

# “Backwards in High Heels”: Education and Career Challenges in Hungary

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## Abstract

Over the past century radical changes to the status of women have taken place in Hungary. In common with other post-socialist countries, Hungary rapidly adopted the dual-earner family model and provided greater access to work for women. However, the current status of women remains controversial. In the influential positions in economics and politics, women still lag far behind men. These differences are even more pronounced in scientific life considering the fact that women are over-represented in higher education. This paper examines the obstacles that prevent women from carrying out professional and scientific career in Hungary.

**Keywords:** women, gender, post-socialism, social change, transitional economy, Hungary, higher education, career, science, research and development, glass ceiling

## 1. Introduction

Over course the XX<sup>th</sup> century there were radical changes to the status of women in Hungary. During the I. World War, the number of women in higher education doubled compared to the preceding period, and from the mid 40s onwards their participation in higher education has been significantly increasing. Following the 2nd World War, there has been a significant change in the labour market, as well as in education. In common with other post-socialist countries, our country rapidly adopted the dual-earner family model, made economically possible by technological and industrial developments, and in a social sense, made acceptable by the maxim of equal opportunity for both genders.

Over the past 65 years Hungary has undergone a lot of changes, but the position of women still remains controversial. Nowadays, 10-12% more women than men participate in higher education. However, for women, having a degree does not constitute a clear path to a good job, salary, career, scientific progress, or even paid work. The development evident in higher education is hardly felt in the labour market.

Worldwide, it can be observed that men earn far more than female colleagues with a similar education. The differences in salaries have not decreased, and the European Union average was 16.4% in 2010. This figure was even higher in Hungary – 17.6 % in 2010 (European Commission, 2012).<sup>1</sup> The number of men occupying management positions worldwide is double that of women. In the influential positions in economic and political life we still encounter far more men, and as we proceed to the senior level, the difference is growing. The differences mentioned are also striking in all fields of scientific life. You can hardly find any women in management in higher education and research institutions, both around the world and also in Hungary. As a contributory factor, consider the glass ceiling theory.

How can we explain that the differences felt in higher education are not mirrored in the labour market? What are the obstacles that prevent women from the realization of a professional and scientific career? Is it impossible for women to combine their job, with career promotion, and family life? What are the tasks of government, society, and the responsibility of people in addressing the position of women? Why do women with degrees proceed more slowly up their career ladder? Why is there not a substantial change in the hierarchy between the two sexes in the field of scientific life? What is the role of gender stereotypes in sustaining this position? Can we overcome these prejudices that still exist in our society? A number of research projects and essays have been dealing with the above mentioned questions. (Benchmarking policy measures for gender equality in science; Enwise - Gender equality in a wider Europe; Mapping the maze: Getting more women to the top in research; The gender pay gap, origins and policy

responses; WS DEBATE project etc.) The aim of the present study was to contribute to a better knowledge of women's role in scientific life and their opportunities, and to outline a multi-disciplinary approach formed on the basis of the most up-to-date data collected in Hungary.

## **2. The position of women in post-socialist countries**

Due to the radical political and social changes in the last decades of the XX<sup>th</sup> century, the position of women on the labour market has also fundamentally changed in post-socialist countries. Alongside the widening range of opportunities, expectations have also been increasing, which has had an influence on elements of the traditional female role, most pre-eminently, the role of women in family life. Women must define their aims far more carefully, and plan strategies to pursue them.

In post-socialist countries the ratio of working women was far higher than in western countries, which has two underlying causes: Firstly, a family was able to maintain their standard of living only if both husband and wife were working. Secondly, unemployment was unusual, as full employment was a principal aim for centralised systems, and some sort of work was granted to everybody. According to the general vagrancy law, anybody who did not have a job could be punished, and was socially stigmatized. At the same time working women had access to a wide range of social benefits – they were paid their full salaries as maternity support, and nurseries and kindergartens were offered by employers, who often ensured medical care as well. As for their career and salary however, women did not have a distinguished status, and only few of them could be found in leading positions. Among other reasons, this was due to the fact that the majority of housework was done by women, so they had less time and energy to build their careers. The positive progress made in the western world regarding the division of housework was not in evidence in the socialist countries (Newel and Reilly, 2001). Following the change of regime, the high rate of female employment decreased radically in these countries.

### *2.1. The effects of the regime change – the position of women in the transitional economy*

After the regime change – in parallel with the transition to a market economy – full employment and the right to work actually disappeared, mass redundancies began, and lots of women, mainly with small children, who are considered “unstable labour”, have lost their jobs. Several contradictory studies have examined female unemployment in Eastern- and Central-Europe. In some post-socialist countries the above trend could be proved. In Hungary, however, a higher rate of female unemployment could not be definitively shown (Kolosi and Sági, 2006). Detailed studies have shown that the negative consequences of the regime change affected those women with a lower education, no education, or no marketable skills more than men with comparable status (van der Lippe and Fodor, 1998). So, although the position of women on the labour market has not significantly worsened, their presence in the transitional economy has reduced. (The MONEE Project, 2010) At the same time, differences in salary between men and women with equivalent education and position have been increasing (Rutkowski, 1996).

We should also note that the recent financial-economic crisis has had less influence on female labour than on male, and in their case, the recent period has seen significantly positive tendencies (Cseres-Gergely and Szóke, 2011). Figures 1., 2. and 3. show the distribution by gender regarding economic activity, unemployment and employment in the last 15 years. (Central Statistical Office, 2012) In addition, there are obvious contradictions between the qualification and employment of women. While the number of female graduates is higher than that for men, both in Hungary and in other EU-countries, nearly three-quarters of female employees work in 15 traditionally female fields which do not require university degrees and pay low wages (e.g. shop assistants, administrators, pre-school and elementary school teachers, cleaners, book-keepers, kitchen workers, assembly line workers, etc.). (Central Statistical Office, 2009) (Table 1.)

Global Gender Gap Index data, regarding recent years, tells us a lot about the inequality between men and women in the following four areas: economic participation and opportunity; educational attainment; health and survival; political empowerment. The values show how the countries researched distribute their resources and opportunities between the genders. Hungary's ranking has got progressively worse over recent years (Table 2.) (Hausmann, Tyson and Zahidi, 2011). Table 3. shows that the worsening of Hungary's cumulated index is basically due to the fourth factor – the extremely low ranking regarding political empowerment, which means that women do not have political influence. As regards health and survival, men and women are in a similar position in Hungary. (This does not mean that Hungary is noted for its health preservation or low death rates.)

### *2.2. The effects of the regime change – the representation of women's interest and their participation in politics*

As the rate of women's employment was much higher in post-socialist countries, we could suppose that - regarding equal rights - they would be far ahead of Western-European countries. However, over recent decades women, far from enjoying the privileges of emancipation, have rather been afflicted by a guilty conscience as they have not been able to meet the new expectations, finding it hard to balance work, family and social life (LaFont, 2001). Although the rate of female employment has been high, women have had low-paid and low-status jobs, and it has proved difficult to advance in their careers, because of their central role in the family (principally in child-rearing) they have been considered unstable labour (Korovushkina, 1994).

Under the socialist regime, women had rights and social benefits which are not available in most western countries even now. However, their participation in economic and political life was often made impossible, and they were encouraged to follow traditional female patterns. Although there was a specified quota for female representation in several socialist parliaments (Ostrovská, 1994), this did not mean that they could get a hearing. Representation of woman did not mean representation of their interests. Regretfully, in the aftermath of regime change in post-socialist countries, we cannot see so much as a visible trace of an intention to integrate women into the mainly male-dominated political sphere (Fuszara, 2000).

As a matter of fact, a low inclination of women to participate in political life could also contribute to the situation. In the countries of this region, political style has maintained its strongly masculine edge, the fundamental characteristics of which are an aggressive and cynical approach, power struggles, corruption and hypocrisy. Such features differ from the style of discussion and system of values women are socialized to, especially in societies where traditional feminine traits, such as agreeability, obedience, placidity, moderation and a willingness not to prioritise personal interests, are strong social norms. The avoidance of aggressive postures which promote self-interest is not only a consequence of the "lack" of socialization, it is also due to a fear of losing femininity, and an unwillingness to cast off female roles.

