

Gender wage gap

Belgium, Hungary and the Netherlands

Edited by Szilvia Borbély

EQUAL

eSolution: Equal pay for equal work!

I. Joint research report

Amsterdam-Budapest-Brussels

May 2007

European Social Fund - EQUAL

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Introduction

Within the framework of EQUAL program three development partnerships (DPs) – the Belgian “Dicht de gender loonkloof” ([BEnl-28](#)), the “Dicht de loonkloof(m/v)!” ([NL-2004/EQH/0016](#)) from the Netherlands and the “Egyenlő munkáért egyenlő bért! e-BérBarométer” ([HU-6](#)) – make joint effort to fulfil the tasks in their transnational cooperation agreement (TCA) “e-Solution: Equal pay for equal work!”. The common interest of the DPs taking part in the TCA derives from common problems, like the persistent wage gap between male and female employees.

The basis of cooperation and common methodology is the electronic WageIndicator and database created originally by the DP in the Netherlands. The Hungarian and Belgian DPs adopted in an innovative way the methodology and tools. The common methodology used in building up the WageIndicator database allows for cross-country comparability and meaningful transnational exchange.

The present paper is the first of the two joint papers trying to analyse wages and incomes with focus on the gender pay gap and to present a comparative overview on working conditions with focus on reconciliation of duties at work and in the family.

In the first two chapters of the present joint paper we give an overview on the WageIndicator data for Belgium and Hungary. Furthermore, we present the results of analysis explaining the gender pay gap. In the third chapter we find the relevant information on WageIndicator data and gender pay gap in the Netherlands.

For Belgium, the data were collected from several intake points. The Belgian trade unions have opted to set up different websites to cater to the specific needs of their audience. They have data intake points for both their Flemish and French clients. The data collection runs through these dedicated data collection channels. All in all 21 368 people have completed the questionnaire during the period of November 2004 - December 2006.

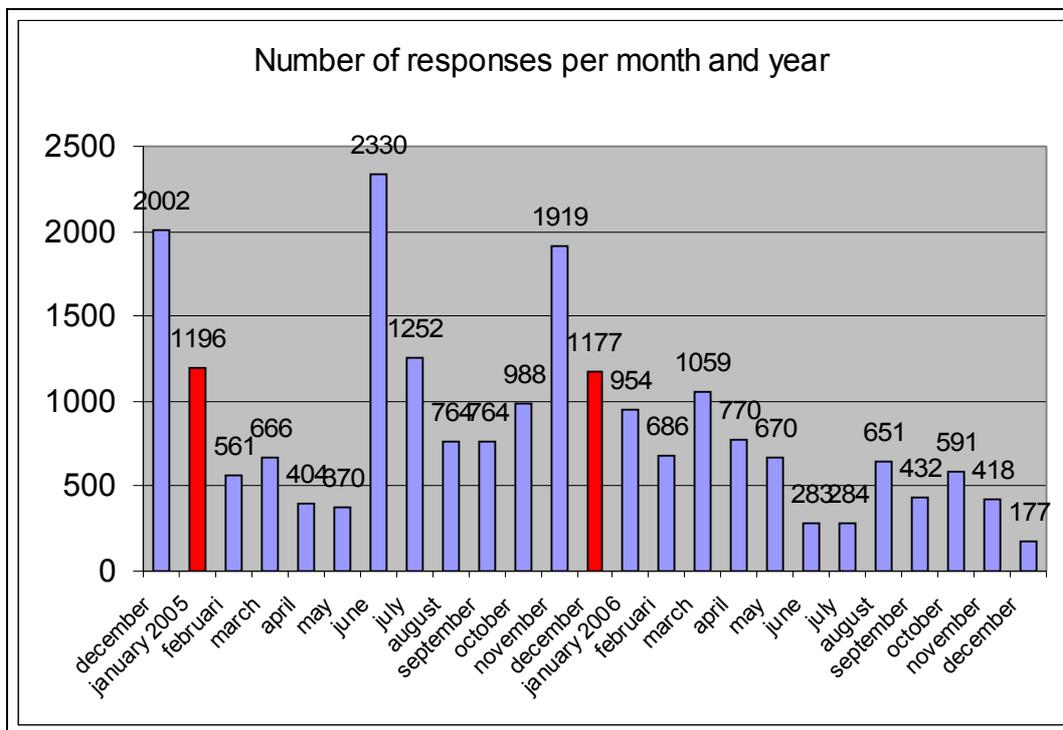
Hungary started the data collection later, using paper questionnaires as well. The first sample of 2 500 data was ready by May 2006 (made by professional surveyor company). The second sample of 2 500 data was ready by October 2006 (made by trade union activists). In case of Hungary we use the first results of a raw (5 000) and an adjusted (3 031) sample to test the questionnaire, to elaborate the methodology for the income analysis, to analyse the nature of gender pay gap in Hungary. The adjusted (filtered) database does not take the data into consideration if the answer concerns a questionnaire where there is no answer on wage, the respondent is self-employed, own-account workers, free-lancers, family workers, pensioners, employed in part time jobs or is over and under 25-55 years.

In the Netherlands the WageIndicator website for women has been initiated in September 1999, and by August 2003 already approximately 54 000 questionnaires were completed. In this case we see not only the wage gap but use the innovative approach to look at the female cumulative life earnings gap as well.

Belgium

1. Belgium, monthly responses

We have been collecting data since the end of 2004. Red bars signify the beginning of each new working year. It is striking that both for the end of 2004 and the end of 2005 we have a big peak in the number of responses. In 2004, we had made an extensive promotion for the website around this period. The peak at the end of 2005 can be explained by the election of the 'Loonwijzer.be' website as 'website of the year' by the readers of the biggest economical newspaper (de Tijd) in Belgium.



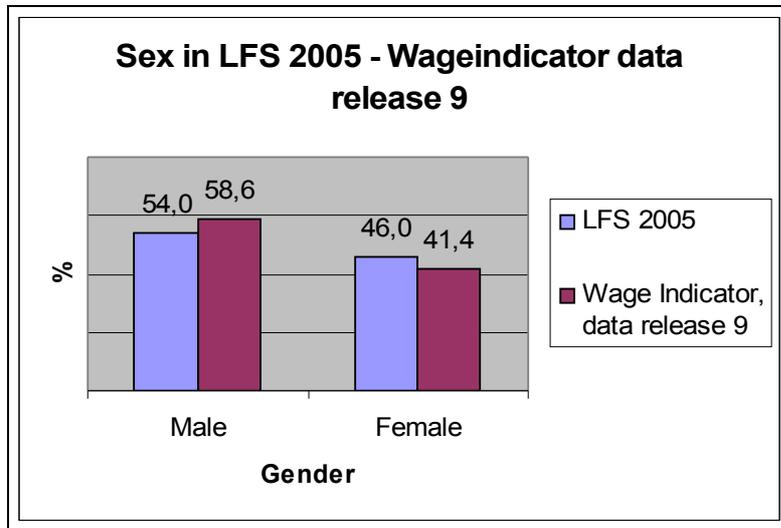
Source: Wage Indicator, data release 9

In the middle of year 2005, in June, we had the highest peak in the number of respondents. During this period, we published an announcement in 'Visie', a trade union magazine with a reader basis of 1.2 million people, which triggered an enormous amount of respondents.

2. Representativeness

Unlike a traditional paper survey, for which there is a sampling framework available, the WageIndicator survey is open to be filled in by everyone who has access to the Internet. Because of the lack of a sampling frame, we need to find other ways with which the conclusions drawn from the results of the data analysis can be generalized. For this purpose, we use the Labour Force Survey (LFS) of 2005. We choose a number of characteristics included in this questionnaire, compare the results with the data from the WageIndicator (WI) database release 9, and establish the common points.

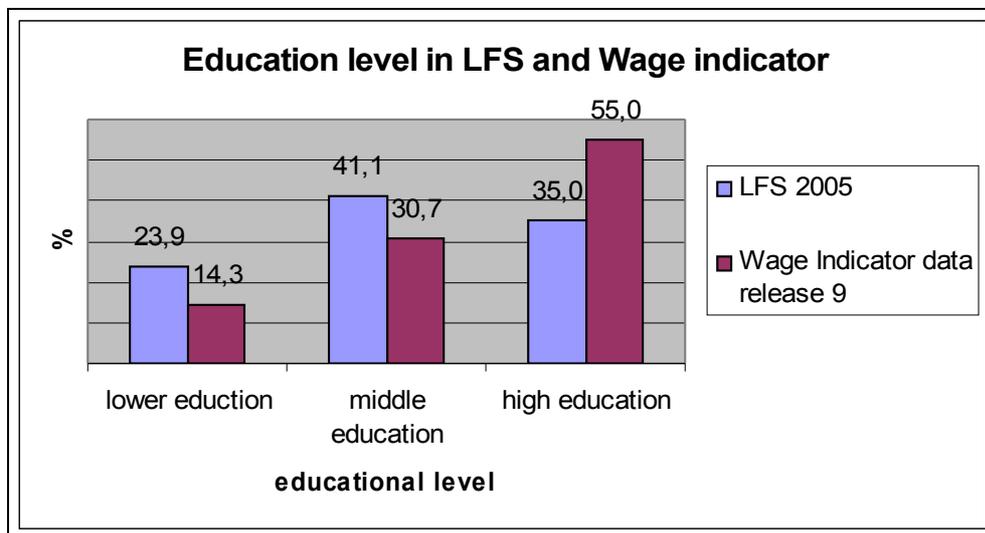
We will take into account the following four characteristics: sex, education, age and industry. First of all, we will examine the distribution of sample according to gender. To what extent is this distribution comparable?



Source: LFS 2005, WI release 9

About 54% of the respondents of the LFS were male. For the WI survey, this number was a bit higher, almost 59%. Nevertheless, the distribution in terms of gender is relatively similar.

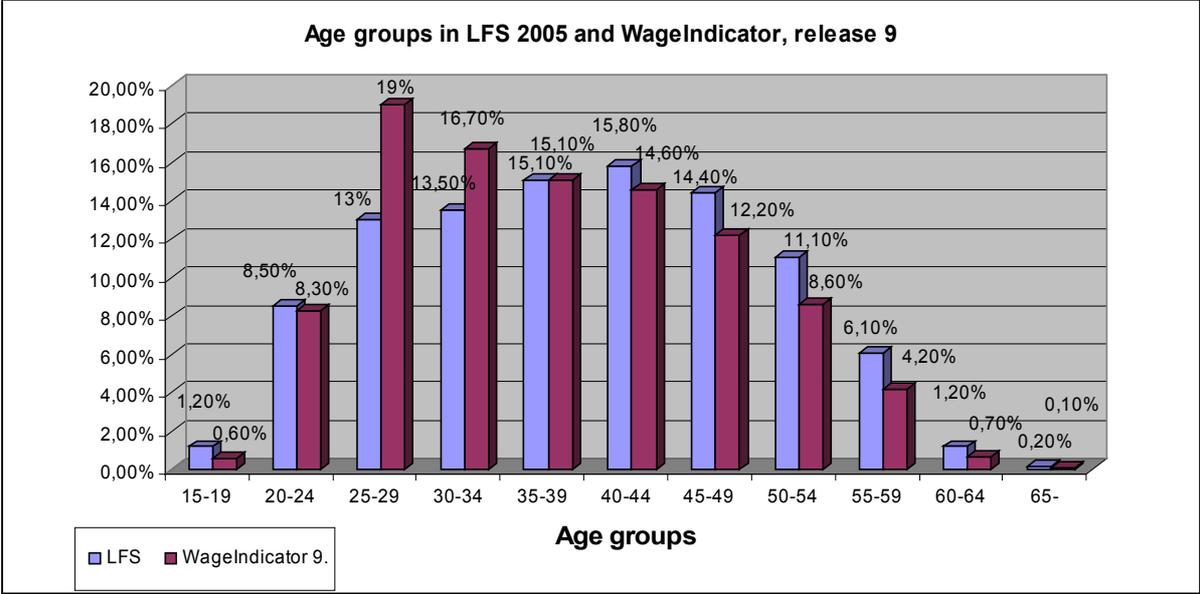
However, when we examine the educational level, differences between the two questionnaires become more pronounced.



