opportunity in Slovenia has its roots in the legal heritage articulated in the 1970s and 1980s. In the last years, it was completed and updated according to the EU gender equality strategy and requirements. It consists of the Act on Equal Opportunities for Women and Men (2002), the Act Implementing the Principle of Equal Treatment (2004), and the National Programme for Equal Opportunities for Women and Men (2005-2013).

## 2. Commitment to Gender Mainstreaming

Slovenia is committed to gender mainstreaming<sup>310</sup> as expressed in the Act on Equal Opportunities for Women and Men. In the National Programme for Equal Opportunities for Women and Men (NPEOWM 2005-2013), it is recognised that balanced roles and participation rates for women and men in science and research are important for the development and operation of society. However, there are no specific resources for gender mainstreaming [5].

## 3. Women in Science Institutions

The Governmental Office of Equal Opportunities (OEO)<sup>311</sup>, constituted in 2001 (replacing the Office for Women's Policy established in 1992), and the Network of Equal Opportunities Coordinators (first appointed in 2004) in all ministries, are responsible for the advancement of women in all areas of work and life in Slovenia.

In science, a National Committee for Women and Science<sup>312</sup> was established in 2001 at the then Ministry for Higher Education, Science and Technology as an advisory/expert body to the Ministry. It has 15 members from different institutions and scientific disciplines. The Statistical Office of the Republic of Slovenia<sup>313</sup> and a section of the Ministry of Higher Education, Science and Technology<sup>314</sup> update and review the statistical data, which are mostly disaggregated according to sex.

## 4. Targets and quotas

The Periodical Plan for NPEOWM realisation for the period 2006-2007 recognises obstacles to equal positions of women and men in science and technology, although it states that equal treatment and equal opportunities in work and in promotion will be provided to women and men. However, the plan suggests the use of indicators, rather than quotas.

Legal acts (statutes) – from the governmental to the university levels – regulating the position of gender in decision making bodies, include the demand for relative adequate representation of women in all bodies<sup>315</sup>.

## 5. Network, mentoring, and specific activities

**In Slovenia, there are many NGOs aimed at women's economic empowerment. The Central European Centre for women and youth in science (CEC-WYS)<sup>316</sup> and the Enwise group<sup>317</sup> have a prominent role in networking, raising awareness and also research on the current state of awareness about gender equality problems in science. CEC-WYS prepared an exhibition for promoting women in ICT, electrical engineering, mechanical engineering and mathematics in Slovenia. In collaboration with EU FP6 project PASCAL, CEC-WYS organised Women in Science related events such as the conference Women in Science and Research (Ljubljana 2007). The main objective of the conference was to discuss the obstacles faced by women in science and research in Slovenia<sup>318</sup>. The situation of women in science in Slovenia was also the topic of the conference organised by the OEO at the International Woman's Day 2007. Finally, there is also a very active informal association of women physicists (e.g. in year 2007 they published a monograph Physics, my profession: The life and the work of our women physicists).**

There are no special activities regarding the gender specific mentoring for (young) women in science.

## 6. Universities and research

There are gender focussed research programmes and projects carried out in various academic institutions in Slovenia (the Ljubljana University with Faculties of Social Sciences, of Arts, and of Social Work, the

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<sup>310</sup> <http://www.qub.ac.uk/egg/Summaries/Slovenia-WP6Summ.doc>

<sup>311</sup> <http://www.uem.gov.si/>

<sup>312</sup> <http://www.mvzt.gov.si/>

<sup>313</sup> <http://www.stat.si/eng/index.asp>

<sup>314</sup> <http://www.mss.gov.si>

<sup>315</sup> Umek Venturini, A. personal communication by email, 27/11/07

<sup>316</sup> Dunja Mladenič (2006) Enakost žensk in moških v znanosti in raziskovanju v Sloveniji, Ljubljana.

<sup>317</sup> [http://ec.europa.eu/research/science-society/women/enwise/index\\_en.html](http://ec.europa.eu/research/science-society/women/enwise/index_en.html)

<sup>318</sup> [http://www.unhchr.ch/tbs/doc.nsf/0ac7e03e4fe8f2bdc125698a0053bf66/3f5f558a0f001511c12572ad0038ad42/\\$FILE/N0275537.doc](http://www.unhchr.ch/tbs/doc.nsf/0ac7e03e4fe8f2bdc125698a0053bf66/3f5f558a0f001511c12572ad0038ad42/$FILE/N0275537.doc).

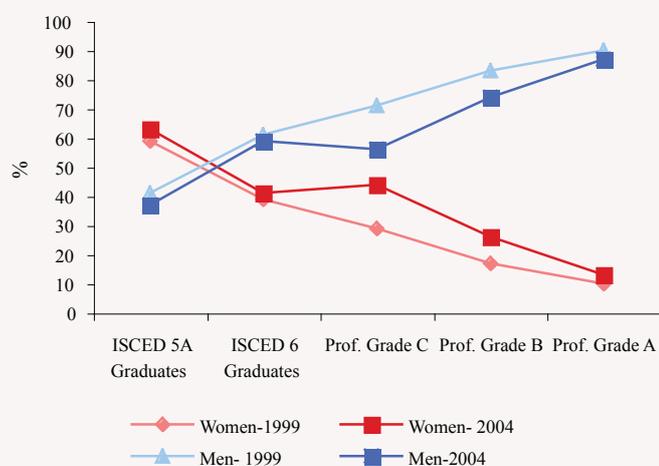
Institutum studiorum humanitatis with a Faculty of Philosophy, the Maribor University with a Faculty of Pedagogic, and the University of Primorska<sup>319</sup> where also a gender equality board was established in early 2006). Additionally, gender dimensions are included in research projects in the field of social sciences and humanities. At the graduate level, besides specific courses in gender (e.g. gender sociology), gender topics are included in other general courses. Finally, at the postgraduate level, there are some specific programmes and courses focussed on gender relations (e.g. Sexism as a contemporary tradition at the Faculty of Social Sciences – University of Ljubljana).

## 7. Work–Life balance

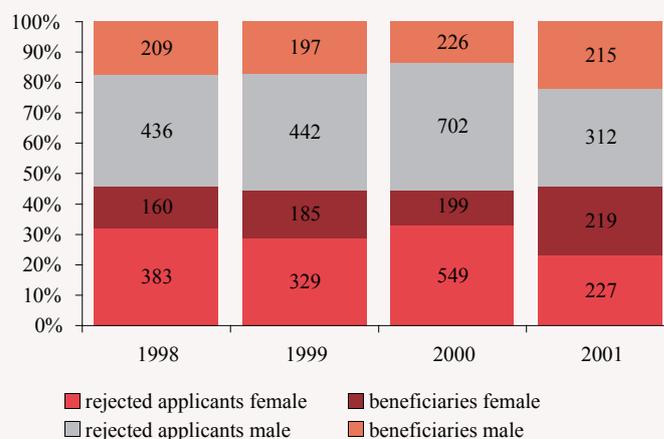
Maternity leave is 105 days; paternity leave is 90 days (since 2005); leave for nursing and care is 260 days (following the maternity leave of 105 days, so the total amounts to 12 months) which can be used either by the mother or by the father, or may be divided between them; and parents can work part-time until the child reaches the age of 3 [4]. Since national policies support the reconciliation of employment and parenthood, the majority of organisations in Slovenia have not advanced any additional practices or initiatives beyond the legislative standards. As a result, few examples of good practice have been developed in terms of family-friendly forms of employment and work organisation<sup>320</sup>. In 2007 the Ministry for Labour, Family and Social Affairs awarded the first certificates for family-friendly companies. There is a developed network of public kindergartens that accept children from the end of parental leave until the beginning of primary school.

The media has recently increased its interest in the position of women in science<sup>321</sup>. One of the main Slovenian women magazines started a campaign for a Woman scientist of the year award and a national television company is preparing a broadcast on Slovenian women scientists.

**Relative share of women & men in a typical academic career**



**Funding applicants and beneficiaries**

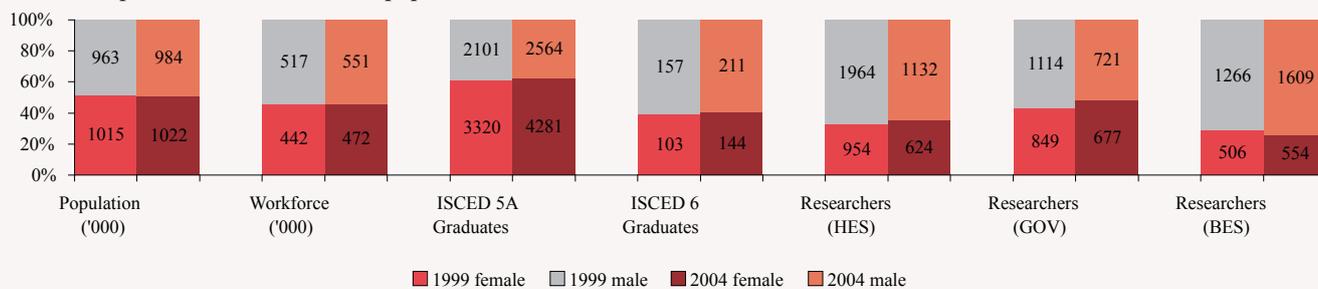


<sup>319</sup> <http://www.fhs-kp.si/izvori/4-2.htm>

<sup>320</sup> Periodical Plan for the National Programme for Equal Opportunities for Women and Men, period 2006-2007.

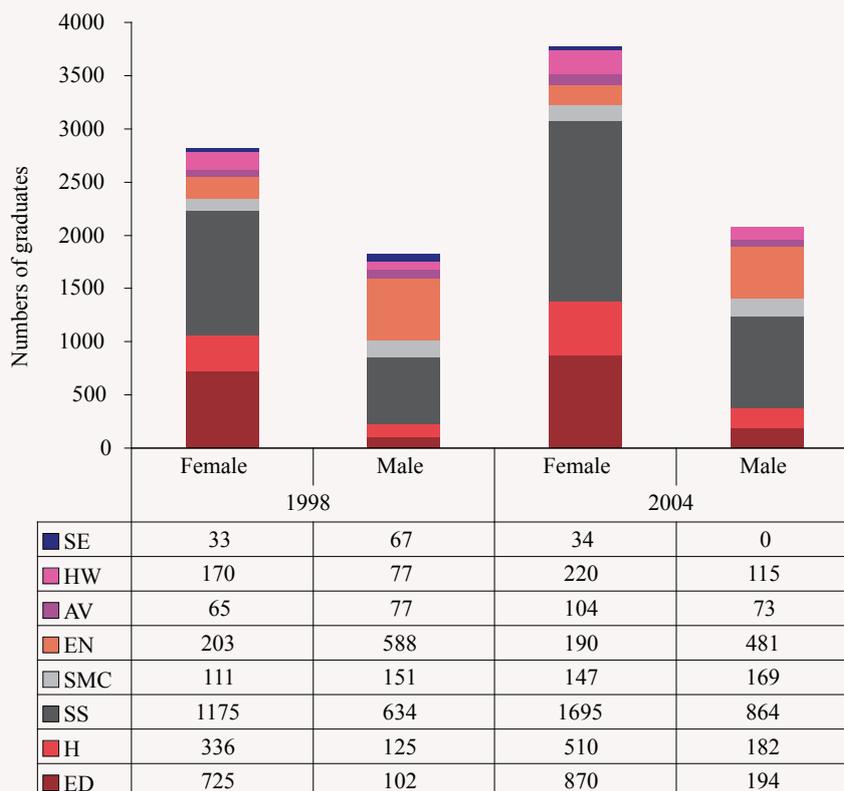
<sup>321</sup> Umek, A., personal communication by email, 18/05/07

### Overall presence of women in the population, workforce, education and research

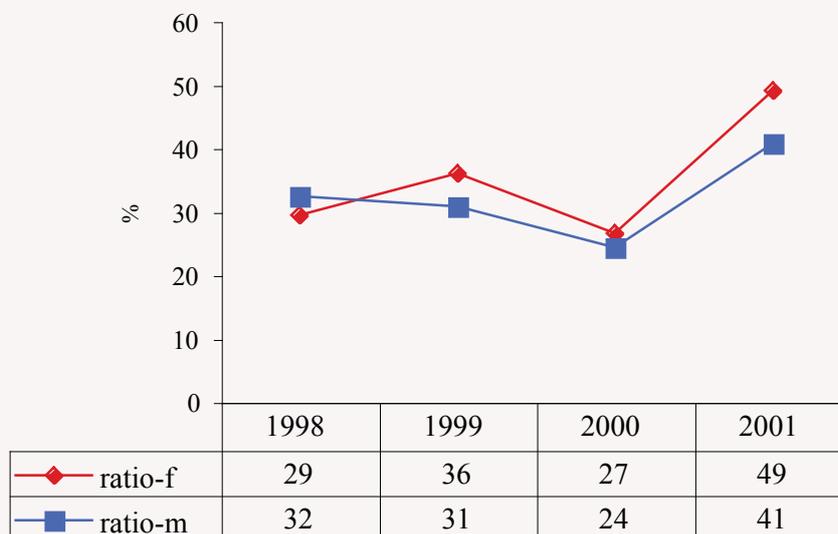


Exception to the ref. year: Population and workforce: 1999-06; Res (all): 1999-05

### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding



# Spain

## 1. Legal framework

The Equal Rights Law<sup>322</sup>, approved in March 2007, and the recent Reformed University Law<sup>323</sup> cover equal opportunities between women and men in Spain and more specifically in science and higher education.

## 2. Commitment to Gender Mainstreaming

Spain is committed to gender mainstreaming [5]. The concept of gender mainstreaming and the proposed instruments to achieve its implementation appeared for the first time in the third edition of the Equal Opportunity Plan (1997-2000) approved by the Spanish Council of Ministers<sup>324</sup>.

## 3. Women in Science Institutions

Since 2004, the Ministry of Labour and Social Affairs has had a General Secretary for Gender. The Women's Institute<sup>325</sup>, an autonomous body under the Ministry of Labour and Social Affairs, is responsible for women's rights in general. Moreover, each autonomous community has its regional Institute for Women (ibid.). In science, the Ministry of Education and Science has a unit for women in science<sup>326</sup> which aims to increase women's participation in science and relevant data. The Council for Scientific Research also has a unit for women in science: the Women and Science Committee<sup>327</sup>.

## 4. Targets and quotas

The Law on Equal Rights states that companies have eight years (from the year 2007) to achieve equal proportions (40% at least of each sex) of women and men on boards of directors and selection committees. Moreover, all government entities also have to include equal proportions of women and men, and the same is true of political parties' candidate lists for elections, while the Reformed University Law (2007) states that all university and scientific committees must be gender-balanced.

## 5. Networks, mentoring, and specific activities

The Association of University Women<sup>328</sup>, created in 1991, organises yearly conferences and gives a prize to a female junior research and disseminates information on women in universities. There is also an Association of Women in Research and Technology<sup>329</sup> which participates in seminars and disseminates information on women in science. The portal Universia<sup>330</sup> presents information on and for women in university, gender studies, and education in Spain.

## 6. Universities and research

Since 1996, there is a specific stream devoted to gender studies in the National Research Plan. Gender and women's studies are taught at Spanish universities; for example Universia lists the postgraduate courses available along with a list of seminars, while a list of university institutes related to women's studies can be found in the Spanish entry in the last Helsinki report<sup>331</sup>. The Reformed University Law states that each university must have an equality unit to deal with equality and gender issues and they must report to the Spanish Council of Universities. A positive action (5 extra points over 100 are allocated to projects directed by a woman) was included in the Research National Plan from 2005 on, in order to increase the participation of women in research.

More than 150 people participated in a conference in Madrid in November 2006 on *The Bologna Process and Women Studies in Spain*; during the conference, presentations on the introduction of gender perspectives in various university programmes were given.

## 7. Work–Life Balance

Maternity leave is 16 weeks; paternity leave is 15 days at the birth of a child (which will be gradually increased to one month); unpaid parental leave can be taken until 3 years after childbirth [4]. Navas (2002) has noted that there are provisions made for women students or researchers in universities, which allow them more time to complete their degrees if they have been taking care of a child, as well as financial allocation during maternity leave in cases of fellowship holders.

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<sup>322</sup> [http://www.mtas.es/mujer/politicas/Ley\\_Igualdad.htm](http://www.mtas.es/mujer/politicas/Ley_Igualdad.htm)

<sup>323</sup> <http://www.mec.es/mecd/gabipren/documentos/A17158-17207.pdf>

<sup>324</sup> Villagómez, E. (2007) *Gender mainstreaming in Spain*, Conference: "For Diversity Against Discrimination – The EU Equality-Acquis: Experiences, Problems and Opportunities", Berlin.

<sup>325</sup> <http://www.mtas.es/mujer/>

<sup>326</sup> <http://www.mec.es/ciencia/jsp/plantilla.jsp?area=umyc&id=2>

<sup>327</sup> [http://www.csic.es/mujer\\_ciencia.do](http://www.csic.es/mujer_ciencia.do)

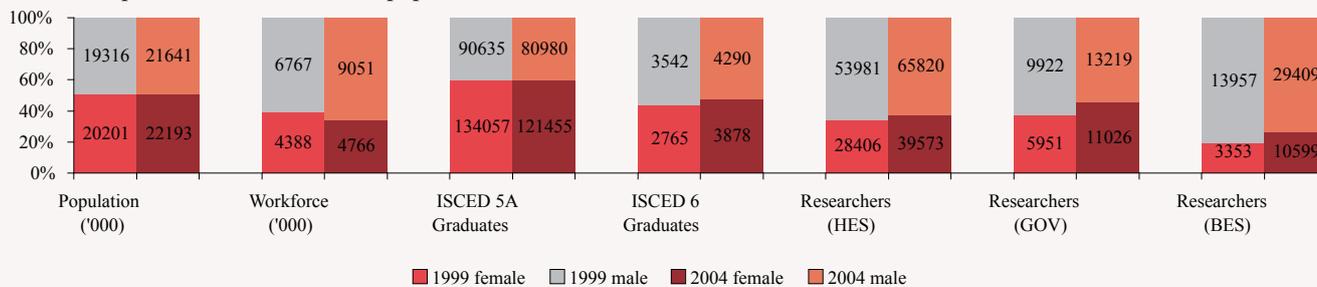
<sup>328</sup> <http://www.audem.com/>

<sup>329</sup> <http://www.amit-es.org/>

<sup>330</sup> <http://investigacion.universia.es/mujer-ciencia/index.htm>

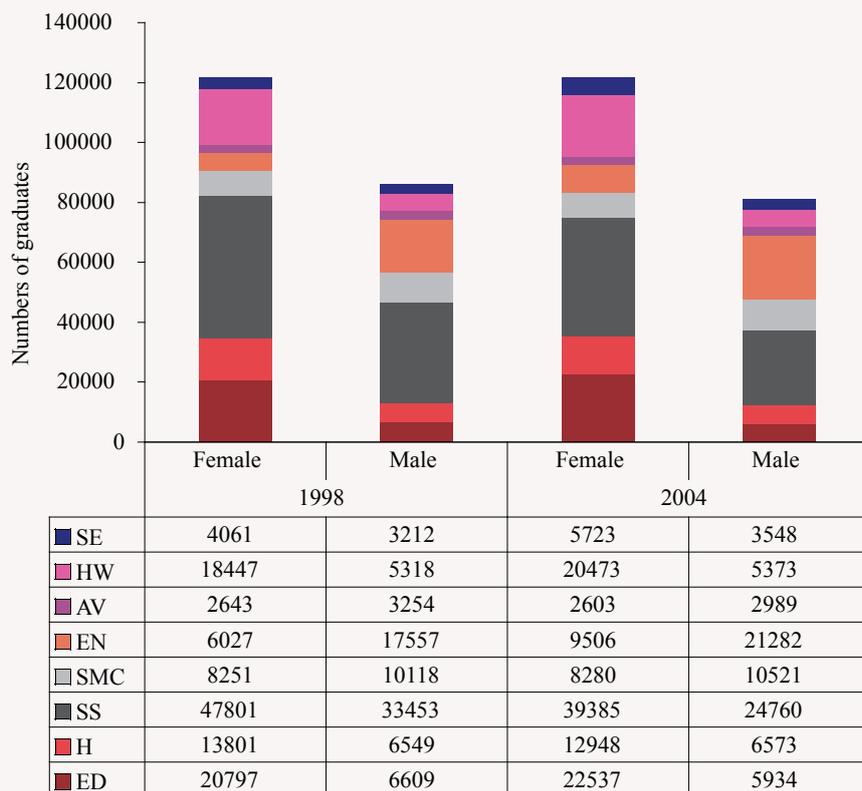
<sup>331</sup> Navas, E. (2002) *Women and Science: Review of the situation in Spain*, Helsinki Group on women and science.

### Overall presence of women in the population, workforce, education and research

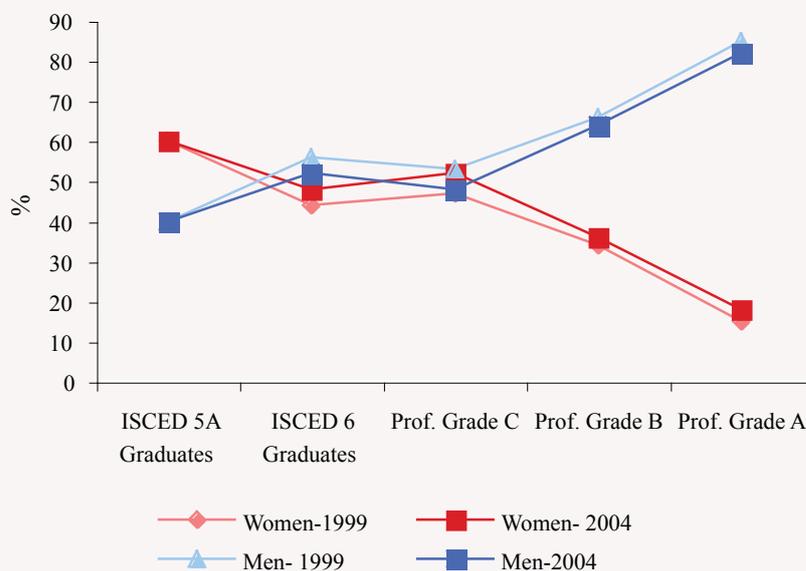


Exception to the ref. year: Population and workforce: 1999-06

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Prof. A, B and C in Head Count

## Sweden

### 1. Legal framework

The equal opportunity legislation in Sweden consists of the Equal Opportunities Act of 1992 (last amended in 2001). Compliance with this Act is enforced by the Office of the Equal Opportunities Ombudsman<sup>332</sup>, which is also responsible for the enforcement of portions of the Equal Treatment of Students at Universities Act (2002).

### 2. Commitment to Gender Mainstreaming

Sweden is committed to gender mainstreaming [5]. 'Every year since 1994 the Swedish Government has declared in its annual Statement of Government Policy its political conviction that a gender equality perspective must permeate all aspects of government policy'<sup>333</sup>.

### 3. Women in Science Institutions

Since January 2007, gender equality issues are dealt with at the Ministry for Integration and Gender Equality<sup>334</sup>, where the Division for Gender Equality has among its tasks the processing of gender equality matters. In Sweden, all Ministries are responsible for mainstreaming gender equality within their areas of policies. Within the Ministry for Education and Research, the Division for Higher Education is responsible for gender equality matters regarding universities and university colleges. The Division for Research Polices is responsible for gender equality matters regarding the Research Council.

There are no units for women in the Ministry for Education and Research or in the Swedish Research Council. At the regional level, each county's administrative board is responsible for implementing the national and local gender equality policies. Each university, university college and the research council are responsible for implementing gender equality polices, and report activities, measures and results on a regular basis.

### 4. Targets and quotas

At least one third of election committees in research institutions and universities must come from the under-represented gender [1]. The government has set a recruitment target of female professors at universities and university colleges for the period 2005 - 2008. The target varies from 17% up to 36% depending on the area of education. The government has also set an overall target of 50% of each sex for the recruitment of staff in universities. The universities are bound to state in their annual report how they have acted to reach these targets.