Looking back at Hungary's history since 1848, we can see that none of the approximately 70 prime ministers, heads and presidents was a woman. The number of female ministers and state secretaries has also been very low. Over the last two years there has been only one woman state secretary, and only since the end of 2011 has there been a woman in the Hungarian government. Table 4. shows the gender distribution of MP-s by election period following the regime change (Information System of the Hungarian Parliament, 2012). In the Hungarian Parliament, the percentage of female MP-s is under 10, which means that Hungary is bringing up the rear in Europe. According to a survey made by the Inter-parliamentary Union, Hungary is ranked 114<sup>th</sup> out of 190 countries. Several African, Asian and South-American countries are ahead of Hungary, even some Arabic countries, which are not considered spearheads for the emancipation of women. (Inter-parliamentary Union, 2011)

### *2.3. Factors hindering the careers of women – the glass ceiling and glass escalator effects*

The essence of the "glass ceiling" effect is that – although women have the chance to advance into high prestige and well-paid positions – they peak at a certain step of the career ladder, and they cannot get into higher positions. In the case of women, the characteristic "glass ceiling" is the middle-manager position. They could, but do not obtain the highest positions (Morrison, White and Van Velsor, 1994). The "glass ceiling" is a transparent barrier, which prevents women from advancement (Acsády, 2010). Several factors contribute to this phenomenon, among others the traditional stereotype that decrees only men are able to be leaders. In addition, before taking on higher positions, women always have to consider whether they will be able to meet the demands of their families and households, especially when they have children (Hultin, 2003).

Another important factor is so-called success anxiety, which means that success, alongside its positive effects, often induces distress in women (Sassen, 1980). Success and leadership are often thought to be accompanied by masculine features, such as dominance, the vindication of personal interests, a leading or very ambitious personality, an aggressive attitude, and a lack of empathy. Women are often afraid that, should they prove to be in possession of the above traits, their femininity will be compromised, especially if men see them as rivals.

In the case of men a contradictory phenomenon, the so-called "glass escalator" effect, can be observed, the point of which is that, even in traditionally feminine jobs, men in a minority do not suffer any discrimination. On the contrary, they progress far quicker than their female colleagues (Williams, 1992). According to Williams, this is due to the fact that, at a place of work where women are in majority, male employees receive special attention from the fairer sex. As a result, women themselves help men to get into higher positions, as they believe a man can represent the interests of the institution better, having a more appropriate image and approach (Baron and Bielby 1985, 1986). It

often occurs that women in higher positions, somewhat counter-intuitively, do not help their female colleagues' careers, and even seek to hinder their professional progress (Ellemers and van den Heuvel, 2004).

It would be a mistake to attribute the difficulties of women in their professional progress only to the discriminative behaviour of men, as women have the same prejudices against their own gender. We can surmise therefore, that women have to meet more requirements if they want to be recognized, or they have to make more sacrifices to achieve the same results as men.

The "glass ceiling" and "glass escalator" effects are more significant in Hungary than in Western-Europe, which may be due to the fact that in the last decades Hungarian women, in contrast to their western counterparts, have not been able to internalise the actual spirit of emancipation, and they do nothing to fight for their own equality. Instead, they accept that traditions have marked out certain patterns for them, and try to meet these requirements both at work and at home. In Hungary, several negative connotations are attached to the concepts of emancipation and feminism, and a great number of women consider them stigmas rather than the fruits of a long and troubled struggle.

#### *2.4. Career possibilities for women in science*

Discrimination against women can also be observed in science, where they are under-represented all over the world. Of course, the development and survival of this phenomenon is in part due to the above-mentioned factors. However, we cannot say that such discrimination is its only cause. Addressing biological differences between men and women which may predict their being successful in the various fields of science, is still considered something of a taboo, as doing so may provide ammunition for certain prejudiced standpoints seeking to preserve the present situation.

Baron-Cohen's research (2003) upholds the genetic peculiarities which allow men to think more analytically and systematically, and these abilities are obviously advantageous in scientific work. Women are genetically determined to be more empathic, caring and social, their communicative skills are better and they are able to show their feelings and recognize the feelings of others. These abilities are essential for them also, because they are of primary importance in taking care of their children.

We can state that gender stereotypes have a biological justification to some degree. Later, these biological differences will be reinforced, due to the differing socialization of boys and girls in the family, at school and in the wider social milieu. While boys play games demanding strategic and logical thinking and competitive behaviour, girls play with dolls, which fosters a caring impulse even from early childhood. In preschool and elementary education, the aggressive actions of boys are not as strictly disapproved of as those of girls. At the same time, boys who perform well in their studies are considered clever and talented, while similarly capable girls are usually considered diligent and assiduous. These stereotypes can also be observed in the case of tertiary studies.

#### *2.5. The position of women in higher education*

Women are over-represented in higher education all over the world. However, the trend cannot be observed in the case of scientific careers, and a specific "glass ceiling" effect exists in research, with its own special characteristics. Scientific careers require sacrifices and obligations (travelling, working abroad for years, etc.) affecting women more deeply than men. Professional progress is much more difficult for women, as the child-bearing years are more limited, and bringing up children is mainly the responsibility of women. Biological determination and the effects of socialization may still cause women to find their place in family-life rather than in a successful scientific career requiring sacrifices.

Men can progress more easily. In the case of a man who has got a family, and a caring wife ensuring a secure background and shielding him from the majority of family-problems, he can focus on his work with all his power and knowledge. National and international surveys confirm the differences between men and women. Men with successful careers are successful in their private life too, while women's careers often cause problems in their private life, or result in a distancing of family relationships (Nagy, 2001, Koncz, 2008).

#### *2.6. Difficulties in women's scientific careers*

On the basis of statistical data, we can state that reconciling the manifold obligations of scientific work and family-life is problematic in the case of women. 90 % of men working in a scientific field are married, and the number of divorcees is quite low, while 15 % of women are not married. The rate of single women under 40 is almost 25 %. According to statistical data collected in 1980, 34.5 % of graduate women have not got children, and the rate of childless women researchers is 40.6 % (Palasik and Papp, 2007). With reference to social changes, we may still find the data alarming, as the ratio of single and childless persons has increased in the total population. This will be a

great problem in the future, as several developmental psychology studies suggest that the intellectual development and school progress of children are strongly correlated to the education of their mothers (Csépe, 2008). The childlessness of highly educated women will have serious consequences.

In Hungary there is no (satisfactory) legislation in place which could support the compatibility of research work and family life. For example, Ph.D. students whose studies are financed by the state cannot get maternity benefits or mortgages for flats, and because of their lack of work experience, they will be handicapped on the labour market. Correspondence and fee-paying students can have the above advantages, although financing their studies constitutes a major burden.

These unfavourable conditions are likely to discourage women from research careers. We regret to say that women who decide on research, in spite of all these difficulties, will not face a bright future. Most of them will work in a field with poor financial conditions, their salaries will be lower than men's, and the chance to progress is small. In the case that they get into significant positions they will not have equal prestige, remuneration, mobility and authority to men (Papp and Groó, 2005).

### **3. Women in Hungary – an outline in the framework of the statistical data**

In Hungary, there are 1105 women to one thousand men, which is 52% of the population. The life expectancy of girls born in 2009 was 78 years, 8 years more than our grandmothers' half a century ago. Hungarian women live 8 years longer than men. 51% of women between 15-64 years of age are employed, 8% are part-time workers (throughout the EU this figure is 31%). 66% of women are employed as intellectual workers and 34% in manual fields. The labour market does not value the labour of men and women equally; the average salary of men exceeds that of women by 17.6%.

Hungarian women are more ambitious in their studies than most of their European counterparts: their rate of participation is 55-56%, compared to 55% in the European Union. The average age of women getting married for the first time and having children is 28 years. Women spend three-quarters of their life in a healthy state (Central Statistical Office, 2011).

#### *3.1. Female students in higher education*

In Hungary, higher education institutions were established at the turn of the XIV<sup>th</sup> and XV<sup>th</sup> century (in Pécs, Old Buda, Bratislava, and Transylvania), but women were only permitted to take part in higher education starting from the end of the XIX<sup>th</sup> century. In 1895, the culture minister allowed females to take part in higher education, mostly in the departments of philology, medicine, and pharmacology. But please note that only after the II. World War, in 1945/46, did all departments (except the theological and military officer's) become open to women. The percentage of female students by the mid-60s reached 40% and two decades later it was already over 50%. The number of women who obtained degrees between 1949 and 1990 has increased by a factor of twenty; according to the census in 1990, half of the women who graduated from higher education institutions were teachers. Already in the second half of the XX<sup>th</sup> century 53.6% of full-time students in higher education were women, most of them studying at the departments of medicine (91.8%), health pedagogy (93.8%), pedagogy (85.2%) and nursery-teaching (92.2%) (Bocsi and Engler, 2005).

By the middle of the century, on full-time, part-time and correspondence courses at all higher education institutions, the number of "fairer sex" participants reached 60%. But following the 2005/2006 term, the number of female students decreased slightly, and thus their participation in the recently closed educational period reached just 55%. There were differences in the distribution between the departments. The percentage of women in full-time education was between 52-53%; a figure exceeded by 10% for women on correspondence courses in the last 5-6 years (Table 5.).