Source: LFS 2005, WI release 9

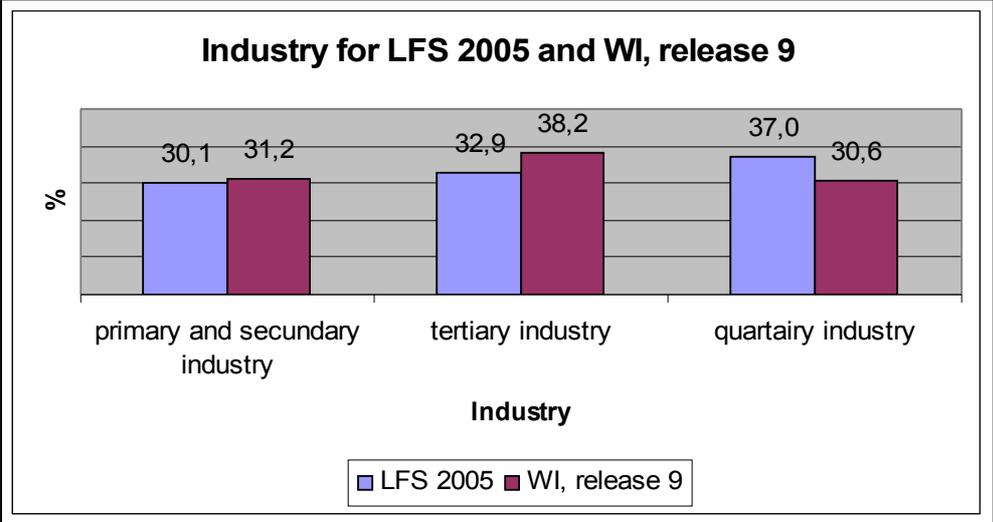
Before we discuss these results, let us clarify what we meant by different education levels. By lower educational level we mean a degree in lower secondary education. By middle educational level we mean a degree in secondary education while in higher educational level means a degree in any educational degree that comes after secondary education. Among LFS respondents, around 41% has a middle education level. A lesser percentage of the respondents have a degree in higher education. If we compare these rates to those we can find in the WI questionnaires, we notice a different trend.

For the WI, the majority of the respondents obtained a degree in higher education. More than half of them followed a post-secondary education. We can conclude that compared to the LFS, a lower percentage of the respondents are lowly educated and more of them have a high educational level. This result could be expected, because even today there are still biases for using the Internet. **Highly educated people still use the Internet more often than lower educated people**¹.



Source: LFS 2005, WI release 9

When we compare the distribution of age for both the LFS and the WI results, we notice a similar profile at the respondents. However, there is one striking difference. For the WI we have substantially more respondents in the age groups of 25 to 34 year-old. We can conclude that the **WI websites attract relatively younger persons who are starting to build up a career and are looking for valuable information on wages.**



Source: LFS 2005, WI release 9

¹ <http://aps.vlaanderen.be/statistiek/cijfers/media/ICT/huishoudens/Vlaanderen/MEDIICTHV008.xls>

When we look at the distribution of industry, we get similar results for both questionnaires. 1/3 of respondents in LFS survey work in the commerce. A bit more than one third works in the public service industry while 30% works in the primary and secondary industry.

For all these characteristics (gender, educational level, age, industry), we have calculated weights based on the LFS 2005 and we have applied them to the WI data release 9. Thus, we would be able to make more general representative claims, based on our data.

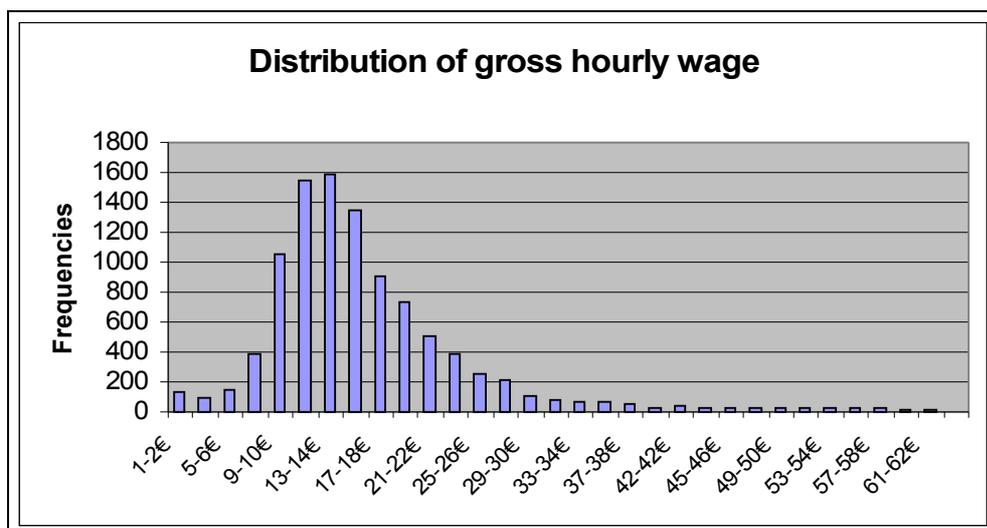
It is equally important to mention that we have restricted the analysis to employees. This means that we have excluded the self employed, the apprentices, etc. systematically from the analysis, because of their different wage situation.

3. Gross hourly wage in Belgium

For all the wage calculations involved in the analysis, **we use the gross hourly wage**. We prefer to use this constructed measure instead of the monthly wage, which is directly measured to filter out the wage differentials caused by part time work. We live in a society that requires workers to become more and more flexible. In certain occupations, the number of part time workers is on the rise. To illustrate this, 14.8% of all the respondents of the WI has a part time job.

So what does it mean to get a monthly wage if you don't take the hours spent on working into consideration? For some people a working week is 40 hours long, for others 38 hours or less. Just using the monthly wage would give a flawed result in comparing wages. That is why we consider the number of working hours as the basis of the analysis of the monthly gross wage of employees.

In the figure below, we can find the distribution of the gross hourly wage for all the respondents of the WI data collection.



Source: WI release 9

For this data presentation, we have left out all the outliers. This means we have not taken into account those gross hourly wages which are lower than €1 and higher than €65. The data appears to be fairly normally distributed.

We find that the average wage is €16.6 /hour when we don't take into consideration the wages of the outliers as presented above. The median gross hourly wage is a bit lower. This amounts up to €14.5 /hour which is approximately two Euro lower than the average wage.

4. The gender pay gap

In this section, we will have a closer look on the distribution of male and female wages. We will define the gender wage gap in absolute terms. Furthermore, we will offer an explanation of the gender pay gap. How do person related, function related and company related variables affect the gender wage gap? What types of variables have the biggest impact?

For this analysis, we take into consideration that outlier can influence results in an unfavourable way. Therefore, we take only those answers into consideration where the gross hourly wages are between €1 and €65 /hour.

We know that the mean wage is €16.6. Do we find a difference between the wage of men and women? Apparently we do. On average, male respondents earn €19.0 /hour. Female respondents earn considerably less, €14.6 /hour.

Regression analysis shows us that the gender pay gap (female/male) amounts up to 16.5%. In scientific literature, we find different hypotheses which try to explain the gender pay gap. One explanation is that there is a difference in the age structure between working men and women. Working women are considered to be younger, have less experience and thus earn less. Many of them work part time and the combination of work and family life restricts their possibility of finding better-paid jobs². Furthermore, the labour market is horizontally and vertically segregated. In many of the organizations dominated by men there is a glass ceiling or a sticky floor that prevents women from reach better-paid jobs³. This is what is meant by **vertical segregation**. The labour market is also **horizontally segregated**: women work more often in industries that pay less.

On the basis of these theoretical elements, we look for an explanation in the wage differences between men and women. **We do this using a linear regression with the natural logarithm of the standardized gross monthly wage as the dependent variable. By means of this regression analysis, we investigate to what degree the height of the wage can be explained by a number of elements.**

Based on these theoretical assumptions, we **distinguish three groups of variables** that have an impact on the height of the wage. First of all, there are the **objective attributes of the person involved**. To the analysis, we use personal attributes like *age, working experience, educational level and the number of children*.

² Geurts, K., Van Woensel, A. (2005), *Genderzakboekje 2005: Hij en zij op de arbeidsmarkt*, Steunpunt WAV: Leuven

³ Wirth, L. (2001), *Breaking through the glass ceiling. Women in management*, ILO: Geneva

Apart from these personal attributes, we can expect *the occupied post* to have a big influence too. An employee receives a wage for the function he performs within a company. His job will determine to a high degree the amount of money he receives. The job-specific characteristics we include are the *functional domain in which the respondent works, the occupational group, the functional family, his hierarchical position, the number of subordinates, job autonomy, pressure at work, the complexity of the job, the duration of labour and the type of contract.*

Furthermore, there are *characteristics typical for the organization* that can influence the wage. These are the industry, the *size of the company, the nationality of the employer, the region, the number of women in the organization, whether there is a collective bargaining agreement and whether there is a representation of the trade union.*

The table below summarizes all the variables we include in the regression model.

An overview of all the included variables

Person related characteristics	Function based characteristics	Company based characteristics
Sex (male – female)	Functional domain (white collar worker, blue collar worker, staff level, civil, other)	Industry, based on joint committee
Age	Job autonomy	Number of women in the company
Number of years of working experience	Work pressure	Trade union representation
Level of education (low, medium, high)	Hierarchical level (number of subordinates)	Size of the firm
Children	Complexity of the job	
	Part time or full time	

Source: WI, data release 9

The regression analysis allows us to determine the effects of a variable on the wage gap between men and women

4.1. Person related variables

In our model, we have incorporated several person related variables, e.g. age, work experience with the current employer (work experience quadrupled), educational level and the number of children.

First of all, we will have a closer look on the gender variable. For our research this is a crucial variable when we want to establish gender differences. For each group of control variables, we have looked at the impact of gender on the pay gap. Consequently, we will measure the joint impact of the different person related characteristics on the gender wage differences. In order to arrive at such an estimate, we analyze the parameters of two different regression models. Both models have the gross hourly wage as a dependent variable. In the first model, we only introduce gender as an independent characteristic. In the second model, we also include different person-related variables. The relative change in the gender parameter can be interpreted as the effect of the several person related characteristics on the gender pay gap.

