

## Gender wage gap and segregation in contemporary Hungary



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The Equal Treatment Authority accomplishes its research project called „TAMOP 5.5.5/08/1 Combating Discrimination, Shaping Societal Attitude and Strengthening the Work of the Authority” by the assistance of the European Union and the co-financing of The European Social Fund between 2009 and 2013.

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Recent study has been prepared by Sík Kiadó Kft. entrusted by the Equal Treatment Authority in the scope of its project called „TAMOP 5.5.5/08/1 Combating Discrimination, Shaping Societal Attitude and Strengthening the Work of the Authority”.

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Qualitative and quantitative **data collection and recording** has been done by Ipsos Inc.

## The analysis<sup>1</sup> focuses on the following issues

- In relation to the gender wage gap we try to answer the following questions:
  - How big is the Hungarian gender wage gap in international comparison?
  - How has the width of the gender wage gap changed in Hungary in the past decades?
  - Which are the socio-economic groups on the Hungarian labor market having the highest and lowest level of gender wage gap?
  - What are the main determinants of wage level and how strong is the role of gender in this process?
  - Has the role of gender changed in determining the level of wage between 2001 and 2009?
  - Does gender have different role in determining wage level by among low and high income groups?
  - Do the factors of determining wage level have different structure among males and females?
  - Does gender have different role in determining wage level in gender based occupational and sectoral segments of the labor market?
- In relation to gender based segregation we would like to answer two questions:
  - How strong is segregation by occupation and sector?
  - How strong is the correlation between the level of segregation and gender wage gap?

To put our analysis into context, we briefly introduce two characteristics of the Hungarian labor market, i.e. the main characteristics of the recent trends of employment and the major features of the wage policies of Hungarian firms.

- While the employment level of males has decreased, among the females it has remained constant in 2009 and 2010 (Bálint et al., 2010; Frey, 2011).
- All in all the comparatively low Hungarian employment level (about 10% below EU average) has further decreased.
- The unemployment level has increased above 10%, with a slightly higher ratio among males than females.
- The most important characteristic of the Hungarian firms' wage policy is that traditional (and the least incentive) time based wage dominates. The most typical form of incentive wage is its in-kind form mostly available for those with higher educational level, working in their job for a longer time and having tenure.

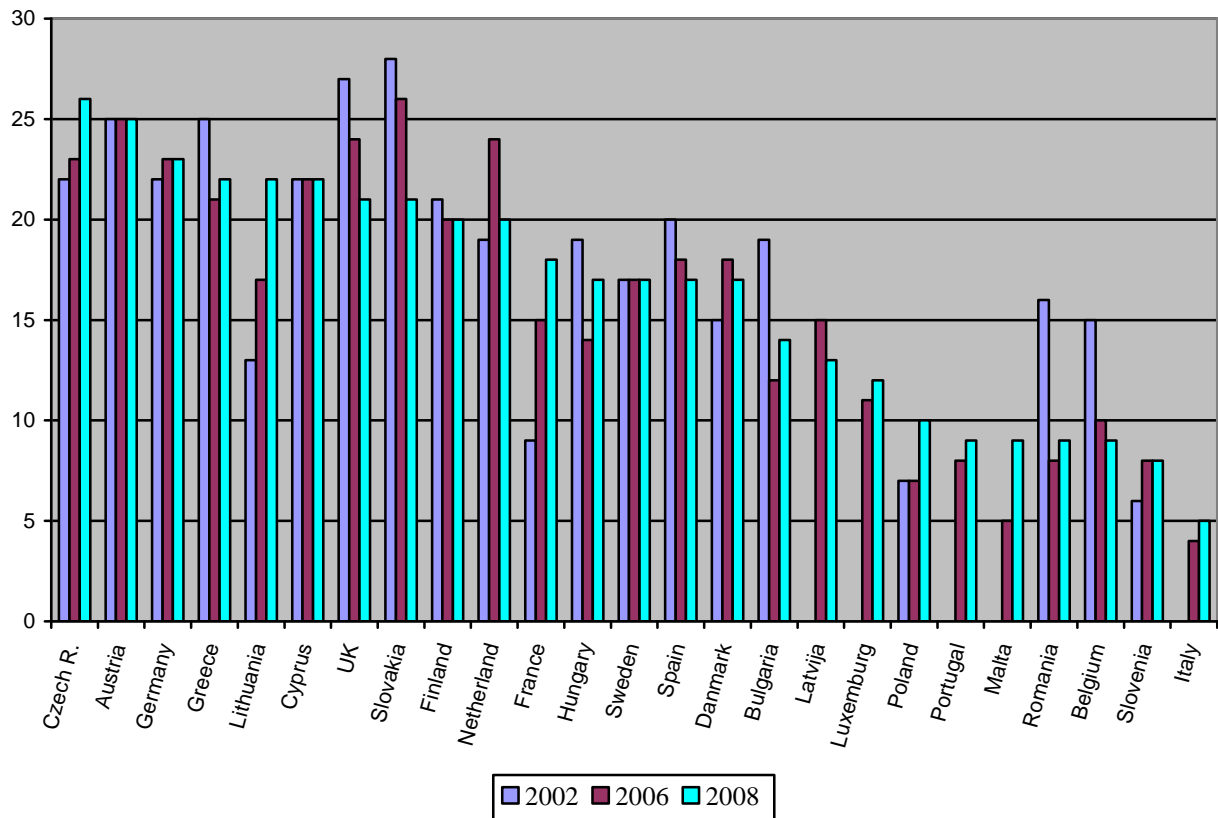
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<sup>1</sup> The analysis is based on two datasets the 2009 Wage Survey database ( $N = \text{cca. } 199,000$ ) and the TÁMOP survey in 2010 ( $N = \text{cca. } 9000$ ).