### 5. Networks, mentoring, and specific activities

There are various general associations for women, in science, but also some networks for women in specific areas of research<sup>335</sup>. A large number of women researchers chose to engage in networks in their area of research rather than in specific women networks. There are mentoring programmes for women in leadership roles, as well as mentoring programmes in Swedish universities for female researchers.

### 6. Universities and research

The Swedish Secretariat for Gender Research based at Göteborg University published a list of gender studies in Sweden<sup>336</sup> and most universities have a centre on women's studies<sup>337</sup>. In 2006, the Swedish Research Council founded 3 Centres of Gender Excellence<sup>338</sup> which received SEK 60 million: the Uppsala Centre for Gender Research, Umeå University, and Linköping University in cooperation with Örebro University. The Ministry of Education allocated new funds totalling SEK 22 million for gender research in the bill of research for 2005.

Special funding is available for women in science and used by agencies when found necessary. Vinnmer<sup>339</sup>, a large programme promoting postdoctoral women researchers was launched in 2007 by the Swedish Governmental Agency for Innovation Systems. The programme will run until 2014 and the total budget, including co-funding, is just over SEK 500 million.

### 7. Work–Life Balance

In Sweden parental leave is 16 months, to be divided between the parents: of the total days, 60 are reserved for the father and 60 days are reserved for the mother.

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<sup>332</sup> <http://www.jamombud.se/InEnglish/>

<sup>333</sup> <http://www.db-decision.de/GenderMainstreaming/sweden.html>

<sup>334</sup> <http://www.sweden.gov.se/sb/d/8366>

<sup>335</sup> <http://www3.tsl.uu.se/thep/tengblad/WIPS/>

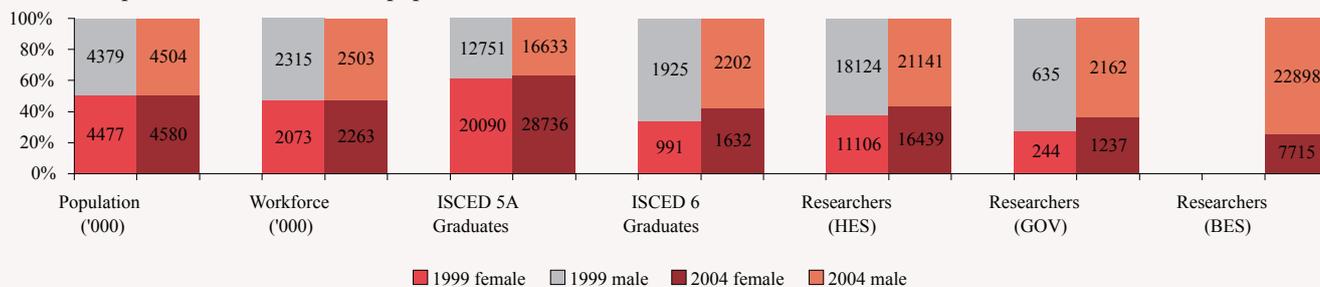
<sup>336</sup> [http://www.genus.se/digitalAssets/1123\\_genusstudier.pdf](http://www.genus.se/digitalAssets/1123_genusstudier.pdf)

<sup>337</sup> <http://www.ncrw.org/resources/intlcent.htm>

<sup>338</sup> <http://www.vr.se/mainmenu/pressandnews/newsarchive/news/5.2aebc6b810f3c933b1580001734.html>

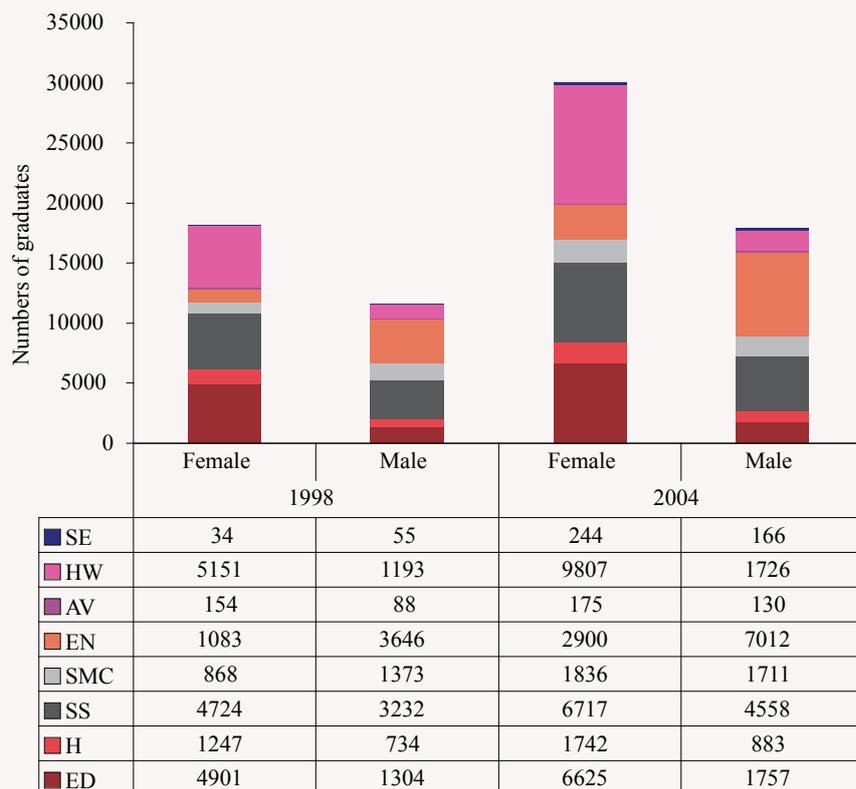
<sup>339</sup> <http://www.vinnova.se/In-English/Activities/Strong-research-and-innovation-environments/VINNMER/>

### Overall presence of women in the population, workforce, education and research

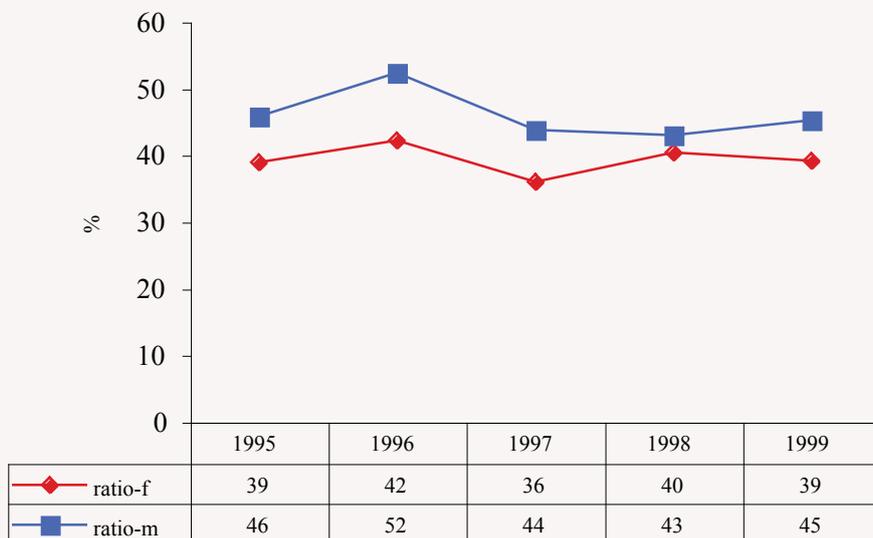


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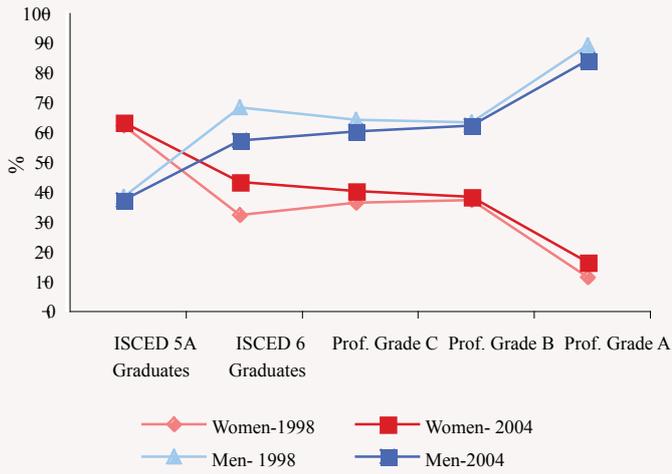
### Evolution of ISCED 5A (1st degree) by field of study



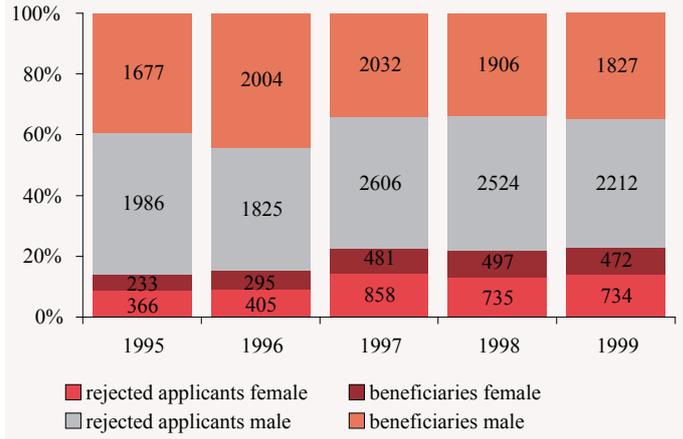
### Success rates of women and men in funding



### Relative share of women & men in a typical academic career



### Funding applicants and beneficiaries



# United Kingdom

## 1. Legal framework

In the UK, the Equality Act (2006<sup>340</sup>) amending the Sex Discrimination Act (1975) and the Equal Pay Act (1970), as well as the Gender Equality Duty (2007<sup>341</sup>) seek to ensure equal treatment between men and women.

## 2. Commitment to Gender Mainstreaming

The UK Government has some commitment to gender mainstreaming<sup>342</sup>. However the UK ‘has no national plan approved by government or parliament, but has high-level strategic targets in specific areas, for example, the Gender Equality Public Service Agreement’ [5].

## 3. Women in Science Institutions

The Equal Opportunity Commission (which became part of the Equality and Human Rights Commission at the start of October 2007) appoints research and campaigning projects on issues related to women and work; for example, on transformation of the workplace, flexible and part-time working<sup>343</sup>. The Women and Equality Unit (WEU)<sup>344</sup> (part of the Department for Communities and Local Government since May 2006) promotes gender equality in all Government departments and agencies.

In science, since the Department of Trade and Industry (DTI) became the Department for Business, Enterprise, and Regulatory Reform (BERR) and the Department for Innovation, Universities and Skills in 2007, it is the Science and Society<sup>345</sup> programme of BERR which covers equality and diversity in science in the UK.

The UK Resource Centre for Women in SET (UKRC<sup>346</sup>) also funds programmes for women in science. For example, along with the UK higher education funding councils and Universities UK, it created the *Athena Project*<sup>347</sup> in 1999. Research Council UK (RCUK – the strategic partnership of the UK’s seven Research Councils)<sup>348</sup> launched a Research Careers and Diversity Unit in 2005 to ensure that both women and ethnic minority groups are fully represented across the research community.

## 4. Targets and quotas

The DTI set targets for science: one such target was that by 2005, the DTI would ensure that ‘women will make up 40% of the representation of Science Engineering and Technology boards and councils’ (WEU 2006:5<sup>349</sup>). However, these targets have not yet been met: women represented only 26% of the members of said boards and councils in April 2005. The WEU sees the UKRC as being ‘the principal tool in helping to achieve this target’.

## 5. Networks, mentoring, and specific activities

There are numerous networks, mentoring and role model programmes for women in science in the UK. The UKRC website presents a comprehensive inventory of role models and mentoring programmes, as well as links to women’s networks such as the British Federation of Women Graduates and the Women’s Engineering Society. Some examples of programmes are the Women Into Science Engineering and Construction<sup>350</sup> which publishes a directive of UK initiatives<sup>351</sup>, and e-skills UK which organises *Computer Clubs for Girls*<sup>352</sup>. Moreover, the UKRC hosts the *Get SET* database on women in science, engineering and technology.

## 6. Universities and research

The Athena SWAN Charter is a recognition scheme for UK universities and their science, engineering and technology (SET) departments. It aims to assist the recruitment, retention and progression of women in SET<sup>353</sup>. Many universities and colleges have specific programmes for women in science. For instance, Cambridge has an Association for Women in Science and Engineering<sup>354</sup> which does mentoring and networking. Another example is *Let’s Twist* (Let’s Train Women in Science, Engineering, Construction and Technology), which

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<sup>340</sup> [http://www.opsi.gov.uk/ACTS/acts2006/pdf/ukpga\\_20060003\\_en.pdf](http://www.opsi.gov.uk/ACTS/acts2006/pdf/ukpga_20060003_en.pdf)

<sup>341</sup> [http://www.equalityhumanrights.com/en/forbusinessandorganisation/publicauthorities/Gender\\_equality\\_duty/Pages/Genderequailtydutydocuments.aspx](http://www.equalityhumanrights.com/en/forbusinessandorganisation/publicauthorities/Gender_equality_duty/Pages/Genderequailtydutydocuments.aspx)

<sup>342</sup> Williams, A., personal communication in person, 12/11/07

<sup>343</sup> <http://www.eoc.org.uk>

<sup>344</sup> <http://www.womenandequalityunit.gov.uk>

<sup>345</sup> <http://www.berr.gov.uk/science-and-society/index.html>

<sup>346</sup> [www.ukrc4setwomen.org](http://www.ukrc4setwomen.org)

<sup>347</sup> <http://www.athenaproject.org.uk/>

<sup>348</sup> <http://www.rcuk.ac.uk/default.htm>

<sup>349</sup> Women and Equality Unit (2006) *Delivering on Gender Equality: A Progress Report*, Department of Trade and Industry, London.

<sup>350</sup> <http://www.wisecampaign.org.uk/girls.html>

<sup>351</sup> <http://www.wisecampaign.org.uk/documents/Directory.pdf>

<sup>352</sup> [www.e-skills.com/CC4G](http://www.e-skills.com/CC4G)

<sup>353</sup> <http://www.royalsoc.ac.uk/athenaswan/>

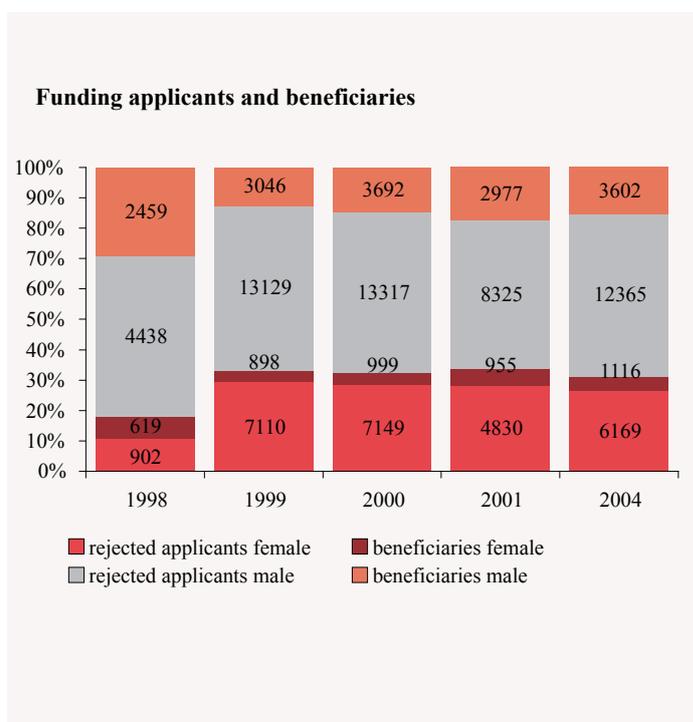
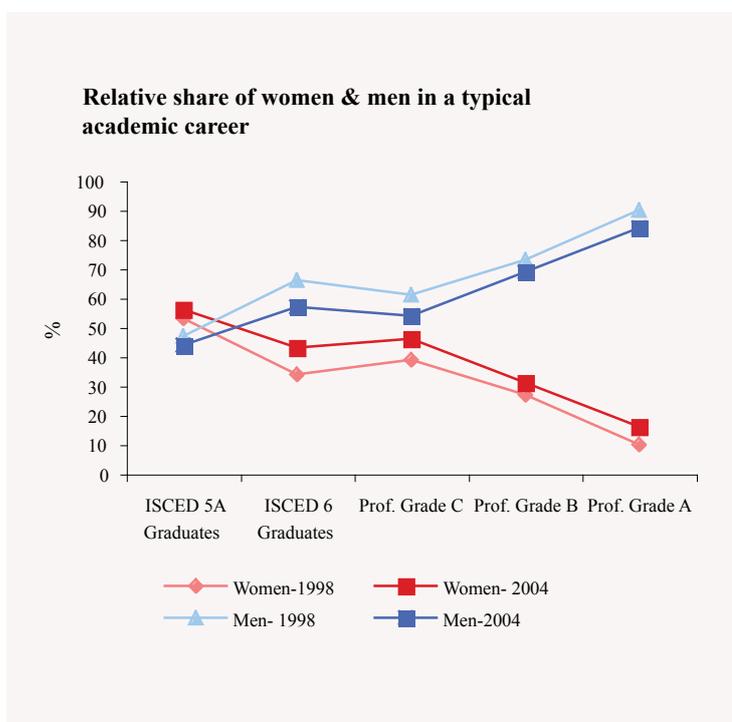
<sup>354</sup> <http://www.camawise.org.uk>

was a project based at Bradford College and Sheffield Hallam University aiming to ‘ensure women’s long-term participation in construction and technology training and occupations’<sup>355</sup>. *Let’s Twist* distinguished itself from other initiatives because it shifted the emphasis from women to the training environment and culture of SET<sup>356</sup>. It has subsequently been replaced by the *JIVE* (Joint Interventions in Vocational Education) initiative. Since 2004, RCUK has offered Academic Fellowships to improve the security of research careers by helping researchers move from short-term contracts to permanent positions<sup>357</sup>.

## 7. Work–Life balance

Paid maternity leave is 26 weeks, and an additional 26 weeks can be taken (13 of which are paid<sup>358</sup>); paternity leave is 2 weeks to be taken during the child’s first 8 weeks; unpaid parental leave is 13 weeks per parent per child with a maximum of 4 weeks leave to be taken in any one calendar year [4].

The UKRC offers a specific programme for women returnees called *Return* with activities such as mentoring and courses aimed at women scientists<sup>359</sup>. There are other non-governmental projects aimed at women scientist returnees, for example the *Equalitec: Advancing Women in Information Technology Electronics and Communication* project<sup>360</sup>.



<sup>355</sup> <http://letstwist.bradfordcollege.ac.uk/welcome/whatis.htm>

<sup>356</sup> <http://www.letstwist.bradfordcollege.ac.uk/learning/learn.htm>

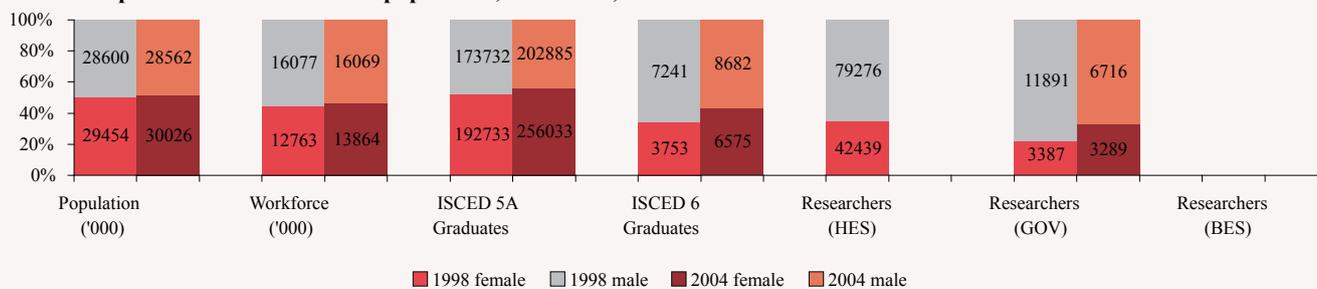
<sup>357</sup> <http://www.rcuk.ac.uk/news/20060426acellow.htm>

<sup>358</sup> <http://www.worksmart.org.uk/rights/viewsubsection.php?sun=52>

<sup>359</sup> [http://www.setwomenresource.org.uk/careers/returners/ukrc\\_schemes](http://www.setwomenresource.org.uk/careers/returners/ukrc_schemes)

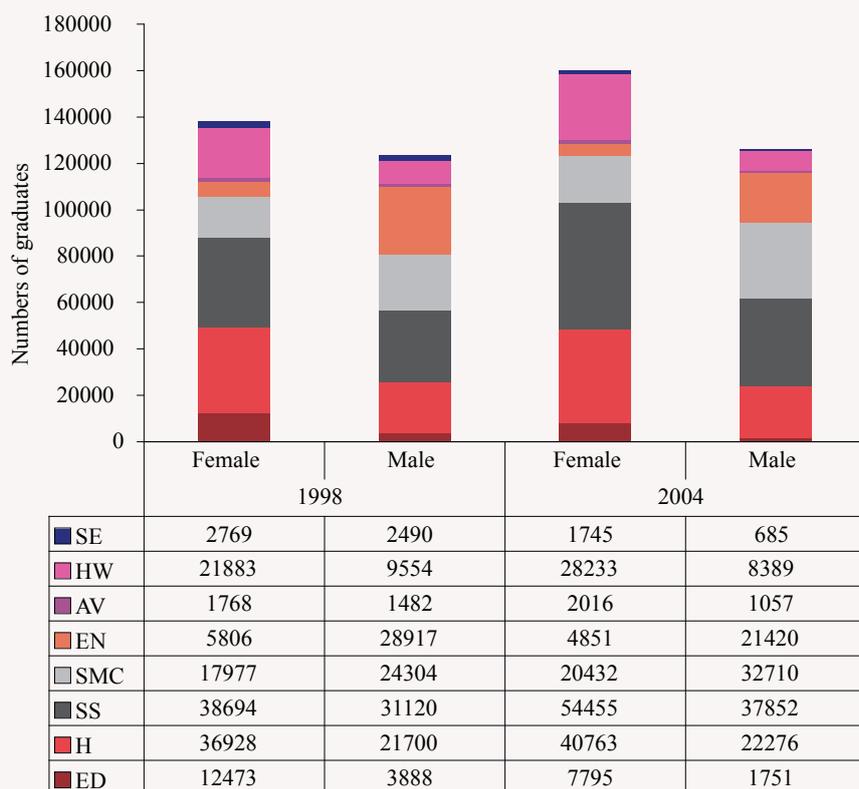
<sup>360</sup> <http://www.equalitec.org.uk>

### Overall presence of women in the population, workforce, education and research

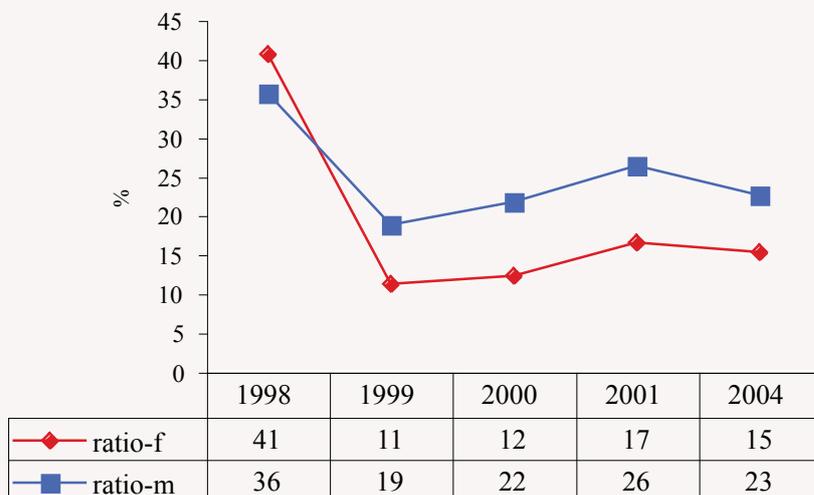


Exception to the ref. year: Population and workforce: 1998-06; Res (GOV): 1999-04

### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding



# Associated Countries

## Croatia

### 1. Legal framework

The legal framework is based on the Constitution from 2000, in which gender equality was stated as a basic value<sup>361</sup>. The Labour Code (2003) was last amended to fully cover discrimination on the basis of sex and to add rules to protect pregnant women. The Gender Equality Act (2003) established the general principles for the protection and promotion of sex equality. The Act on Health Insurance (2004) also covers health insurance relating to parental leave.

