

# Gender Diversity in Research System in the Slovak Republic

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**Abstract—** The issue of the participation of women in science and research has been solved and discussed in several studies, probably the most noticeably in 'She figures 2009'. Not only the topic of participation of women in science and research, but also the issue of women in managerial positions is worthy of being observed a continuously long period continuity. The article deals with the role of women in science and research in Slovakia. The authors try to highlight the Slovak research system with its typical features. However, there is also reflected this phenomenon in neighbour countries.

**Keywords -** Science, research, women, stereotypes, top management

## I. RESEARCH SYSTEM IN THE SLOVAK REPUBLIC

The Slovak research system is divided into four categories: the universities, the Slovak Academy of Sciences, governmental research institutes and private research institutes. Distribution of most financial resources for public, mainly basic research is in hands of the Ministry of Education, Science, Research and Sport of the Slovak Republic and is done on a competitive basis through three funding bodies: VEGA (grant agency for science), KEGA (Grant agency for culture and education) and the Slovak Research and Development Agency. Peer review is the main mechanism in selecting projects for funding. Selection has clear rules and is transparent. According to *Mapping the Maze: Getting More Women to the Top in Research* [1] a gender perspective is missing in the whole process. Slovakia has adopted several laws that should guarantee the equal opportunities for men and women (particularly the *Labour Code and the Anti-Discriminatory Law*). However, their enforcement is still inefficient and formal. Among about 70 women's organisations there are none devoted to the problem of women in research decision making. It has been addressed only vaguely by several individual women scientists who have been involved in EU activities (either Helsinki Group, ENWISE or some other EU FP projects). Institutional strategies, policies and regulations do not address the issue of gender equality in research.

To summarise: "lack of awareness, underestimation or even total denial of the importance of the equality agenda in the

research and funding system is the main problem that has a major impact on the under-representation of women in decision-making [1]."

According to She Figures 2009 [2] Women's academic career remains markedly characterised by strong vertical segregation: the proportion of female students (55%) and graduates (59%) exceeds that of male students, but men outnumber women among PhD students and graduates (the proportion of female students drops back to 48% and that of PhD graduates to 45%). Furthermore, women represent only 44% of grade C academic staff, 36% of grade B (associate professor) academic staff and 18% of grade A (professor) academic staff.

At the level of the EU-27, women account for 23% of grade A academics among 35 to 44-year-olds, 21% among 45 to 54-year-olds and 18% among those aged over 55. The situation thus appears more favourable for the youngest generations of female academics but the gender gap is still persistent.

The university educational level and proportion of academic staff by grade among women in Slovakia is rising since the end of the 1990s. According to the statistics published by the Institute of Information and Prognoses of Education [3] in the year 1989 only 0.82% women from the total number of women employed at the universities had academic grade professor in the comparison with the 10.24% of the men. In the year 2009 the percentage of women with the academic grade professor had increased to 7.42% and men to 20.35%. Academic grade associate professor in the year 1989 had 17.49% women from the total number of women employed at the universities and 35.67% of the men from the total amount of the men employed at the universities. In the year 2009 percentage of women with the academic degree associate professor from the total amount of the women employed did not change – 17.51%, but the percentage of the men with the same degree from the total amount of the men employed at the universities decreased to 23.56%. Different situation is with the percentage of women and men with the academic degree PhD. where in the year 1989 it was 75.62% of the women and but only 50.38% of men and in the year 2009 it was 67.84% of the women and 52.19% of men. The situation at four Universities of Technology in Slovakia is expressed in the figure 1.

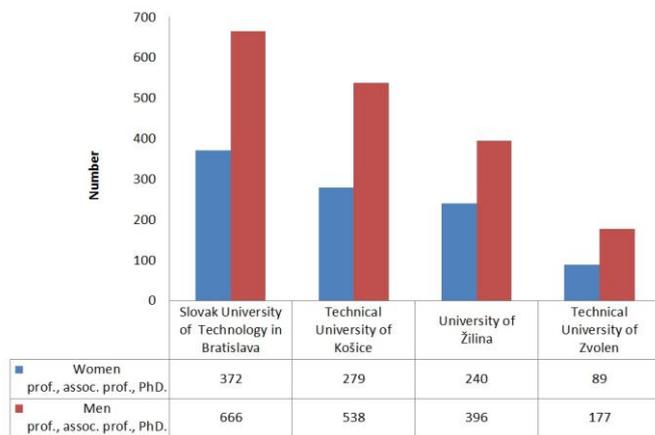


Figure 1 Number of women and men professors, assoc. professors, PhD. at major Slovak Universities of Technology (2009) [3]

There should also be paid attention to the vertical segregation and the access to the decision-making bodies at the universities. For example in 2009 at the Scientific Board of the Slovak University of Technology in Bratislava, there women had no representation and in Academic Senate there were 2 women and 27 men. Figure 2 represents the women participation in Academic Senate and Scientific Board in the 4 Slovak Universities of Technology until March 2011.