## The Hungarian wage gap in international context and since the 1990's

According to a recent comparative data the level of gender wage gap in Hungary is in the middle range compared to the EU countries (*Figure 1.*).

**Figure 1.** The wage gap between 2002 and 2008 in the EU countries (in decreasing order by the wage gap in 2008, %)

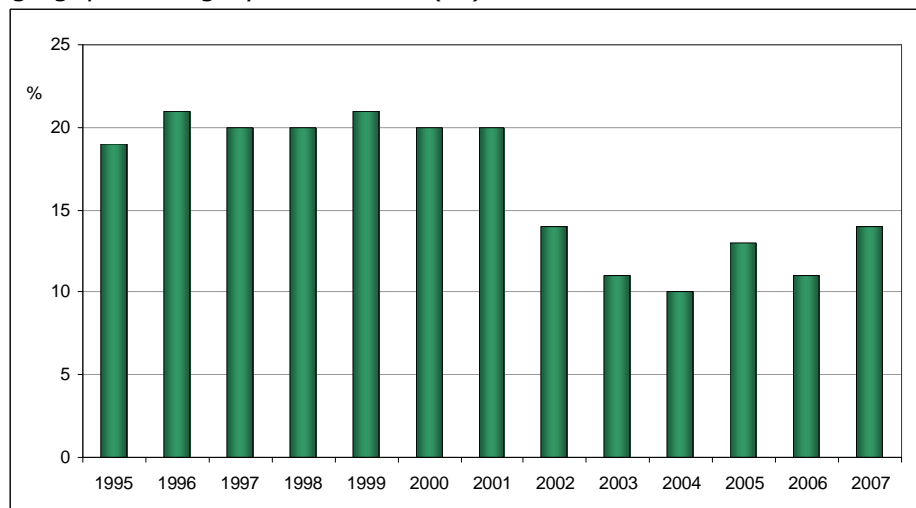


Source: Borbély, 2011

Between 2002 and 2006 the wage gap has decreased but by 2008 has somewhat increased again. This trend characterizes Greece, Romania, and Bulgaria as well.

According to Hungarian time series data, while the wage gap was around 20% in the mid-1990's it has decreased to 10-15% after 2002 (*Figure 2.*).

**Figure 2.** The wage gap in Hungary 1995–2007 (%)



Source: Borbély, 2011

## The wage gap in contemporary Hungary – a descriptive analysis

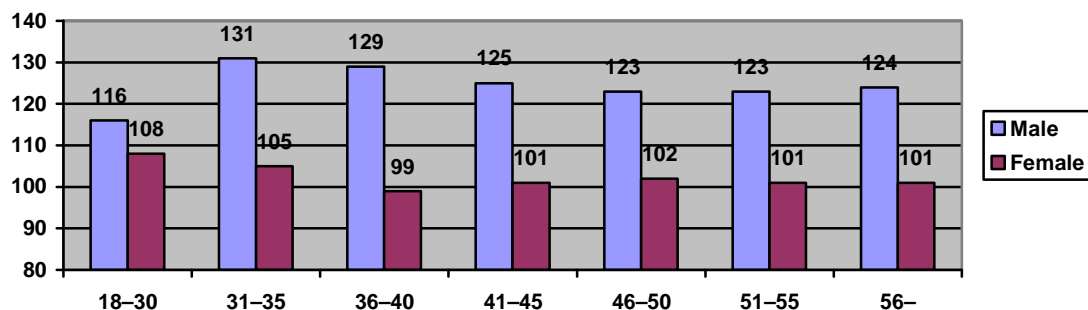
The level of wage gap in our survey was 16,2%, slightly above the result of the 2009 Wage Survey Database (WSD) and the Hungarian Central Statistical office data (13% and 14%, respectively) and close to the value of the comparative analysis (17%, Borbély, 2011).