### 2. Commitment to Gender Mainstreaming

The Croatian Government is committed to gender mainstreaming through the National Policy for the Promoting of Gender Equality 2006-2010<sup>362</sup> – the basic strategic document adopted in order to eliminate discrimination against women and to establish genuine gender equality. This commitment to gender mainstreaming is also founded on the signing of international agreements, and the process of accession to the EU.

### 3. Women in Science Institutions

The Office for Gender Equality of the Government of the Republic of Croatia<sup>363</sup> was established in July 2003 on the basis of the Gender Equality Act. It is an independent body responsible primarily to the government and it formulates, analyses and implements the government policy concerning equal gender status. The Ombudswoman for gender equality<sup>364</sup> monitors the implementation of the Gender Equality Act and other regulations concerning gender equality. A Committee on Gender Equality<sup>365</sup> was established in the Parliament in 2000 and all government offices and local committees employ a Gender Equality Coordinator. The Ministry of Science, Education and Sports<sup>366</sup> does not have a unit for women in science.

The Central Bureau of Statistics<sup>367</sup> is responsible for gathering sex-disaggregated data as Article 17 of the Gender Equality Act states that “all statistical data and information that are collected, registered and processed by government bodies, public agencies and institutions, shall be expressed by sex”<sup>368</sup>. Some of these data are available from the Republic of Croatia Central Bureau of Statistics<sup>369</sup>.

### 4. Network, mentoring, and specific activities

The Women’s Network Croatia<sup>370</sup> works on many projects aimed at increasing the participation of women in politics, obtaining equal education and income, and fighting violence against women. A list of other women’s associations is available in their 2006 report<sup>371</sup>. Women’s Infoteka<sup>372</sup> is a women’s training and documentation centre founded in Zagreb in 1992 and was the first of its type in Croatia and Eastern Europe.

### 5. Universities and research

The University of Zagreb’s Statute proclaims that ‘the University shall respect the constitutional principle of non-discrimination (on grounds of race, gender, language, religion, political or other opinion, national or social origin, property, birth, education, social status, invalidity, sexual orientation and age, or otherwise)’<sup>373</sup> but it does not have a gender equality plan. The Centre for Women’s Studies offers educational programmes (including a postgraduate course in feminism), and does research, publishing activities and cultural projects (see their 2005 annual report<sup>374</sup>).

According to the Women’s Network Croatia (2006:3), ‘the framework of the educational system ... does not include sexual education or education on gender equality. The textbooks themselves are overflowing with discriminatory patterns and stereotypes in direct collision with the obligations of Croatia as a signatory of the Convention on the Elimination of all Forms of Discrimination Against Women’.

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<sup>361</sup> <http://www.ilo.org/public/english/region/eurpro/budapest/download/gender/croatia.pdf>

<sup>362</sup> <http://www.ured-ravnopravnost.hr/slike/File/Nacionalna/nacionalna-engl.doc>

<sup>363</sup> <http://www.ured-ravnopravnost.hr/>

<sup>364</sup> <http://www.prs.hr/>

<sup>365</sup> <http://www.sabor.hr/default.asp?gl=200303260000038>

<sup>366</sup> <http://public.mzos.hr/Default.aspx?sec=2428>

<sup>367</sup> [www.dzs.hr](http://www.dzs.hr)

<sup>368</sup> [http://www.liv.ac.uk/law/ukcroatia/docs/Croatian\\_gender\\_equality\\_act.pdf](http://www.liv.ac.uk/law/ukcroatia/docs/Croatian_gender_equality_act.pdf)

<sup>369</sup> Republic of Croatia Central Bureau of Statistics (2006) *Women and Men in Croatia*, Zagreb.

<sup>370</sup> [http://www.zenska-mreza.hr/platform\\_eng.htm](http://www.zenska-mreza.hr/platform_eng.htm)

<sup>371</sup> Women’s Network Croatia (2006) *Report on Women’s Human Rights in 2005*, 51%, Zagreb.

<sup>372</sup> Ženska infoteka : <http://www.zinfo.hr/engleski/aboutus.htm>

<sup>373</sup> <http://www.unizg.hr/fileadmin/rektorat/dokumenti/statut/statuteng.pdf>

<sup>374</sup> [http://www.zenstud.hr/czsAnnual\\_2005.pdf](http://www.zenstud.hr/czsAnnual_2005.pdf)

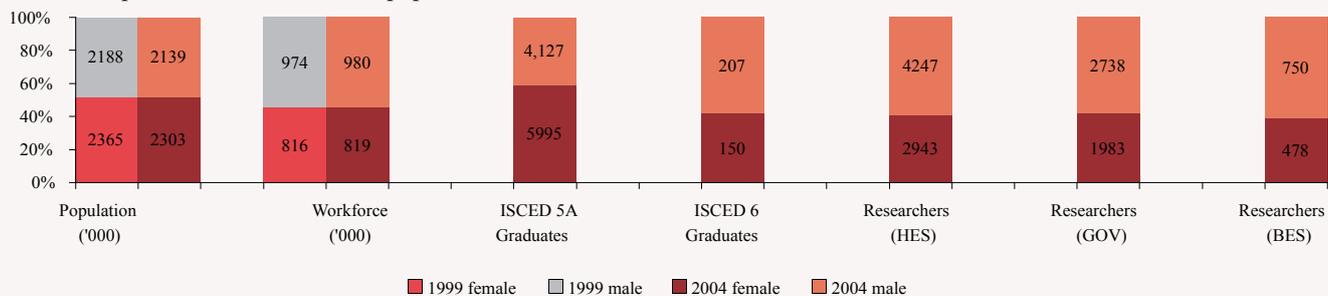
## **6. Work–Life Balance**

Mandatory parental leave for the mother begins 28 days before the expected date of childbirth (45 days in case of complications) and lasts at least up to 42 days after childbirth (after the 42<sup>nd</sup> day the father can opt to take the parental leave in place of the mother). Maternal leave is paid as 100% of the salary until the child is six months. Additional benefit is payable until the child is one year old<sup>375</sup>.

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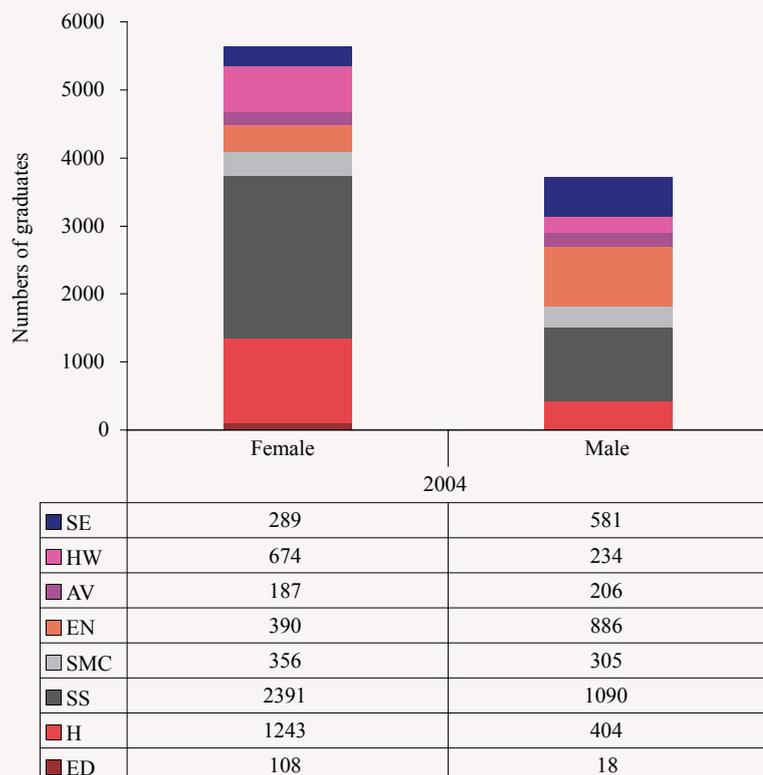
<sup>375</sup> <http://www.issa.int/>, <http://www.mirovinsko.hr>

### Overall presence of women in the population, workforce, education and research

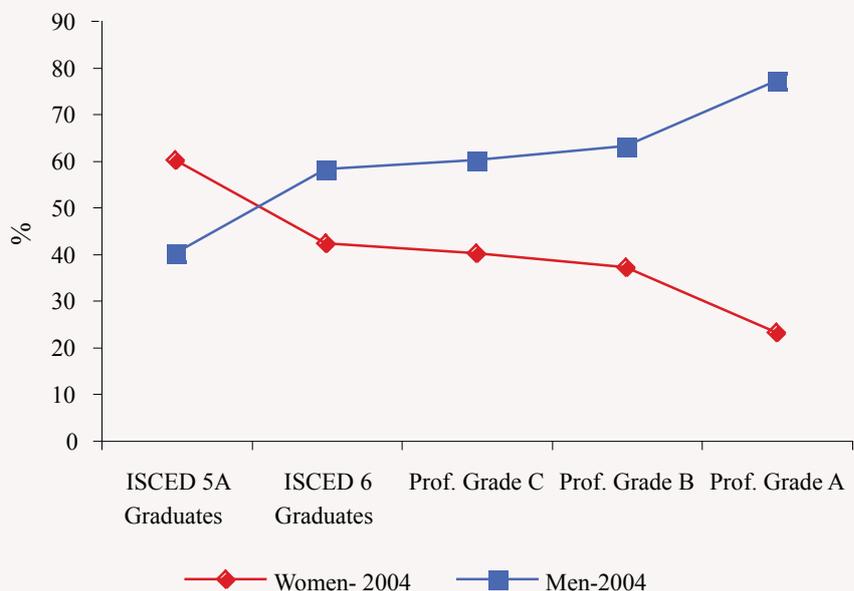


Exception to the ref. year: Population: 1999-06; workforce: 2002-05

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



## Iceland

### 1. Legal framework

The Act on the Equal Status and Equal Rights of Women and Men was passed in 2000<sup>376</sup> to promote gender equality in all spheres of Icelandic society<sup>377</sup>.

### 2. Commitment to Gender Mainstreaming

Iceland's government has been committed to gender mainstreaming since 1997 when the Office for Gender equality printed information and instructions on this topic.

### 3. Women in Science Institutions

The Centre for Gender Equality<sup>378</sup> is the national bureau in charge of administering the Act on the Equal Status and Equal Rights of Women and Men. The Ministry of Education, Science and Culture<sup>379</sup> and the Icelandic Research Council<sup>380</sup> are the main institutions for science in Iceland. A committee for women in science was established by the Minister of Education, Science and Culture in 2004. The mandate for the committee is to: follow up the results of the Helsinki group on women in science, administer the project *Women in Science* that is a part of the government's equality plan 2004-2008, including collecting and analysing gender segregated data on women in science, and identify the obstacles for gender equality as well as make suggestions for reform.

### 4. Targets and quotas

The Act on the Equal Status and Equal Rights of Women and Men states that attempts 'shall be made, wherever possible, to ensure approximately equal participation of women and men in committees, boards and councils under the auspices of the Government and local authorities. Attention shall be called to this fact whenever nominations are requested for the relevant committees, boards and councils'<sup>381</sup>.

### 5. Networks, mentoring, and specific activities

The Feminist Association of Iceland, founded in 2003<sup>382</sup>, fights for women's rights and gender equality in general. The Icelandic Women's Database<sup>383</sup> provides information on women specialists in numerous fields. The Centre for Women's and Gender Studies<sup>384</sup> acts as a network of feminist/gender researchers in Iceland and Nordic countries.

### 6. Universities and research

Most universities produce equality plans (e.g. the Equal Rights Programme of the University of Iceland 2005-2009<sup>385</sup>, which aims at equal representation of men and women at all levels of the university) and most offer courses in gender and women's studies.

### 7. Work-Life Balance

In Iceland, nine months' leave are available after the birth: 'three months for mothers, three months for fathers and three months as a family entitlement to be divided between parents as they choose, all paid via the same earnings-related benefit. There is, therefore, no paternity leave *per se*, but three months of leave are available to fathers to take as and when they choose' [4].

### 8. Statistics

Until recently most ISCED 6 graduates got their degree abroad. Even in 2005, out of the 54 Icelandic ISCED 6 graduates (24 men and 30 women), only 14 graduations were in Iceland.

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<sup>376</sup> [http://www.iwraw-ap.org/resources/pdf/GE\\_Iceland1.PDF](http://www.iwraw-ap.org/resources/pdf/GE_Iceland1.PDF)

<sup>377</sup> Gunnardóttir, H. M., Vilhjálmssdóttir, S., Óskarsdóttir, S., Óranna Pálsdóttir, P., and Einarsdóttir, P. (2001) *Women and Science: Review of the situation in Iceland*, Helsinki Group on women and science.

<sup>378</sup> <http://www.jafnretti.is/jafnretti/?D10cID=News&lang=EN>

<sup>379</sup> <http://eng.menntamalaraduneyti.is/ministry/structure>

<sup>380</sup> <http://www.rannis.is/english/>

<sup>381</sup> [http://www.iwraw-ap.org/resources/pdf/GE\\_Iceland1.PDF](http://www.iwraw-ap.org/resources/pdf/GE_Iceland1.PDF)

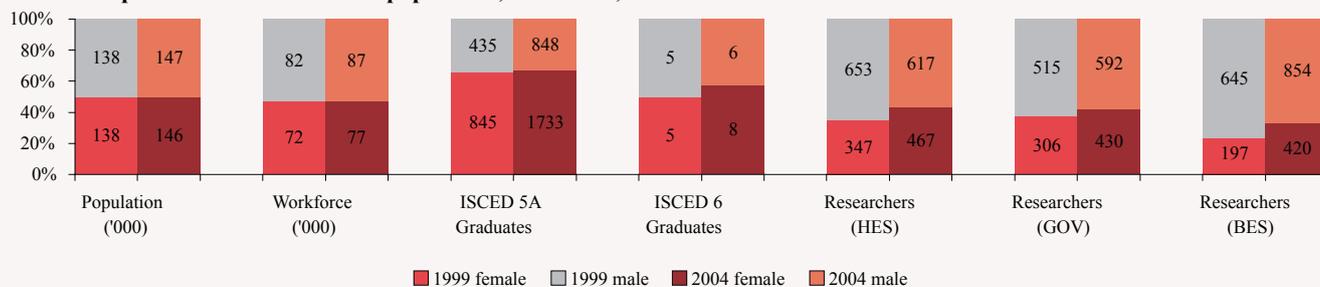
<sup>382</sup> <http://www.feministinn.is/almennt/english.html>

<sup>383</sup> <http://www.kvennislodir.is/default.aspx?Lang=ENG>

<sup>384</sup> <http://www.rikk.hi.is/Apps/WebObjects/HI.woa/wa/dp?id=1008411>

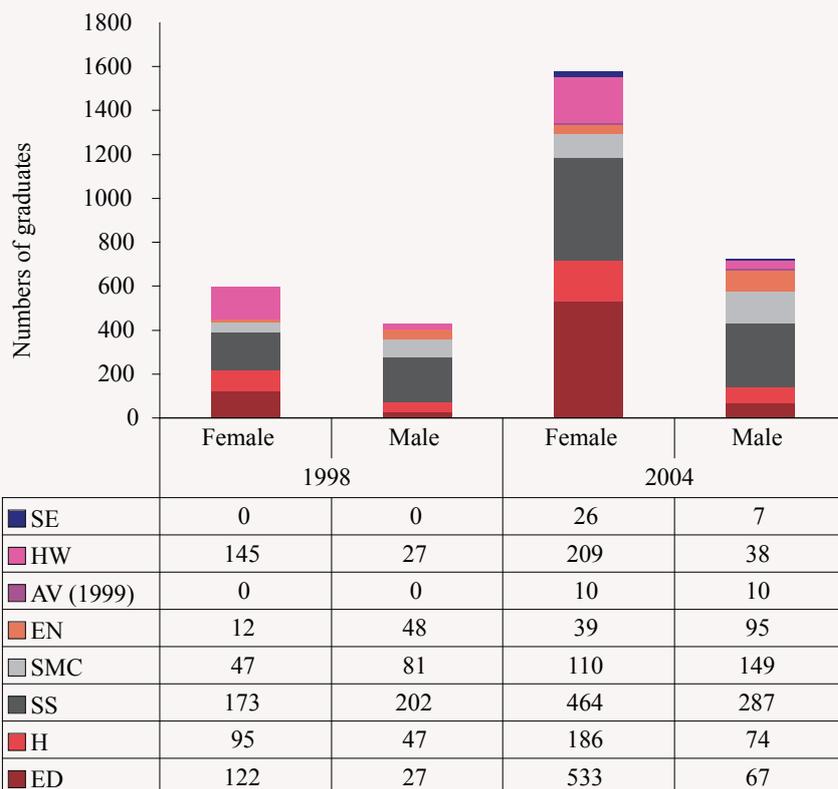
<sup>385</sup> <http://www.jafnretti.hi.is/page/equalrightsprogramme>

### Overall presence of women in the population, workforce, education and research

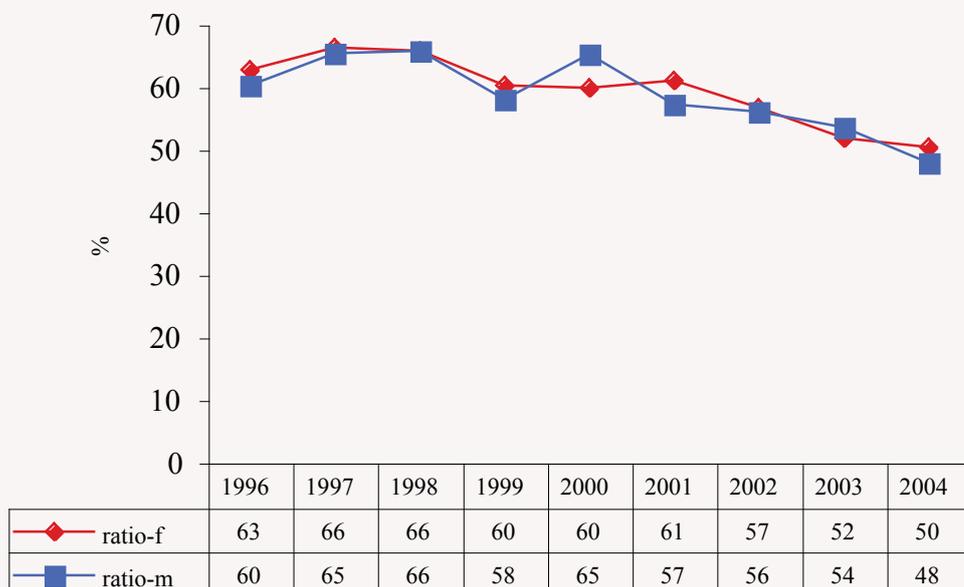


Exception to the ref. year: Population and workforce: 1999-06; ISCED 5A: 1998-04; Res (all): 1999-03; ISCED 6: 2004-05

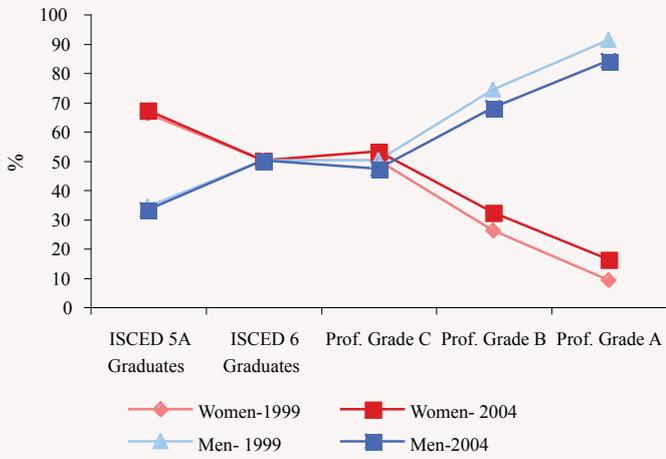
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

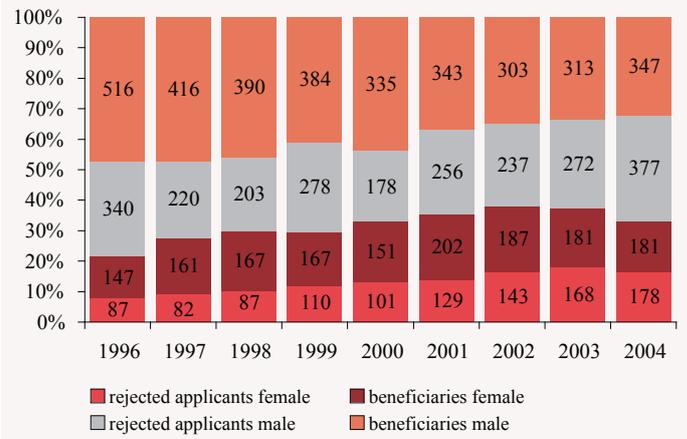


### Relative share of women & men in a typical academic career



*Prof A, B and C are in Head Count for 1999*

### Funding applicants and beneficiaries



# Israel

## 1. Legal framework

There are many laws surrounding equal opportunities in Israel: the Male and Female Workers Equal Pay Law (1996), the Employment of Women Law (1954), the Employment Equal Opportunity Law (1988), the Male and Female Workers Equal Retirement Age Law (1987) – all of which can be consulted on the website of the Ministry of Industry, Labour and Trade<sup>386</sup>.

## 2. Women in Science Institutions

In the Israeli Parliament, there are two permanent committees dealing with women in science issues: the Committee for the Advancement of the Status of Women and the Science and Technology Committee<sup>387</sup>. At the regional level, Israel passed a law in 2003 ‘that obligates every local authority to appoint an adviser on the status of women for that locality’<sup>388</sup>. In science more specifically, the Israeli Ministry of Science has initiated specific *Fellowships for the Advancement of Women in Science*<sup>389</sup>, as well as Excellence Centres which encourage students to enter the scientific-technological fields. Some of these centres offer, amongst other things, specific courses for women<sup>390</sup>.

## 3. Networks, mentoring, and specific activities

The Israeli Women in Engineering group awards prizes to programmes for women and takes part in conferences on *Women in Science*<sup>391</sup>. The *Project for the Advancement of Women in Israel*, based at the University of Haifa, organises activities jointly with the women’s studies programme at the university<sup>392</sup>. These activities are for working women in general and not directly for women in science. The Israel Women’s Network promotes equality for women in general, but also has some programmes aimed at women in science, for example through leadership training, which tries to expose and integrate young women into the fields of science and technology<sup>393</sup>.

## 4. Universities and research

Some universities are implementing specific measures to encourage women in science<sup>394</sup>. In 2003, the President of the Israel Institute of Technology appointed a Coordinator of the Status of Women, who, since then, has published a yearly report on women’s participation in this Institute<sup>395</sup>. A number of policies and programmes, such as family-friendly measures, special funding for women, etc., have been implemented over the years.

Gender studies and women’s studies are taught in Israeli universities. For example, the Lafer Centre for Women and Gender Studies coordinates the programmes of the Hebrew University in the areas of gender and women’s studies (they offer courses, but not a whole degree, on gender, feminism, and women’s issues)<sup>396</sup>. Moreover, *Nashim: A Journal of Jewish Women’s Studies & Gender Issues* provides an international, interdisciplinary academic forum; the journal claims to be the only one of its kind for the areas of research that comprise the field of Jewish women’s and gender studies<sup>397</sup>. There is also an Israel Association for Feminist and Gender Studies<sup>398</sup>.

## 5. Work–Life Balance

Maternity leave is 12 weeks; paternity leave is 21 days (only if the mother has taken her six weeks’ leave after birth ‘and only if his wife returns to work and is working during the period in which he is on maternity [sic.] leave’)<sup>399</sup>.