It's worth examining the ratio of female participation with respect to the various higher education forms. In the term 2010/2011, the total number of students studying in all fields of higher education was more than 360 thousand, and among them the number of women was 200 thousand. Their share in tertiary vocational training was close to 65 % and 70 % in postgraduate specialisation programmes. While on bachelor programmes 54% were women, the number of graduates on master courses exceeded 60%. Unfortunately, in the field of doctoral education (PhD, DLA), which is the gateway to a scientific career, the percentage of women was smaller; the students are mostly male (51.3%) for this term (NEFMI – Ministry of National Resources, 2011) (Figure 4.).

Summarizing the newest (2011) admission process data, we may conclude that the number of women who applied was greater by 10% than men. The smallest difference, according to the previous data, was among applicants for undergraduate studies (8%), while more than 24% more women than men wished to switch to master courses in this term. We may conclude from these data and tendencies that the number of women studying in higher education in Hungary, starting from the middle of the 80s, has flat-lined.

Recent experience suggests that the headcount for women wishing to take part in master courses has substantially exceeded that for men (Figure 5.). We are not aware of any Hungarian surveys examining the greater inclination of women to study in higher education. However, it is a fact that graduates begin work later, their careers begin later, and their salaries are lower for a period than those of their contemporaries. This may explain why men are less interested in continuing their studies than women. The distribution for BA and MA courses supports this hypothesis.

Significant differences can be observed depending on the field of education: the most “masculine” subjects are considered to be I.T. and technical education, and the number of male applicants to these departments this year has exceeded by 80-90% applications to national defence and military departments. The most significant female majorities can be found in pedagogical (81.1%), medical and health departments (78.8%), and to humanities (74%) and to social sciences (69.9%) (Educatio Kft, 2011). The differences between the two genders are more eye-catching in the case of scientific degrees. According to the 2009 statistical data, nearly 80% of science candidates are men. At the same time, women’s proportion among doctors of science is even worse – only 13.7%.

To be a Member of the Hungarian Academy of Sciences is considered the peak of a scientific career. At this level we can find hardly any women; in 1949 there was only 1 woman among the 129 members. By the 1960s the number of women was a bit higher, 1-2 persons. In the 1980s there were 7-8 and at the end of the 1990s as many as 10 out of the 310 academics were women (Haraszthy and Hrubos, 2002).

Academic membership seems to be beyond women’s reach. We may say that it exceeds the scope of the “glass-ceiling” phenomenon, and this aim is thought to reside in an invisible region. At the time of writing the present paper, the rate of women among the Members of the Hungarian Academy of Sciences was 4.9% (Figure 6.). Regarding the proportion of women, the most female candidates are in the fields of social sciences and the humanities, while the figures are lowest in agricultural sciences. It is worth mentioning that the variations are not considerable; they are between 21.3%-26.4%. However, there is a much higher variation among doctors in the field of social sciences and humanities, where the rate of female participation is just 18.4%, and among agricultural professionals it is only 8.4 % (Figure 7.).

All of the above suggests that the number of female students has significantly grown in the recent past, but in doctoral education we can still notice a dominance of men. In the following we will examine the rate of female employment among educators and researchers in higher education, and following that, in research and development positions.

### 3.2. *Women in higher education*

In the 2010/2011 term approximately 22 thousand people worked as teachers at universities and colleges. Among the various state institutions, the church and foundations, the percentage of female teachers was 37.2%. The rate of employment of female educators was higher in state institutions and foundations, and lower in those financed by churches (Figure 8.). Almost 1500 people were employed in higher education in research jobs in the 2009/2010 term; among them 96% were working in state owned institutions, and 3.5% in the private sector. One third (32.9%) of researchers in this period were women. While almost 67% of all researchers were full-time, the proportion of full-time female employees was even higher, more than 75%. This also means that there were fewer female researchers employed on a part-time basis in the above mentioned period (Figure 9.).

The “scissor diagram” (Figure 10.) shows the differences between women and men in the university hierarchy. As we have already mentioned, the higher female participation rate in higher education can no longer be observed on PhD courses, and as we proceed along the “rating level” in higher education, the difference grows in favour of men. From all this we may conclude that a number of highly talented women take part in higher education (e.g. look at their percentage on master courses) whose scientific career does not progress in higher education institutions.

We should seek to find out why the number of women studying on PhD courses is decreasing. One possible reason may be that most leading positions are occupied by men, and scientific life is not an exception. There are very few women in decision-making positions, most PhD-grants are given to men, and the members of the advisory boards

awarding the grants are mostly men too. Besides discrimination, traditional female patterns often cited here, the privilege of family and household responsibility may also hinder women in scientific careers. These stereotypes are stronger in post-socialist countries than in Western-Europe.

It can also be observed in other EU-countries that the effects of the “glass-ceiling” phenomenon are strongest in the case of university professors’ degrees. In addition to the long and arduous working hours needed for a professor’s degree, this effect may be due to the fact that a university professor also has significant power. As already stated, it is not only men but often also women who are reluctant to accept female leaders. A similar picture emerges if we try to examine gender differences for those working in research jobs. For the 2009/2010 term the ratio of women working in higher education was one third. In the “lowest” research positions their proportion was almost 43%, while out of the 4 research professor’s jobs, 3 were occupied by men (Figure 11.).

### 3.3. *Women in research*

In Hungary in 2010, at the 2,983 research institutions, 53,991 people worked in research and development. The work of 35,700 researchers was helped by 9,329 assistants and 8,962 manual or non-manual employees. The number of workers considered full time (full time equivalent, FTE) was 31,480 (21,342 researchers, 5,967 assistants and 4,171 manual or non-manual employees). The headcount of R&D jobs (FTE) starting from 2000 for all employees is shown in Figure 12. According to this graph, it may be stated that the proportion of those working in research and development compared to other employees has significantly risen in the past three years. But it should be noted that the rise is only partly due to the jump in R&D numbers, as a decrease in employment also plays an important role in this. (Research Central Statistical Office, 2011) In 2010, nearly 41% of R&D personnel were women, but their distribution was dependent on occupation. While more than two thirds of scientists and engineers were men, 55% of scientific assistants and 62% of manual and non manual employees were women.

We may also notice significant deviations among women working in R&D according to position and sector (Figure 13.). In general, it may be stated that most women were working at higher education and other R&D institutions, but in the case of businesses this proportion is less characteristic. In all positions in science research and development, female representation is lower. In the period studied, only one out of every fifth researcher in business was a woman. But in the case of assistant researchers and other manual workers in research, especially in R&D that was not business related, most of the employees were women. It is worth examining, in the case of female workers, the range of difference between separate sectors of research and other positions. In the case of research institutions this difference is 20%, in higher education it is 30-40%, and in the business sector it is only 10-20%, which means the gap between those working at the universities and HE institutions is surprisingly high.

Figure 14. shows the substantial difference between men and women with respect to the types of occupation. 70% of men working in most of the R&D units in Hungary perform R&D tasks. In the case of women this level hardly exceeds 50%, and the others work as assistants and manual workers at the R&D institutions. The proportion of women working in R&D is also dependent on the science field (Table 6.). It is not surprising that the proportion of female researchers is high (more than 40 %) in the fields of humanities and social sciences. But it is worth highlighting that medical sciences are in first place. If we examine this problem with respect to age, we may notice that among researchers under 34 years of age, the number of women is higher than that of men in this field.

Overall, we may conclude that the proportion of females among elder women is lower, and in the case of 65 year olds it does not exceed 20% overall. However, the average lifespan of women in Hungary is also substantially longer than that of men, and there are many factors that are involved: women usually retire at an earlier age; 30-40 years ago, today's older generation of women were more restricted in higher education study, etc. It is worth paying special attention to the 25-35 age group because, at 31%, they may be considered the most populous category.

While analyzing the data in Table 6., we may infer that women seldom choose technical and natural sciences as their area of education. Only one out of every five researchers is a woman, and in the case of the younger age groups the situation is the same, so we cannot expect to see more female researchers in science fields in the future.

Besides the above, it is also worth mentioning another phenomenon. In the case of scientific degrees, we mentioned earlier that the percentage of women is lowest in agricultural sciences. According to the data shown in Table 6., the proportion of women under 25, compared to the whole research sample, is the highest. Bearing this in mind, we may assume that in the future the percentage of female researchers with scientific degrees will change for the better in the agrarian area.