Effect of gender and person related variables on the standardized gross hourly wage

Model	Variables	Adj R ²	B	% exp(b)
1	Gender	0.027*	-0.18	16.5%
2	Gender + person related variables	0.146 *	-0.19	17.6%

* Level of significance p=0,001

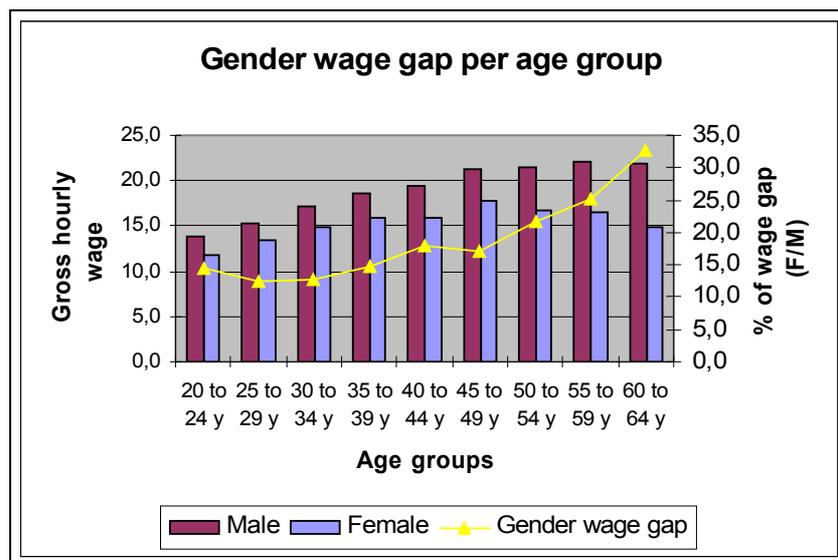
Source: WI, data release 9 (weighted data)

The overall gender pay gap in our regression model 1 amounts up to 16.5%. **This means that if we don't apply other variables, the wages between men and women differ more then 16%.** In the second model, we add a number of person related variables. When we enter these variables the gender pay gap increases slightly by more then one percent. The fact that working men and women differ in terms of age, experience, educational level and the number of children increases the existing wage gap. This means that human capital characteristics do not have an explanatory value when it comes to the gender pay gap. On the contrary, they increase it.

4.1.1. Age groups

The education variable turned out to have the biggest impact on increasing the gender pay gap. That is why we opted to further investigate this variable. Further more, we are also interested in the relationship between the age of the respondents and the gender wage gap. Do we find a gender wage gap for all the age groups? Is the gender wage gap larger for the older segment of the labour market as we might expect? We will explore this relationship first.

Before we discuss the analysis in detail, it is important to know how to interpret the graphics that will follow. The columns represent the gross hourly wages of both men and women. The axis for the interpretation of these wages is found on the left. The yellow line presents what percentage of women earns male wages. The axis with these percentages is found on the right.



Source: WI, data release 9, weighed data

From these data, we can conclude that there is a persistent gender pay gap between all the different age groups. Male respondents earn more than their female counterparts in all age groups. The gender wage gap however is not equally distributed among these different groups. It is considerably larger among older people. We notice a small lump in the group of 45 to 49 year old. In this group, the set trend is broken and the wage gap slightly diminishes from 18% to 17%. Afterwards, the rise of the gender pay gap continues steadily.

No surprise that the largest gender pay gap is in the oldest group. It amounts up to 32.6%. Variation between the pay gaps in the different age groups is considerably larger. There exists a difference of 20 between the gender wage gap of the oldest and the second youngest group.

4.1.2 Education

A second relationship we want to investigate is the relationship between the educational level and the gender wage gap. Our hypothesis is that the gender wage gap is larger for the more highly educated group. Highly educated people are more often employed in higher paid jobs so we can suppose that their average wage is higher.

The impact of education on the evolution of wages is ambiguous. The difference in the wages of low and medium educated persons is particularly small. Low educated men earn €17.0 /hour while middle educated men earn €17.5 /hour. This difference in hourly gross wage is not really pronounced. For women we find a reversed situation. Medium educated women earn less (€14.1 /hour) than low educated women (€14.4 /hour), even though the difference between the two types of wages is minimal.

The difference in educational level only becomes visible in the difference between medium level and high level degrees. Highly educated men earn €4.5 /hour more than medium educated men. For highly educated women, the difference is smaller. They earn €2.6 /hour more than their medium educated counterpart.

We can conclude that the impact of education between low and medium educated respondents is negligible. There is no significant difference in the pay people receive when they have finished up to the lower secondary education level or when they have finished the secondary education level. The difference in educational level only pays off when people start to be highly educated.

The gender wage gap rises significantly with the educational level. For low educated women earn 15.1% less than low educated men. This difference increases steadily with the educational level. For middle aged women, this rises up to 19.3%. High-educated women earn almost one five times less than their male counterparts.

4.2. Function related variables

What is the significance of the function one fulfils within a company in explaining the wage differences between men and women? Similar to the model we discussed with personal variables, we looked at the effect of the type of job on the gender wage gap. Our hypothesis is that the characteristics of the job have a big influence on the gender wage gap. From the theory about the gender wage gap, we know that the labour market is horizontally and vertically segregated. Women work in different types of job than men. Based on these

theoretical assumptions, we can expect a big influence of these characteristics. The function based characteristics we have taken into account are the functional domain, the job autonomy, the work pressure, the hierarchical level, the complexity of the job and full time versus part time work.

If we include these function-based variables in the analysis, the gender pay gap diminishes dramatically.

Effect of gender, person related and job related variables on the standardized gross hourly wage

Model	Variables	Adj R²	B	% exp(b)
1	Gender	0,027**	-0,18	16.5%
3	Gender + characteristics of the job	0,121**	-0,140	13.1%
4	Gender + characteristics of the person + characteristics of the job	0,187**	-0,130	12.2%

** Level of significance p=0,001
Source: WI, data release 9 (weighted data)

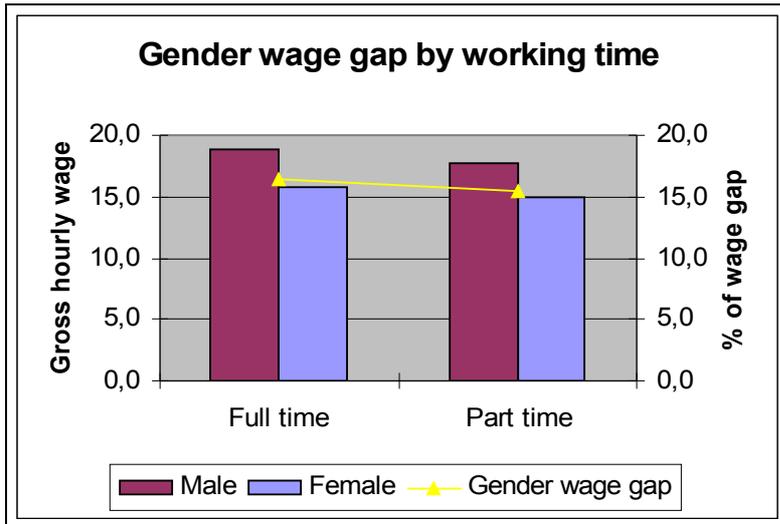
The gender pay gap diminishes from 16.5% to 13.1%. More than 3% of the gender pay gap can be attributed to the difference in the jobs of men and women. This difference turns out to be the most important one in explaining the gender pay gap.

We will discuss a number of these job specific characteristics in detail. We will examine to what degree part time work, the scope of control and the complexity of the job influence the gender wage gap.

4.2.1 Full versus part time work

A first characteristic we discuss is the degree to which full and part time work influences the gender pay gap. Before exploring the analysis for this variable, let me explain that the gross hourly wage as we calculate it takes the real number of hours people work into account. So we take the real difference in hours into account that a full timer and a part timer works. On the basis of this data, it is possible to make an ‘honest’ comparison between a part and a full time worker.

This being said, let’s have a closer look at our data. Our hypothesis is that part timers earn less then full timers. We expect full timers to have more opportunities to prove themselves within the organization and thus have more promotion opportunities.

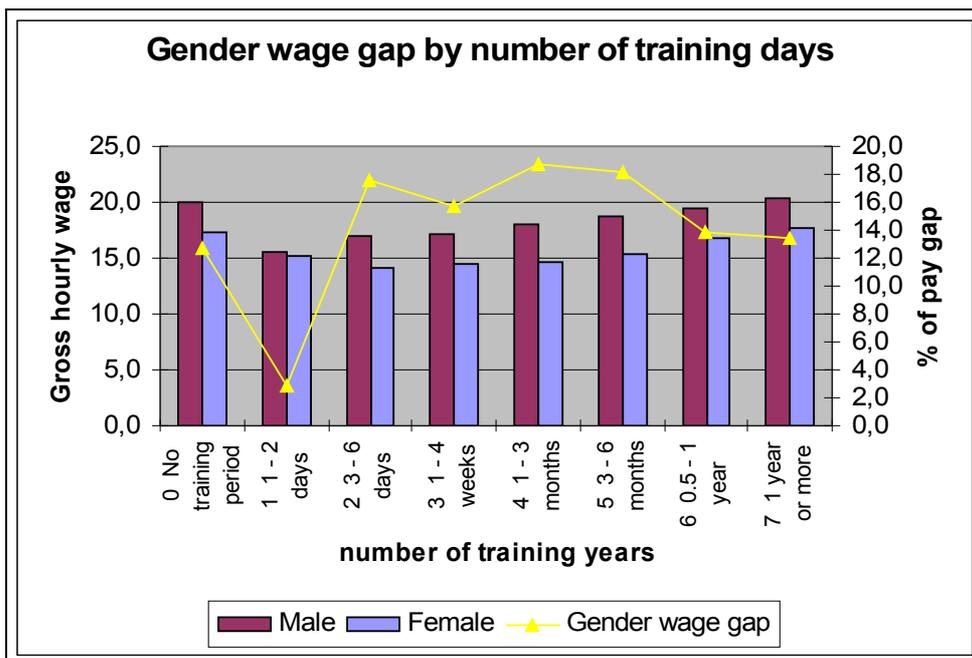


Source: WI, data release 9 (weighted data)

The hypothesis we formulated does not hold. We cannot conclude that there is a significant wage difference between full time and part time working males or females. The gender wage gap for both groups revolves around 16%. In other words, working full or part time has no effect on the size of the gender pay gap. In itself, the explanatory factor of part time versus full time work for explaining the gender pay gap is minimal.

4.2.3 Complexity of the job

A second characteristic we want to explore in relation to the gender wage gap is the complexity of the job. In the WI, we don't have a variable to measure complexity of the job directly. That is why we use "the number of training days to do the job" as a proxy variable. We can expect that there is correlation between the number of training days to master a job and the wage you earn. However is there a correlation with the gender wage gap?



Source: WI, data release 9 (weighed data)

What is striking in this figure is that jobs where no formal training is required are among the jobs with highest earning. Equally striking is the fact that the gender wage gap diminishes dramatically when only one to two days of training is required. When up to 6 months of training is required, the gender wage gap is fairly high (between 16% and 18%). From then on the gender wage gap diminishes again up till approximately 13.5%.

All this seems to indicate that the gender pay gap is small in jobs that are fairly ease to learn. The more complex the job becomes, the more training is required and the higher the wage gap becomes. The effect of training time diminishes when the training period exceeds six months.

4.3 Company related variables

A third series of variables that we have employed in explaining the gender wage gap are variables, relating to the characteristics of the company. We have taken into account the industry, the number of women that work in the company, whether there is a trade union representation and the size of the firm.