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<sup>386</sup> <http://www.moit.gov.il/NR/exeres/9034396F-AC64-4C44-9466-25104B45FBB1.htm>

<sup>387</sup> [http://www.knesset.gov.il/committees/eng/current\\_committees\\_eng.asp](http://www.knesset.gov.il/committees/eng/current_committees_eng.asp)

<sup>388</sup> [http://www.israel-un.org/committees/third/westman\\_women\\_170ct2003.htm](http://www.israel-un.org/committees/third/westman_women_170ct2003.htm)

<sup>389</sup> Messer-Yaron, H. and Kahanovich, S. (2000) *Women and Science: Review of the situation in Israel*, Helsinki Group on women and science.

<sup>390</sup> <http://www.most.gov.il/English/Units/Science/Programs/Science+and+Society/Excellence+Centers.htm>

<sup>391</sup> <http://www.ewh.ieee.org/tr8/israel/wie/index.html>

<sup>392</sup> <http://kidma.haifa.ac.il/>

<sup>393</sup> <http://www.nif.org/content.cfm?id=1334&currBody=1>

<sup>394</sup> [http://www.huji.ac.il/huji/eng/info\\_gen\\_report\\_main\\_e.htm](http://www.huji.ac.il/huji/eng/info_gen_report_main_e.htm)

<sup>395</sup> Churchman, A. (2006) *Women and Men at the Technion, Faculty and Students, Annual report*, online, [http://edu.technion.ac.il/TechnionWomen/Women\\_Report2006\\_English.pdf](http://edu.technion.ac.il/TechnionWomen/Women_Report2006_English.pdf), accessed 09/03/07

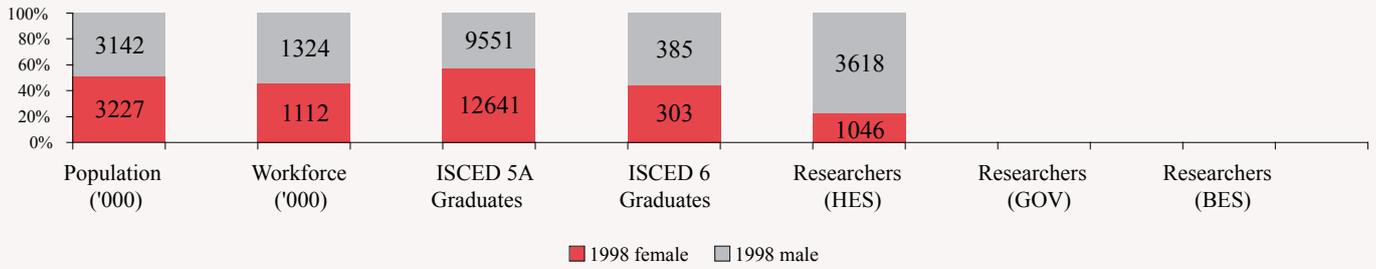
<sup>396</sup> <http://www.lafer.huji.ac.il/english.html> and offer scholarships for feminist-theory-based and gender-related academic research

<sup>397</sup> <http://muse.jhu.edu/journals/nsh/>

<sup>398</sup> <http://www.iafgs.co.il/>

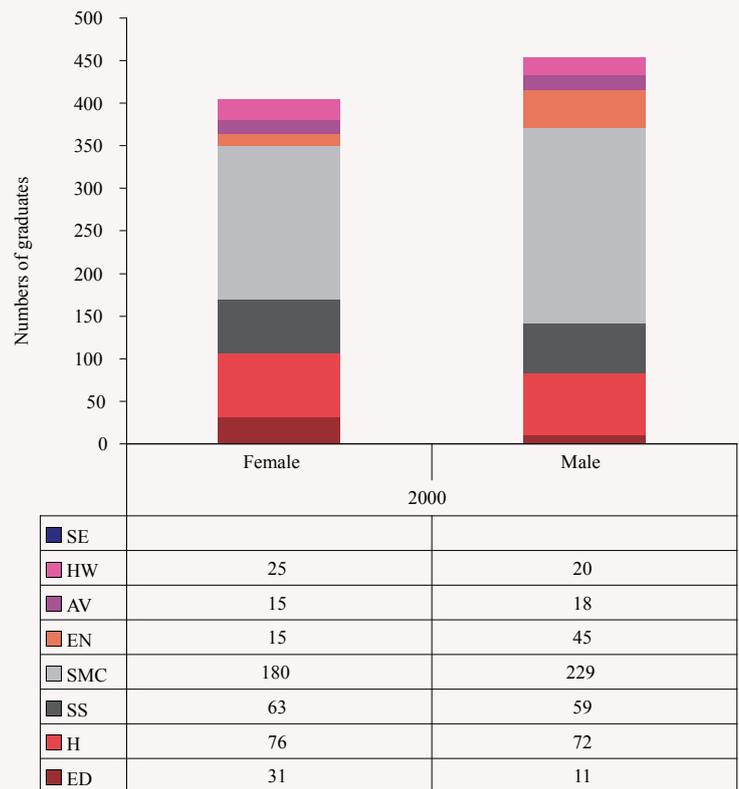
<sup>399</sup> <http://www.btl.gov.il/english/newbenefits/maternity.htm>

### Overall presence of women in the population, workforce, education and research

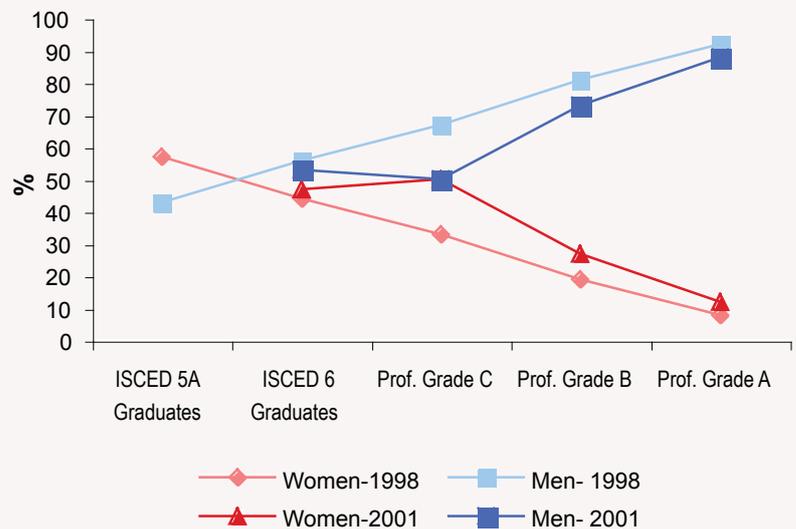


Exception to the ref. year: Population and workforce: 2000, ISCED 5A: 1997

### ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Exception to the ref. year: ISCED 6: 2000

# Norway

## 1. Legal framework

The Gender Equality Act (1978, last amended in 2005<sup>400</sup>) provides the legislation on gender equality in Norway.

## 2. Commitment to Gender Mainstreaming

Norway is committed to gender mainstreaming<sup>401</sup>. In January 2006 the former Gender Equality Ombud (Likestillingsombudet) was transformed into the Equality and Anti-discrimination Ombud. This Ombud combats discrimination based on gender, ethnic origin, sexual orientation, physical handicap and age. It also upholds the law and acts as a proactive agent for equal opportunity throughout society<sup>402</sup>.

## 3. Women in Science Institutions

The Research Council of Norway is responsible for gender equality in research at a national level. They requested that the Ministry of Education and Research establish the Committee for Mainstreaming – Women in Science in 2004 to ‘support and give recommendations on measures that contribute to mainstreaming of gender equality work in the institutions in the university and college sector, and thus promote gender equality’<sup>403</sup>. The committee provides recommendations on measures that can contribute to the mainstreaming of the gender equality efforts at the institutions within the university and college sector as well as the research institute sector. The committee may also contribute to an overall awareness-raising around issues connected to the skewed gender balance in academia and the research sector.

## 4. Targets and quotas

The Gender Equality Act states that each sex shall be represented by at least 40% of the members of all public committees<sup>404</sup>. Universities have adopted collective agreements between their Social Partners, which opens up the possibility of the use of quotas for women in job appointments, and the University Act<sup>405</sup> requires that both sexes be represented on selection boards. However, an EFTA Court ruling of January 2003, stating that it is illegal for Norwegian universities to reserve scientific positions for the underrepresented sex, has limited the extent to which quotas can be implemented for women in science<sup>406</sup>.

## 5. Networks, mentoring, and specific activities

There are many networks for women in Norway; a list can be found on the Association of International Professional and Business Women’s website<sup>407</sup>. In science, the Committee for Mainstreaming Women in Science has a Gender Equality in Science resource bank which presents useful links, relevant literature and statistics on women and gender equality in science. The website *Gender in Norway* provides an ‘information service about official gender equality work, gender research, and gender statistics in Norway’<sup>408</sup>.

## 6. Universities and research

Universities have implemented Action Plans for equality and most universities have central gender equality committees and gender advisers<sup>409</sup>. Gender and women’s studies are taught at Norwegian universities, and KILDEN<sup>410</sup> is the information centre for gender research in Norway. The Women’s University<sup>411</sup> is a private foundation which offers courses for school subjects that qualify for studying at college and university level. Finally, Norway has a long history of earmarked funding for women’s studies and gender research<sup>412</sup>.

## 7. Work–Life Balance

Maternity leave is 9 weeks; paternity leave is 2 weeks at time of birth plus 6 weeks during the child’s first year; parental leave is 39 weeks and may be taken by either mother or father [4].

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<sup>400</sup> <http://lovdata.no/info/lawdata.html>

<sup>401</sup> <http://kvinneriforskning.no/english/>

<sup>402</sup> [www.ldo.no](http://www.ldo.no)

<sup>403</sup> <http://kvinneriforskning.no/english/>

<sup>404</sup> [http://www.likestillingsombudet.no/english/act\\_act.html#21](http://www.likestillingsombudet.no/english/act_act.html#21)

<sup>405</sup> <http://www.ub.uio.no/ujur/ulovdata/lov-19950512-022-eng.doc>

<sup>406</sup> [http://kvinneriforskning.no/english/magazine/white\\_paper.html](http://kvinneriforskning.no/english/magazine/white_paper.html)

<sup>407</sup> <http://www.aipbw.no/Links.htm>

<sup>408</sup> <http://gender.no>

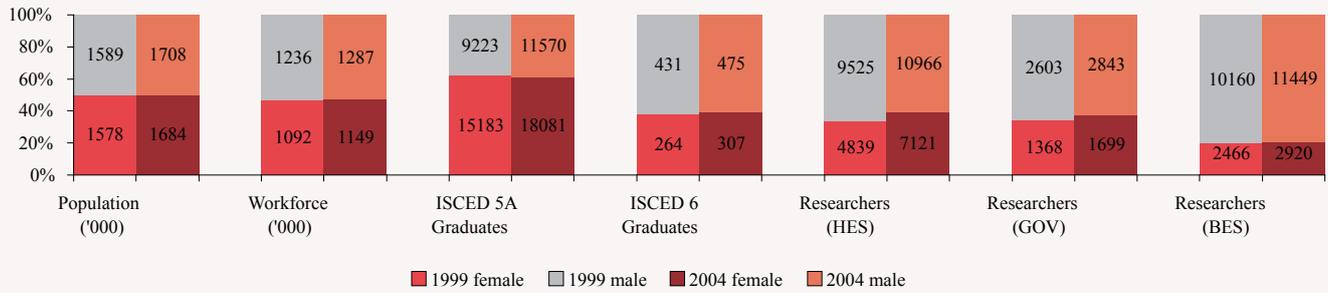
<sup>409</sup> Gulbrandsen, E. (2001) *Women and Science: Review of the situation in Norway*, Helsinki Group on women and science.

<sup>410</sup> <http://kilden.forskningsradet.no/c17224/artikkel/vis.html?tid=17282>

<sup>411</sup> <http://www.kvu.hm.no/>

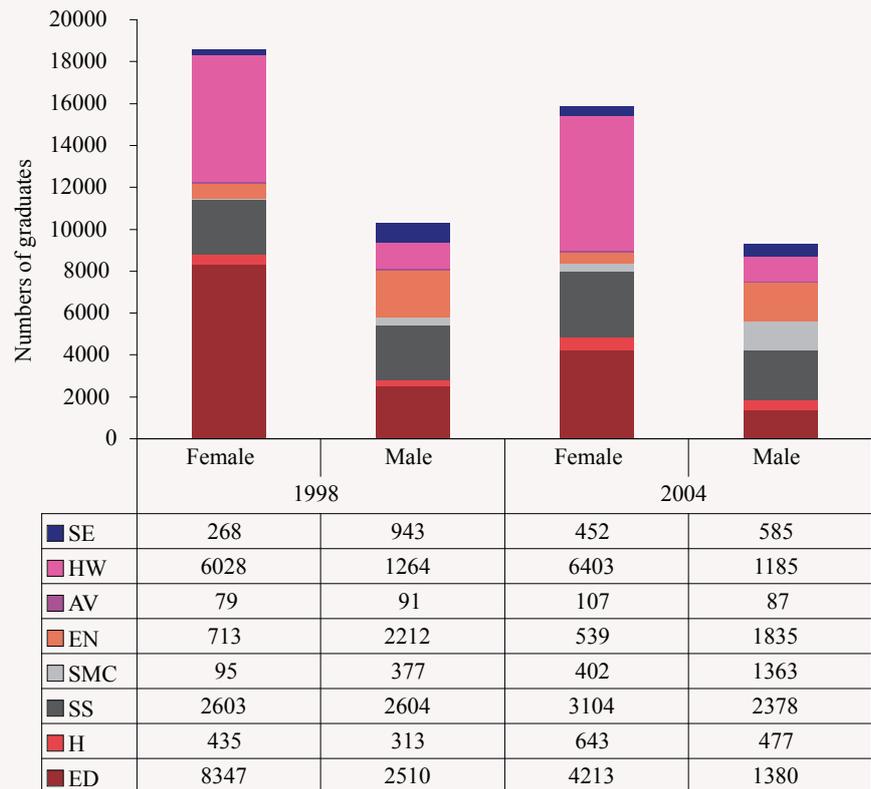
<sup>412</sup> Husu, L., personal communication by email 16/11/07

### Overall presence of women in the population, workforce, education and research

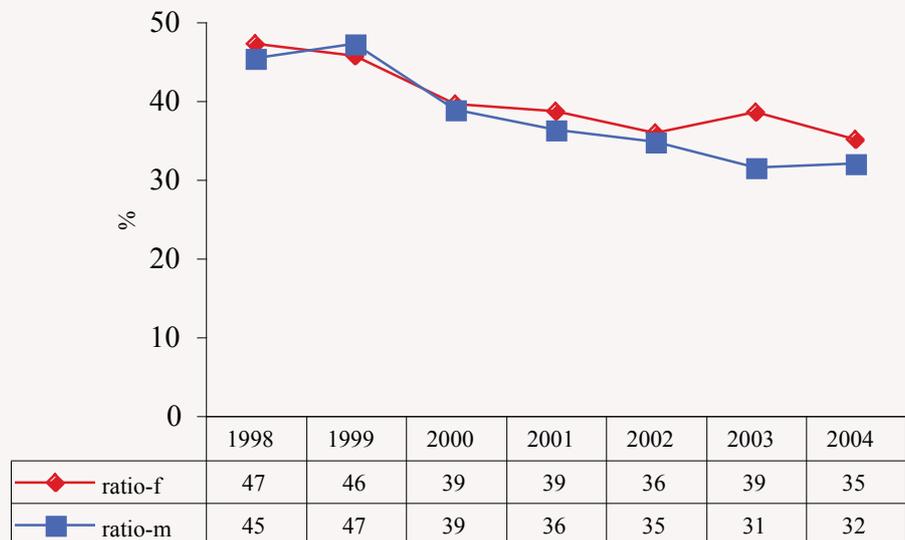


Exception to the ref. year: Population and workforce: 1999-06; Res(all): 1999-05

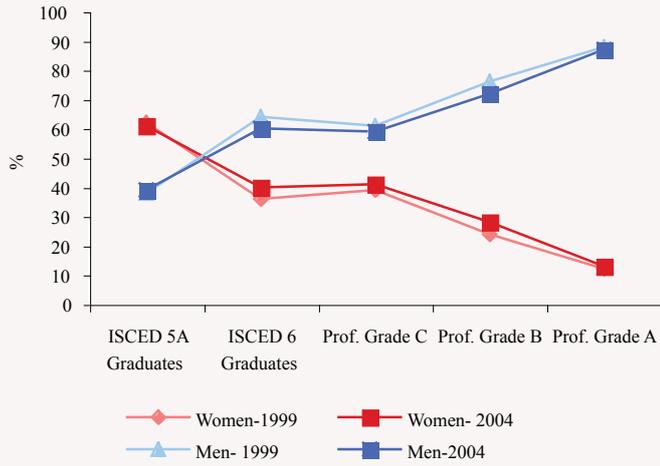
### Evolution of ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding

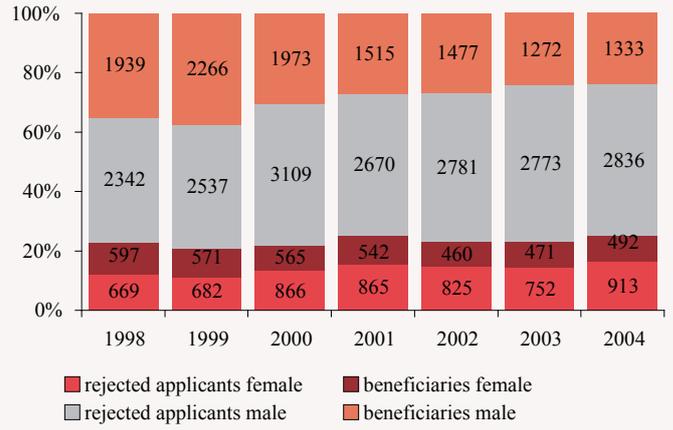


### Relative share of women & men in a typical academic career



Exception to the ref. year: Prof A, B and C: 2003  
Prof A, B and C are in Head Count

### Funding applicants and beneficiaries



# Switzerland

## 1. Legal framework

The principle of equal opportunity for women and men is anchored in the Swiss Constitution and the Law on Equal Opportunities between Women and Men<sup>413</sup>. The Law on the Promotion of Universities and Cooperation between Institutions of Higher Learning (1999), and the Guidelines for Accreditation<sup>414</sup> as well as the Law on Universities of Applied Sciences regulate gender equality in higher education in Switzerland.

## 2. Commitment to Gender Mainstreaming

The Swiss government is not directly committed to gender mainstreaming. The Federal Office for Equality between Women and Men<sup>415</sup>, the Federal Commission for Women's Issues<sup>416</sup> and Equal Opportunity Offices at cantonal and local levels all deal with gender equality in general.

## 3. Women in Science Institutions

In Switzerland, women and science issues are more specifically dealt with at the higher education level: universities, universities of applied sciences and the Federal Institute of Technology (ETH). Each of these institutions have Equal Opportunity Managers (EOMs) organised in the following way: the EOMs from universities and the ETH are organised in the *Conference of Equal Opportunity Managers at Swiss universities*<sup>417</sup>; the EOMs from the universities of applied sciences are organised in the *Rectors' Conference of the Swiss Universities of Applied Sciences*<sup>418</sup>. At the funding level, the Swiss National Science Foundation (SNSF), the most important institution for research funding in Switzerland, has a Commission and an Officer for Equality<sup>419</sup>. The National Centres of Competence in Research, which are large programmes in targeted research supported by the SNSF, are obliged to create measures for the advancement of women<sup>420</sup>. The State Secretariat for Education and Research<sup>421</sup> and the Federal Office for Professional Training and Technology<sup>422</sup> both work to increase women's representation in scientific and research institutions.

## 4. Targets and quotas

Switzerland uses several instruments for the advancement of research and these include targets for the participation of women in fellowship programmes, post-doctoral programmes, and academic junior staff positions<sup>423</sup>. A target of 14% women professors was set in the Federal Equal Opportunity Programmes (FEOP) 2000–2003 and 2004–2007 which has been met. For the FEOP 2008–2011 a target of 25% women professors is newly established<sup>424</sup>.

## 5. Networks, mentoring, and specific activities

There are two federal programmes for the promotion of equal opportunities: one for the universities, the other for the universities of applied sciences. University projects are financed by the FEOP, especially in the area of mentoring, childcare and incentives for the employment of women professors<sup>425</sup>. A list of all active mentoring programmes can be found on the homepage of the FEOP as well as at the individual universities<sup>426</sup>. The Federal Office for Professional Training and Technology<sup>427</sup> funds many projects for women in science at universities of applied sciences. For example, *Ingénieuse.ch*<sup>428</sup> is a project aimed at promoting scientific and technical professions to young girls; *WINS*<sup>429</sup> are internships and mentoring projects aimed at encouraging girls into scientific careers. The ETH also offers mentoring, childcare and networking measures to promote the participation of women in science on the occasion of *Girls' Days*<sup>430</sup>. *Gender Campus* (2003<sup>431</sup>) is the platform for gender studies and equality in higher education in Switzerland. It is used by various networks of

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<sup>413</sup> <http://www.admin.ch/ch/f/rs/rs.html>

<sup>414</sup> <http://www.cus.ch/wEnglisch/akkreditierung/richtlinien/OAQ-RL-engl-16.10.03-8bis.pdf>

<sup>415</sup> <http://www.equality-office.ch/e/ueberuns.htm>

<sup>416</sup> [http://www.comfem.ch/home\\_e.htm](http://www.comfem.ch/home_e.htm)

<sup>417</sup> <http://www.kofrah-codefuhes.ch/>

<sup>418</sup> <http://www.kfh.ch>

<sup>419</sup> [http://www.snf.ch/SiteCollectionDocuments/wom\\_gk\\_f.pdf](http://www.snf.ch/SiteCollectionDocuments/wom_gk_f.pdf)

<sup>420</sup> <http://www.nccr.ch/index.php?id=12>

<sup>421</sup> [http://www.sbf.admin.ch/htm/index\\_fr.php](http://www.sbf.admin.ch/htm/index_fr.php)

<sup>422</sup> <http://www.bbt.admin.ch/index.html?lang=fr>

<sup>423</sup> <http://www.snf.ch/e/current/dossiers/seiten/equality.aspx>

<sup>424</sup> Conseil fédéral suisse (2007) Message relatif à l'encouragement de la formation, de la recherche et de l'innovation pendant les années 2008 à 2011, online, <http://www.admin.ch/ch/f/ff/2007/1149.pdf>.

<sup>425</sup> <http://www.cus.ch/wFranzoesisch/beitraege/chancengleichheit/Module/index.php>

<sup>426</sup> [http://www.mentoring.uzh.ch/projekte\\_en.html](http://www.mentoring.uzh.ch/projekte_en.html), for a list of all universities see footnote 14

<sup>427</sup> <http://www.bbt.admin.ch/themen/hochschulen/00218/00230/index.html?lang=fr>

<sup>428</sup> <http://www.ingenieuse.ch/fr/index.html>

<sup>429</sup> <http://www.hevs.ch/wins/f/default.asp>

<sup>430</sup> <http://www.equal.ethz.ch/projects/index>

<sup>431</sup> [www.gendercampus.ch](http://www.gendercampus.ch)

women, gender, and equality groups. The *Femdat*<sup>432</sup> database presents data on women researchers and experts in Switzerland. The Swiss Association of Feminist Studies<sup>433</sup> acts to enhance equality in science policy, offers a prize for gender research and publishes *FemInfo*, a magazine on gender studies.

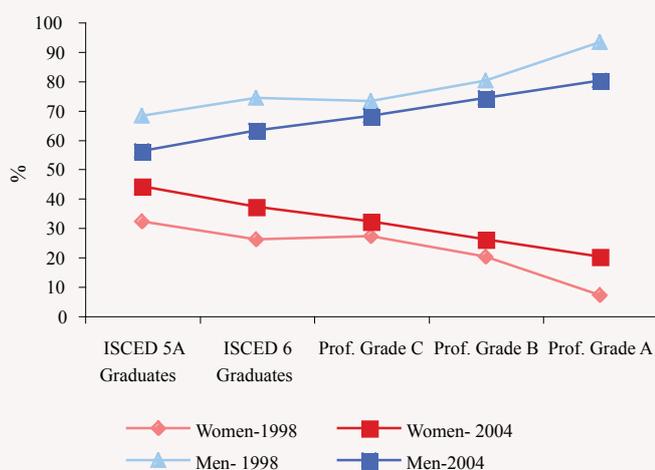
## 6. Universities and research

The FEOP (2000-03 and 2004-07) have contributed to increasing and improving women's participation in universities and universities of applied sciences as well as in science in general<sup>434</sup>. Courses in women's and gender studies are now taught at several Swiss universities, but diplomas are available only at a few of them. There is a possibility to combine gender courses with other courses in different programmes and obtain credits for them. To develop further actions, the SNSF has commissioned a study on gender and research, with the results expected for mid-2008. The success rates of women and men in the funding process are monitored.