Figure 15. and 16. compare the distribution of female and male researchers according to age and science area. We may conclude that on the whole, the differences among the science areas in relation to women are smaller than in the case of males. In the case of women, excepting the agrarian sciences, the proportion is about 20%, whereas in the case of men, in technical and natural sciences it is 35% and 20% respectively, and in other cases, with the exception of agriculture, it is around 10%

#### *3.4. Differences between genders in salaries*

According to data from the Central Statistical Office, as we have already stated, the average gross salary of men exceeds that of women by 17.6%. Analysis made by a Hungarian recruitment website, taking into consideration the salaries of 80,000 workers, and published in March 2012, shows that women earn 21% less than men (Workania, 2011). According to the research, the average salary of men in the present job market in Hungary is 245,000 HUF gross, while that of women is 194,500 HUF gross.

The salaries of women are already lower at the beginning of their careers, and later the differences widen. In the 17-24 age-group, men earn 14 % more than women, and the difference in the 25-35 age-group is 21 %. The difference is the greatest, 28 %, in the 35-44 year old age-group, over 45 it reduces to 23 %, and over 55 to 20 %. On the basis of the above data we can state that, as we proceed to the highest positions, the scissor opens up: in the case of unskilled labour the difference is 6 %, female administrators earn 7% less, the wages of professionally skilled workers and women in services are 18 % lower, the difference is 19% in the case of middle managers and 26 % in the case of top managers. The difference may be affected by the “feminine” or “masculine” character of a given profession.

#### **4. Conclusions**

The present paper tries to show, on the basis of the most up-to-date data available in Hungary that, compared to other countries, women are over-represented in higher education, and that this phenomenon does not translate into equal or higher salaries in the labour market, comparable scientific careers, promotion, becoming managers in their field, etc. Several domestic and international research projects have aimed to investigate the reasons for this. As a result of these findings, and in accordance with our own analysis, we may conclude that the reasons can be found in education. While men are mostly interested in I.T. and technical subjects in education, women are still leaning towards pedagogy, medical and health sciences, philology and social studies.

This tendency is characteristic of the labour market as well. We may notice more women working in the sectors of health, social services, and in education and nursery schooling. It is hardly surprising that we find more men working as I.T technicians, engineers, and in banking and finance, where the salaries are much higher. The job scissor between the two genders is opening up, with respect to the difference in their education, number of years spent in work and age. It is also evident that even if a woman is able to obtain a manager’s position, it is accompanied by a lower salary, allocations, fringe benefits (car, travel), and worthwhile opportunities etc.

The difference between the two genders continues to widen concerning PhD students, according to our study, most of whom are men, and as usual there is a preponderance of science fields and degrees that traditionally stick to differences between “men” and “women”. The professional career of women is also hampered by other, supposed or real, obstacles. In the past 10-15 years it has become more difficult to get a job in Hungary. Usually there are many applicants for one job. In this case employers, according to evidence, take into consideration several factors, among them being resilience, the ability to work overtime, flexibility and mobility, the ability to be available all the time, and long term plans. In the case of childless young women, employers usually take into consideration the likelihood of pregnancy, and being away from work for at least several months or even years.

Women who raise small children are considered unreliable employees, as they usually stay at home when the child is ill. Like several European Union countries, in Hungary daytime child care is quite expensive, so it is no coincidence that the employment rate of women with small children is considerably lower, not only than that of men, but that of childless women too. (The difference in the EU is on average 13%). The causes are obvious: as housework and raising children are mainly considered to be women’s tasks, employers give them less attention. In the world of science the position of women differs from the average. Research is a special field of work demanding a special way of life. It obviously demands ongoing professional success, personal achievement, visibility and excellence, climbing the ladder.

To summarize the above, we may conclude that a radical change in the working situation of women, especially those working in science, is not to be expected in the near future. Of course, several measures could bring about



improvement, such as legal changes, administrative directives, grants, tenders, awards, institutions helping with children and services, etc.

To change the situation the question should be one of public importance, and not only a problem for women and research. Conditions should be established which ensure greater opportunity for women, and reduce the conflicts caused by the incompatibility of family and career. It is important that the media, having an increasingly significant influence upon public opinion, pays greater attention to women excelling in science, who are setting a positive example, and addresses the deep social prejudice against careerist women. The promotion of women researchers should motivate others to get to work and create conditions for their progress. But aside from measures, it is far more difficult and time consuming to address the bias (prejudices) and stereotypes that exist among women and men. By preparing this essay, the authors wish to contribute to a change of mentality in this respect.

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Figures and tables

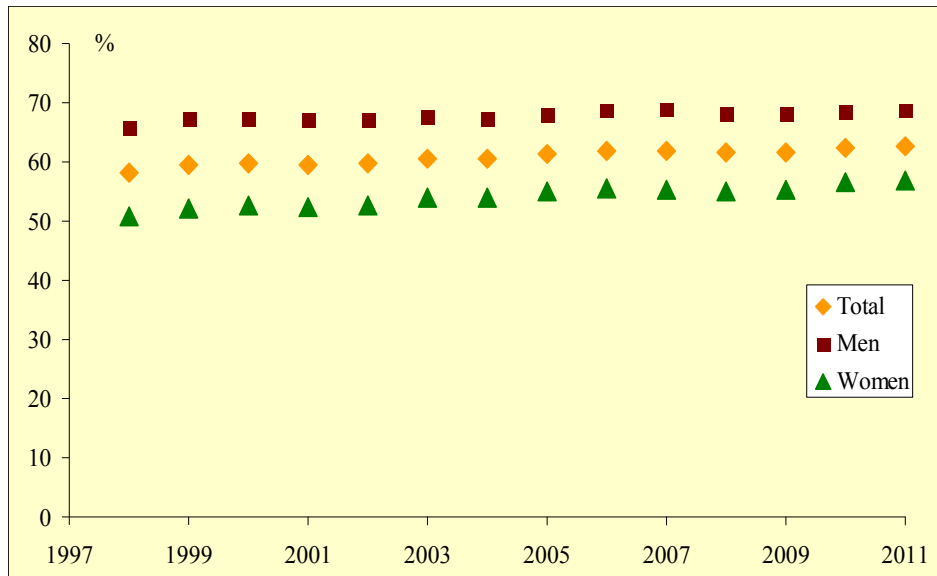


Figure 1. Distribution of economically active people by gender in the 15-64 year-old population (1998-2011) Source: Central Statistical Office, 2012

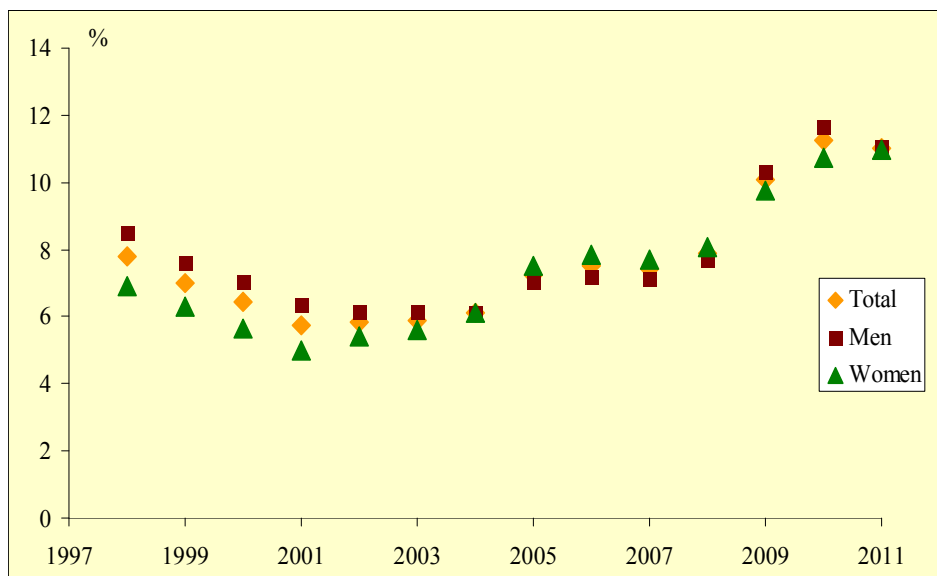


Figure 2. Distribution of unemployed people by gender in the 15-64 year-old population (1998-2011) Source: Central Statistical Office, 2012

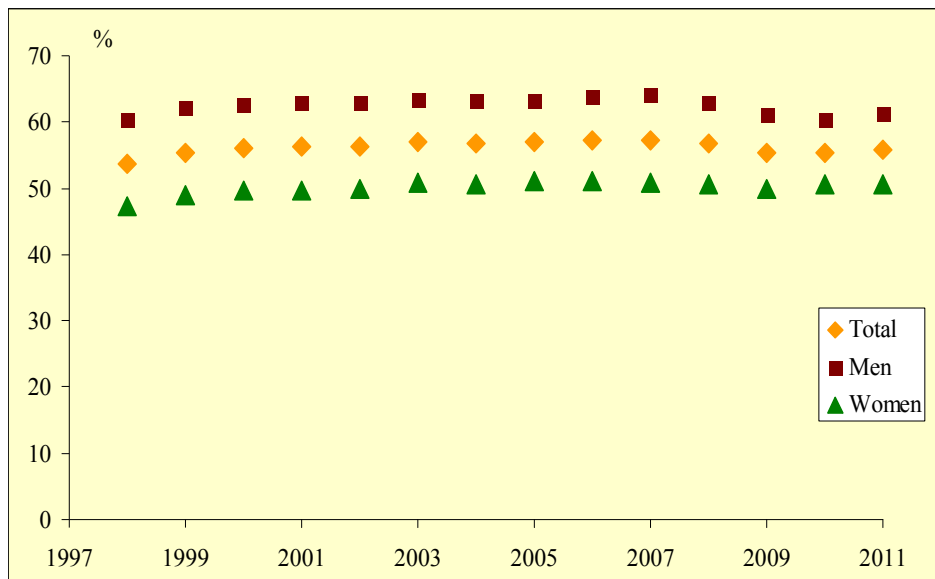


Figure 3. Distribution of employed people by gender in the 15-64 year-old population (1998-2011)  
Source: Central Statistical Office, 2012

Notes:

*An employed person* is a person who had at least one hour's paid work in the given week, or had a job where he could not be present during the given week because of some reason (illness, holiday, etc).