Regression analysis, relating to company related variables

Model	Variables	Adj R ²	B	% exp(b)
1	Gender	0,027***	-0,18	16,5%
5	Gender + characteristics of the company	0,088***	-0,159	14,7%
6	Gender + characteristics of the person + characteristics of the job + characteristics of the company	0,111***	-0,110	10,5%

***Level of significance $p= 0.001$

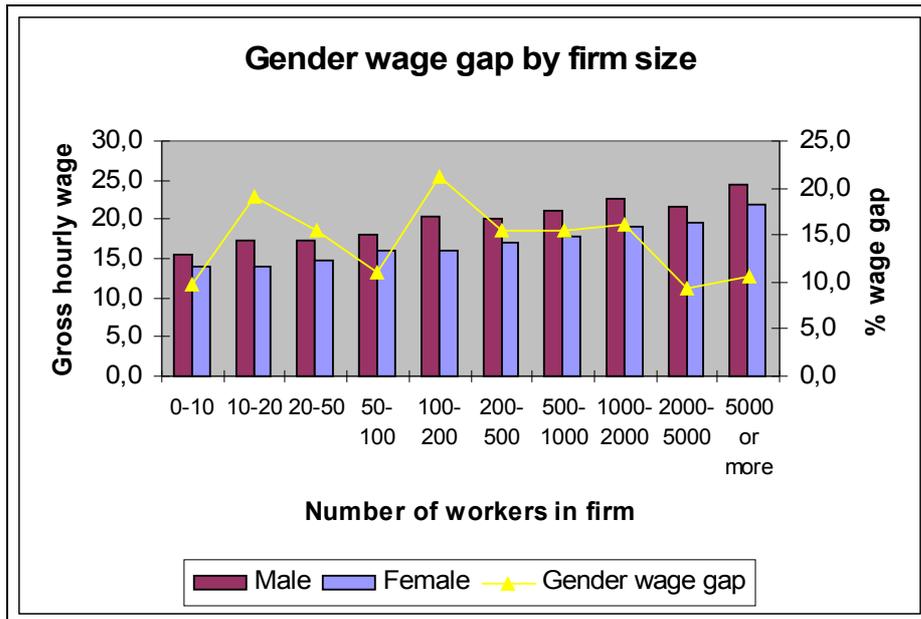
Source: WI, data release 9 (weighed data)

Again, we have explored several regression models. In a fifth model, we have investigated what the isolated impact is of the characteristics of the company on the gender pay gap. From the table above, we can see that gender diminishes from 16.5% to 14.7% when we take these characteristics into account. The impact of company related variables is not enormous.

In the final model, when we include all three types of variables, the gender wage gap is diminished from 16.5% to 10.5%. Approximately one third of the total gender wage gap can be explained by all the variables included.

4.3.1 Size of the company

Out of the company-related variables, we put two variables in the spotlight. First we look at the impact of the size of the company on the gender wage gap.



Source: WI, data release 9 (weighted data)

We notice an obvious trend in the height of the wages. For men as well as for women, the average wage increases with the size of the firm. The bigger the firm is, the higher the wage is.

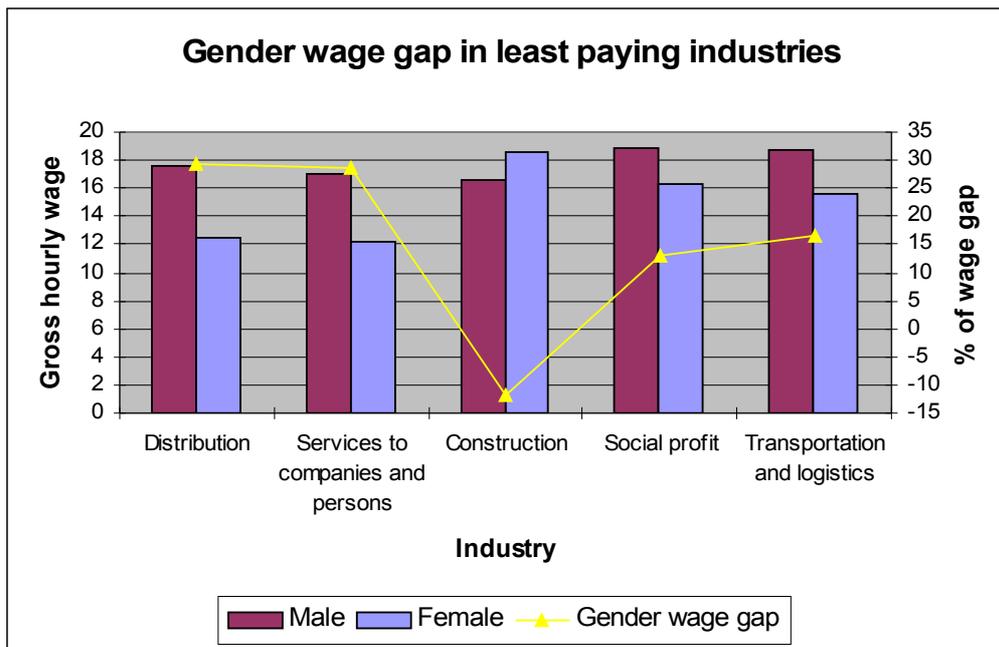
The gender wage gap is the smallest in really small firms and in big firms. Firms with workers between 0-10 people have a gender wage gap of 9.7% whereas firms with 2000 to 5000 workers have a gender wage gap of 9.3%. It is striking that in both these firm sizes, the gender wage gap is similar. The largest gender pay gap we find in firms with 100 to 200 workers. Here, the gap amounts up to 21.1%

4.3.2 Industry

A final characteristic we will explore is the industry in which people are working. For the measurement of the industry, we have asked them under which ‘joint committee’ they resort⁴. The joint committee is the place where the labour condition negotiations take place. These negotiations take place between employers’ organizations and employee organizations. And based on the joint committee that people fill in, we allocate them to an industry. Note that not all industries are represented in the numbers. We have listed the five best paying and the five least paying industries for which we had a minimum of 200 respondents.

The financial industry is the best paying industry, followed by the chemical industry in second place. Although the food industry is allocated within the five best paying industries, the gross wage for men and women is almost €8 /hour lower compared to that of the best paying industry. Also, in this branch of industry, the gender wage gap is very high. In the food industry, women earn 31.3% less than men. In the metal industry, the gender wage gap is the smallest. Here, women earn ‘only’ 11.4% less than men.

⁴ Vanderbiesen, W. (2006), *De sectoren in cijfers. Een analyse van de RSZ-tewerkstelling o.b.v. de paritaire comités*, Steunpunt WAV: Leuven



Source: WI, data release 9 (weighed data)

Next to the five best paying industries, we have also looked at the five worst paying industries. The worst paying industry is the distribution industry, with an average hourly wage of €14.9 /hour. The sector of the services to companies and persons is characterised by similar wage level. The gender wage gap in both industries is similarly high, approximately 29%.

In the social profit and the logistics industry, the gender wage gap is smaller. It amounts up to 17%. In these industries, women earn 17% less than men.

Almost all industries have a gender pay gap, where women earn less than men. In one industry however, we find a reversed gender pay gap. In the construction industry, women actually earn more than men. Women earn almost 12% more than men in this industry.

5. Conclusion

In this paper we have presented an overview on the WI data. We have looked at the response data and the representativeness for the questionnaire. We have developed weights based on the LFS 2005, to be able to draw general conclusions from our data.

Furthermore, we have explored the gender wage gap. We have investigated the impact of types of variables: personal characteristics, function-related variables and company related variables.

The gender wage gap amounts up to 16.5%. The person related variables do not diminish the wage gap but instead increase it. The most important variable responsible for this increase is the educational level. The higher the educational level is, the higher the gender wage gap is.

The most important variables in explaining the gender wage gap are the function-related variables. More than 3% of the gap can be explained by the **difference in the characteristics in the jobs of men and women.** Contrary to what we thought, full time or part time work does not affect the wage gap to a great extent. We also learned that the gender

pay gap is small in jobs that are relatively easy to learn. **The more complex the job is, the higher the wage gap becomes.**

The **impact of company related variables is relatively minor.** What is striking is that both in very small and in big companies, the gender wage gap are equally high. Concerning the gender wage gap in the industries we investigated the gender wage gap is highest in the **food industry.** Equally remarking is the **reversed gender wage gap in the construction industry.** In this industry females earn more than their male counterpart.

Hungary

1. Hungary paper questionnaires

The Hungarian data used in present paper are surveyed by face to face interviews. The number of filled on-line questionnaires has remained insignificant until December 2006 when an aggressive on-line and off-line marketing promotion has started. So the present analysis uses the data of 5000 paper questionnaires, ready in October 2006. The first 2500 interviews were made by professionals and the second 2 500 by trade union activists:

- *The selection of the trade union activists had taken place before the start to survey. The 40 surveyors were selected from 70 persons, based on personal conversation and meeting with the project leaders looking first of all their motivation and ability.*
- *40 trade union activists were trained in three regional seminars. The preparatory training included not only the aspects of technique to make a survey and the content of the questionnaire but also the overall target of the project and raising the motivation awareness.*
- *The 40 trade union activists are in permanent relation with the project group leader and have the possibility to ask if any problem arises (face to face, telephone, e-mail).*

The comparison of the Belgian and Hungarian data is interesting also from the point of view that at one hand it concerns a traditional paper survey and at other hand a not conventional on-line survey.

2. Representativeness: sex, age, education, industry

The target population for the Hungarian survey was basically the

- Active-age population
- Population of the whole country
- All industries (based on NACE classification)
- All professions (professions based on ISCO classification) and
- Some pensioners of active-age were included

The first part of the survey (2 500 questionnaires) was carried out by a professional team using their own sample. The second part of the survey was done by trade union activists. They covered the whole country guaranteeing territorial representativeness. While the first survey was realised mainly in bigger settlements (cities, towns, big villages), trade union activists reached small villages as well, covering all types of settlements.

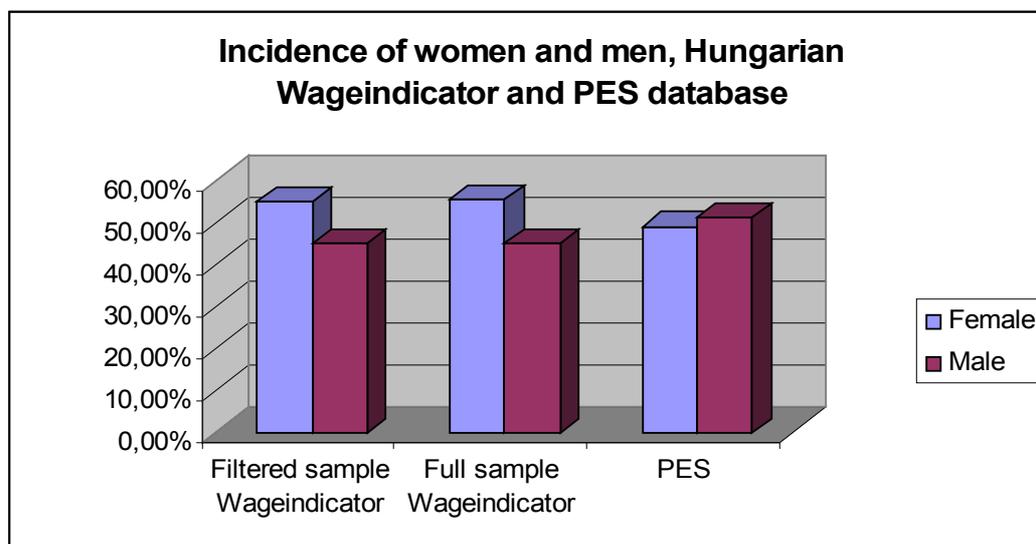
The Belgian partner took the Labour Force Survey as the basis of comparison for the Belgian WageIndicator (Belgian WI) database. The Hungarian WageIndicator (BérBarométer)

Database will be compared to the database of the Public Employment Service (PES). The PES survey was carried out according to the EU requirements for the Structure of Earnings Survey (SES). The main differences between the PES and Hungarian WageIndicator database are:

- PES gathers data on employees of public institutions and local budget which are comprehensive in terms of both the institutions and the staff employed on a full or part time basis.
- In the competitive and non-profit sector PES data contain entities employing more than 50 member staff; the sample includes around 6 % of manual employees and 9 % of non-manual ones. As for the entities with 5–50 staff, a 20 % sample was selected.
- The Hungarian WageIndicator survey reaches the self-employed and the micro-companies of 0-4 staff as well.