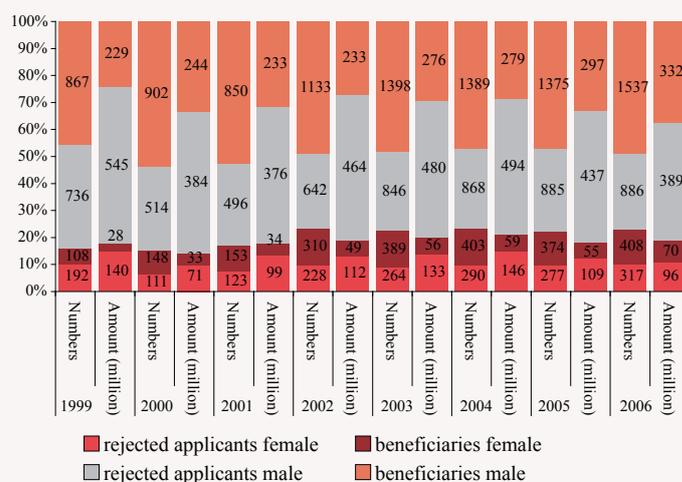
## 7. Work–Life Balance

Since 2005, maternity leave is at least 98 days, at least 8 weeks of this after birth<sup>435</sup>. There are no fixed indications for paid paternity or parental leaves, but most universities and universities of applied sciences admit a minimal leave of a few days (3 to 5)<sup>436</sup>. Researchers in projects supported by the SNSF have the possibility to work part-time. Moreover, the age limit for fellowships and scholarships for women has been cancelled by the SNFS<sup>437</sup>. The SNFS also finances the Marie-Heim-Vögtlin Programme, which supports women who have had to interrupt/reduce their research for family reasons.

**Relative share of women & men in a typical academic career**



**Funding applicants and beneficiaries**



<sup>432</sup> <http://www.femdat.ch/C14/C1/femdaten/default.aspx>

<sup>433</sup> <http://www.femwiss.ch/fr/>

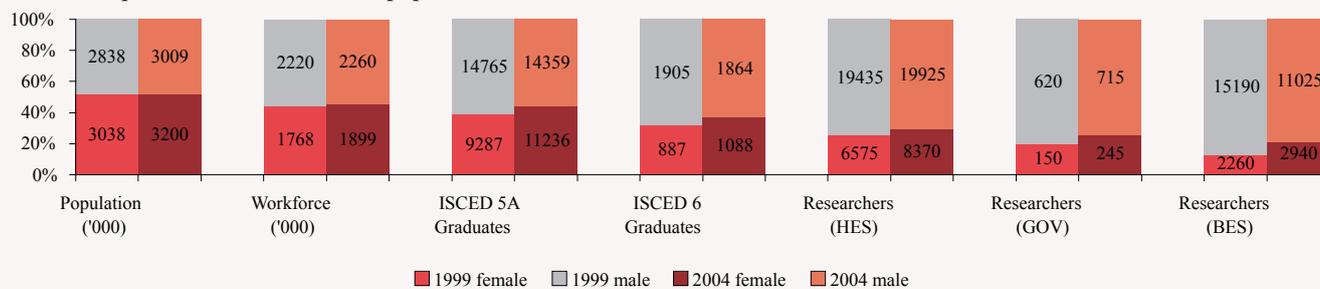
<sup>434</sup> Barben, M-A., Rytter, E., Strub, S. and Hüttner, E. (2006) *Evaluation programme fédéral Egalité des chances entre femmes et hommes dans les hautes écoles spécialisées 2004-2007*, Bureau BASS, Berne.

<sup>435</sup> <http://www.travailler-en-suisse.ch/html/conges-maternite-suisse.html>

<sup>436</sup> Sonderegger, C. personal communication by email, 24/10/07

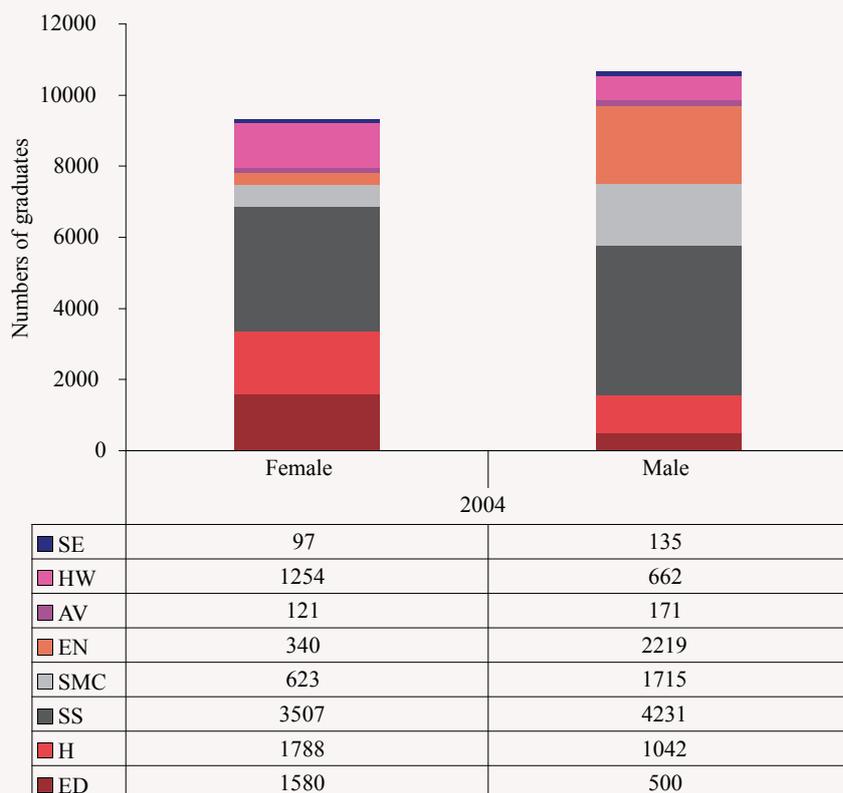
<sup>437</sup> <http://www.snf.ch/f/services/chercheuses/seiten/instrumentsmesures.aspx>

### Overall presence of women in the population, workforce, education and research

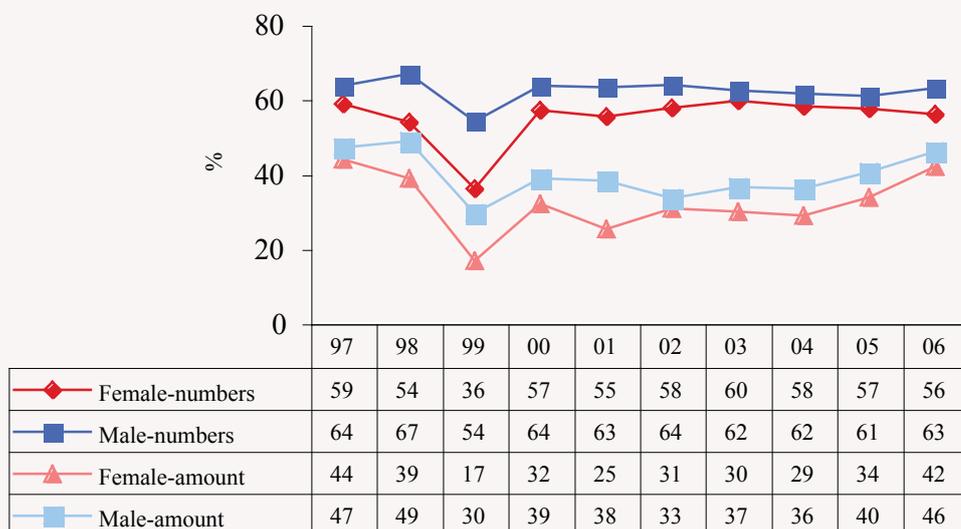


Exception to the ref. year: Population and workforce: 1999-06; Res (all): 2000-04

### ISCED 5A (1st degree) by field of study



### Success rates of women and men in funding



# Turkey

## 1. Legal framework

The legal framework is based on the Constitution of Turkey (amended in 2004 to add a new clause on gender equality into Article 10); the new Turkish Penal Code of 2004 ('which eliminates almost all discriminatory provisions'<sup>438</sup>); the National Action Plan (1996); the Turkish Civil Code (2002); the Law on the Protection of the Family (1998), and the Labour Law (2003). There is no legislation concerning women in science and research except the Basic National Education Act<sup>439</sup>.

## 2. Commitment to Gender Mainstreaming

In Turkey, incorporating a social gender perspective within all policies, plans and programmes is still an ongoing effort; there is no evidence of commitment to gender mainstreaming.

## 3. Women in Science Institutions

The General Directorate of Women's Status and Problems (DGSPW<sup>440</sup>) of the Turkish Republic Prime Ministry body started work in 1993. As part of the efforts to improve the capacity of the DGSPW, the United Nations Development Programme (UNDP) project entitled The Integration of Women in National Development was implemented in 1993. At the regional level, women's units were established within the governor's offices in 13 provinces under the coordination of DGSPW in 1997<sup>441</sup>.

In science, there is a General Directorate of Technical Training for Girls<sup>442</sup> established under the Ministry of National Education. The 'highest level decision makers on science and research policy making are the Grand National Assembly of Turkey, Council of Ministers, State Planning Organisation, Supreme Council of Science and Technology and the Scientific and Technological Research Council of Turkey'<sup>443</sup>; none of these organisations, nor the Turkish Academy of Science<sup>444</sup>, have a unit for women in science.

The Turkish State Institute of Statistics<sup>445</sup> is responsible for Turkish statistics. There is still a lack of accurate data on the situation of women in Turkey and the existing data do not yet cover all problems relating to the situation, role and rights of women. Within the above-mentioned UNDP project, a department was established within the State Institute of Statistics<sup>446</sup> in order to produce sex-disaggregated data relating to social and economic life, including the gender pay gap.

## 4. Network, mentoring, and specific activities

There are many women's associations and networks in Turkey, such as the Foundation for the Support of Women's Work<sup>447</sup>, the Women for Women's Human Rights, and the Women's Library and Information Centre Foundation. There are no associations specifically for women in science.

## 5. Universities and research

Ankara University has a Women's Research and Studies Centre<sup>448</sup> as well as inter-disciplinary graduate programmes that include a gender perspective. Currently, there are 14 training and research institutions on women's studies in Turkey<sup>449</sup> and four women's studies graduate programmes in various universities (e.g. the Gender and Women's Studies Master's Programme at the Middle East Technical University<sup>450</sup>). There are no specific scholarships or funding for women in science.

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<sup>438</sup> Senol, N., Ceren, I., Sayin, A. and Acuner, S. eds. (2005:10) *Equal Opportunities for Women and Men Monitoring law and practice in Turkey*, Open Society Institute.

<sup>439</sup> Section Equality of Opportunity

<sup>440</sup> [www.kssgm.gov.tr](http://www.kssgm.gov.tr)

<sup>441</sup> [http://www.die.gov.tr/tkba/English\\_TKBA/tkba\\_eng.htm](http://www.die.gov.tr/tkba/English_TKBA/tkba_eng.htm)

<sup>442</sup> <http://www.meb.gov.tr/english/indexeng.htm>

<sup>443</sup> <http://www.ttg.gov.tr/en/page.php?id=90>

<sup>444</sup> <http://www.tuba.gov.tr/eng/index.php>

<sup>445</sup> <http://www.die.gov.tr/ENGLISH/>

<sup>446</sup> <http://www.turkstat.gov.tr/>

<sup>447</sup> <http://www.kedv.org.tr>

<sup>448</sup> [www.kasaum.ankara.edu.tr](http://www.kasaum.ankara.edu.tr)

<sup>449</sup> <http://www.kssgm.gov.tr/belgeler/uairapor.html>

<sup>450</sup> <http://www.ncrw.org/resources/intlcent.htm#t>

## 6. Work–Life Balance

Maternity leave is 16 weeks<sup>451</sup>. A female civil servant, at her request, can be granted a further 12 months of unpaid leave following the maternity leave. According to the Public Servants Law and the Labour Law, women should be granted a six-month paid parental leave that can be extended a further six months as unpaid leave; men can be granted six months of unpaid leave.

## 7. Statistics

Turkey has a lower glass ceiling index than any of the EU-25 countries (1.1 compared to a 2.1 average<sup>452</sup>). The scissor diagram on the next page shows a higher proportion of women grade C professors than of women ISCED 6 graduates. However, according to data from the Student Selection and Placement Centre<sup>453</sup> the percentage of assistant professors (grade C) was 29.5% in 2001-2002 which is more in line with what would be expected in the diagram. Finally, it is interesting to mention that Turkey has one of the highest proportions of women grade A professors.

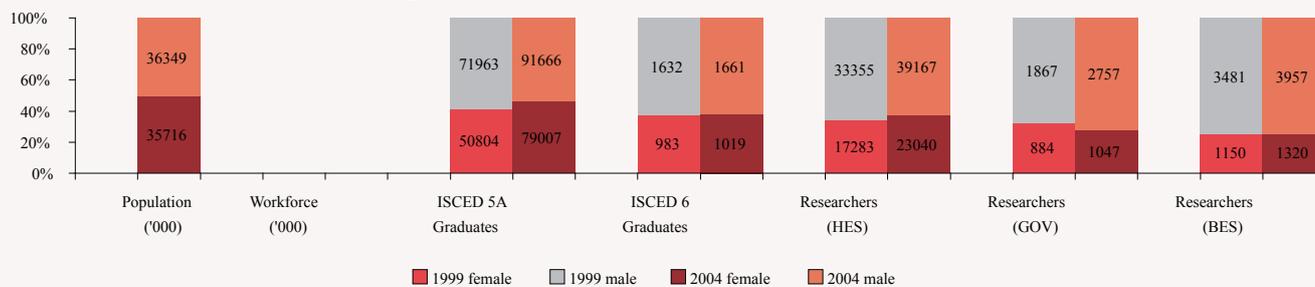
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<sup>451</sup> Open Society Institute (2005) *Equal Opportunities for Women and Men Monitoring law and practice in new member states and accession countries of the European Union*, Overview, Open Society Institute, Budapest.

<sup>452</sup> European Commission (2006) *She Figures 2006*, Women and Science, Statistics and Indicators, European Communities, Brussels.

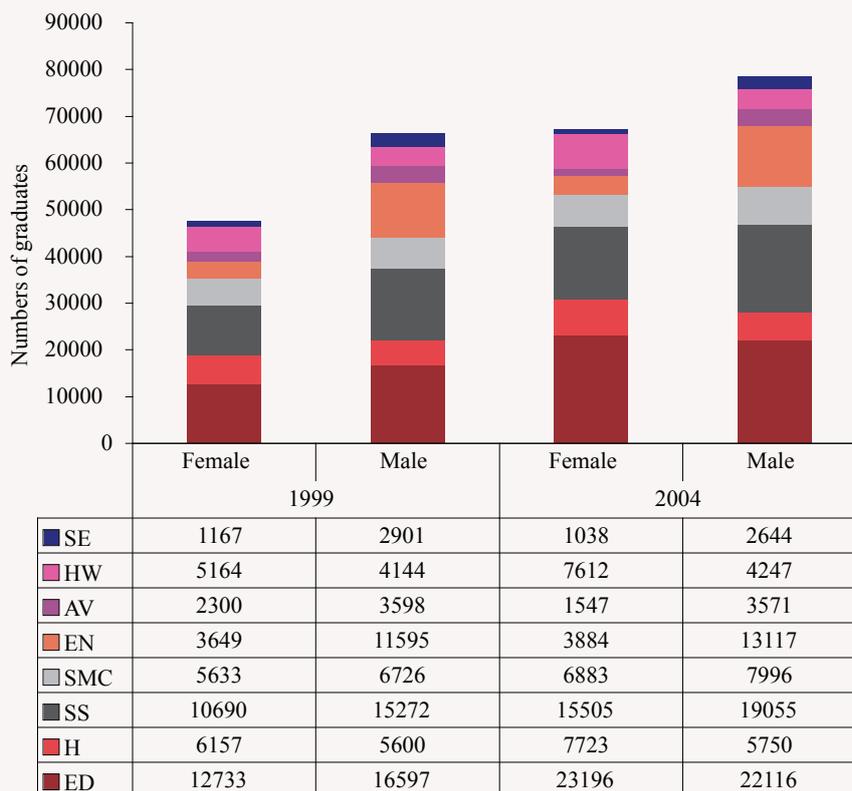
<sup>453</sup> <http://www.kssgm.gov.tr/belgeler/uairapor.html>

### Overall presence of women in the population, workforce, education and research

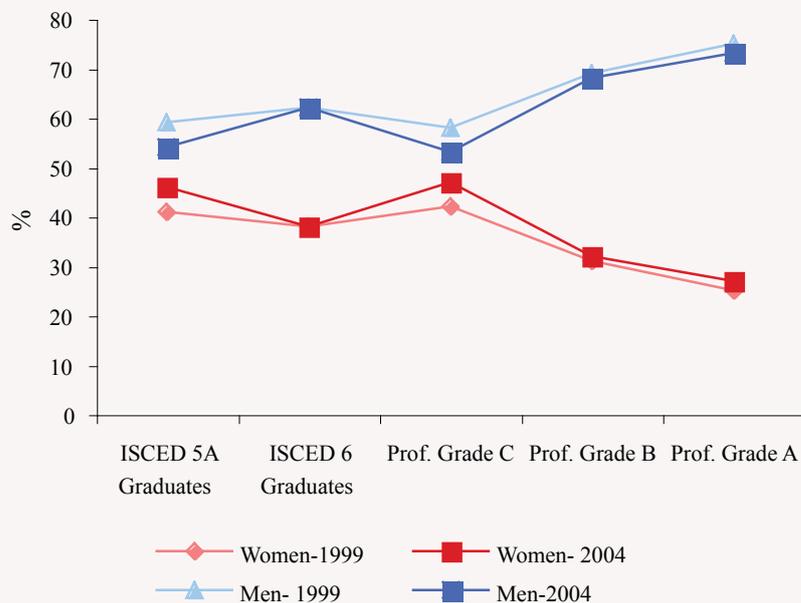


Exception to the ref. year: Population: 1999-06; Res (all):1999-02

### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Exception to ref. year: Prof A, B and C: 2000-03

# Western Balkans

## Albania

### 1. Legal framework

Article 18 of the Albanian Constitution (1998) states that all citizens are equal and recognises equal rights for women in all legal processes, such as the right to take someone to court or be tried by court of law; the Civil Code protects the equality of women and men in all areas of life, health, property and dignity; and the Penal Code and the Labour Code recognise equal rights of work between men and women, for protection at work, for paid vacations and equal pay<sup>454</sup>. The Law on Equal Gender Society (2004<sup>455</sup>) ensures equal rights for women and men and a new Family Code (2003<sup>456</sup>) has been ratified and improved women's legal rights.

### 2. Women in Science Institutions

The Committee for Equal Opportunities<sup>457</sup>, under the Ministry of Labour and Social Affairs, is responsible for coordinating, implementing and evaluating governmental policies and programmes concerning equal opportunities. Furthermore, the Committee initiates proposals for new legislation and amendments to existing law in order to align them with international standards. There is no unit for women in the Ministry of Education and Science<sup>458</sup>. The National Institute of Statistics Albania<sup>459</sup> has published a yearly report on woman and men in Albania since 1998. The main chapters of this publication are: population, education, employment, and wages.

### 3. Network, mentoring, and specific activities

There are many associations for women's rights in Albania. For example, there is a Women's Legal Rights Initiative and a Women's Advocacy Centre<sup>460</sup>, which provides legal services, conducts training programmes, and publishes a periodical on issues affecting women's legal rights. A list of programmes for women and youth in science and employment in general can be found on the Children's Human Rights Centre of Albania's website<sup>461</sup>. For example, the Refleksione Association offers training and employment opportunities to girls and women; the Soros Foundation Tirana offers entrepreneurship courses for women; and the Professional & Business Women's Association & Female Business Network of Albania offers orientation and training for women.

### 4. Universities and research

In 2006, the Institute for Gender Studies at Tirana University launched a master's programme on gender and development 'to educate and promote gender equality and women's empowerment as an essential part of sustainable development'<sup>462</sup>.

The Women's Advocacy Centre, the Family in Focus Centre and the Women's Centre (Qendra E Gruas) are part of the Women's/Gender Studies Association of Countries in Transition<sup>463</sup> and offer courses as well as research programmes on women and gender.

### 5. Work–Life Balance

Employees are entitled to 365 days of paid maternity leave (with a minimum of 35 days before the expected date of childbirth and 42 days after). The monthly benefit is equal to 80% of the average daily wage in the last calendar year. For multiple births, the paid leave period is extended to 390 days, including a minimum of 60 days before and 42 days after the expected date of childbirth<sup>464</sup>.