*An unemployed person* did not work in the given week, and had no job where he was not present during the given week for some reason; he had been looking for a job for four weeks before the survey was taken; he could have started work in two weeks in case he had found a job, or he had found a job where he was going to start working in 30 days before 2003, and in 90 days after 2003.

*Economically active* are people present on the labour market, either employed or unemployed.

*Rate of activity*: the percentage of economically active people in the given age-group of the population.

*Rate of unemployment*: the percentage of unemployed people in the given age-group of economically active people.

*Rate of employment*: the rate of employed people in the given age-group of the population.

Table 1. Proportion of women according to sector in 2007, %  
 Source: Central Statistical Office, 2009

Country	Total percentage of the employed	Out of the total percentage:		
		Law-makers, administrative, business and economic leaders	Administration and office management (with customer service)	Service (shop assistants included)
Italy	39.5	33.5	59.5	57.5
Czech Republic	43.0	28.6	75.6	66.7
Ireland	43.0	31.0	74.1	67.5
Slovakia	43.9	30.9	67.9	70.1
Poland	44.9	36.2	65.9	65.6
Austria	45.2	26.7	69.0	71.0
Slovenia	45.2	31.8	60.1	62.1
Romania	45.3	28.2	71.9	64.6
<b>Hungary</b>	<b>45.4</b>	<b>35.2</b>	<b>75.6</b>	<b>60.6</b>
Germany	45.7	28.9	67.5	75.4
Great-Britain	45.9	34.4	77.3	72.4
USA	46.3	41.8	..	53.9
Finland	48.2	28.6	79.8	80.5
Estonia	49.7	33.9	77.1	81.9

Table 2. Hungary's rank according to the cumulated index in the Global Gender Gap reports prepared for the World Economic Forum  
 Source: Global Gender Gap reports, 2006-2011

	The number of investigated countries	Hungary's rank
<b>2006</b>	130	55
<b>2007</b>	130	61
<b>2008</b>	130	60
<b>2009</b>	134	65
<b>2010</b>	134	79
<b>2011</b>	135	85

Table 3. Hungary's scores and rankings in the four investigated areas, 2011.  
 Source: Global Gender Gap report, 2011

<b>Economic Participation and Opportunity Sub Index score</b>	<b>Economic Participation and Opportunity Sub Index rank</b>	<b>Educational Attainment Subindex score</b>	<b>Educational Attainment Subindex rank</b>	<b>Health and Survival Subindex score</b>	<b>Health and Survival Subindex rank</b>	<b>Political Empowerment Subindex score</b>	<b>Political Empowerment Subindex rank</b>
0,654	64	0,993	56	0,980	1	0,031	127

Table 4. Hungary's MPs, 2012.  
 Source: Hungarian National Assembly, 2012

<b>Election periods</b>	<b>Men</b>		<b>Women</b>		<b>All MPs</b>
1990-1994	383	92,3%	32	7,7%	415
1994-1998	358	89,1%	44	10,9%	402
1998-2002	364	91,7%	33	8,3%	397
2002-2006	372	90,3%	40	9,7%	412
2006-2010	364	89,4%	43	10,6%	407
2010-	360	90,9%	36	9,1%	396

Table 5. Proportion of female students in higher education (university and college), on Bachelor, Master and unified programs, %  
 Source: Higher education statistics, 2009. Ministry of National Resources (NEFMI)

<b>Term</b>	<b>Full-time</b>	<b>Evening</b>	<b>Correspondence (+distance)</b>	<b>Total</b>
	courses			
<b>2005/06</b>	53,49	69,19	63,25	<b>57,82</b>
<b>2006/07</b>	53,03	69,78	63,57	<b>57,40</b>
<b>2007/08</b>	52,96	67,88	62,88	<b>56,70</b>
<b>2008/09</b>	52,64	63,29	61,30	<b>55,61</b>
<b>2009/10</b>	52,56	59,52	60,58	<b>55,13</b>

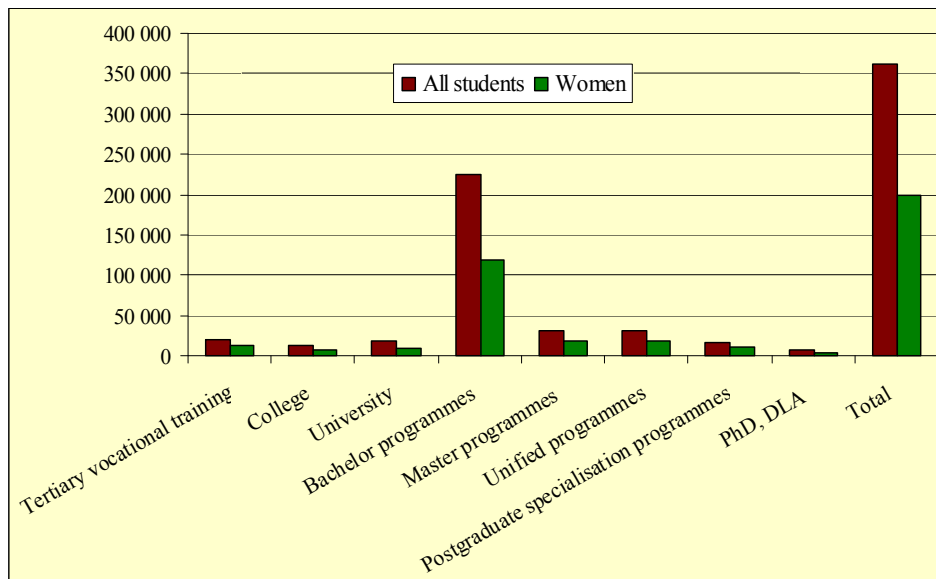


Figure 4. The total number of students and female students in higher education in the 2010/2011 academic year Sources: Statistical Yearbook of Education, 2010/2011. NEFMI

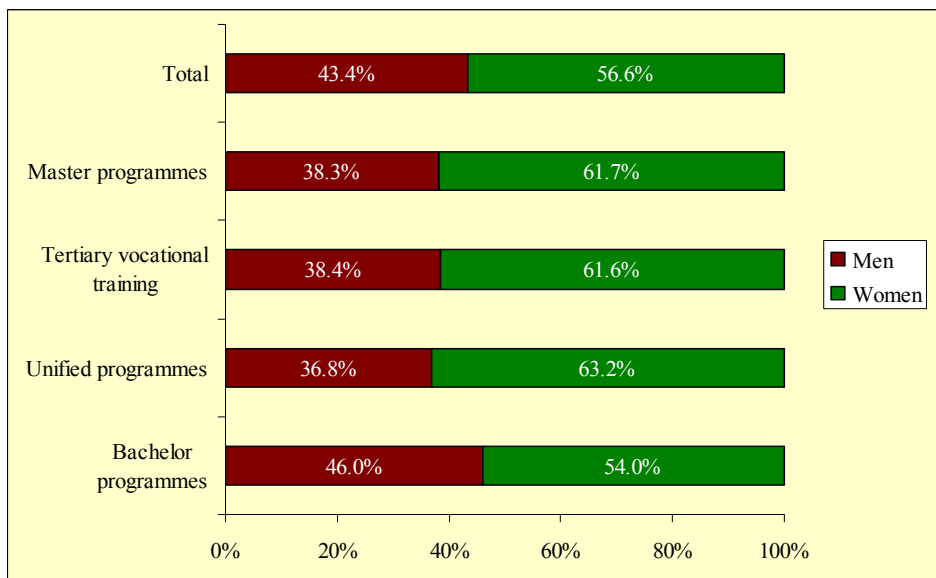


Figure 5. Distribution of applications by gender, according to educational field (Undergraduate applications in 2011) Source: Educatio Kft., Felvi, 2011