As to the wage gap in the various labor market groups, compared to the average (16%) the wage gap is significantly higher among the civil servants (24%) and lower among the public servants and those employed in the NGO sector (10% and 6%, respectively).

According to WSD there is practically no wage gap between male and female in the youngest cohort (between 18 and 30 years old). Above 30, however, the age gap becomes significant and—though somewhat decreases with age—never disappears.

According to the TÁMOP survey the net monthly wage is rather similar below 30 but above 30 it increases sharply among males and decreases among females (*Figure 3*). Above 40 the wage level of both male and female remain more or less constant – so does the wage gap.

**Figure 3.** The net monthly wage of males and females by age cohorts in the market sector (thousand HUF)

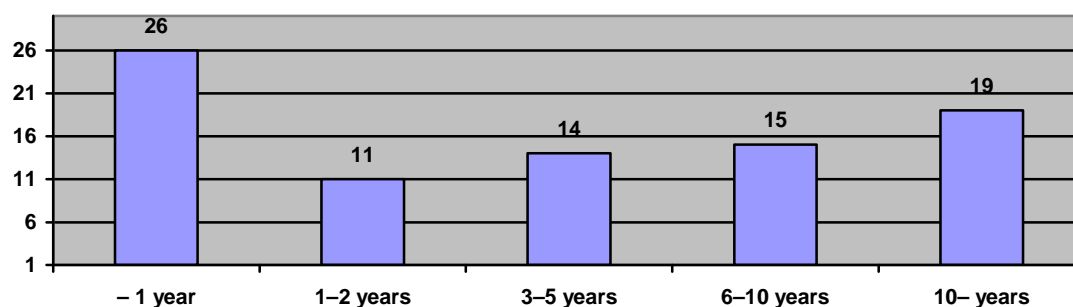


Females earn less than males in all categories of education but the wage gap sharply increases with the level of education. Moreover, both in the WSD and the TÁMOP surveys, the higher the labor market status, the larger is the wage gap. And, finally, there is a positive correlation between the level of wage gap and settlement status, i.e. the wage increases with settlement size (which is a good proxy for higher wage level and better labor market conditions).

The wage gap shows a U-shaped relationship with the length of the job (*Figure 4*). This means that females have a significant wage gap upon entering the firm which diminishes somewhat only to rise among the long time employees (the clear sign of the “glass ceiling” effect<sup>2</sup>).

<sup>2</sup> The glass ceiling metaphor has often been used to describe invisible barriers through which women can see elite positions but cannot reach them (Davies-Netzley, Sally A., 1998).

**Figure 4.** The wage gap by the length of the job (%)



It is hardly surprising that those with health problems earn less than the healthy (*Table 1*).

**Table 1.** The monthly net wage (thousand HUF) of males and females and the wage gap (%) by the level of health in the market sector

	Monthly net wage			Wage gap
	Male	Female	Total	
Major health problems	101,9	68,4	84,4	32
Minor health problems	127,3	96,3	112,5	24
No health problem	123,9	105,8	115,6	15
Total	124,1	104,0	113,9	16

It is not obvious, however, that

- women having health problems earn significantly less compared to men in similar situation,
- and why is the wage of women with minor health problems below the average while men with the same characteristic have higher than the average wage.

There are sectors in which females earn more than males or where there is no wage gap (typically the seasonal and low-wage ones such as construction, agriculture, transport) but usually males earn more than females (in rare cases (such as the financial services) twice as much).

As to the composition of ownership, the wage gap is the lowest in the state sector and higher in the market sector, especially among those who are employed in firms owned by Hungarian citizens (*Table 2*).