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<sup>454</sup> Sustainable Economic Development Agency (2005) National Human Development Report Albania 2005, Pro-Poor and Pro-Women Policies: Operationalizing MDGs in Albania, Prepared for the United Nations Development Programme in Albania, online, [http://hdr.undp.org/docs/reports/national/ALB\\_Albania/Albania\\_2005\\_en.pdf](http://hdr.undp.org/docs/reports/national/ALB_Albania/Albania_2005_en.pdf), accessed 15/05/07

<sup>455</sup> [www.iwraw-ap.org/resources/documents/GE\\_Albania.doc](http://www.iwraw-ap.org/resources/documents/GE_Albania.doc)

<sup>456</sup> [http://www.usaid.gov/our\\_work/cross-cutting\\_programs/wid/pubs/wlr\\_albania\\_actionplan.pdf](http://www.usaid.gov/our_work/cross-cutting_programs/wid/pubs/wlr_albania_actionplan.pdf)

<sup>457</sup> <http://www.ilo.org/public/english/region/eurpro/budapest/download/gender/albania.pdf>

<sup>458</sup> [www.mash.gov.al/ministria\\_eng/home.html](http://www.mash.gov.al/ministria_eng/home.html)

<sup>459</sup> <http://www.instat.gov.al>

<sup>460</sup> <http://www.qag-al.org/>

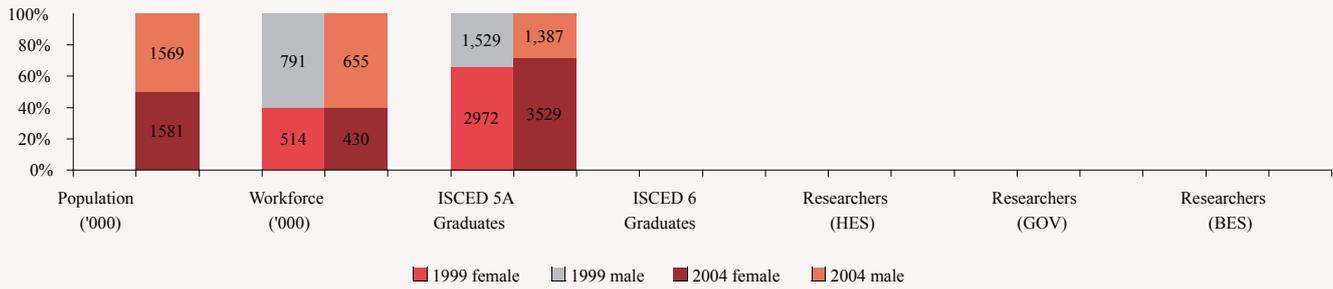
<sup>461</sup> <http://www.crca.org.al/youth/project.htm>

<sup>462</sup> <http://see.oneworld.net/article/view/143043/1/>

<sup>463</sup> <http://www.zenskostudie.edu.yu/wgsact/introduction.html>

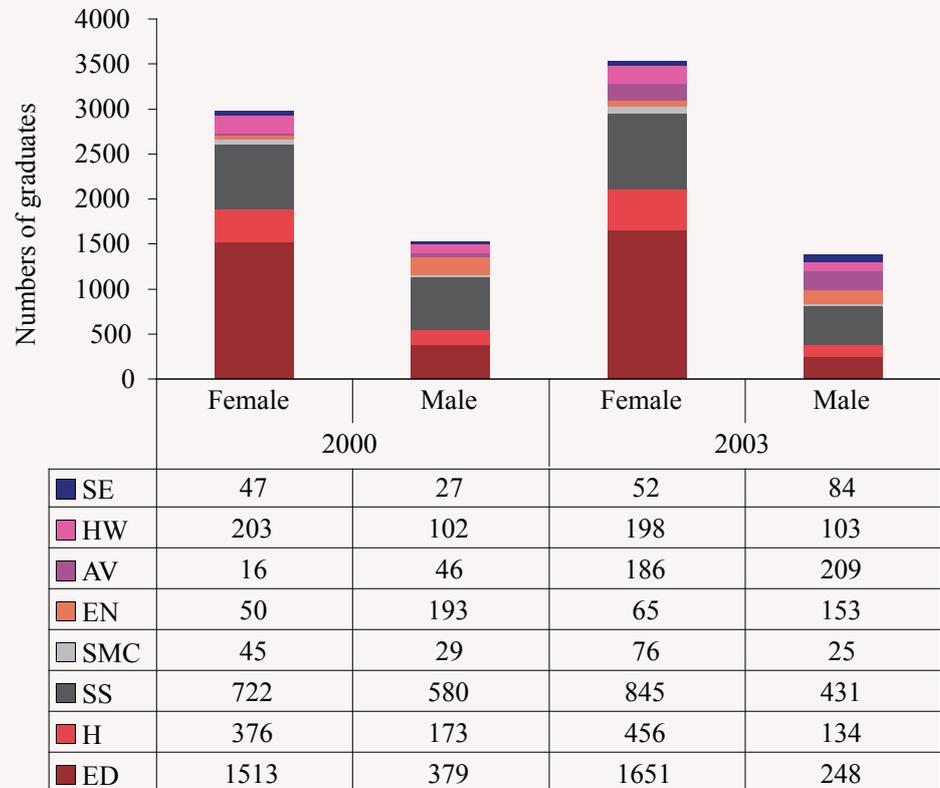
<sup>464</sup> <http://www.socialsecurity.gov/policy/docs/progdesc/ssptw/2006-2007/europe/albania.html>

### Overall presence of women in the population, workforce, education and research



Exception to the reference year: ISCED 5A 2000-03; Population: 2006; Workforce: 1999-2006

### Evolution of ISCED 5A (1st degree) by field of study



# Bosnia and Herzegovina

## 1. Legal framework

The legal framework is based on the Bosnia and Herzegovina (BiH) Constitution (1995<sup>465</sup>) and the Law on Gender Equality (2003<sup>466</sup>). Though BiH has signed many international agreements concerning human and gender rights relating to universities and higher education (CEDAW, Beijing Declaration, Paris Declaration, and also Law on Higher Education of BiH (2003, art. 6)) there is a lack of any implementation mechanisms.

## 2. Commitment to Gender Mainstreaming

The government is committed to gender mainstreaming in general through the Law on Gender Equality in BiH, the National gender plan of action under the Beijing Declaration, and the Gender action plan (Chapter XV is devoted to information and communication technologies, with 13 activities concerning women's contribution, use and promotion of ICT). Gender mainstreaming in legal and policy frameworks is one of the activities of the Gender centre within the *Gender Equity and Equality Programme* project<sup>467</sup>.

## 3. Women in Science Institutions

The Gender Equality Agency of BiH (under the auspices of the Ministry for Human Rights and Refugees<sup>468</sup>), the Gender Centre of the Federation of BiH<sup>469</sup> and the Gender Centre of Republika Srpska<sup>470</sup> are responsible for the judicial aspects of gender equality in BiH. The Federal Ministry for Education and Science<sup>471</sup> does not have a unit for Women. The Federal Office for Statistics<sup>472</sup> and the Republika Srpska Institute of Statistics<sup>473</sup> are in charge of collecting sex-disaggregated data<sup>474</sup>.

## 4. Universities and research

There is a Centre for Interdisciplinary Postgraduate Studies at the University of Sarajevo which offers a masters programme in gender studies<sup>475</sup>. The tuition fees for the first generation of students taking this programme will be paid by the donors that are supporting it.

## 5. Work–Life Balance

According to the Federation of BiH's Labour Law<sup>476</sup>, paid maternal leave is 1 year for the first and second child, 18 months for twins, third and other children; pre-maternal leave is 28–45 days before childbirth. Fathers have the same rights in cases where the mother is not available to take care of children. However, some districts have different local laws<sup>477</sup>.

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<sup>465</sup> [http://www.vladars.net/en/zakoni/aneks\\_4.html](http://www.vladars.net/en/zakoni/aneks_4.html), Article 2

<sup>466</sup> [http://www.iwraw-ap.org/resources/documents/GE\\_Bosnia\\_Herzegovina.doc](http://www.iwraw-ap.org/resources/documents/GE_Bosnia_Herzegovina.doc)

<sup>467</sup> <http://www.arsbih.gov.ba/?PID=3&RID=74>

<sup>468</sup> <http://www.mhrr.gov.ba/>

<sup>469</sup> <http://www.fgenderc.com.ba>

<sup>470</sup> <http://www.gc.vladars.net>

<sup>471</sup> <http://www.fmon.gov.ba/>

<sup>472</sup> <http://www.geep.com.ba>

<sup>473</sup> <http://www.rzs.rs.ba/>

<sup>474</sup> [http://www.iwraw-ap.org/resources/documents/GE\\_Bosnia\\_Herzegovina.doc](http://www.iwraw-ap.org/resources/documents/GE_Bosnia_Herzegovina.doc)

<sup>475</sup> <http://www.cps.edu.ba/ENGLESKI/gender.html>

<sup>476</sup> *Zakon o radu* (Sl. novine F BiH br. 43/99, 32/00,29/03)

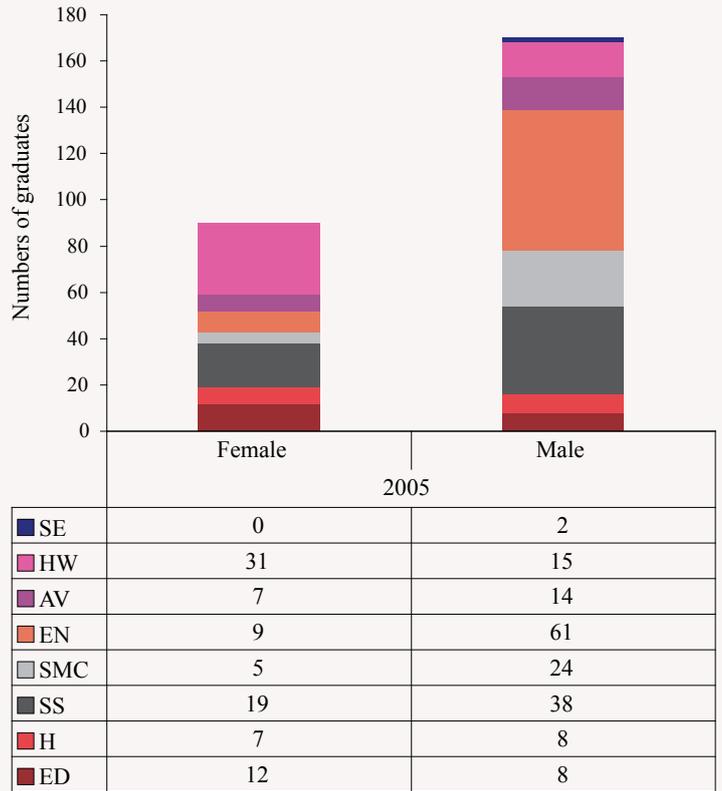
<sup>477</sup> For example the Brčko district has different rights concerning maternal leave - Labour Law of Brčko district (Articles 45-48)

### Overall presence of women in the population, workforce, education and research

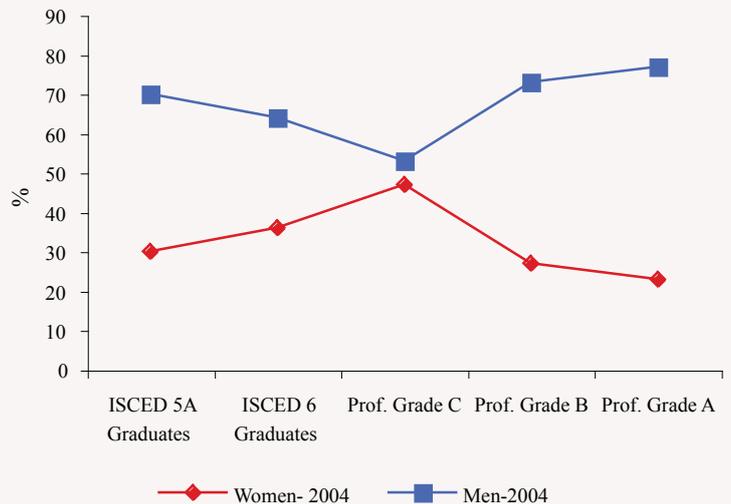


Exception to the ref. year: Population and workforce: 2006; Researchers 2005

### ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



Exception to the ref. year: Prof. A, B and C: 2005

## Former Yugoslav Republic of Macedonia

### 1. Legal framework

The main element of the legal framework for gender equality in the Former Yugoslav Republic of Macedonia (FYROM) is the Law on Equal Opportunities for Men and Women (2006<sup>478</sup>). The Constitution of the Republic of Macedonia<sup>479</sup> also gives general provision against discrimination (Articles 9, 42); and the Labour Code, the Family Law as well as the Law on Inheritance<sup>480</sup> also cover aspects of women's and men's equality.

### 2. Women in Science Institutions

The Ministry of Labour and Social Policy<sup>481</sup> has a sector for equal opportunities for women and men. At the local level, within the framework of Municipality Councils in each of the 15 municipalities, there are commissions for gender equality<sup>482</sup>. However, the Ministry of Education and Science<sup>483</sup> does not have a unit for women in science. The State Statistical Office<sup>484</sup> is responsible for collection, production and dissemination of data disaggregated by sex.

### 3. Targets and quotas

There is no use of quotas or targets for women in science-related positions. However, the Law on Equal Opportunities for Men and Women (article 6<sup>485</sup>) states that priority should be given to women through positive measures 'in cases of unequal participation of women and men in governmental bodies of all levels'.

### 4. Network, mentoring, and specific activities

The Organisation of Women's Organisations of Macedonia<sup>486</sup> promotes international cooperation with non-governmental women's organisations in Europe and the wider world. The Union of Albanian Women in Macedonia<sup>487</sup> promotes emancipation, education, employment and socialisation of Albanian women in FYROM. The Macedonian Women's Lobby<sup>488</sup> was formed in 2000 and works for greater representation of women in political and public life as well as for the improvement of women's rights in all segments of social life.

### 5. Universities and research

According to the legislation on primary, secondary and higher education, universities shall respect the principle of non-discrimination (in relation to both students and staff)<sup>489</sup>. The Research Centre in Gender Studies in Skopje is part of the Regional Network for Gender/Women's Studies in south eastern Europe<sup>490</sup>. The centre promotes gender equity in scientific and theoretical research and intends to establish university level courses in gender studies in the near future.

### 6. Work–Life Balance

According to the Labour Relations Act (Section 58), 'Female employees are entitled to nine months' continuous leave from work during pregnancy, birth and maternity, and one year's leave for birth of more than one child (twins, triplets, etc.)'; and (section 59), 'The child's father is entitled to the rights under Section 58 of this Act in the event of the mother's death or abandonment or if she has been prevented from exercising the above rights for justified reasons'<sup>491</sup>.

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<sup>478</sup> <http://www.legislationline.org/legislation.php?tid=99&lid=6101>

<sup>479</sup> <http://www.izbori98.gov.mk/English/html/constitution.html>

<sup>480</sup> [http://www.ihf-hr.org/viewbinary/viewdocument.php?doc\\_id=2065](http://www.ihf-hr.org/viewbinary/viewdocument.php?doc_id=2065)

<sup>481</sup> <http://www.mtsp.gov.mk/eng/default.htm>

<sup>482</sup> Gender statistics Working Group (2006), *Women and men in Macedonia*, Improving gender statistics in the Republic of Macedonia, Printing House, General Administration Service at the Government of the Republic of Macedonia, Skopje

<sup>483</sup> <http://www.mon.gov.mk/>

<sup>484</sup> [http://www.stat.gov.mk/english/glavna\\_eng.asp](http://www.stat.gov.mk/english/glavna_eng.asp)

<sup>485</sup> <http://www.legislationline.org/legislation.php?tid=99&lid=6101>

<sup>486</sup> <http://www.oozm.org.mk/index.php?idJazik=2>

<sup>487</sup> <http://www.zinfo.hr/engleski/pages/education/REWIND/asp/OdabirGrupeW.asp?OdabranaGrupa=332>

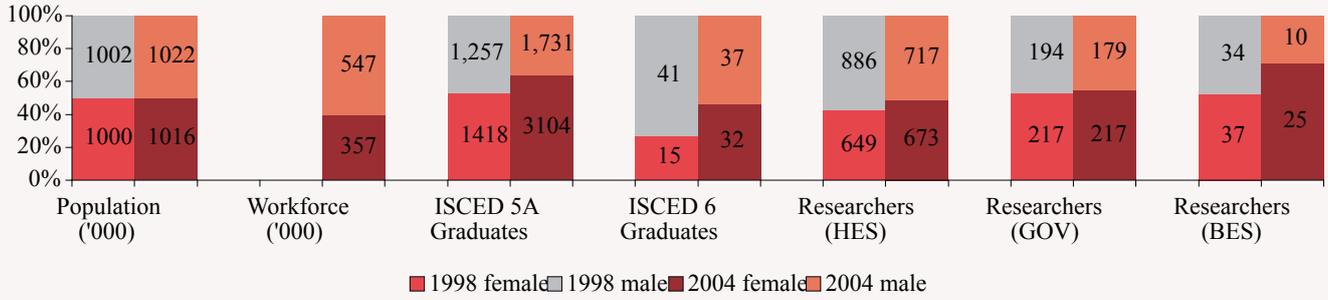
<sup>488</sup> <http://www.mzL.org.mk/index1.html>

<sup>489</sup> [http://www.ihf-hr.org/viewbinary/viewdocument.php?doc\\_id=2065](http://www.ihf-hr.org/viewbinary/viewdocument.php?doc_id=2065)

<sup>490</sup> <http://www.gendersee.org.mk/conference/index.asp?id=227>

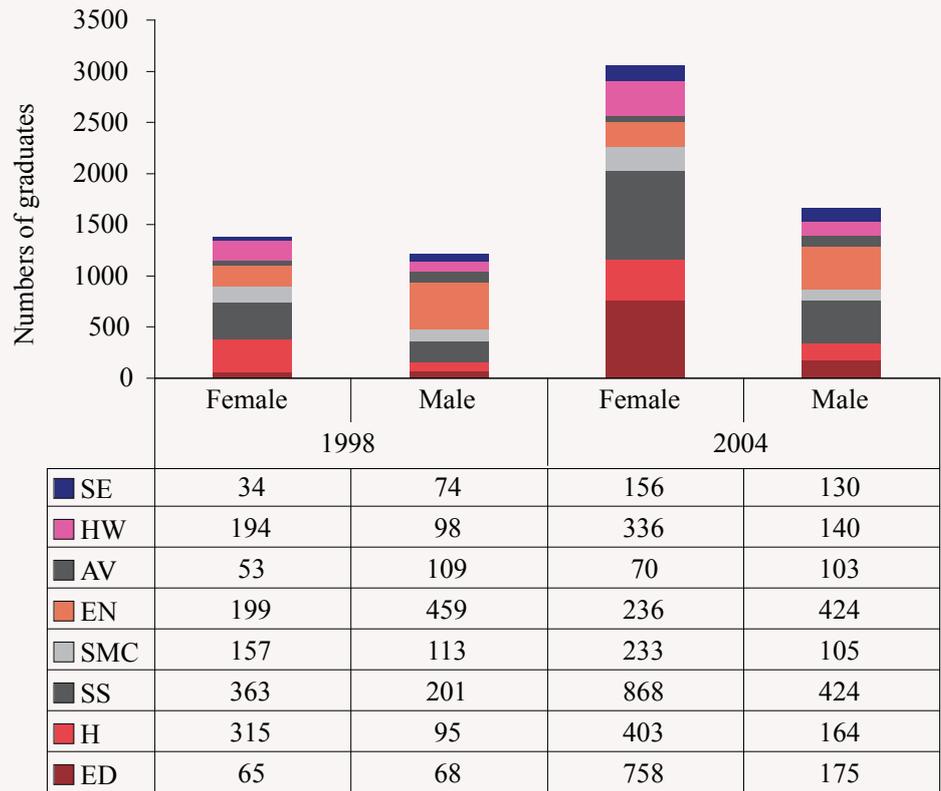
<sup>491</sup> <http://www.ilo.org/dyn/natlex/docs/WEBTEXT/47727/65084/E93MKD02.htm#c13>

### Overall presence of women in the population, workforce, education and research

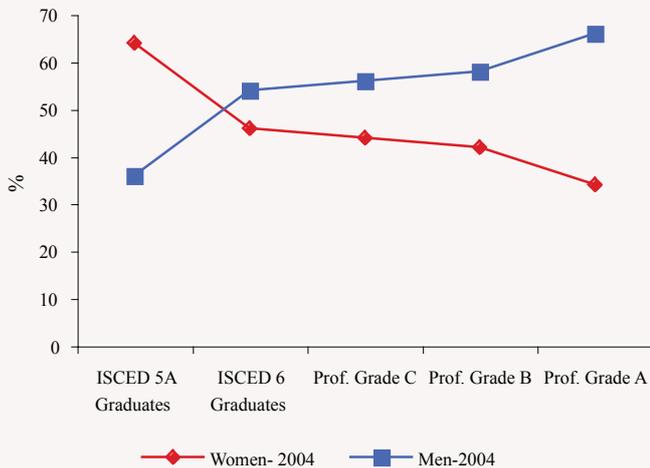


Exception to the ref. year: Population: 1998-06; Workforce: 2006; Res (all): 1998-03

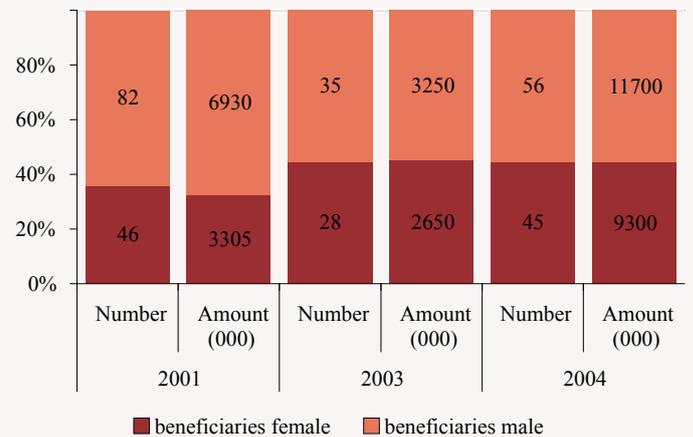
### Evolution of ISCED 5A (1st degree) by field of study



### Relative share of women & men in a typical academic career



### Funding applicants and beneficiaries



## Montenegro

### 1. Legal framework

The legal framework for equal opportunity is based on the Constitution of the Republic of Montenegro (Article 15 and 17<sup>492</sup>). The Law on Gender Equality (2007<sup>493</sup>) includes measures to eliminate gender-based discrimination. The Labour Law of the Republic of Montenegro<sup>494</sup> underlines the principle of gender equality; the Criminal Law of the Republic of Montenegro and the Health Protection and Health Insurance Law provide equal rights for both genders within the areas covered by the law.

### 2. Commitment to Gender Mainstreaming:

The Montenegro Government is committed to gender mainstreaming through the National Activity Plan for Achieving Gender Equality in Montenegro, which covers gender equality implementation and is based on international and domestic law sources.

### 3. Women in Science Institutions

The Gender Equality Office of the Government of Montenegro was established by the Decision of the Government of Montenegro in March 2003 and is in charge of gender equality in general as well as women's rights. The Parliamentary Committee for Gender Equality was established in July 2001 to 'monitor and promote the human rights and freedoms concerning gender equality that are guaranteed under the Constitution'<sup>495</sup>. The Ministry of Education and Science does not have a unit for women in science. The Statistical Office of the Republic of Montenegro<sup>496</sup> collects sex-disaggregated data and prints the publication *Men and Women in Montenegro*.

### 4. Universities and research

The University of Montenegro's Statute<sup>497</sup> states: 'the University shall respect the constitutional principle of non-discrimination (on grounds of race, gender, language, religion, political or other opinion, national or social origin, property, birth, education, social status, invalidity, sexual orientation and age, or otherwise)'. However, it does not have a gender equality plan. No programmes of women's or gender studies are offered in the University of Montenegro except for one course in the Faculty for Political Studies programme<sup>498</sup>. The Informative and Educational Women's Centre of Montenegro (2000<sup>499</sup>) is an independent centre for gender studies.

### 5. Work–Life Balance

Maternal leave can begin 45 days before giving birth (and has to be at least 28 days before). It ends when the child is one year of age. During maternal leave, the woman employee receives 100% of the salary. The father is entitled to use the paternal leave after that period.

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<sup>492</sup> [http://www.stopvaw.org/Montenegro\\_Country\\_Page.html](http://www.stopvaw.org/Montenegro_Country_Page.html)

<sup>493</sup> <http://www.vlada.cg.yu/gender/index.php?akcija=vijesti&id=21887>

<sup>494</sup> <http://www.gom.cg.yu/files/1116937683.doc>

<sup>495</sup> [http://209.85.129.104/search?q=cache:bKMKsCRIAY0J:www.stopvaw.org/Montenegro\\_Country\\_Page.html](http://209.85.129.104/search?q=cache:bKMKsCRIAY0J:www.stopvaw.org/Montenegro_Country_Page.html)

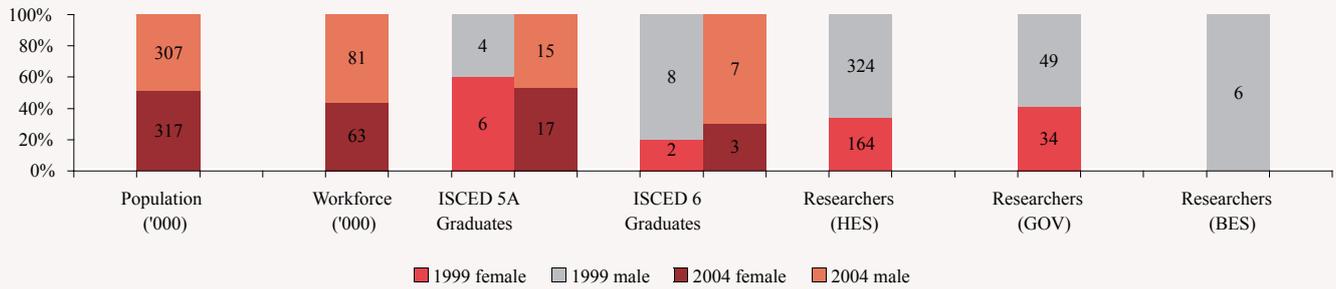
<sup>496</sup> <http://www.monstat.cg.yu/>

<sup>497</sup> <http://www.ucg.cg.ac.yu/eng/>

<sup>498</sup> [http://www.fpn.cg.ac.yu/studije/postdiplomske\\_studije.doc](http://www.fpn.cg.ac.yu/studije/postdiplomske_studije.doc)

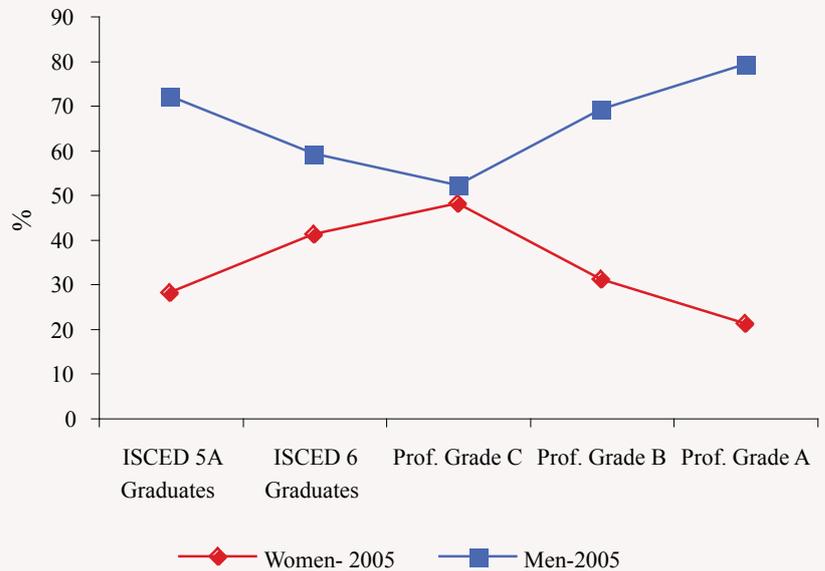
<sup>499</sup> <http://zinecanima.cg.yu/Zinec.htm>

### Overall presence of women in the population, workforce, education and research



Exception to the ref. year: Population: 2006; workforce: 2003

### Relative share of women & men in a typical academic career



# Serbia

## 1. Legal framework

The legal framework is based on the Serbian Constitution (2006<sup>500</sup>), the Labour Law (2005), the Family Law (2006), the National Plan of Action for Equal Opportunities for Women and Men (in process of being adopted) and the Law on Equal Opportunities for Women and Men (in process of being adopted). In relation to Kosovo, there is a Law of Gender Equality<sup>501</sup> and more information on equal opportunities for men and women can be found from the Kosovar Centre for Gender Studies<sup>502</sup>.