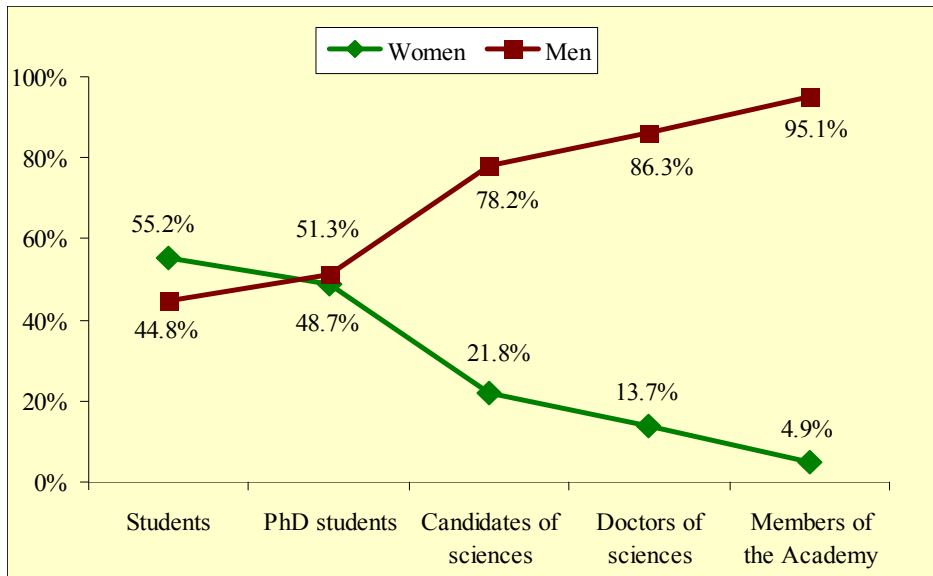


Figure 6. The proportion of women among students, PhD students and persons with a scientific degree Source: Statistical Yearbook of Education, 2010/2011. NEFMI (students, PhD students); Secretary of the Doctoral Council of the Hungarian Academy of Sciences (candidates of sciences, 2009); Webpage of the Hungarian Academy of Sciences (doctors of sciences, members of Academy, 2011)

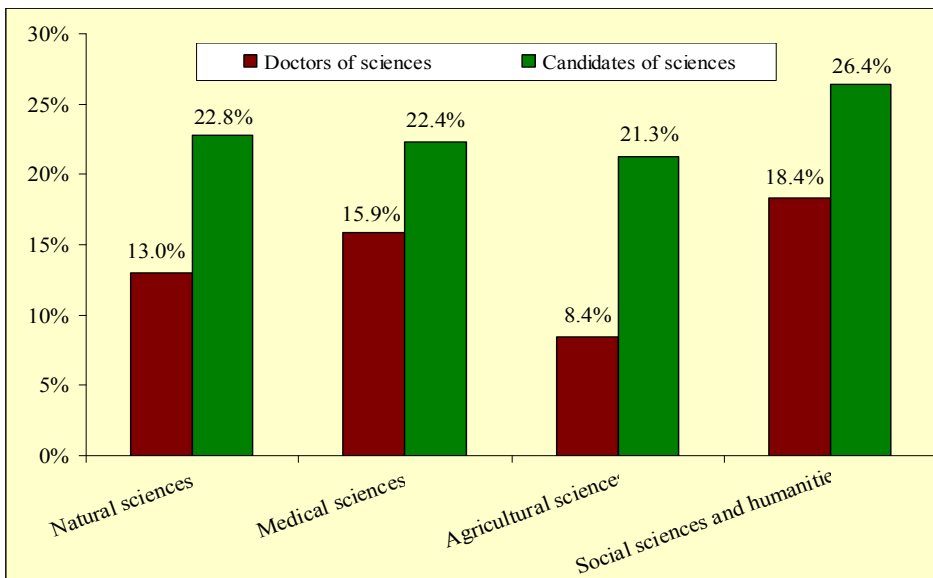


Figure 7. The proportion of women by scientific degree and scientific fields Source: Secretary of the Doctoral Council of the Hungarian Academy of Sciences, 2009

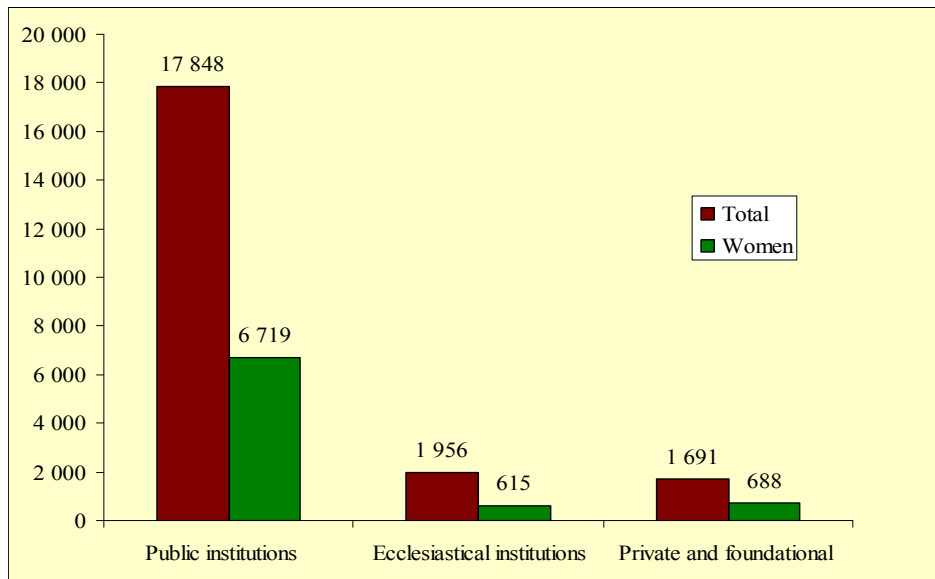


Figure 8. Number of teachers and female teachers working in higher education  
Sources: Statistical Yearbook of Education, 2010/2011. NEFMI

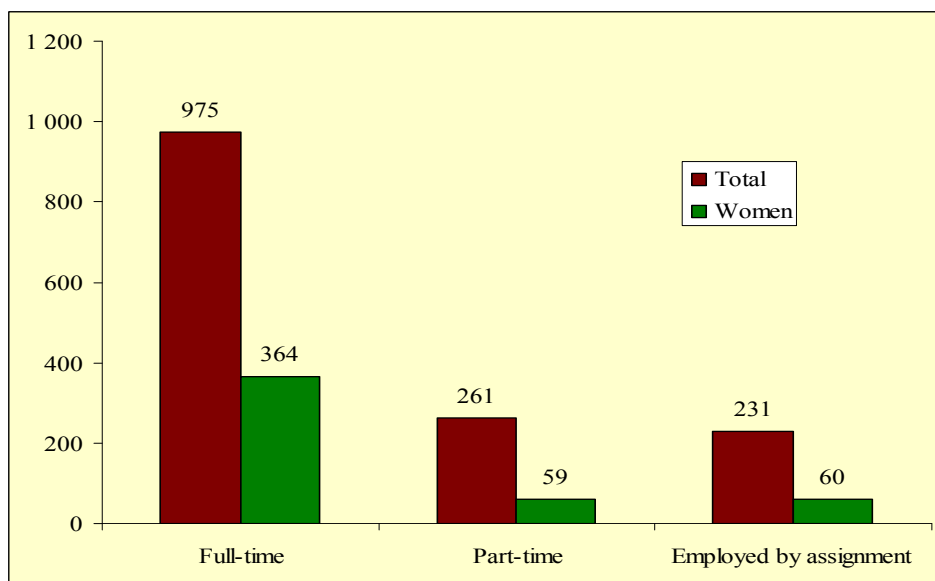


Figure 9. Number of researchers and female researchers employed in higher education  
Source: Higher education statistics, 2009. NEFMI