**Table 2.** The monthly net wage (thousand HUF) of males and females and the wage gap (%) by the owner of the firm in the market sector

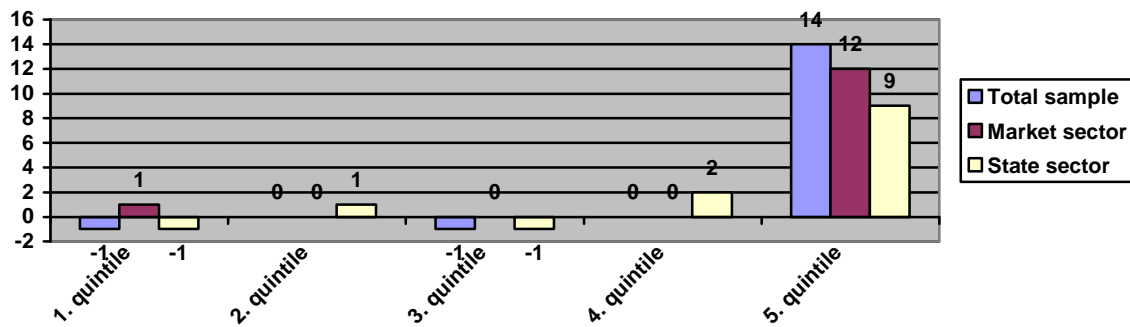
	Monthly net income			Wage gap
	Male	Female	Total	
Private firm/ Hungarian owner	116,4	95,0	106,8	18
State firm	118,4	108,0	114,8	9
Private firm/ foreign owner	137,5	118,0	129,7	14
Private firm/ mixed ownership	141,1	116,7	130,8	12
Total	124,1	104,0	113,9	16

Those employed in foreign owned firms or in mixed ownership—though the wage level among them is significantly higher than the average—have average wage gap.

## Wage gap and wage level

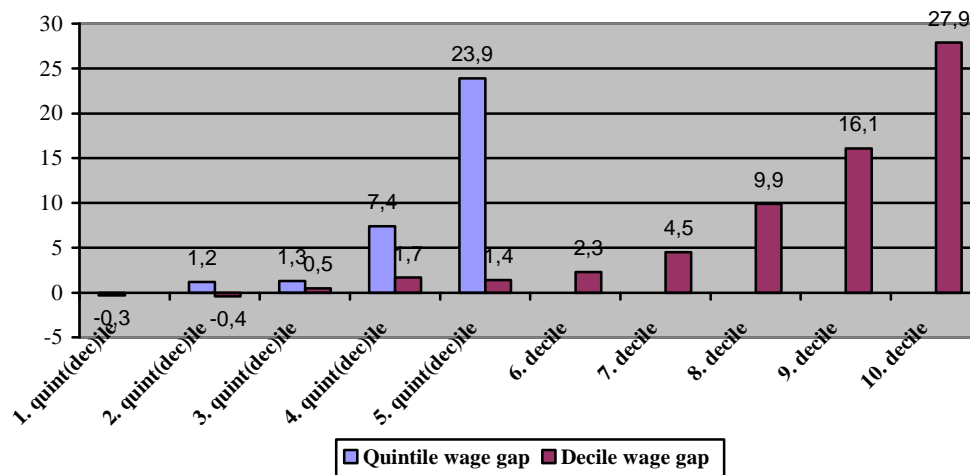
We already illustrated that the higher the wage the larger is the wage gap (*Figure 5*). However, if we analyze the level of wage gap by income quintiles we see that except for the highest quintile there is no wage gap between male and female.

**Figure 5.** The wage gap by income quintiles in the total sample, market and state sectors (WSD, %)



If we control for the different wage level between males and females and compute gender-specific quintiles and deciles we still see the strong influence of the “glass ceiling” on the wage gap, i.e. there is a wage gap only in the highest two quintiles (and especially in the 5. quintile) and in the highest three deciles (*Figure 6*).

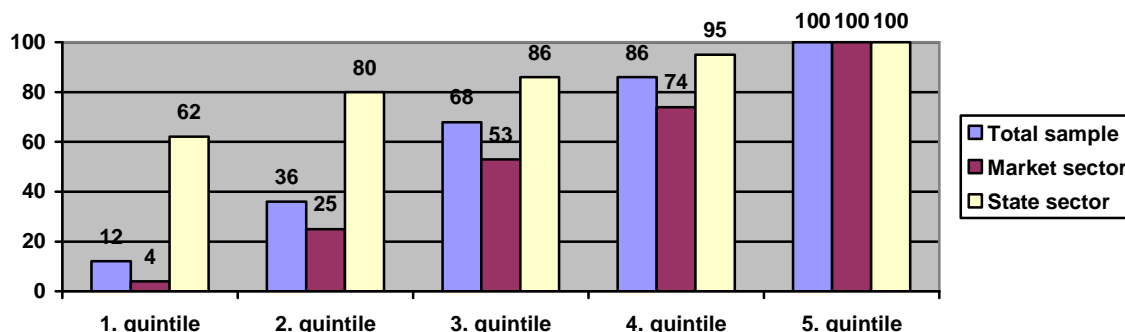
**Figure 6.** The wage gap by gender specific quintiles and deciles in the total sample (WSD, %)