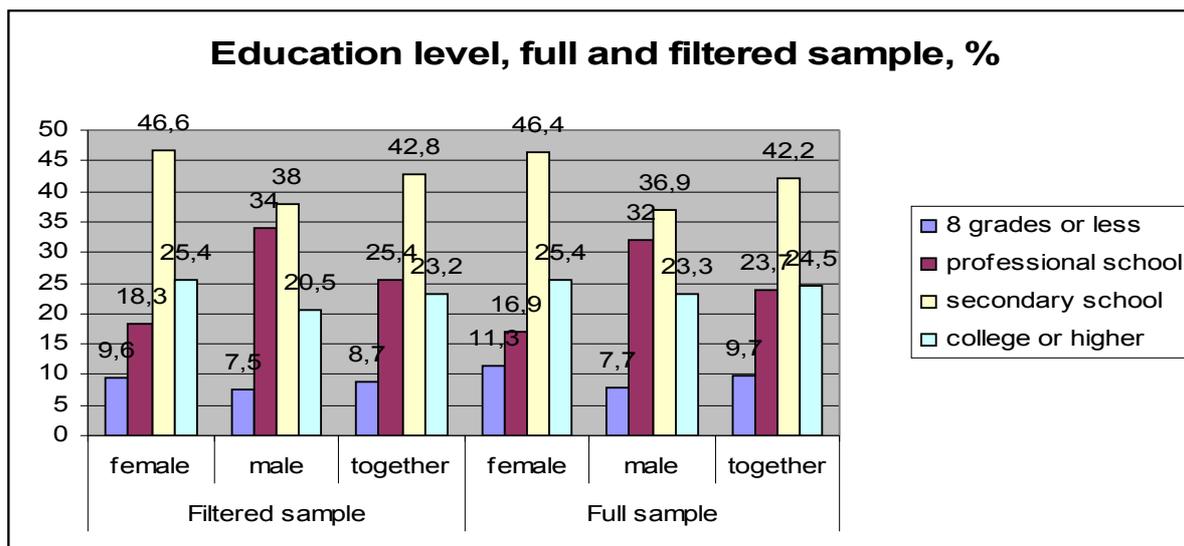
As in the case of the Belgian analysis during the comparison four characteristics were taken into account: sex, education, age and industry. To make the analysis we used the filtered data of the Hungarian WageIndicator database. So the filtered database does not include a) those who did not answer to the question on wage; b) those who work in part-time; c) the self-employed, small entrepreneurs and not paid family helpers; those who are younger than 25 years old and older than 55 years old.

First we looked at the distribution of the sexes.



Source: Hungarian WI database 2006 October and PES, 2006

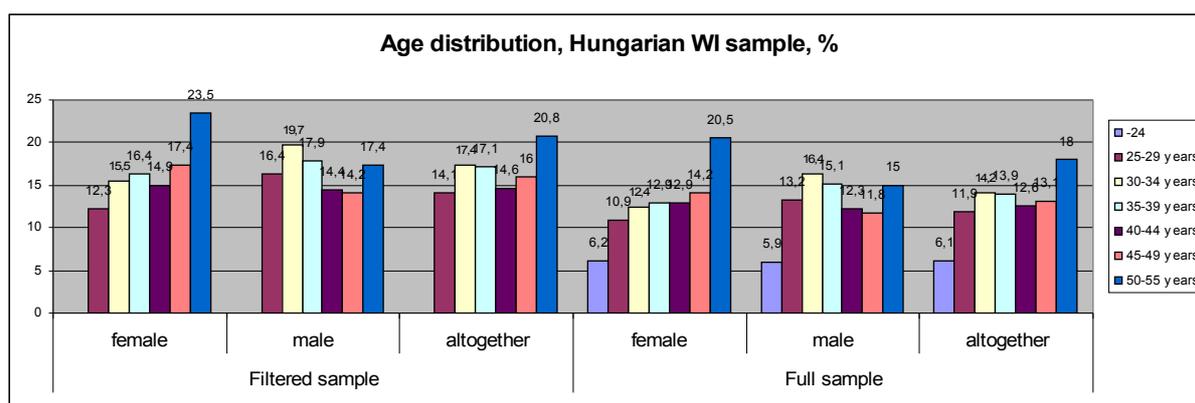
In the full and filtered sample of the Hungarian WI database 55 % of the respondents are female and only 45 % are male. The PES database is more equilibrated, 49 % of the respondents are female and 51 % are male. As we could see in the Belgian sample about 54 % of the respondents of the LFS (Labour Force Survey) are male. For the Belgian WI survey, this number is a bit higher, almost 59 %. So, **in the Hungarian WI women are better represented than men.**



Source: Hungarian WI database 2006 October

In the full sample of Hungarian WageIndicator the rate of men (32 %) is higher only in one category – category of those who finished professional school – than the rate of women (17 %). Concerning higher education the female and male proportion is similar in the full WI sample, but in the filtered sample we find almost 5 % more women with higher educational degree than men.

Near half of the women – 46 % – has secondary education both in the full and the filtered sample, and we find only 37 % of men in this category. We may assume that almost 3/4 of women in both types of sample has at least secondary education or higher. Concerning men, only around 2/3 of them enter into this category. It is true for the Hungarian sample as for the Belgian WI sample that it includes less low educated people. **In the Hungarian sample near half of the respondents has secondary education; in the Belgian sample there are more high-educated people: more than half of the sample has higher education.**



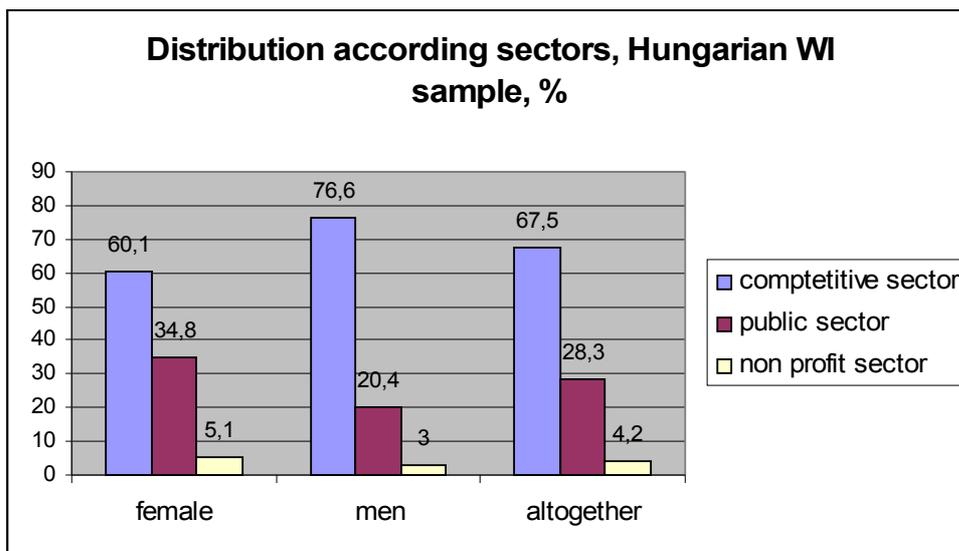
Source: Hungarian WI database 2006 October

In the Belgian WI sample we find substantially more respondents in the age groups of 25 to 34 year-olds as WI websites and on-line questionnaires attract a relative young audience that is starting to build up a career and is looking for valuable information on wages. In the

Hungarian filtered WI sample the age group of 25 to 34 year-olds represents one third of all respondents and 28% of them are women.

At the same time in the Hungarian sample the 50-55 year-old population and mainly women are highly represented: in the filtered sample 23.5 % of all respondents are women. The aging employees – and mainly women – who are more than 45 years old are overrepresented: their participation in the filtered and full sample is more than 40 %.

It can be assumed that the Belgian sample represents better the young, the Hungarian the aging workforce and particularly women.

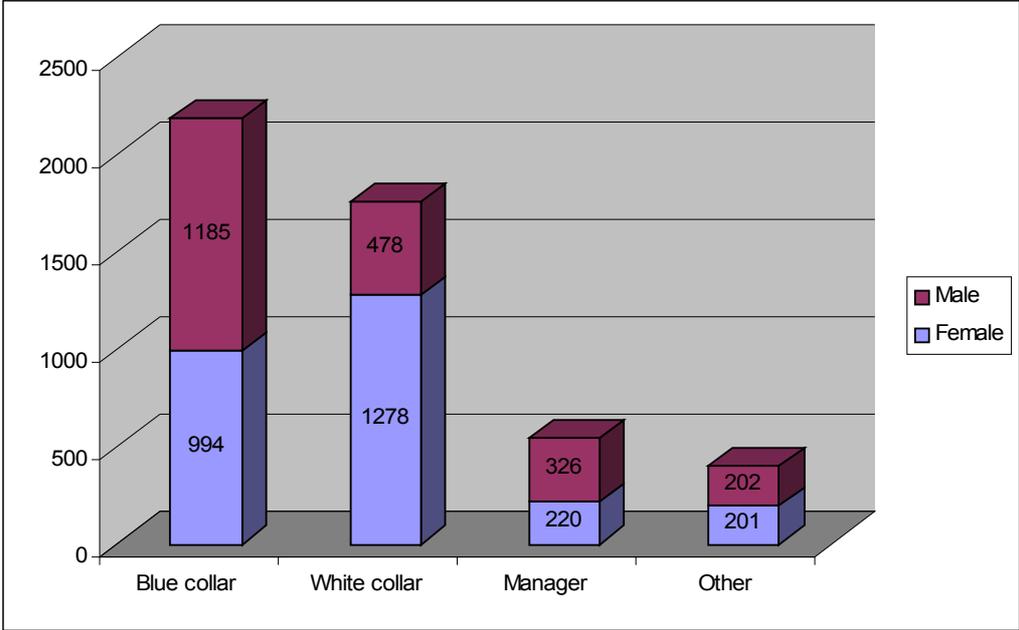


Source: Hungarian WI database 2006 October

Almost 70 % of the Hungarian respondents work in the competitive sector, 77 % of men and 60 % of women. In the sample, 35 % of women are employed in the public sector, which indicates female predominance here.

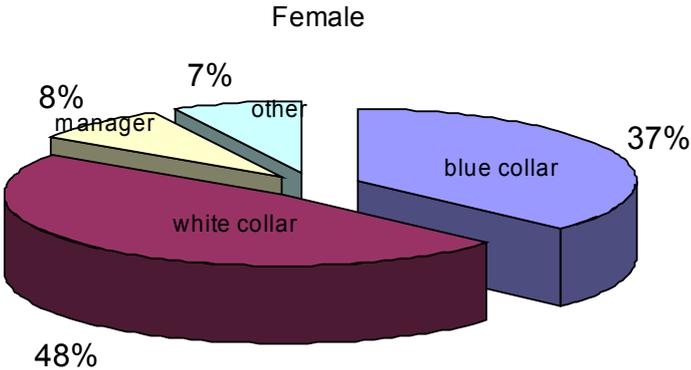
Based on the full sample, 47.5 % of women and 21.8 % of men work in a white collar position.