## 2. Commitment to Gender Mainstreaming

The Serbian Government is not committed to gender mainstreaming. The National Strategy for Development of the Information Society promotes gender equality in ICT education and use of ICT in all social areas<sup>503</sup>. There is a National action plan (2007-2010) for improving the position of women and promoting gender equality in decision-making, economy, education, health, media, but not in science and research.

## 3. Women in Science Institutions

The Serbian Governmental Council for Gender Equality (2004<sup>504</sup>) focuses on gender equality issues in general in Serbia. At the regional level, the Secretariat for Labour, Employment and Gender Equality of Autonomous Province Vojvodina (2002) and the Agency for Equal Opportunity of Assembly of the Autonomous Province Vojvodina (2004<sup>505</sup>) both work to develop and promote equal rights for men and women.

In science, neither the Ministry for Education and Research<sup>506</sup> nor the Serbian Academy of Sciences and Arts<sup>507</sup> has a unit for women in science. The Statistical Office of the Republic of Serbia<sup>508</sup> presents some sex-disaggregated statistics in science and technology as well as in other fields<sup>509</sup>. The National Employment Service of the Republic of Serbia also publishes a monthly statistics bulletin in which the data are sex-disaggregated<sup>510</sup>. Data on women employees, scientists, and researchers are available from 1996 onwards. However, indicators of vertical segregation and level of success do not exist.

## 4. Targets and quotas

There are no targets or quotas for women in science in Serbia. However, the Millennium development targets<sup>511</sup> of the Government of Serbia indicate an aim to increase, by 2015, the representation of women at all levels of political decision-making to at least 30%.

## 5. Network, mentoring, and specific activities

There are many women's associations in Serbia<sup>512</sup>, but none in the field of science and technology. The Association of Business Women<sup>513</sup> from Belgrade is an NGO with many members who are scientists and researchers, as well as entrepreneurs dealing with different types of technologies. In 2007, a new prize was introduced for the best women's team participating in the contest for '*The best technology innovation in Serbia*'<sup>514</sup>.

In Vojvodina there are more than 20 women's organisations<sup>515</sup>. For example, Mileva Marić Einstein<sup>516</sup> is an association for researchers in women's studies. The Association for Women's Initiative<sup>517</sup> published '*Gender Barometer*', a study about social status and quality of life of women and men in Serbia in 2006.

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<sup>500</sup> [http://www.parlament.sr.gov.yu/content/eng/akta/ustav/ustav\\_1.asp](http://www.parlament.sr.gov.yu/content/eng/akta/ustav/ustav_1.asp)

<sup>501</sup> <http://www.assembly-kosova.org/?krye=home&lang=en>

<sup>502</sup> Equal Opportunities for Women and Men in Kosovo, available on: [http://www.womensnetwork.org/pdf/KGSC\\_EQUAL%20OPPORTUNITIES.pdf](http://www.womensnetwork.org/pdf/KGSC_EQUAL%20OPPORTUNITIES.pdf), accessed 14/05/07

<sup>503</sup> [http://www.mntr.sr.gov.yu/eng/index.php?option=com\\_content&task=category&sectionid=9&id=18&Itemid=45](http://www.mntr.sr.gov.yu/eng/index.php?option=com_content&task=category&sectionid=9&id=18&Itemid=45)

<sup>504</sup> Petrović, D., personal communication by email (gender.nap.srp@minrzs.sr.gov.yu), 14/04/07

<sup>505</sup> <http://www.psrzrp.vojvodina.sr.gov.yu/>

<sup>506</sup> <http://www.mntr.sr.gov.yu>

<sup>507</sup> <http://www.sanu.ac.yu/English/SASA.htm>

<sup>508</sup> [www.statserb.sr.gov.yu](http://www.statserb.sr.gov.yu)

<sup>509</sup> <http://webrzs.statserb.sr.gov.yu/axd/en/dokumenti/WMS.pdf>

<sup>510</sup> <http://www.nsz.sr.gov.yu>

<sup>511</sup> Target 3, Assignment 2, <http://www.prsp.sr.gov.yu/mcr/index.jsp>

<sup>512</sup> E.g. Teodora [www.teodora.org.yu](http://www.teodora.org.yu), Regionalna privredna komora Valjevo [www.rpk-valjevo.co.yu](http://www.rpk-valjevo.co.yu)

<sup>513</sup> <http://www.poslovnezene.org.yu>

<sup>514</sup> <http://www.inovacija.org/>

<sup>515</sup> <http://www.dicens.org.yu/>

<sup>516</sup> [http://solair.eunet.yu/%7Estudije/o\\_nama.htm](http://solair.eunet.yu/%7Estudije/o_nama.htm)

<sup>517</sup> <http://www.awin.org.yu>

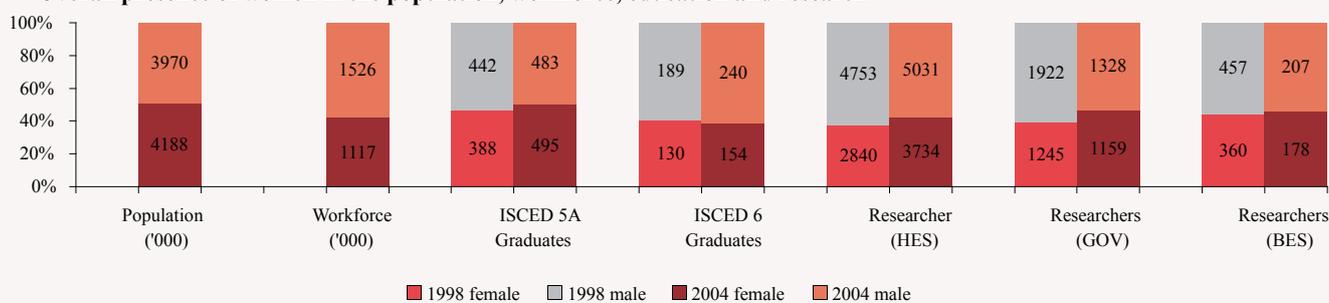
## 6. Universities and research

The Belgrade Women's Studies and Gender Research Centre<sup>518</sup> offers courses in women's and gender studies: it offers a one-year undergraduate programme, which is an alternative to mainstream university programmes (unaccredited), and targets students and activists interested in topics such as women's rights, peace, environment, etc. In partnership with the Centre for Gender and Politics, at the Faculty of Political Sciences, University of Belgrade, the Centre also organises graduate and undergraduate programmes in gender and politics. Gender studies are also offered at doctoral level at the Novi Sad University (in collaboration with the Expert Council for Gender Studies)<sup>519</sup>. The Institute Mihajlo Pupin<sup>520</sup> and the Institute of Physics<sup>521</sup> both have an Equal Opportunity Policy.

## 7. Work–Life Balance

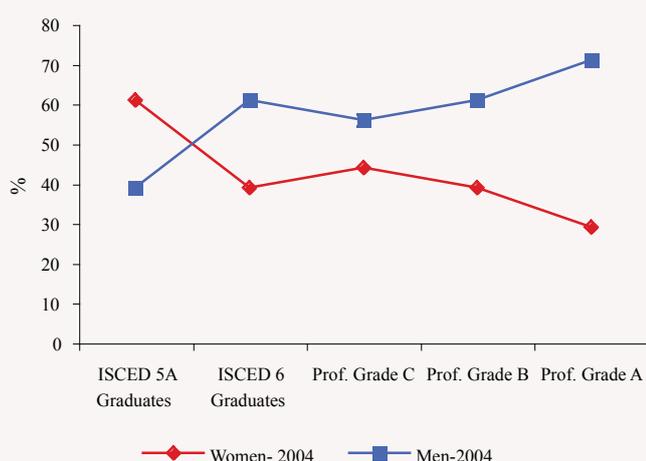
According to the Labour Law, pre-maternal leave is 28–45 days before childbirth and post-maternal leave is 3 months after childbirth (all paid 100% of salary). Childcare leave is until one year for first and second child, and two years for third and other children (also paid 100%). Fathers are entitled to seven days of paternal leave, and the same rights as a mother in cases where the mother is not available to take care of the children. Parental leave is up to five years if a child needs special care.

Overall presence of women in the population, workforce, education and research



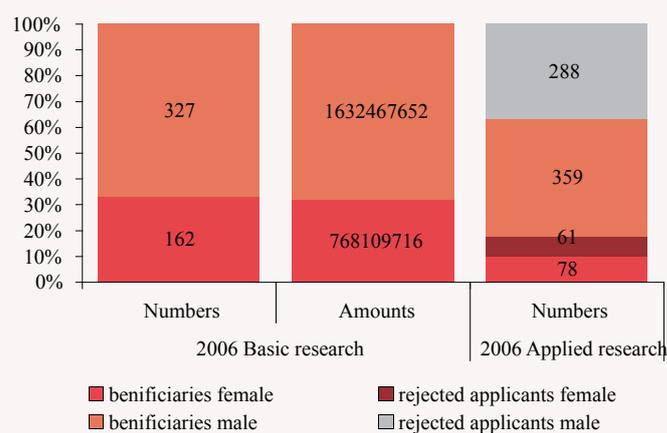
Exception to the ref. year: Population: 2006; workforce: 2002

Relative share of women & men in a typical academic career



Exception to ref. year: Prof A, B and C: 2005

Funding applicants and beneficiaries



<sup>518</sup> <http://www.zenskestudie.edu.yu/pages/start.htm>

<sup>519</sup> <http://www.ns.ac.yu/stara/eng/prezentacija.html>

<sup>520</sup> <http://institutepupin.com/AboutUs/people.htm>

<sup>521</sup> <http://www.phy.bg.ac.yu/>

## Annex 3: Sources of data and explanations

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- **Population and workforce data:** Eurostat - Population by sex, age groups, nationality and labour status (1000); Total population; LFS series - Detailed annual survey results; Employment and unemployment; Labour market.

Also used for Balkans data: Eurostat - Population by sex and age on 1 January of each year; in Population; in Demography - National data; in Demography; in Population.

Luxembourg: OECD <http://miranda.sourceocde.org/vl=1655423/cl=25/nw=1/rpsv/ij/oecdstats/16081161/v125n1/s4/p1>, accessed 19/09/07.

- **Researchers in HES, GOV and BES:** Eurostat - Science and Technology; Research and Development, Statistics on R&D; R&D personnel at national and regional level; 'Total R&D personnel and researchers by sectors of performance (employment) and fields of science'. The numbers are in HC.

Bosnia and Herzegovina: IMP Colleague from Sarajevo, who works with: NCP - National Contact Point; FP - Framework Programme.

Former Yugoslav Republic of Macedonia: Ministry of education website: <http://www.mofk.gov.mk/indikatori.asp>, accessed 03/08/07..

Germany: Loether, A., personal communication by email, 08/08/07.

Ireland: GOV and BES for 2004: Connellan, H., personal communication by email, 07/12/07.

Israel: European Commission (2006) *She Figures 2006*, Women and Science, Statistics and Indicators, European Communities, Brussels; and *She Figures 2003* for 1998..

Luxembourg: <http://www.statistiques.public.lu/> - Section Economy and Finance, Science and Technology, accessed 19/09/07..

Malta: Scicluna, K., personal communication by email 27/06/07.

Montenegro\*: FRY, (Serbia and Montenegro) Federal Statistical Office: *Statistical bulletins – Science and research development organisation* No: 2131, 2166, 2218, 2266, 2305, 2353, 2378.

Norway: NIFU STEP; R&D statistics; online [http://english.nifustep.no/english/content/statistics/r\\_d\\_statistics](http://english.nifustep.no/english/content/statistics/r_d_statistics), accessed 11/10/07.

Serbia\*: FRY, (Serbia and Montenegro) Federal Statistical Office: *Statistical bulletins – Science and research development organisation* No: 2131, 2166, 2218, 2266, 2305, 2353, 2378, Statistical Office of the Republic of Serbia *Statistical bulletins – Science and research development organisation* No: 2005-440, 2005-441, 2006-456, 464.

- **ISCED 5A and 6 graduates:** Eurostat - Graduates in ISCED 3 to 6 by field of education and sex; in enrolments, graduates, entrants, personnel and language learning - absolute numbers; in education; in education and training.

The reasons for very high increase of ISCED 5A graduates in some countries are, firstly, the introduction of master studies instead of previous magisterial studies, and secondly, the fact that the conditions for obtaining a masters degree has become more flexible since 1998 (for example in Bulgaria and Former Yugoslav Republic of Macedonia).

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\* Available data for Serbia for requested period and for Montenegro until 2001 only, due to internal data base developed by IMP, based on official statistics: R&D Statistics - Serbia, 1980-2005; Data base developed by Science and Technology Policy Research Centre of the IMP, Belgrade, Serbia, R&D statistics based on official data, collected and published annually by the Republic of Serbia Statistical Office, and then re-calculated by IMP, using methodology proposed by the OECD Frascati manual.

Bosnia and Herzegovina: Federal Office of Statistics (2006) *Women and Men in Federation of Bosnia and Herzegovina*, Sarajevo, online <http://www.fzs.ba/Eng/gendere.htm>, accessed 13/08/07.

Israel: European Commission (2006) *She Figures 2006*, Women and Science, Statistics and Indicators, European Communities, Brussels; for 1998: ISCED 5A: Rees (2002:120) *The Helsinki Group on Women in Science: National Policies on Women in Science in Europe*, Brussels: European Commission; for ISCED 6: *She Figures 2003*.

Luxembourg: Dr Christel Baltes-Löhr, personal communication by email, 09/09/07.

Montenegro: Statistical Office of Montenegro (2006) *Statistical yearbook 2006*, Podgorica, online <http://www.monstat.cg.yu/EngPublikacije.htm>, accessed 13/08/07.

Norway: for ISCED 6: NIFU-STEP; Doctoral Degree statistics; online [http://english.nifustep.no/english/content/statistics/doctoral\\_degree\\_statistics](http://english.nifustep.no/english/content/statistics/doctoral_degree_statistics), accessed 11/10/07.

Serbia: source from 2002-05: Statistical Office of the Republic of Serbia website: <http://webrzs.statserb.sr.gov.yu/axd/en/drugastrana.php?Sifra=0011&izbor=odel&tab=8>, accessed 13/08/07; and Zadužbina Andrejević (2000) *Edicija "Naučnici Jugoslavije"*, sveska 2, Beograd, p. 54.

Switzerland: Swiss Statistics Office, online, <http://www.bfs.admin.ch/bfs/portal/fr/index/infothek.html>, accessed 08/10/07, Table: Titres délivrés, in Education in Science.

- **ISCED 5A (First degree only) graduates by field of study**: Eurostat - Graduates in ISCED 3 to 6 by field of education and sex; in enrolments, graduates, entrants, personnel and language learning - absolute numbers; in education; in education and training.

The abbreviations in the figures are as follows:

SE: Services

HW: Health and Welfare

AV: Agriculture and veterinary

EN: Engineering, manufacturing and construction

SMC: Science, mathematics and computing

SS: Social sciences, business and law

H: Humanities and arts

ED: Teacher training and education science

The sum of the numbers of graduates in these fields in a country is not always equal to the number of total ISCED 5A graduates in that country as there is also an additional 'other' category in Eurostat, which was not used in this study.

Bosnia and Herzegovina: Federal Office of Statistics (2006) *Women and Men in Federation of Bosnia and Herzegovina*, Sarajevo, online <http://www.fzs.ba/Eng/gendere.htm>, accessed 13/08/07.

Montenegro: Statistical Office of Montenegro (2006) *Statistical yearbook 2006*, Podgorica, online <http://www.monstat.cg.yu/EngPublikacije.htm> p177, accessed 13/08/07.

- **Professors**: Women in Science Database - the numbers are in FTEs unless otherwise indicated.

Bosnia and Herzegovina: compilation from Staff of Faculty of Electrotechnics (<http://www.etf.unsa.ba/index.php?id=33>) and Faculty of Machinery (<http://dl.mef.unsa.ba/mef/Osoblje.aspx>) - Sarajevo University) and Staff from Faculty of Medicine (<http://www.mf.unsa.ba/katedre.htm>) - Sarajevo University.

Croatia:

from university websites [www.fpz.hr](http://www.fpz.hr), [www.agr.hr](http://www.agr.hr), [www.fer.hr](http://www.fer.hr), [www.pharma.hr](http://www.pharma.hr), [www.arhitekt.hr](http://www.arhitekt.hr), [www.ffzg.hr](http://www.ffzg.hr), [www.mef.hr](http://www.mef.hr), [www.pbf.hr](http://www.pbf.hr), [www.phy.hr](http://www.phy.hr), [www.math.hr](http://www.math.hr).

Former Yugoslav Republic of Macedonia: Academic year 2006/2007, <http://www.ukim.edu.mk/index.php?lan=mk&pon=clenki>, <http://w3.etf.ukim.edu.mk/mk/about/kadar.html>, <http://www.ff.ukim.edu.mk/>,

[http://www.fvm.ukim.edu.mk/index.php?art\\_type=9&art\\_type\\_item=0](http://www.fvm.ukim.edu.mk/index.php?art_type=9&art_type_item=0), <http://www.fzf.ukim.edu.mk/>, <http://www.sf.ukim.edu.mk/>, <http://www.stomfak.ukim.edu.mk/>, <http://www.tmf.ukim.edu.mk/nastavenkadar/nastkadar.php>, <http://www.mf.ukim.edu.mk/>, <http://medf.ukim.edu.mk/>, <http://www.gaf.ni.ac.yu/> (all faculty members of Skopje University - without natural sciences, pedagogic faculties from Skopje and Štip, and Faculty for Musical Arts Skopje).

Ireland: estimation from Rees (2002) *The Helsinki Group on Women in Science: National Policies on Women in Science in Europe*, Brussels: European Commission; and Department of Education website: [http://www.education.ie/servlet/blobervlet/des\\_sesi\\_ch8.html](http://www.education.ie/servlet/blobervlet/des_sesi_ch8.html).

Israel: in 2004: European Commission (2006) *She Figures 2006*, Women and Science, Statistics and Indicators, European Communities, Brussels; and for 1998: estimation from Rees (2002:120).

Montenegro: Compiled from <http://www.ucg.cg.ac.yu/cg/clanice.htm>, [http://www.etf.cg.ac.yu/strana.php?id=42&vijest\\_id=397](http://www.etf.cg.ac.yu/strana.php?id=42&vijest_id=397), <http://www.gf.cg.ac.yu/>, <http://www.mf.cg.ac.yu/>, <http://www.pravnifakultet.cg.yu>, <http://www.ekonomija.cg.yu>, <http://www.fzpkotor.cg.yu> - (excluding the Faculty for political sciences, Faculty for architecture, Faculty of philosophy).

Serbia: compiled from <http://www.pmf.kg.ac.yu/zaposleni.html>; <http://www.tfc.kg.ac.yu/index.php?loc=24>; <http://www.mfkg.kg.ac.yu/Default.aspx?tabid=138>; <http://www.maskv.edu.yu/web/srpski/Katedre/maskon.html>; <http://www.medf.kg.ac.yu/informacije/nastavnici.html>; <http://www.afc.kg.ac.yu/nastavnici.html>; <http://www.jura.kg.ac.yu/Fakultet/redovni.htm>; <http://www.pefja.kg.ac.yu/nastavnoosoblje.html>; <http://www.ucuf.kg.ac.yu/nastavnici.html>; <http://www.ekfak.kg.ac.yu/EfKgWebApp/EmpTable.aspx?0,1,7>; <http://www.elfak.ni.ac.yu/phptest/new/index.php>; <http://webserver.rcub.bg.ac.yu/pretraga/Uni>.

- **Funding**: Women in Science Database – ‘This table contains the raw data for applicants and beneficiaries of publicly managed research funds by sex, main field of science, amount applied for and amount received’;

Bosnia and Herzegovina: <http://195.130.43.8/pls/htmlldb/f?p=101:1:1913058590086457084>

Former Yugoslav Republic of Macedonia: Ministry of Education website: <http://www.mofk.gov.mk/nproekti.asp>, accessed 03/08/07.

Israel: European Commission (2006) *She Figures 2006*, Women and Science, Statistics and Indicators, European Communities, Brussels.

Luxembourg: Success rates of women and men in funding data available for the applications to the national research grant scheme *bourse de formation-recherche*; data received from Entringer, J., personal communication by email 05/12/07.

Romania: compiled from the National University Research Council website ([http://www.cnscis.ro/2004/COMISIA\\_2\\_A\\_NOI.html](http://www.cnscis.ro/2004/COMISIA_2_A_NOI.html)) and the report: National Authority for Scientific Research (2006) *Government Policies in the Field of R&D and Innovation in Romania, Report 2006*, online [http://www.mct.ro/ancs\\_web/img/files\\_up/1169196493Raport%20ANCS%202006%20-%20eng-V6%20final%20-%2016ian07.doc?PHPSESSID=bc842d6e2c2d31d339d7c209b03d538f](http://www.mct.ro/ancs_web/img/files_up/1169196493Raport%20ANCS%202006%20-%20eng-V6%20final%20-%2016ian07.doc?PHPSESSID=bc842d6e2c2d31d339d7c209b03d538f), accessed 13/08/07

Serbia: Republic Serbia Ministry of Science - internal statistics.

- **Government Budget Appropriations or Outlays on R&D (GBAORD)**: Eurostat- Total GBAORD by NABS socio-economic objectives at the chapter level; in Government budget appropriations or outlays on R&D; in Research and development; in Science and technology.
- **Gross domestic expenditure on R&D (GERD)**: Eurostat - Total intramural R&D expenditure (GERD) by sectors of performance; in R&D expenditure at national and regional level; in Statistics on research and development; in Research and development; in Science and Technology.