## II. THE COMPARISONS OF FEMALE PARTICIPATION IN RESEARCH IN EU-27

In the area of women participation in research [2] the average proportion of female researchers in the EU-27 stood at 30% in 2006 but wide variations were noted between countries: Japan, Luxembourg and the Netherlands respectively have 12%, 18% and 18% of female researchers.

At the top of the country ranking according to the proportion of women in research, there are the Baltic States but also Bulgaria, Croatia, Portugal, Romania, and Slovakia, all of which have more than 40% of women in their research population. Over the period 2002-2008 number of female and male scientists with the higher degree (A, B, C) in Slovakia had significantly changed. As in the year 2002 the total number of women working in the research area with the higher degree was 2467 in the year 2008 it was 4994. For the men it was increase from 4044 in the year 2002 to 6661 in the year 2008 [4].

Women seem to be catching up with men over time as their share of the total research population has been growing at a faster rate over recent years (exceptions are the Czech Republic, Romania, Bulgaria, Hungary, Latvia and France). In the EU-27 on average, the number of female researchers has increased at a rate of 6.3% per year compared with 3.7% for male researchers [2].

This increase of the number of women in research area should be critically evaluated. The Waste of talents: turning private struggles into a public issue Women and Science in the ENWISE countries report [5] put the attention on the pattern where the highest proportions of women are to be found in the countries and sectors with the lowest R&D expenditure

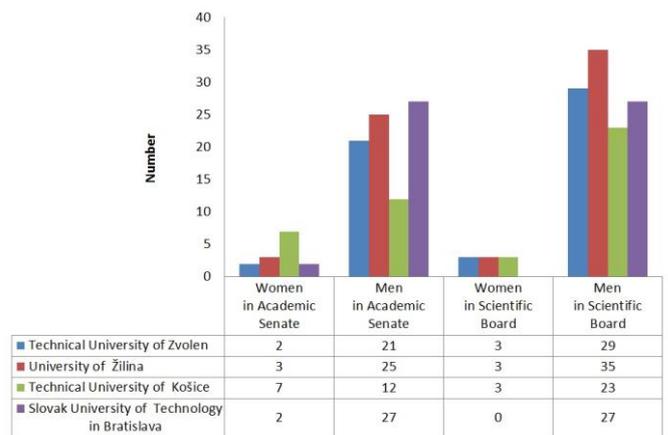


Figure 2 Women participation in Academic Senate and Scientific Board at 4 Slovak Universities of Technology (March 2011)

and the lowest proportions of women are in the sectors with the highest R&D expenditure. This pattern can be standardised so that the respective group behaviours of women and men vis à vis the fields of science and the sectors of R&D can subsequently be examined. A special tool has been developed for this purpose and is referred to as the Honeypot indicator, It quantifies the loss of access to and/or control over R&D expenditure experienced by women researchers en masse because they are more likely to be concentrated in the low expenditure R&D sectors or fields of science. In the ENWISE countries where the overall percentages of women are low (for example, the Czech Republic and Hungary), women's Honeypot scores are negative, signalling that in these countries, women researchers are far more likely than their male counterparts to be distributed in low expenditure sectors. The most negative scores, yielded in the Czech Republic, the Slovak Republic and Hungary, indicate that women are missing out on 16.47%, 15.05% and 9.96% respectively of their expected share of R&D expenditure [5].

## III. CONCLUSION

According to the above mentioned report this all points to a scenario where women are being used as a kind of secondary human resource to prop up the R&D domains that are of little interest to men, because the reward system is no longer sufficiently attractive. At the other end of the scale, women appear to be squeezed out of R&D where the reward systems are more promising and the stakes are higher. The high proportions of women in R&D in the ENWISE countries therefore signal better news for R&D than they do for women, since women are prepared to perform the same work for less money and under less favourable conditions.

As it is mentioned in [1] the key factors hindering equality in research decision making are: gender stereotypes; the low awareness of gender equality concept, issues, problems and benefits among men and women; the absence of national and institutional strategies and policies aimed at equal opportunities in research and research decision making; work and family balance and choice and societal/cultural expectations.

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