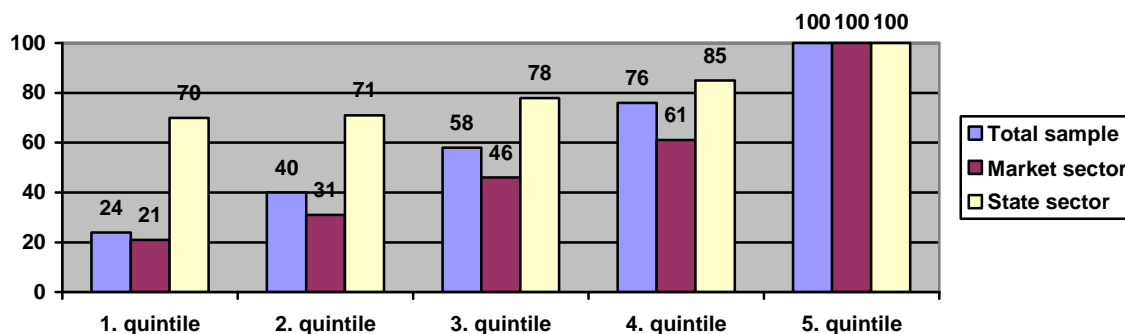
## Segregation

The level of gender based segregation is very pronounced by occupation and less by sector, and much more significant within the market sector compared to the state sector (which has high female employment rate) (Figure 7. and Figure 8.).

**Figure 7.** Gender-based segregation by occupation in the total sample, market and state sectors (upper limit of female employees, %, WSD)



**Figure 8.** Gender-based segregation by sector in the total sample, market and state sectors (upper limit of female employees, %, WSD)



According to TÁMOP survey (where the respondents estimated the proportion of male and female co-employees), on shop-floor level third of the employees work in (almost) all-male surrounding, fourth in (almost) all-female environment, i.e. about 60% of the respondents felt that they work in gender-based segregated jobs (Table 3).

**Table 3.** The perception of gender based segregation on shop floor level by gender (%)

Those working around her/him	Male	Female	Total
(Almost) only males	64	7	36
About half of them males	17	18	17
Less than half males	9	28	19
(Almost) no males	6	42	24
Do not know	4	5	4
Total	100	100	100

The employees have clear ideas in regard with the gender composition of their work environment (only 4% was uncertain). Males perceive stronger segregation than females: almost two thirds of the males but less than half of the females feel to work in co-gender dominated surrounding.

The following labor market features characterize the four occupational clusters created on the basis of gender-based segregation:

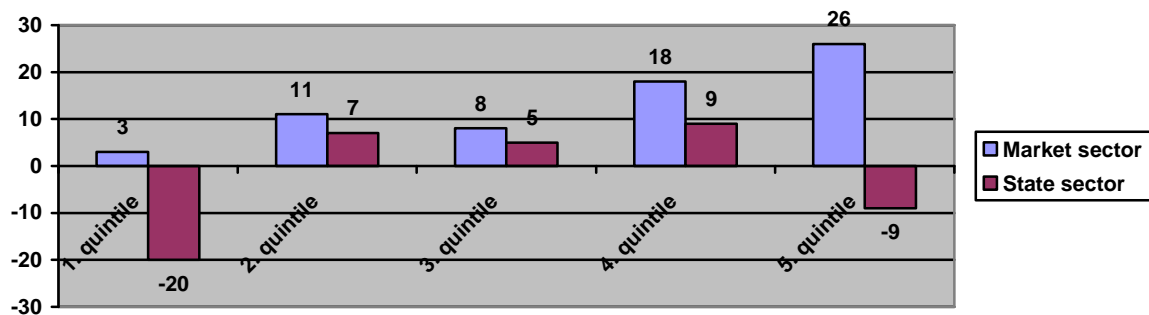


- male-dominated cluster (where the employees feel that (almost) all their co-employees are male): workers with vocational school education in jobs of processing industry with Hungarian owner, working often in night and weekend shifts as well as in irregular shifts,
- non-segregated cluster (where the employees feel that about half of their co-employees are male): jobs are in recently established Hungarian owned firms,
- female-overrepresented cluster (where the employees feel that more than half of their co-employees are female): "white collar" and tertiary sector workers in state sector,
- female-dominated cluster (where the employees feel that (almost) all their co-employees are female): "white collar" workers with at least secondary education in the state sector working only in regular shifts (neither weekend nor evening or irregular shifts).

### Segregation and wage gap

The relationship between the level of gender-based occupational segregation and wage gap in the total sample shows that while in the 1. quintile (few female) females earn more than males there is almost the same level of wage gap in all other quintiles. The relationship between the level of gender-based occupational segregation and wage gap differs significantly in the market and state sectors (*Figure 9*).