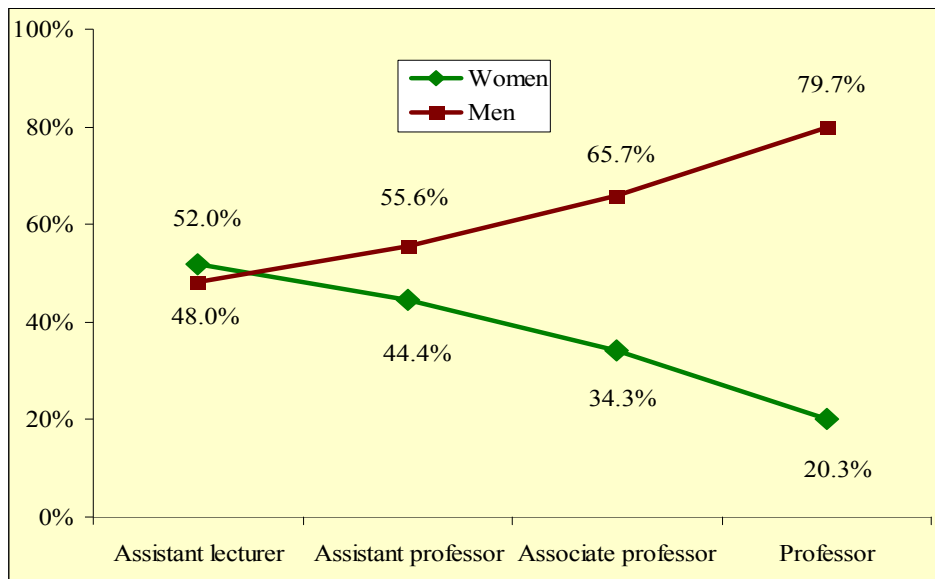


Figure 10. Distribution of women and men in the university hierarchy  
 Source: Higher education statistics, 2009. Ministry of National Resources, NEFMI

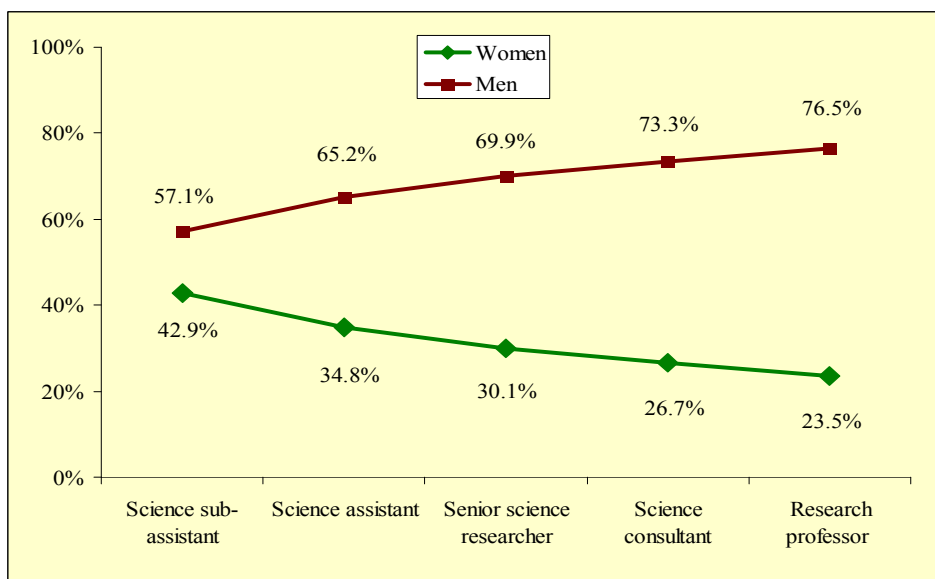


Figure 11. Distribution by gender in research jobs at higher education institutions  
 Source: Higher education statistics, 2009. Ministry of National Resources, NEFMI

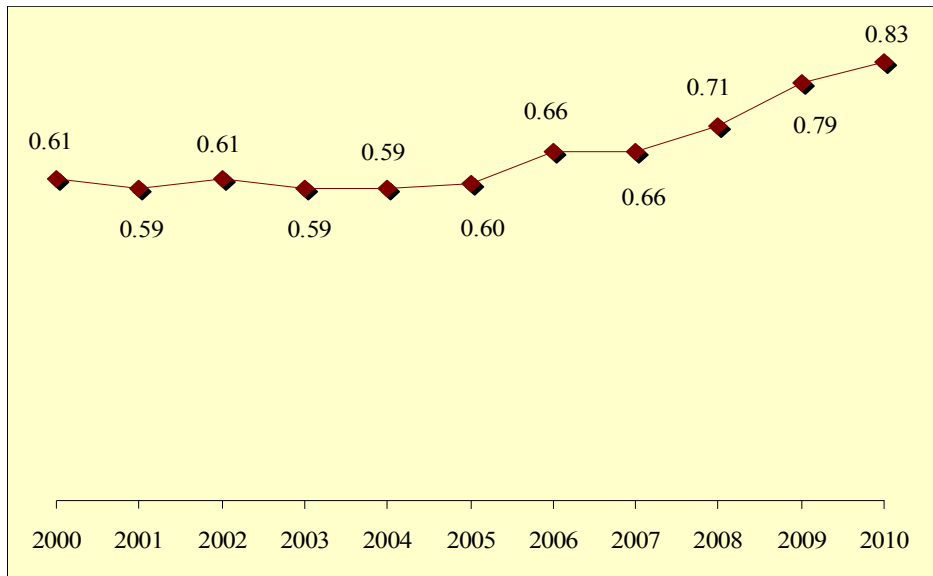


Figure 12. Total R&D personnel as a percentage of active earners  
 Source: Research and development, 2010. Central Statistical Office

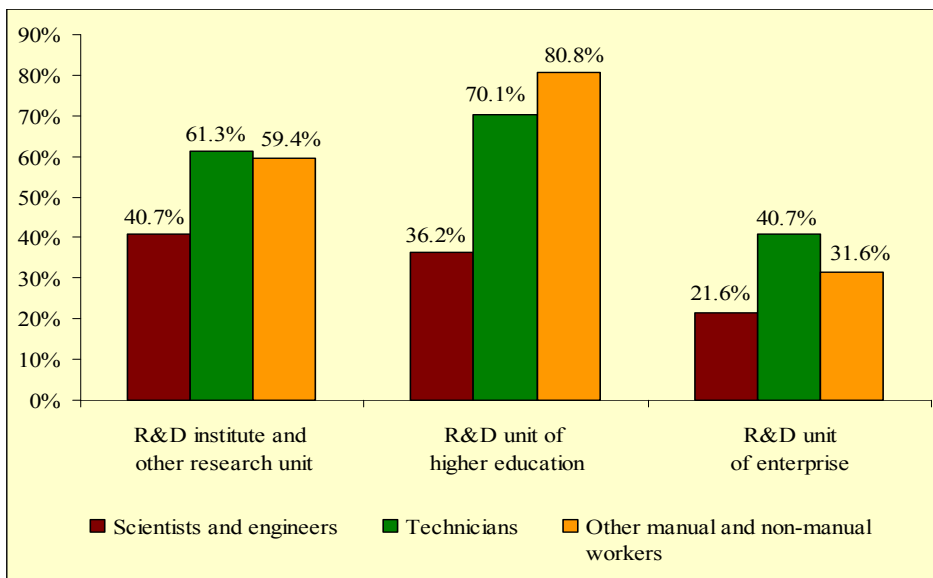


Figure 13. Proportion of women at R&D units by sector and occupation in 2010  
 Source: Research and development, 2010. Central Statistical Office

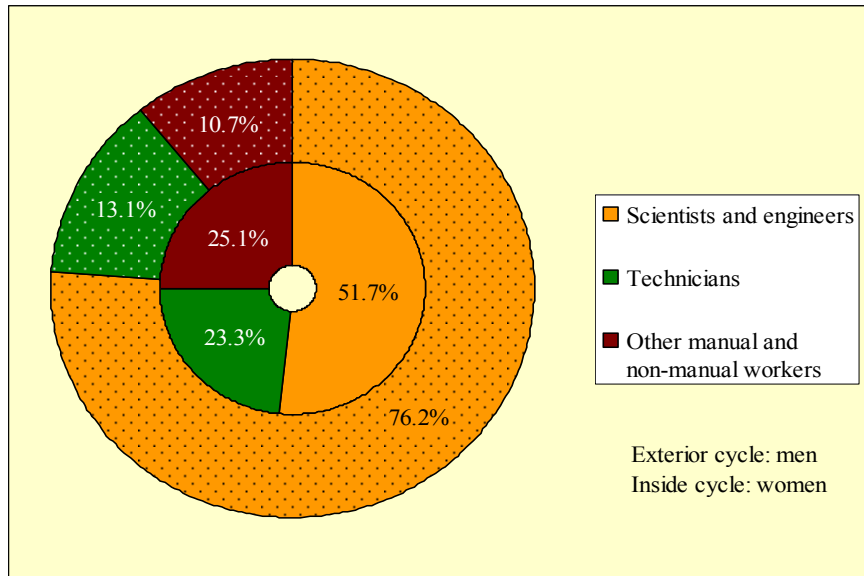


Figure 14. Total staff numbers for R&D units, by gender and occupation, 2010  
 Source: Research and development, 2010. Central Statistical Office