- **Definition of the fields of science:**  
Andersson, R. and Olsson, A-K. (1999) *Fields of Education and Training*, Manual, Eurostat, available online: [http://circa.europa.eu/Public/irc/dsis/edtc/library?l=/public/measuring\\_lifelong/classifications/isc97\\_fields/isc97\\_fields\\_manual/\\_EN\\_1.0\\_&a=d](http://circa.europa.eu/Public/irc/dsis/edtc/library?l=/public/measuring_lifelong/classifications/isc97_fields/isc97_fields_manual/_EN_1.0_&a=d), accessed 03/07/07
- **Definition of ISCED levels:**  
OECD (1999) *Level structure of ISCED-97 and Corresponding Classification Criteria*, Manual for ISCED-97 Implementation in OECD Countries – 1999, available online: [http://circa.europa.eu/Public/irc/dsis/edtc/library?l=/public/measuring\\_lifelong/classifications/isc97\\_levels/isc97levels\\_pdf/\\_EN\\_1.0\\_&a=d](http://circa.europa.eu/Public/irc/dsis/edtc/library?l=/public/measuring_lifelong/classifications/isc97_levels/isc97levels_pdf/_EN_1.0_&a=d), accessed 03/07/07

## Annex 4: Helsinki Group on Women and Science

COUNTRY	NAME	DEPARTMENT	ORGANISATION
AT	Frau Mag. Anni Haidar	International Affairs	Federal Ministry of Education, Science and Cultural Affairs (BMBWK) Abt.VIII/B
AT	Frau Mag Sandra Mukherjee-Cosmidis	Statistics, Information, Reports & Advancement of Women	Bundesministerium für Wissenschaft und Forschung Abteilung I/9 und I/3
BE	Mr. Bart Dumolyn	Awareness raising and Society	Department Economy, Science and Innovation
BE	Mme Chantal Kaufmann	Direction générale de l'Enseignement non obligatoire et de la Recherche scientifique	Ministère de la Communauté française
BG	Dr.Sc. Margarita Atanasova	Labour & Social Insurance Dept	University of National & World Economy
CH	Ms. Maya Widmer	Equal Opportunities Officer	Fond national suisse de la recherche scientifique
CH	Ms. Christa Sonderegger	Bureau de l'Egalité des Chances	Université de Bâle
CY	Ms. Angela Droussiou		Planning Bureau
CZ	Dr. Iva Lekesova	International issues in Science	Ministry of Education, Youth and Sports
CZ	Dr. Marcela Linkova	Czech National Contact Centre	Women and Science Institute of Sociology, Academy of Sciences CR
DE	Ms. Christina Hadulla-Kuhlmann	Z 26 "Frauen in Bildung und Forschung"	Bundesministerium für Bildung und Forschung
DE	Ms. Barbara Hartung	Referat 22A	Niedersächsisches Ministerium für Wissenschaft und Kultur
DK	Mr. Johnny K. Mogensen		Danish Agency for Science, Technology and Innovation
DK	Ms. Karin Kjær Madsen		Danish Agency for Science, Technology and Innovation
EE	Mrs Kadri Vider		
EL	Ms. Kalliroi Dafna	Informatics and Organisation Directorate	Ministry of Science, Technology, and Innovation
EL	Ms. M. Zorba		
ES	Ms. Capitolina Diaz	Unidad de Mujeres y Ciencia (UMYC)	Ministerio de Educacion y Ciencia
FI	Mr. Juha Arhinmaki		Ministry of Education

COUNTRY	NAME	DEPARTMENT	ORGANISATION
FI	Ms. Hannele KURKI		Academy of Finland
FR	Mme Françoise MARTIN-BERNARD	Mission pour la parité dans l'Enseignement Supérieur et la Recherche	
HR	Mrs Jasmina HAVRANEK	Director's Office	Agency for Science and Higher Education
HU	Dr. Ilona VASS	National Office for Research and Technology	Ministry of Education
HU	Ms. Zsuzsa ORBAN	Secretariat to the President	National Office for Research and Technology
IE	Ms. Helena CONNELLAN	Policy & Planning Department S&T Division	FORFAS
IL	Prof. Mina TEICHER	Chairperson	Israel's National Committee for the Promotion of Women in Science
IS	Ms. Hellen GUNNARSDOTTIR	Department of Science and Higher Education	
IS	Hjordis HENRIKSDOTTIR	Department of Science and Higher Education	Icelandic Embassy in Brussels
IT	Dott.ssa Franca DELLI COLLI	D.S.P.A.R ufficio 6	Ministero Università e Ricerca Scientifica e Tecnologica (MURST)
IT	Dott.ssa Silvana VALLERGA		I.M.C (International marine centre)
LT	Ms. Ausra GRIBAUŠKIENE	Department of Science and Technology	Ministry of Education and Science of the Republic of Lithuania
LT	Dr. Meilute TALJUNAITE	Sociology of Education and Business	Institute for Social Research
LU	Ass.Prof. Dr. Christel BALTES-LOEHR	Faculty of Language and Literature, Humanities, Arts and Education	Université du Luxembourg
LU	Mme Josiane ENTRINGER	Recherche et Innovation	Ministère de la Culture, de l'Enseignement Supérieur et de la Recherche
LV	Pr. Ausma CIMDINA	Center FEMINISTICA LETTICA	University of Latvia
MT	Dr. Irene SCIRIHA	Department of Mathematics	Dept. of Math Faculty of Science , University of Malta
NL	Ms. Yvonne SCHAAP-KOENEN	Directorate Research & Science Policy	Ministry of Education, Culture and Science
NO	Ms. Lise CHRISTENSEN		Research Council of Norway
NO	Ms. Hedvig BUENE	Science Policy Unit	Research Council of Norway
NO	Ms. Linda RUSTAD	Committee for Mainstreaming - Women and science	Norwegian association of higher education institutions
PL	Ms. Joanna PININSKA	Institute of Hydro-geology & Engineering Geology	University of Warsaw

COUNTRY	NAME	DEPARTMENT	ORGANISATION
PT	Ms. Teresa da Conceição JOAQUIM		Universidade Aberta
RO	Ms. Oana Mariuca COSUG	European Integration and International Cooperation Division	Ministry of Education and Research National Authority for Scientific Research
RO	Ms. Mihaela IONESCU	Modern Languages and Communication department	Technical University of Civil Engineering
SE	Ms. Susanne MOBERG		Ministry of Education and Science
SI	Prof. Dr. Tamara LAH TURNSEK		National Institute of Biology
SI	Dr. Andreja UMEK VENTURINI	Office for International Cooperation and European Affairs	Ministry of Higher Education, Science and Technology
SK	Ms. Magdaléna PISCOVA	Institute of Sociology	Slovak Academy of Science (SAV)
TR	Prof. Dr. Lale DURUIZ	Department of Business Administration	Istanbul Bilgi University
UK	Ms. Annette WILLIAMS		UK Resource Centre for Women in SET

## Annex 5:

### Helsinki Group Statistical Correspondents

Country	Correspondent	Department	Organisation
AT	Ms Gabriele SPÖRKER	Science, Technology & Education Statistics	Statistics Austria
BE	Mr. Koen WAEYAERT		Awareness raising and Society
BE	Ms Marie-Josée SIMOEN	Responsable pour les statistiques	F.N.R.S
BE	Ms Elizabeth KOKKELKOREN	Responsable pour les statistiques	F.N.R.S
BG	Ms Reni PETKOVA	Unit 'Statistics on Services'	National Institute of Statistics
CY	Mr Pantelis PROTOPAPAS		Statistical Service of Cyprus
CY	Mr Georgios DOGORITIS		Statistical Service of Cyprus
CZ	Ms Miluse KOPACKOVA	Division of new technologies & non-market services statistics	Czech Statistical Office
DK	Ms Kamma LANGBERG		Danish Centre for Studies in Research and Research Policy
EE	Mr Aavo HEINLO	Enterprise Statistics Department	Statistical Office of Estonia
FI	Ms Marjut PIETILAINEN	Statistics Finland	Statistics Finland
FR	Ms Claudette-Vincent NISSE	Direction de l'évaluation et de la prospective	Bureau des études statistiques sur la recherche- DEP B3
DE	Ms Andrea LÖTHER		Center of Excellence Women in Science
EL	Ms Zografia KYMPERI	Programming & Planning Directorate	General Secretariat of Research and Technology
HU	Ms Katalin JANAK		Hungarian Central Statistical Office
IE	Mr. Seamus BANNON	Science and Innovation Department	Forfas
IE	Mr Andrew STOCKMAN	Policy and Planning, Science & Technology Division	Forfas
IT	Ms Giuliana MATTEOCCI	Servizio Centrale/Affari Generali / sistema informativo e statistico ufficio V	Ministero Università e Ricerca Scientifica e Tecnologica Ufficio MIUR-URST
LV	Ms Maranda BEHMANE	Social Statistical Department	Central Statistical Bureau
LT	Ms Danguole ARESKIENE	Statistics Unit	Central Statistical Bureau of Lithuania
LU	Mr Robert KERGER	Département Recherche Scientifique et Recherche Appliquée	Ministère de la Culture, de l'Ens. Supérieur & de la Recherche
MT	Ms Nicola CAMILLERI	Education & Culture Unit	National Statistics Office
NL	Mr Jan VAN STEEN		Ministry of Education, Culture and Science
PL	Ms Dorota MACIEJKO		Information Processing Centre
PT	Ms Joana DUARTE	R&D Statistics Department Directora de Serviços de Estatística	OCES Observatory for Science and Higher Education
RO	Ms Adriana OPRIS	General Direction of industry & construction statistics	Institutul national de Statistica
RO	Mr Sergiu PARVAN	General Direction of industry & construction statistics	Institutul national de Statistica
SK	Ms Marta MOSNA	Division of Science & Technology	Ministry of Education
SI	Ms Metka MEDVESEK-MILOSEVIC		Statistical Office of the Republic of Slovenia
ES	Ms Marina Griñón MONTES	Science & Technology Statistics/ Indicators	Instituto Nacional de Estadística
ES	Ms Belen GONZALES OLMOS	Science & Technology Statistics/ Indicators	Instituto Nacional de Estadística
SE	Ms Karin Arvemo NOTSTRAND	Higher Education Statistics	Statistics Sweden
SE	Ms Anna BENGTTSSON NOTSTRAND	Higher Education Statistics	Statistics Sweden
UK	Stephanie ROBSON	Science and Innovation unit	Office of Science & Technology/DTI

## Annex 6: Government budget appropriations or outlays on R&D by socio-economic objectives (NABS) as a percentage of total GBAORD-2002

	01. Exploration and exploitation of the earth	Infrastructure and general planning of land use	Control and care of the environment	Protection and improvement of human health	Production distribution and rational utilisation of energy	Agricultural production and technology	Industrial production and technology	Social structure and relationship	Exploration and exploitation of space	Research financed from General University Funds (GUF)	Non-oriented research	Other civil research	Defense	Total civil research and development appropriations	Total appropriations
EU-25	1,3 s	1,6 s	2,4s	6,4 s	2,6 s	3,0 s	10,6 s	3,2 s	5,3 s	32,7 s	13,3 s	1,8 s	14,7 s	85,3 s	100 s
EU-15	1,3 s	1,6 s	2,4s	6,5 s	2,7 s	3,0 s	10,7 s	3,2 s	5,4 s	32,2 s	13,3 s	1,7 s	15,0 s	85,0 s	100 s
BE	0,7	1,5	2,7	1,6	2,6	2,0	28,5	4,7	10,8	18,2	23,2	3,2	0,3	99,7	100
CZ	3,0	3,9	4,0	8,1	1,8	4,5	9,7	1,6	0,9	27,6	26,7	6,1	3,3	96,7	100
DK	1,2	1,5	2,5	2,4	1,4	9,4	6,6	9,0	2,3	42,6	20,6	0,0	0,6	99,4	100
DE	1,7	1,8	3,1	4,1	3,0	2,0	12,5	4,8	5,1	39,7	17,0	0,5	5,5	94,5	100
EE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EL	4,1 p	2,6 p	3,7 p	6,4 p	1,9 p	6,7 p	6,8 p	4,8 p	0,1 p	50,6 p	11,0 p	0,3 p	0,9 p	99,1 p	100 p
ES	1,2	3,7	1,7	6,7	1,3	4,0	20,3	0,5	3,4	25,8	4,7	0,2	26,6	73,4	100
FR	0,7 p	0,6 p	2,9 p	5,8 p	3,7 p	2,1 p	6,0 p	0,9 p	9,0 p	23,1 p	20,7 p	1,6 p	23,0 p	77,0 p	100 p
IE	0,7 p	2,1 p	2,7 p	5,0 p	0,0 p	20,3 p	26,6p	4,5 p	0,0 p	20,8 p	17,4 p	0,0 p	0,0 p	100,0 p	100 p
IT	1,4	0,2	2,3	6,7	4,0	2,2	13,8	3,2	7,7	47,8 e	10,0	0,0	0,8	99,2	100
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LV	0,9	0,3	2,4	11,2	2,0	13,4	16,5	5,9	1,3	0,0	20,7	24,6	0,8	99,3	100
LT	1,6	5,2	5,2	10,3	0,9	5,4	15,6	8,7	0,0	0,0	0,0	47,0	0,1	99,9	100
LU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MT	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	100,0	0,0	0,0	0,0	0,0	100
NL	0,4	4,9	2,9	3,1	3,3	4,0	11,7	2,9	3,3	46,9	10,2	4,5	1,7	98,3	100
AT	2,0	2,1	1,3	3,0	0,7	2,7	9,3	1,8	0,1	62,7	14,3	0,1	0,0	100,0	100
PL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	1,9	5,1	3,6	7,8	1,3	12,9	17,4	4,0	0,5	31,5	10,2	2,0	1,9	98,1	100
SI	0,6	0,9	1,6	2,3	0,6	3,7	19,0	3,0	0,0	3,8	64,4	0,0	0,2	99,8	100
SK	0,0	1,1	2,7	4,4	2,5	18,1	7,6	3,8	0,0	16,6	32,4	1,6	9,3	90,8	100
FI	1,0	0,6	2,2	7,5	4,2	5,6	27,9	6,8	1,8	27,2	13,6	0,0	1,6	98,4	100
SE	0,4 p	3,3 p	0,9 p	0,7 p	2,6 p	2,1 p	2,2 p	6,6 p	2,4 p	45,6 p	0,0 p	15,1 p	18,2 p	81,8 p	100 p
UK	1,9	1,4	1,7	14,6	0,4	3,7	3,7	4,0	2,1	22,3	6,0	0,5	37,6	62,4	100
IS	0,0 p	7,9 p	0,8 p	8,7 p	2,4 p	24,8p	2,5 p	37,6 p	0,0 p	0,0 p	15,3 p	0,0 p	0,0 p	100,0 p	100 p
NO	1,9	2,1	2,6	7,2	2,1	10,8	8,6	6,9	2,1	38,2	10,3	0,0	7,1	92,9	100
EEA28	1,3 s	s	2,4 s	6,4 s	2,6 s	3,2 s	10,5 s	3,3 s	5,3 s	32,8 s	13,2 s	1,7 s	14,5 s	85,5 s	100 s

IT, LV: 2000; EE, LT: 2001

Source: Götzfried (2005: 4522)

<sup>522</sup> Götzfried, A. (2005) Government Budget Appropriations or Outlays on R&D, EU-25's total GBAORD steadily increasing, Statistics in focus - Science and Technology, European Communities, online, [http://www.eds-destatis.de/en/downloads/sif/ns\\_05\\_05.pdf](http://www.eds-destatis.de/en/downloads/sif/ns_05_05.pdf), accessed 08/08/07

## Annex 7: Growth Rate of % women professors grade A

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2010	Compound annual growth rate
AT			4.4					6				8.3			13.8	1.07
BE				5.6		6.3		7	7.3		8.1				12.3	1.05
BG	12.1	14.9	11.5	13.1	12.5	14.4	15.7	20.4	19.1	17.3	18	17.3	19	18.1	21.5	1.03
CH						5.8		7.2		8.1		9.3	12.1	13.3	23.1	1.1
CY								4.6	7.95	3.6	6	4.8	9.3		21.2	1.12
CZ								6.81	7.01	7.22	8.05	8.7	9.6	10.3	14.7	1.06
DE		3.8	4	4.3	4.8	5.1	5.5	5.9	6.3	7.1	7.7	8	8.6	9.2	13.8	1.07
DK	4.02		4.98		6.02		8.23		8.2	7.8	9	9.6	9.3	10.2	15.2	1.07
EE					14.3	14.2	14.5	17.3	16.4	18.5	17.7	17.1	16.2	17.7	20.2	1.02
GR	7.07	7.36	7.98				9.94		10.2	11.3					18	1.05
ES									14.9	15.1	15.8	16.8	17.1	17.6	20.8	1.03
FI	13.7		16.2		16.7		18.3		18.3	19		19.9	20.5	21.2	25.6	1.03
FR										16.2	16.1				16.1	1
HU						12.8	13.2	11.8	12.1	12	12.1	13.6	14.3	15.4	17.5	1.02
IE														31.3	31.3	1
IL	7.3			7.8			8.6	8.8	9.5	10	10.6				14.4	1.03
IS				5.07		8.5			8.9	9.38	12.6	16.6	16.2	15.6	28.7	1.11
IT	10.1	10.1	10.1	11.1	11.2	11.3	11.4	11.4	11.6	13.3	14.6	15.6	16	16.4	20.2	1.04
LT										10.4	11.8	12.2	11.1	12.1	14.5	1.03
LV									18.2	20.2	20.9	22.9	25.4	26.5	38.5	1.06
MT						2.13	2.2	4.8	2.5	2.1	2.2	2.2	2.2	2.1	2.08	1
NL	3.3	3.6	3.6	3.9	4.2	4.6	4.9	5.4	5.9	6.4	7.1	8.1	8.5	9.4	14.7	1.08
NO							11		11.6		13.2		13.3		16.1	1.03
PL						16.4	16.6	16.9	17.2	16.1	16.6	16.9	17.6	18.2	19.5	1.01
PT									19.3	20	20.8	21.3	21.8		25.9	1.02
RO							20.9	22.3	26.4	24.7	24.3	26.2	27.8	29.1	37.2	1.04
SE				7.3	7.9	8.6	10.8	11.3	12.3	13.1	14.1	14.4	15.1	16.4	25.5	1.08
SI			14.6	10.8	9.9	8.5	10.1	10.4	11.2	11.9	11.4	12.2	13.4	13.1	12.4	0.99
SK	2.8	6.5	3.8	3.9	3.6	5.1	4.4	6	7.1	7.2	7.9	9.2	11	13.5	26.5	1.12
TR										25.4	25.5	25.8	27.3		31	1.02
UK				7.3	8.4	8.6	9.2	10.1	11.6	12.6	13.1	14.2	15.4	16.1	24.8	1.07

## Annex 8: Statistical analyses details

### A) Seeking explanations of percentages of female researchers – OLS regressions

*Table 1: Coefficients, adjusted R squared and excluded variables from OLS regressions seeking explanations of female researcher percentages*

	(1)	(2)	(3)	(4)	(5)
Dependent	Percentage of researchers female	Percentage of researchers female	Percentage of Business Enterprise researchers female	Percentage of Government sector researchers female	Percentage of Higher Education researchers female
Percentage of PhDs female	Excluded	0.161	Excluded	Excluded	0.421
Professional wage gaps	Excluded	-	-	-	-
Female participation aged 25 to 50	0.319	0.216	Excluded	-0.372	Excluded
R&D expenditure per researcher	Excluded		-	-	-
Percentage of all Researchers in Business Enterprise sector	-0.840	-0.749	-	-	-
Business enterprise R&D expenditure per BE researcher	-	-	-0.496	-	-
Government sector R&D expenditure per Gov. researcher	-	-	-	-0.605	-
HE R&D expenditure per HE researcher	-	-	-	-	-0.532
Adjusted R squared	0.681	0.683	0.210	0.517	0.544

*Key: n/s = not statistically significant.*

*Note: Backward stepwise regression method used.*

Summary of findings: The percentage of researchers that are female is shown to be most strongly negatively related to the percentage of all researchers in the Business Enterprise sector (BES) (column (1)); it is also related positively to the participation rate for females aged 25-50. There is only a very small additional contribution from the percentage of female PhD holders (column (2)). The percentages of females in each sector were negatively related to the R&D expenditure per researcher, for the BES (column (3)), the Government sector (column (4)) and the Higher Education sector (HES) (column (5)). In the HES, the percentage of female PhDs holders makes a significant positive contribution to explaining the proportion of females in the sector.

## B) Correlations between individual policy measures and ratios of females – binary logistic regressions

**Table 2: Logistic regressions of policy measures and potential outcomes beta values, R2 and significance**

	(1)	(2)	(3)	(4)	(5)
Dependent	Women and Science units	Mentoring	Quotas	Targets	Gender studies
Proportion of females at ISCED 5	Excluded	Excluded	Excluded	Excluded	6.771
Proportion of females at ISCED 6	Excluded	Excluded	Excluded	Excluded	-11.326
Proportion of females at Grade A	-0.355	0.389	Excluded	Excluded	Excluded
Proportion of females at Grade B	Excluded	Excluded	Excluded	Excluded	-9.965
Proportion of females at Grade C	0.327	Excluded	Excluded	0.153	10.554
Proportion of female Researchers	-0.328	-0.429	Excluded	-0.253	3.781
Cox and Snell R Square	0.352	0.441	0.000	0.239	0.265
Model Significance	0.007	0.000	--	0.022	0.125

Key: n/s = not statistically significant (10% level).

Note: Backward stepwise regression method used.

Note (2): In these regression analyses, '0.5' values were replaced by '0' in order to conduct binary logistic backward regressions.

## C) Multiple Correspondence Analyses – a brief explanation

Correspondence analysis is used in Figures 9 and 10 to show the relationship between the type of country and the type of policy, in the two cases where there are a substantial number of more than just two values (yes or no) for the policy. In the cases of both gender mainstreaming and networks there is a significant intermediate category of partial observance, e.g. in the case of networks where they exist for women's support in general rather than for women specifically in science. In these two cases the biplots can be drawn as in these figures. These can be thought of as multivariate extensions of chi-square tables of associations used in Tables 1 to 4 of the main text.

Correspondence analysis works by calculating the distances between the points as they relate to both dimensions (country type vs. policy type in the raw data). A correspondence emerges when points of the two transformed dimensions lie close to one another, and more particularly when they lie adjacent to the same rays from the origin (the point near the centre of the figure where the axes cross). In Figure 10 (reproduced here with additional axes), Innovation Leaders (especially) and Innovation Followers lie close to the value representing Science-based networks, on a ray going south-west from the origin. Catching-up countries lie close to the same ray from the origin (roughly northeast) as the value representing 'general' networking, while trailing countries and the Balkans are close to the value representing the absence of mainstreaming policies (a south-east ray). The values ascribed to the two transformed dimensions of the biplot can be ignored for the present; what is important here is demonstrating that innovation success at national level is closely associated with the extent of networking.

## Annex 9: Year of implementation of certain policies in some countries

	Equal Opportunity Law	Main-streaming	Targets	Quotas	Gender/Women Studies	Unit for Women in Science in Science Ministry	Masters in Women/Gender Studies	Network for Women in Science	Mentoring for Women in Science	Paternity Leave
AL	2004						2006			
AT	1993	1998	1993	1993	1997	1980	2006	1989	2000	1990
BA	2003									
BE	1997	2006	1999		1994					
BG	2004				2000					
CH	1997		2000		1997		2002		2000	
CY	2002									
CZ	2007+/-	2004			1990	2001	2005	2001		2001
DE	1994	2000	1999		1998	1999	2003	2000	1999	
DK	2000	2000						1992		
EE	2004	2004								
EL	2006		2000					2006		2002
ES		2004						1991		1989
FI	1987	2004	1987		1986		2003		2006	
FR	1983	2000s			1970s	2001	1993	1990s		
HR										
HU	2004	2003								
IE	1999					2001		1990		2000
IS	2000					2004				
IT	1991	1996	2000		1970s	2000	1995	2003		2006
LT	1999	2003			1992	2000		2006		
LU	1981									
LV	2002	2002								
ME	2007									
MK	2006									
MT	2003	2000				2005			2005	
NL	1994				2006			2005	2005	
NO	1978									
PL	2002	2000			1980s		2007			
RO	2000									
RS	2006									
SE	1992	2004	2001		1970s		2000s			1970s
SI	2002	2002				2001				
SK	2004				2001					1980
TR	2004									2009

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In 2002, the Helsinki Group on Women in Science, made of representatives of the Member States and gender experts, published a report on national policies on women in science, which also included the national statistical profiles.

The “Benchmarking national policies on gender equality in science” report provides an update on the national policies and on the statistical profiles of the 33 countries represented in the Helsinki Group, and it introduces for the first time data from the Western Balkans. This report builds on the previous one and evaluates the policies and measures with indicators measuring the presence of women in science. It gives an interesting and original overview on the various national situations and tries to develop a European synopsis.