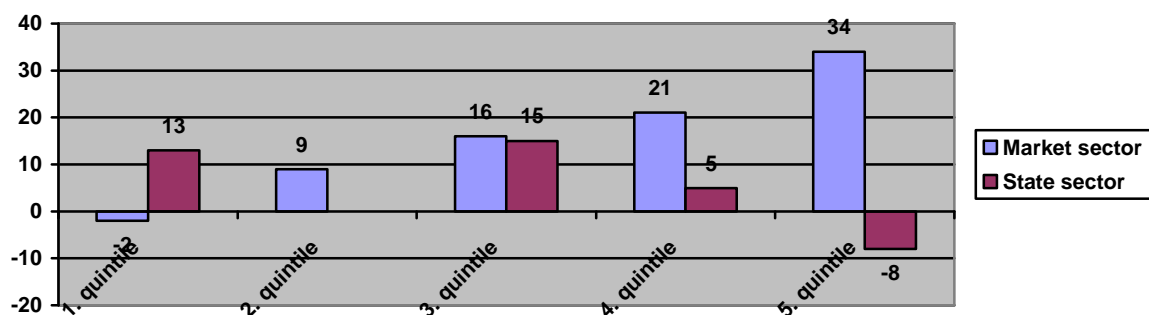
**Figure 9.** The wage gap by gender-based occupational segregation in the market and state sectors (% , WSD)



While in the market sector the larger the proportion of females the wider is the wage gap, in the state sector males earn less than females in the 1. and 5. quintiles, i.e. where the proportion of females is the lowest and the highest.

As to sectoral gender-based segregation, while in the male dominated quintiles there is no wage gap it is increasing towards the larger proportion of females, i.e. in the 4. and 5. quintiles. These trends, however, again differ in the market and state sectors (*Figure 10*).

**Figure 10.** The wage gap by sectorial gender based segregation in the market and state sectors (% , WSD)



*Note:* No data in the 2. quintile of the state sector.

While in the market sector the trend is similar to that of the gender based occupational segregation (i.e. the higher the proportion of females, the wider is the wage gap), in the state sector the case is

the opposite, the wage gap diminishes with the growing share of females and in the female dominated quintile the males earn less.

In the market sector of the TÁMOP survey the wage gap is the highest where the perceived proportion of females is the highest (and where the small group of males is likely to be some sort of managers – another indirect sign of the glass ceiling) (*Table 4*).

**Table 4.** The monthly net wage (thousand HUF) of males and females and the wage gap (%) by the perceived proportion of males and females in the market sector

Among the co-employees	Monthly net wage			Wage gap
	Male	Female	Total	
(almost) all male	123,6	107,8	122,1	13
About half of them male	126,1	105,9	116,0	16
Less than half of them male	112,0	99,9	103,6	11
(almost) all female	139,8	103,0	108,2	26
<i>Total</i>	124,1	104,0	113,9	16

## The models of wage determination – with special emphasis on the role of gender

Based on the wide range of wage regression models developed on WSD and TÁMOP, the general finding is that after controlling for the effects of all other relevant labor market factors

- being male significantly increases the wage level, and
- this effect is stronger in the market than in the state sector.

As to the role of other factors in determining the level of wage, we found the standard findings of the literature, i.e.

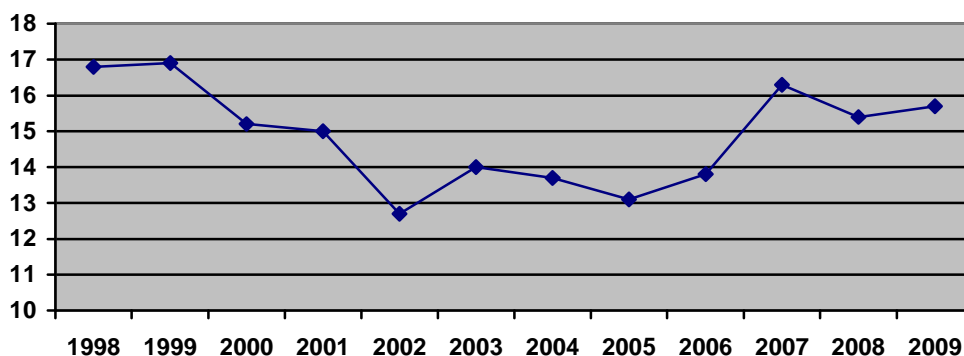
- wage (degressively) increases with age,
- lower education decreases, managerial position increases the level of wage,
- compared to agriculture (except construction, retail trade, and education) the wage level is higher in all other sectors,
- the bigger the firm, the higher is the wage (except for the smallest firms), and
- In the market sector non-Budapest firms have higher, in the state sector non-Budapest firms have lower levels of wage.