Table 6. Percentage of female researchers by field of science and age in 2010  
 Source: Research and development, 2010. Central Statistical Office

Field of science	< 25 age	25-34	35-44	45-54	54-64	>65	Total
Natural sciences	25.7%	24.9%	22.8%	24.0%	21.0%	10.6%	23.1%
Engineering and technology	20.2%	19.9%	21.6%	26.1%	19.9%	12.5%	21.1%
Medical sciences	55.7%	56.4%	44.4%	45.7%	37.9%	28.6%	46.2%
Agricultural sciences	63.0%	46.0%	39.4%	34.4%	28.3%	16.3%	37.8%
Social sciences	57.4%	48.7%	46.5%	46.2%	37.7%	24.1%	43.7%
Humanities	44.4%	54.5%	46.2%	48.2%	41.9%	25.2%	45.8%
<b>Total</b>	<b>31.8%</b>	<b>31.7%</b>	<b>33.1%</b>	<b>35.9%</b>	<b>29.9%</b>	<b>18.7%</b>	<b>32.0%</b>

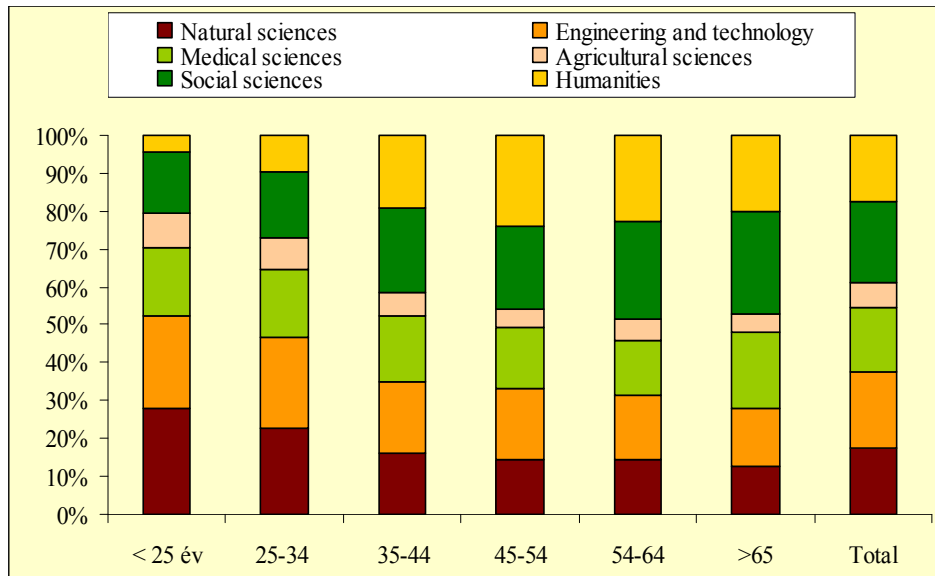


Figure 15. Distribution of female researchers by field of science and age in 2010  
 Source: Research and development, 2010. Central Statistical Office

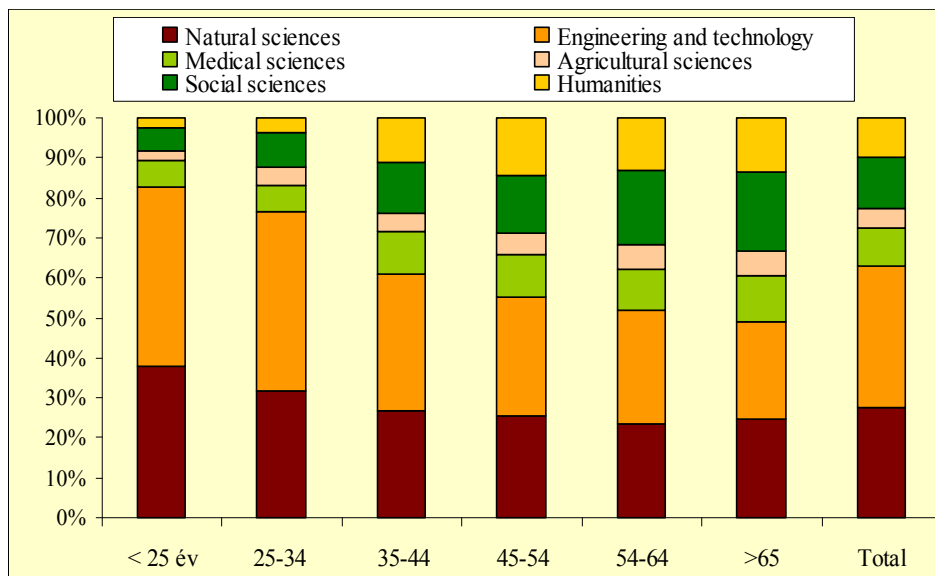


Figure 16. Distribution of male researchers by field of science and age in 2010  
 Source: Research and development, 2010. Central Statistical Office

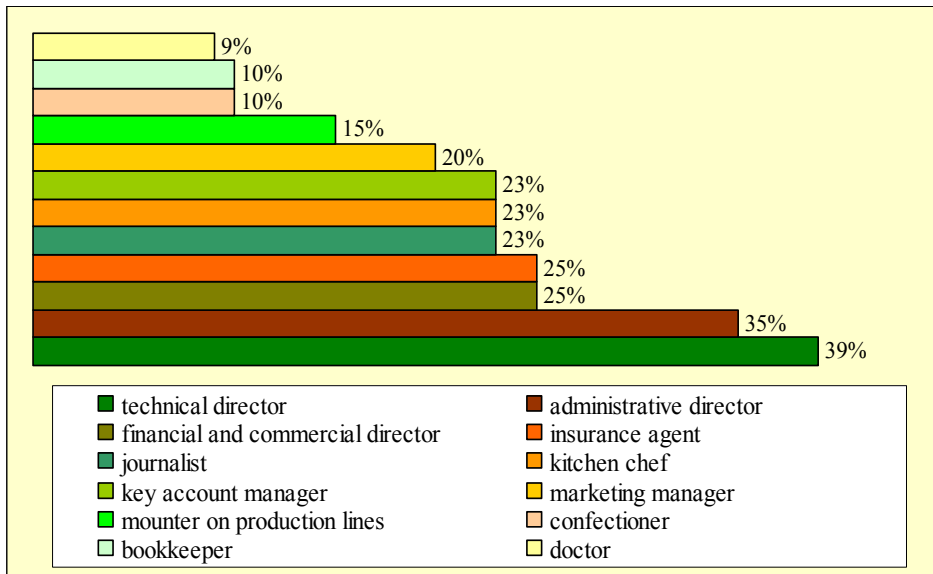


Figure 17. Differences in salaries to the good of men, 2011  
 Source: Workania, 2012

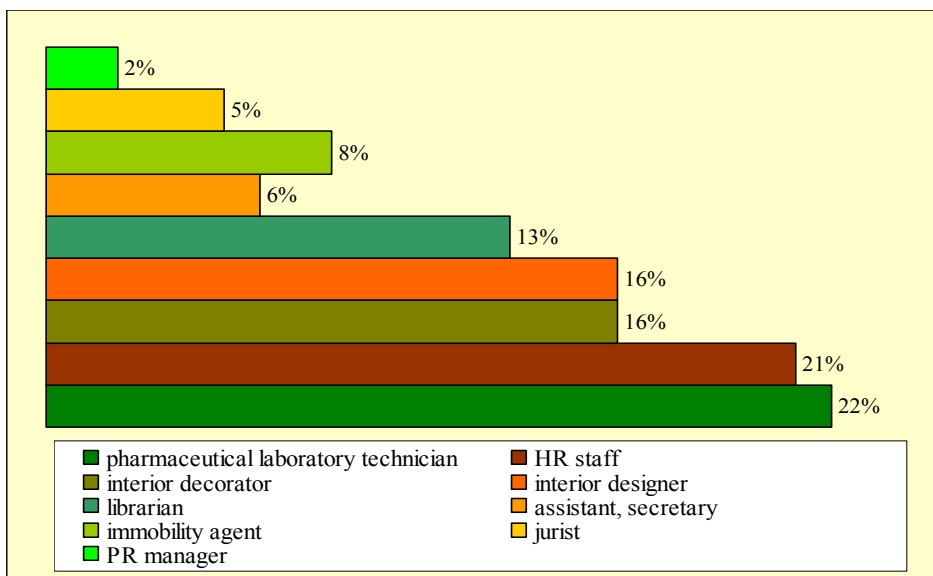


Figure 18. Differences in salaries to the good of women, 2011  
 Source: Workania, 2012

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