Comparison of the number of women and men according to occupational category, number of persons, Hungarian WageIndicator



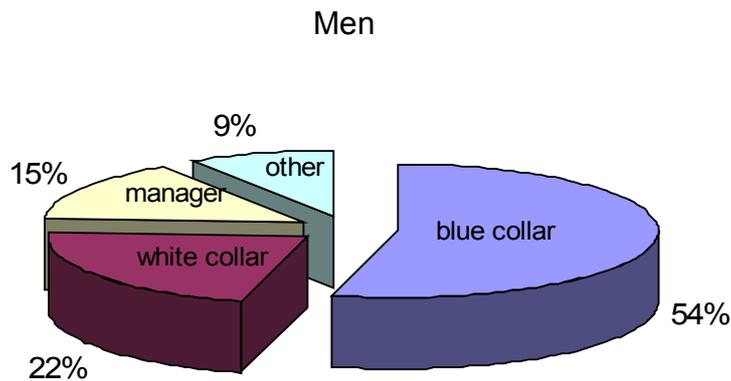
Source: Hungarian WI database 2006 October

Distribution of female and male employees according to the different occupational categories at workplace, %, Hungarian WageIndicator



Source: Hungarian WI database 2006 October

54.1% of men work as blue collar worker and only 36.9% of women does it.



Source: Hungarian WI database 2006 October

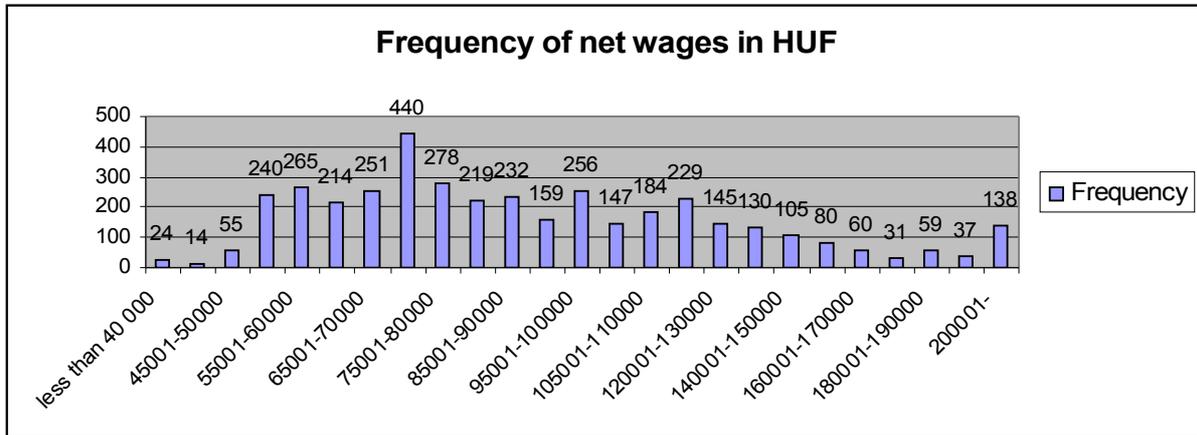
We have to note that according to the data of Hungarian WageIndicator, 14.9 % of men and only 8.2 % of women work in managerial position.

In the Hungarian sample almost 40 % of respondents are employed in the industry and construction, a little more than 30 % in the market type services and near 30 % in the administration and services of general interest. 1.7 % of the respondents work in the agriculture. From the NACE point of view the Hungarian WI sample can be considered rather equilibrated and realistic. The distribution of all respondents according to NACE is similar to the Belgian sample and it can be considered more representative as the Hungarian PES (Public Employment Services) database, in which public institutions are highly overrepresented. Female presence is less in the industry and construction than male presence (31 % against 44 %) and much higher in the administration and services of general interest (35 % against 19 %). 23 % of all female and only 7 % of male respondents work in the sectors of **education and health care**. The third bigger “female” sector is **trade**, almost 13 % of the female respondents work in this sector.

More than one third of all female respondents in the Hungarian WI work only in three sectors: education, health care and commerce.

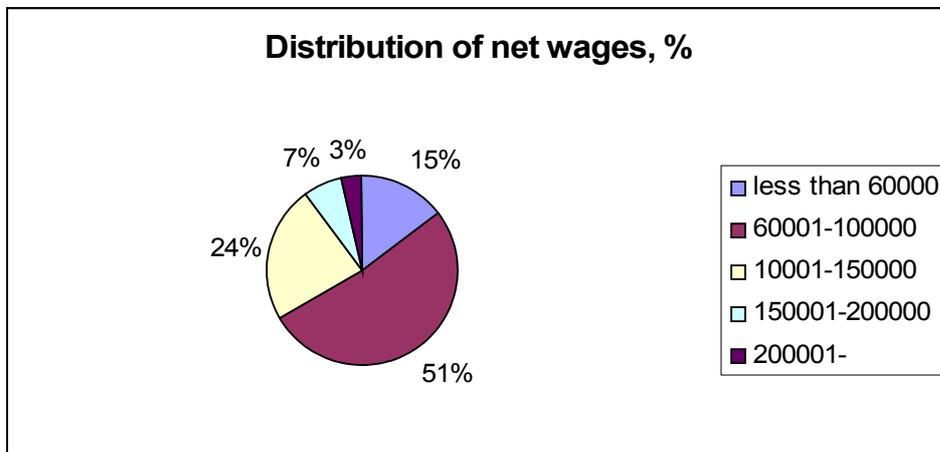
3. Wage in the Hungarian WI database

In the (not filtered) Hungarian WI database 3 992 respondents answered the question concerning their net monthly wage.



Source: Hungarian WI database 2006 October

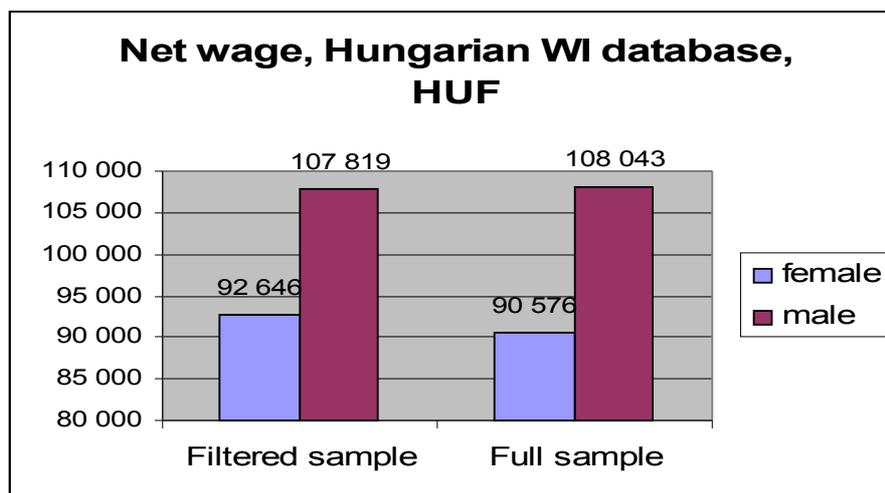
More than half of the respondents earn a net salary in the range of HUF 60 001-100 000 (that is EUR 240-400).



Source: Hungarian WI database 2006 October

4. The gender pay gap

The gender pay gap refers to the difference between the wages earned by women and by men. Based on the filtered Hungarian WI database the ratio of women's average net monthly wage to men's average net monthly wage, or as **the difference between men's and women's net monthly wage as a percentage of men's average net monthly wage is 14 %**.



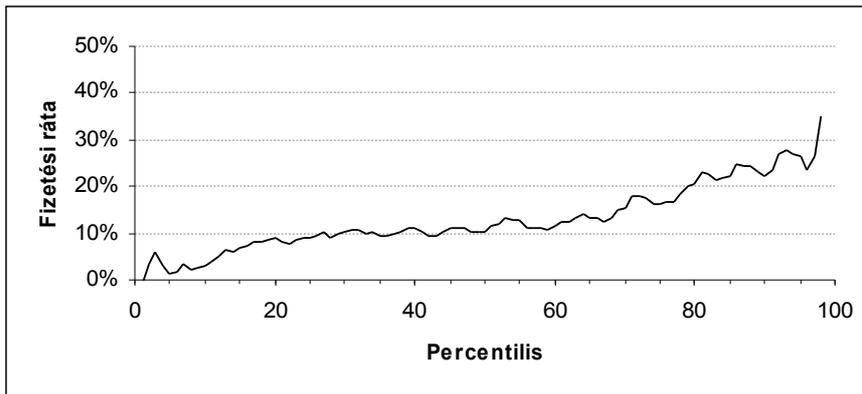
Source: Hungarian WI database 2006 October

If we measure the percentage by which the male monthly wage is higher than the female net wage, we find that it is in average **19 % higher in the full sample and in average 16.37 % higher in filtered sample** which is almost identical to the Belgian pay gap measured on the base of the Wageindicator database, that is 16.5%.

The pay gap significantly differs in the different segments of the labour market.

a. Income category. The pay gap depends significantly on the income category. We found that the highest the salary is, the bigger the pay gap is. Using the filtered sample, in the first percentile of respondents we do not find significant difference but in the last percentile we find a difference of almost 35 %. **It means that men's pay in the highest percentile of salaries is 35 % bigger than the pay of women entering the same – the highest – pay category.**

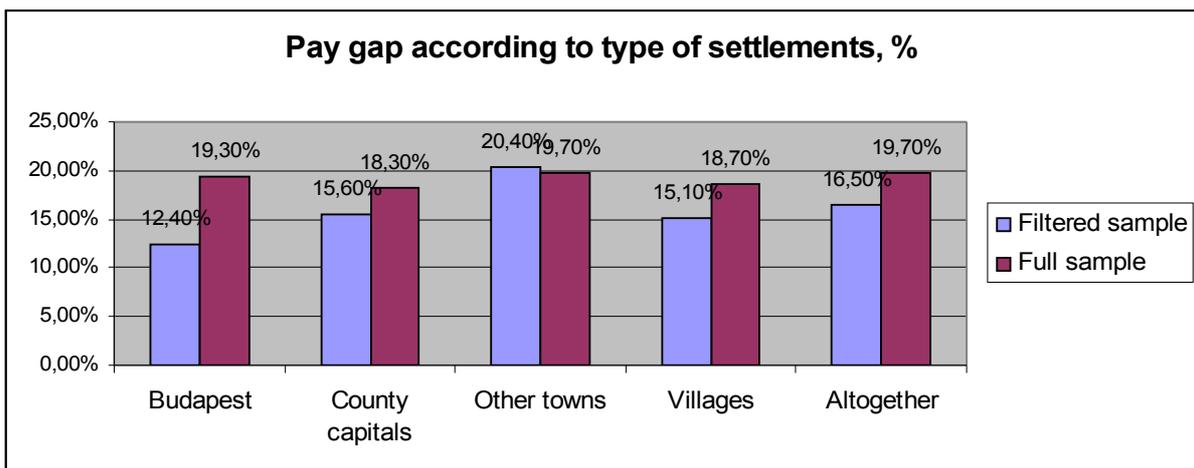
Pay gap according to salaries distributed into percentiles



Y axis: salary rate

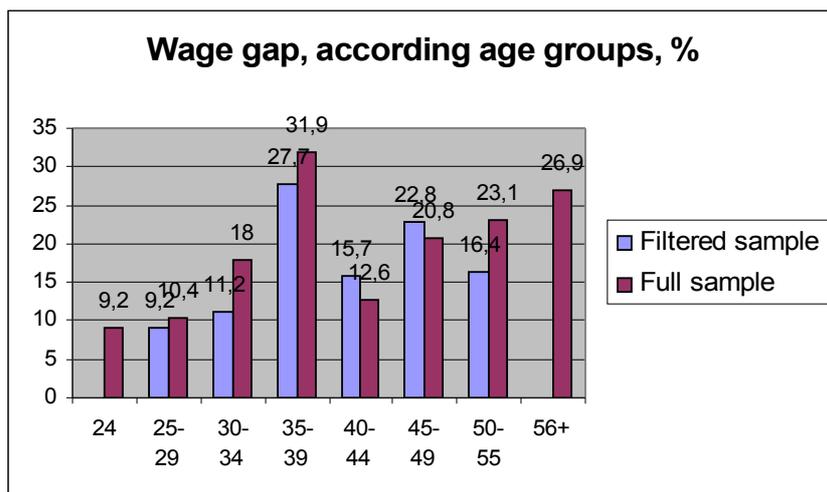
Source: Hungarian WI database 2006 October

b. Type and hierarchy of settlement. The higher stays a settlement in the hierarchy, the smaller the pay gap is. In Budapest the wages of men are only 12 % more than the wages of women, in the villages the pay gap is around 15-16 %.