The TÁMOP survey confirmed what we learned concerning the role of gender in the wage determination model, i.e. being male significantly increases the level of wage in the whole sample, in the market sector and among civil servants. However, in the NGO sector and among public servants gender does not have any significant effect on wage. Moreover, from the TÁMOP models we learned that,

- age has a significant role in wage determination only among public and civil servants,
- the role of education in increasing wage is strong (and the role of higher education is especially significant among civil servants),
- being a manager increases wage (except for the NGO sector and among civil servants),
- in the market sector a “white collar” position increases, being a new recruit decreases the wage level,
- previous spell of unemployment (except in the NGO sector) and previous discrimination experience (except in the NGO sector and among civil servants) decreases wage,
- in the market sector those who are proud of and like their work are likely to have higher wage,
- in the market sector being employed in smaller, more recently and the opposite (the earliest) established as well as non-Budapest firms decreases, being employed in a foreign owned firm increases wage,
- in the NGO sector working in firms in the backward regions decreases, being employed in NGO in Budapest or in villages as well as in smaller units increases wage,
- public servants employed in South-East Hungary and in Budapest have higher wages.

Comparing the wage regression models in 2001 and 2009 we did not find any significant change in the structure of wage determination, and as the following figure illustrates the role of gender in this process has not change significantly since the late-1990ies (*Figure 11*).

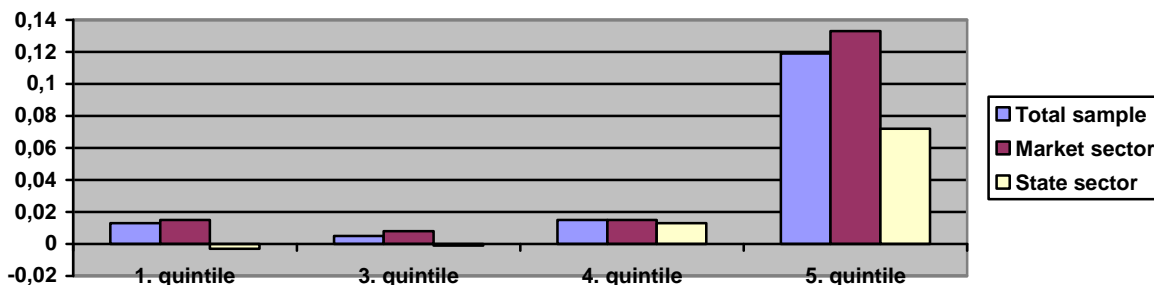
**Figure 11.** The role of gender in determining the level of wage, 1998–2007  
(standardized beta coefficients in percentage, WSD)



Source: Bálint, 2010

When controlling for wage level we found that while in the first four quintiles gender has no effect on wage level at all, only at the highest wage level (in the 5. quintile) has gender a significant role, i.e. similar to what we experienced before, being male significantly increases the level of wage but only close to the glass ceiling (and this is especially true in the market sector) (Figure 12).

**Figure 12.** The role of gender in determining the level of wage by wage quintiles (standardized beta coefficients, WSD)

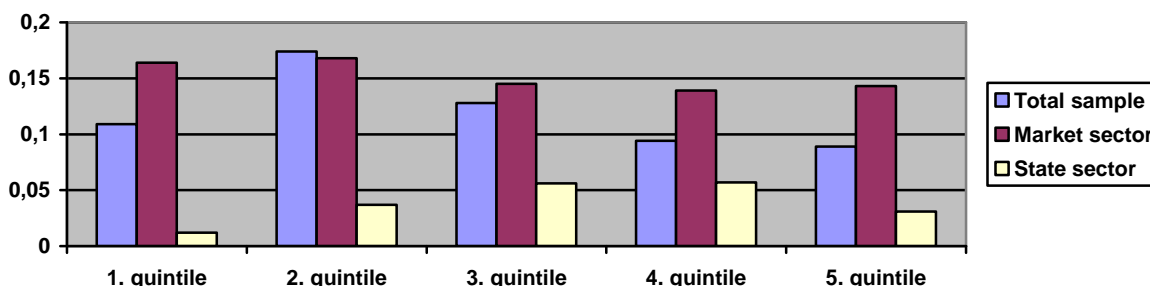


The TÁMOP survey again confirmed the finding above, i.e. it is the highest quintile where being male has the largest wage advantage.