Source: Hungarian WI database 2006 October

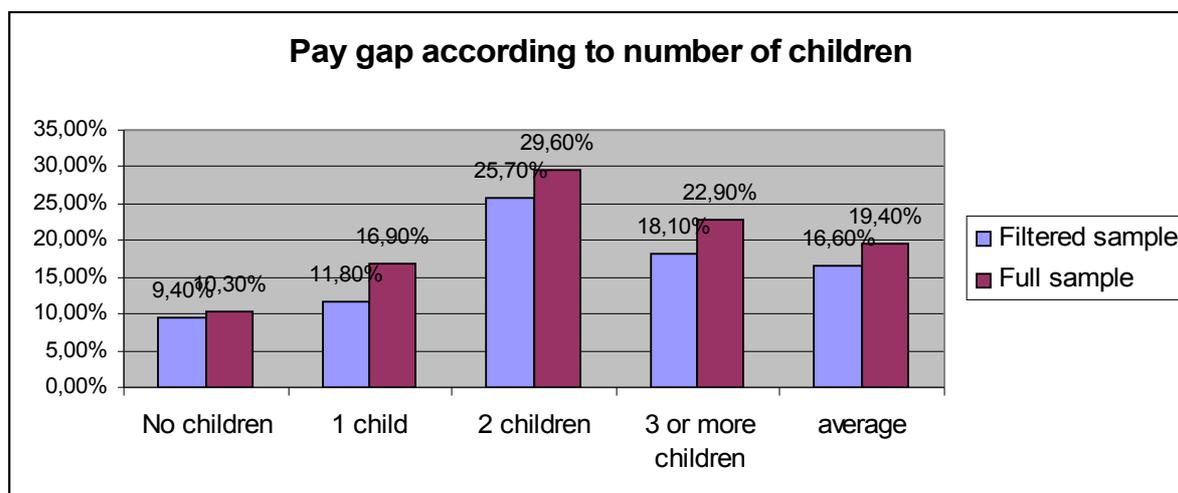
c. Age. The average income is rising until age group 35-39 years, in the age group 40-44 years it decreases. After the age 44 the income starts to increase again. The highest is the income of men between 35 and 39 (120 000 HUF). At this age group the pay gap is the biggest (27.7 %).



Source: Hungarian WI database 2006 October

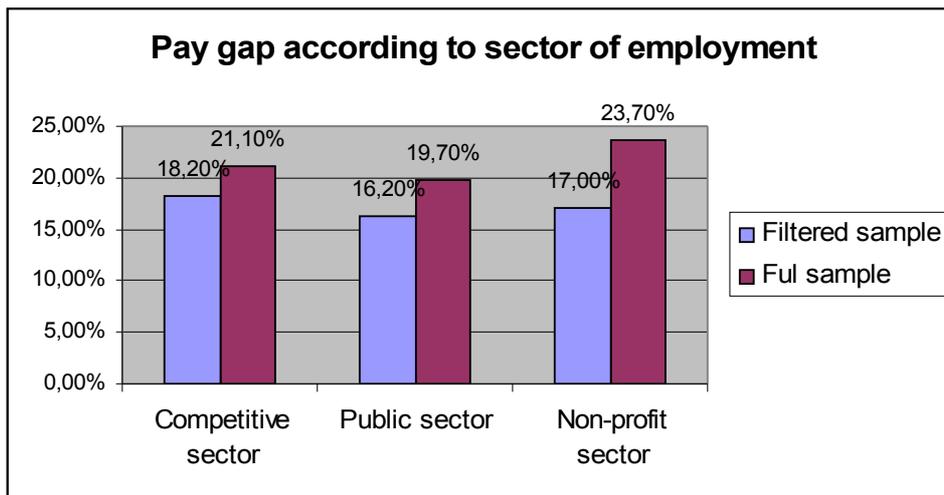
d. Children. In age group 35-39 years which is characterised by the biggest wage gap, we found that the net income of women without children is an average 10 000 HUF higher than the income of mothers with one child. We may observe similar differences also in the younger age groups.

The pay gap is the smallest in the group of respondents without children: in this group the salary of men is only 9 % higher than the salary of women. In case of 1 child the pay gap is 12 % and in case of 2 children it is more than 25 %!



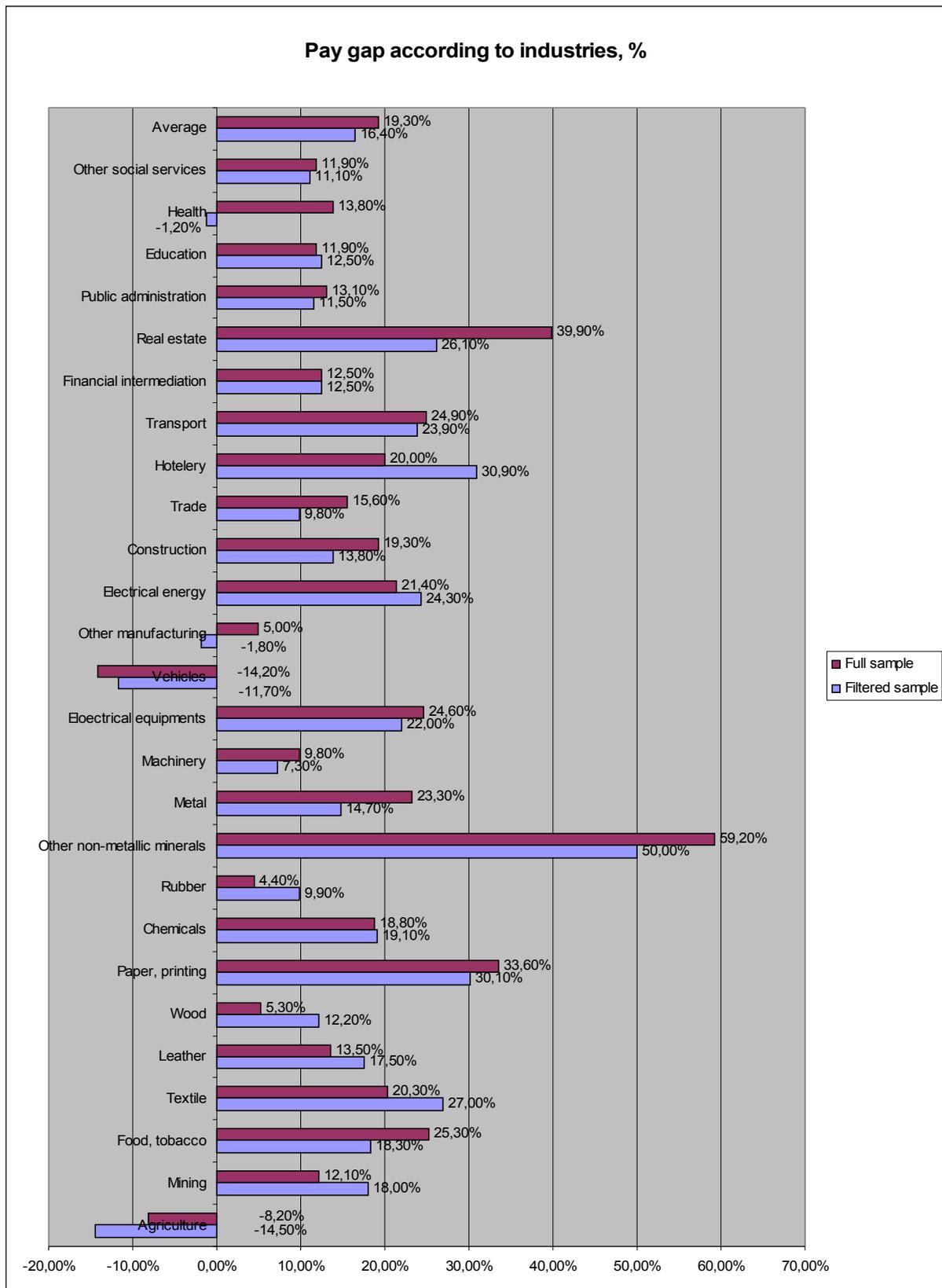
Source: Hungarian WI database 2006 October

e. Employment sector. According to the sample the employees in competitive sphere earn less than those in the public sphere and administration. This phenomenon is already well known, according to the data of the Central Statistical Office in the second half of 2006 the average gross income was HUF 182 000 in the public sphere and only HUF 157 000 in the competitive sector.



Source: Hungarian WI database 2006 October

f. Sectors of production



Source: Hungarian WI database 2006 October

The wage gap differs significantly according to NACE sectors and industries. The situation is the worst for the female employees in non-metal mineral production, hotel industry and catering, textile and leather industry. In these sectors more women work than men, for example in the non-metal mineral production three times more women work than men and in the textile industry two times more.

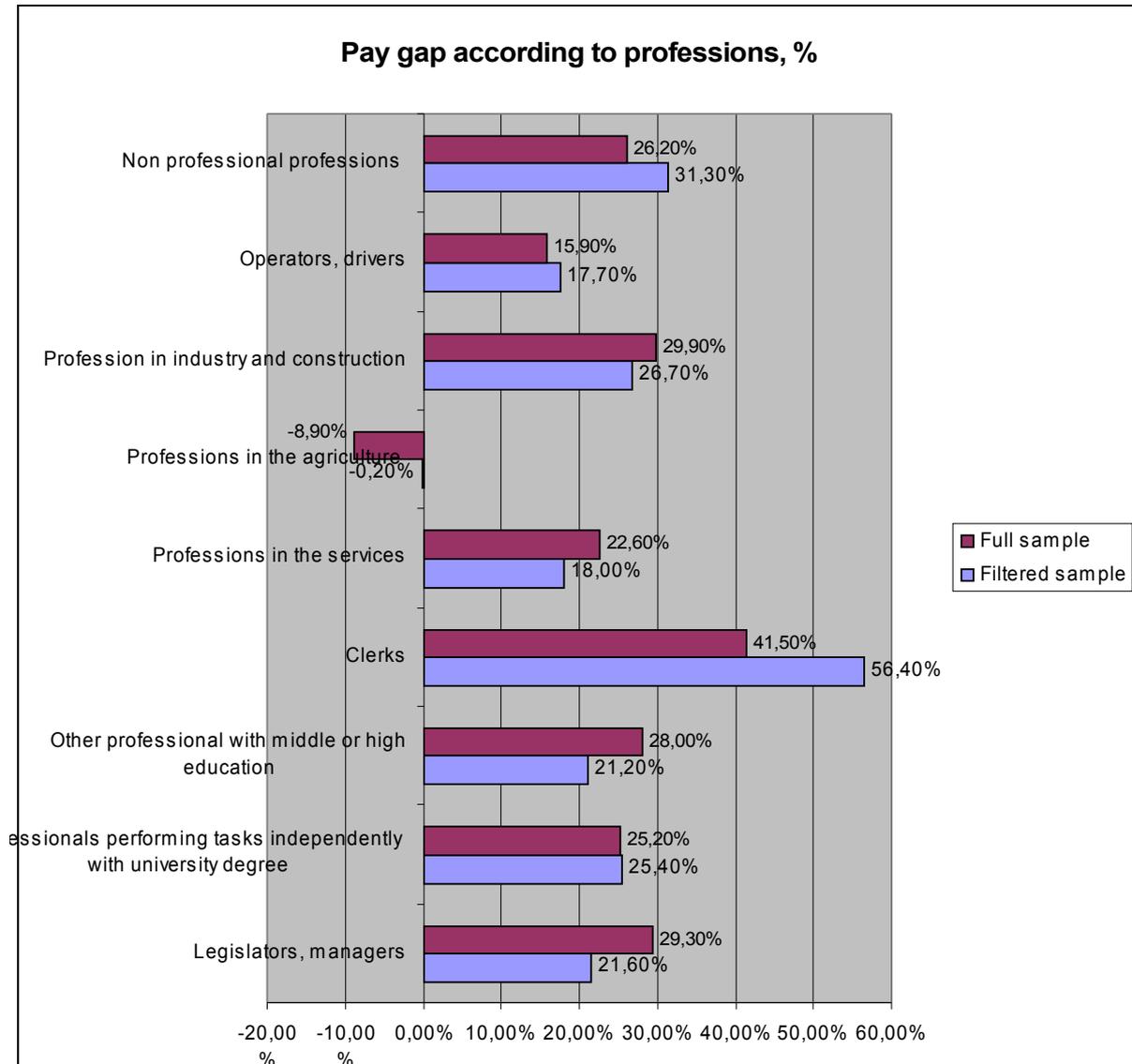
It means that these industries cause the increase of the average national pay gap even if there would not be pay gap within the concerned industry or sector only due to the female predominance and low wages in general. In this case the characteristics of the employment structure cause the pay gap; this type of effect is called structural effect