Finally, we tested the role of gender on wage level in the different gender-based occupational and sectoral segments of the labor market. As Figure 13 and 14 show in the total sample being a male always has a significant and positive influence on wage level.

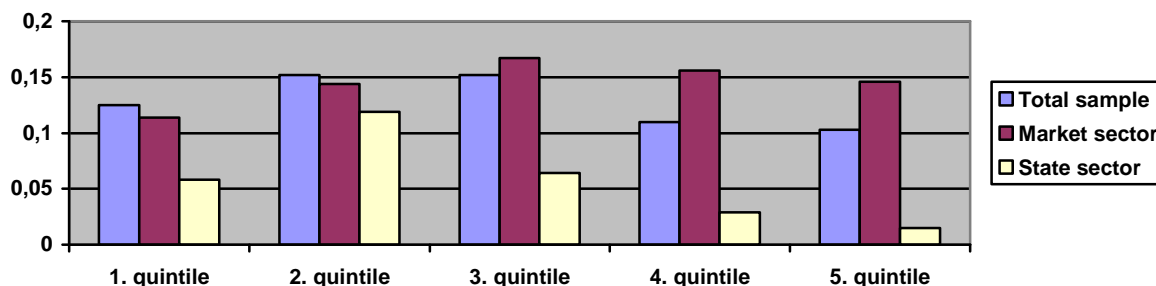
In case of gender-based occupational segments, the wage advantage of males is significantly larger in market sector compare to the state sector.

**Figure 13.** The role of gender in determining the level of wage by gender based occupational quintiles (standardized beta coefficients, WSD)



In case of gender-based sectorial segments it is also true that the advantage of being male is higher in the market sector than in the state sector. However, in the latter case the variation by quintiles is much larger than it was in the previous case (occupational segregation).

**Figure 14.** The role of gender in determining the level of wage by gender based sectoral quintiles (standardized beta coefficients, WSD)



In case of sectoral segregation while there is a significant male wage advantage in the 2. quintile, this almost completely disappears with the increasing proportion of female employees.

### Summary and conclusions

According to the conventional approach the wage gap in Hungary is between 13–18 %, and with this Hungary is around the average in Europe. As to the time series in Hungary, the wage gap is rather stable in the past decades. To sum up the two statements we can conclude that the Hungarian women earn about 10-20% less than men, and this cannot be modified in the short run.

However, in light of detailed analysis this conclusion should be modified. The average woman assumed by this approach does not exist. There is, however, on the one hand the glass ceiling, on the other segregation (both occupational and sectoral sense) that—through the combined effect of different socio-demographic and labor market factors—cause rather strong wage disadvantage for a small and special group of women. The large wage gap of these women creates the illusion of the wage gap of the average woman compared to the average man.

The models on the contrary show that the cumulative effects of some socio-demographic and labor market factors increase the probability of wage gap in special circumstances only. But this is more the exception than the rule, i.e. there is no wage gap on the overwhelming part of the labor market. The bad news is that this part of the labor market covers all low and medium income occupations and sectors, i.e. all those situations where there is no chance for career. These jobs do not have glass ceiling but the employees can watch only the open air or concrete ceilings only.

Women have large wage disadvantage if they work in market sector jobs where men have high wages and/or the proportion of female employees is high. On the contrary, being employed in the NGO sector and as a public servant favors for women.

## Bibliography

- Bálint, Mónika (ed.) (2010). Statisztikai adatok. In *Munkaerőpiaci Tükör 2010*, eds. by Fazekas, Károly and Molnár, György. Budapest: MTA KTI-OFA.
- Bazsalya, Balázs and Boda, Dorottya (2010). Bérezési rendszerek, bérmegállapítás. In *Munkahelyi foglalkoztatási viszonyok 2010*, eds. by Neumann, László and Simonovits, Bori, Budapest: Emóció Bt., Manuscript.
- Borbély, Szilvia (2011). Nők és férfiak béregyenlőtlensége Magyarországon. In *Szerepváltozások 2011*, eds. by Nagy, Ildikó and Pongrácz, Tiborné. Budapest: TÁRKI/NEF, 111–132.
- Davies-Netzley, Sally A. (1998). Women above the Glass Ceiling: Perceptions on Corporate Mobility and Strategies for Success. *Gender and Society*, Vol. 12, No. 3.
- Frey, Mária (2011). Nők és férfiak a munkaerőpiacon, különös tekintettel a válságkezelés hatásaira. In *Szerepváltozások 2011*, eds. by Nagy, Ildikó and Pongrácz, Tiborné. Budapest: TÁRKI/NEF, 17–48.
- OECD Employment Outlook – Moving Beyond Crisis (2010). Statistical Annex, OECD, Geneva.