There are also such sectors when women earn more than the average but their participation is low. These sectors enhance the structural causes of the pay gap as well. Such sectors are the public administration, defence, social security, real estate, food industry, transport, post and telecommunication and mining.

There are also sectors which in some extent reduce the pay gap. It is the health sector employing 11.4 % of all female employees and only 2.6 % of the male employees. In the health sector there is no significant difference between the income of men and women, but in case of women the income is a little higher than the average national female wage. At the same time the wage of men working in the health sector is a little lower than the average national male wage. As a result, the higher female participation rate in the health sector contributes to the decrease of pay gap generated by structural causes.

g. Occupational groups

The major pay gap can be found in the group of clerks and office workers, in this group the pay gap is more than 56 %. Here we may find the strongest structural effect and here is also the major discrimination effect.



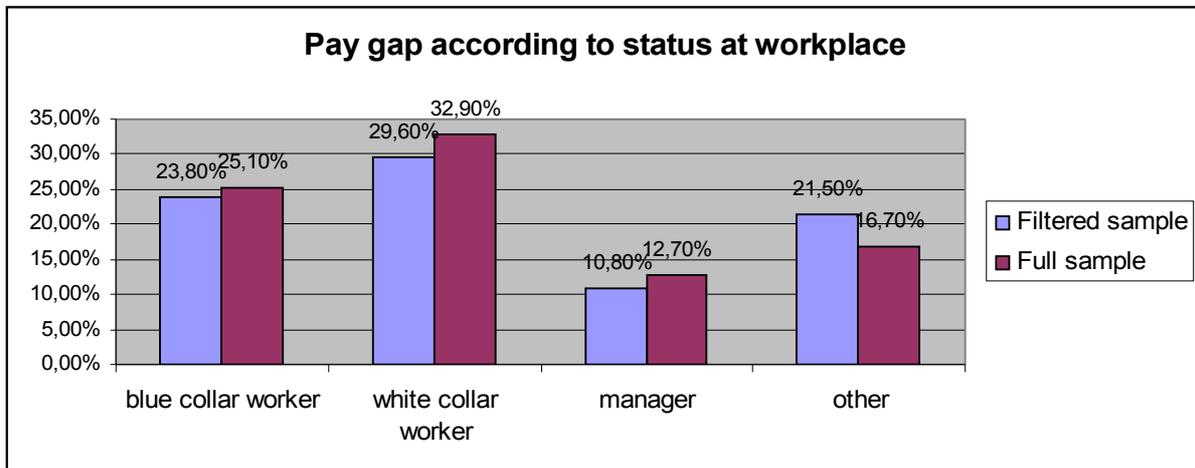
Source: Hungarian WI database 2006 October

The number of women in this occupational group is double of the number of men. At the same time the pay of women in this occupational category is much lower than the average national female pay. As in this group there are numerous women with low pay, their pay makes the national average female pay decrease.

In the group of legislators and managers 1.5 times more men work than women. Men in this group earn more than the average national male pay. This phenomenon makes the average national male pay increase more than that of women.

h. Status in the workplace

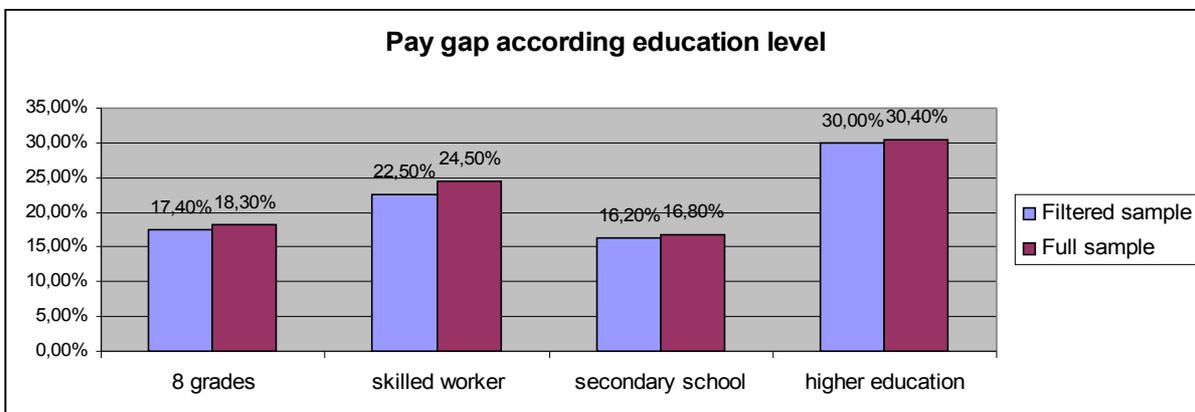
The group of managers is characterised by the smallest pay gap, 10 %. The discrimination effect here seems to be the lowest meanwhile the structural effect is very strong: the number of men working in managerial posts is double of the number of women occupying similar posts.



Source: Hungarian WI database 2006 October

i. Education

The income of men and women undoubtedly correlates positively with their education level.



Source: Hungarian WI database 2006 October

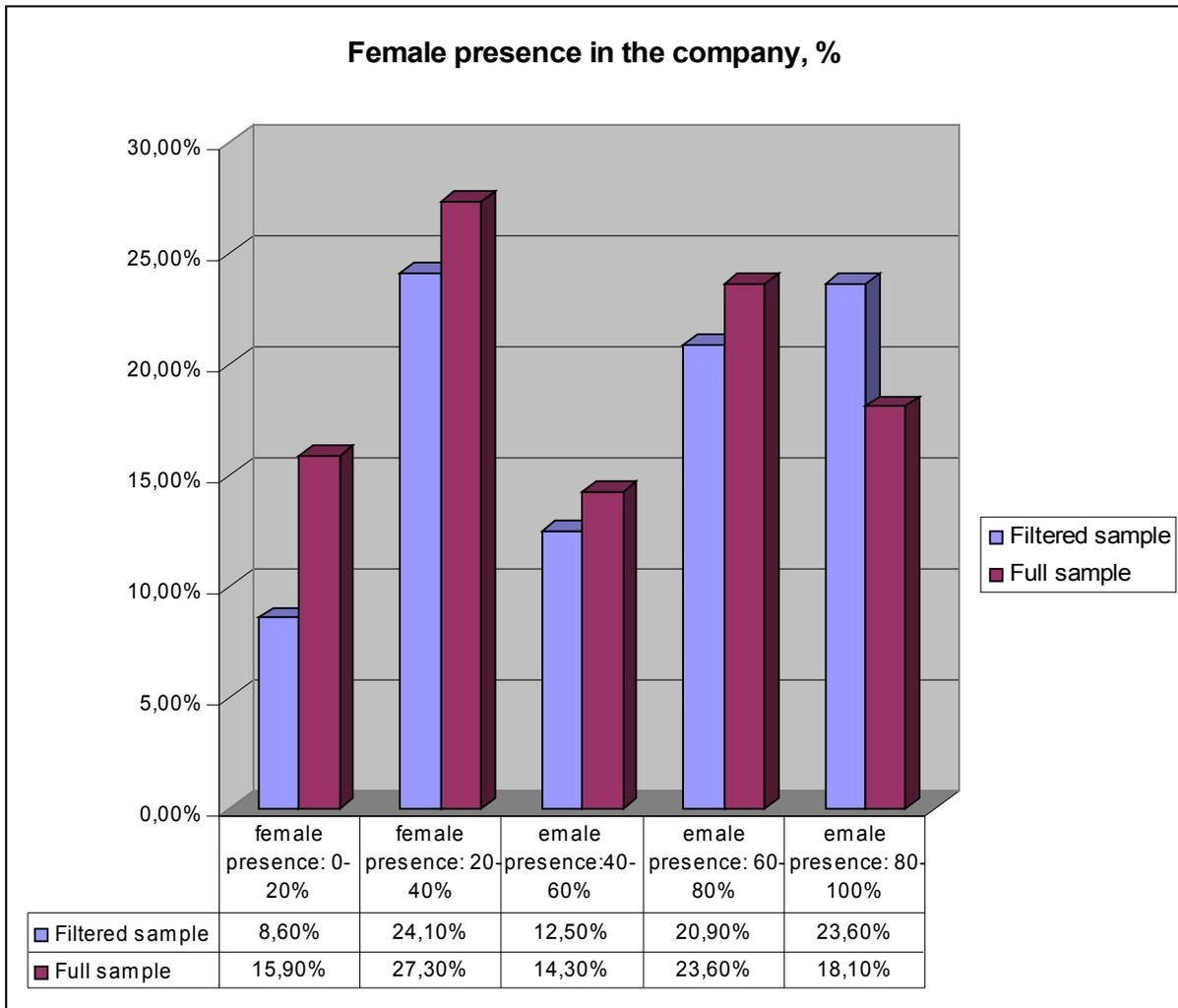
The pay gap is the highest in the group of employees with higher education, in this group the pay of men is 1/3 higher than the income of women. In the managerial posts requiring higher education the proportion of men is much higher than the proportion of women, which means that higher education helps to promote men to well paid posts better than women.

j. Size of company

The major pay gap – more than 30 % – may be found at the biggest companies with more than 5 000 employees, but the pay gap is near 30 % also at undertakings of 250-500 staff. The smallest pay gap – 7 % – is observed at companies of 50-100 workers.

k. Proportion of female employees

The salary of women is the lowest in that group where at least 80 % of the employees are women. But in this group the average salary of women is only 4 000 HUF lower than the average salary of the total population. In those firms which provide the highest salary for women, with a 40-60 % rate of female employees, the salary of women is only 6 000 HUF higher than the average salary. The gender pay gap is the lowest (9 %) in those firms where 0-20 % of the employees are women. The gender pay gap is the highest (24 %) in those firms where 20-40 % and 80-100 % of the employees are women.



Source: Hungarian WI database 2006 October

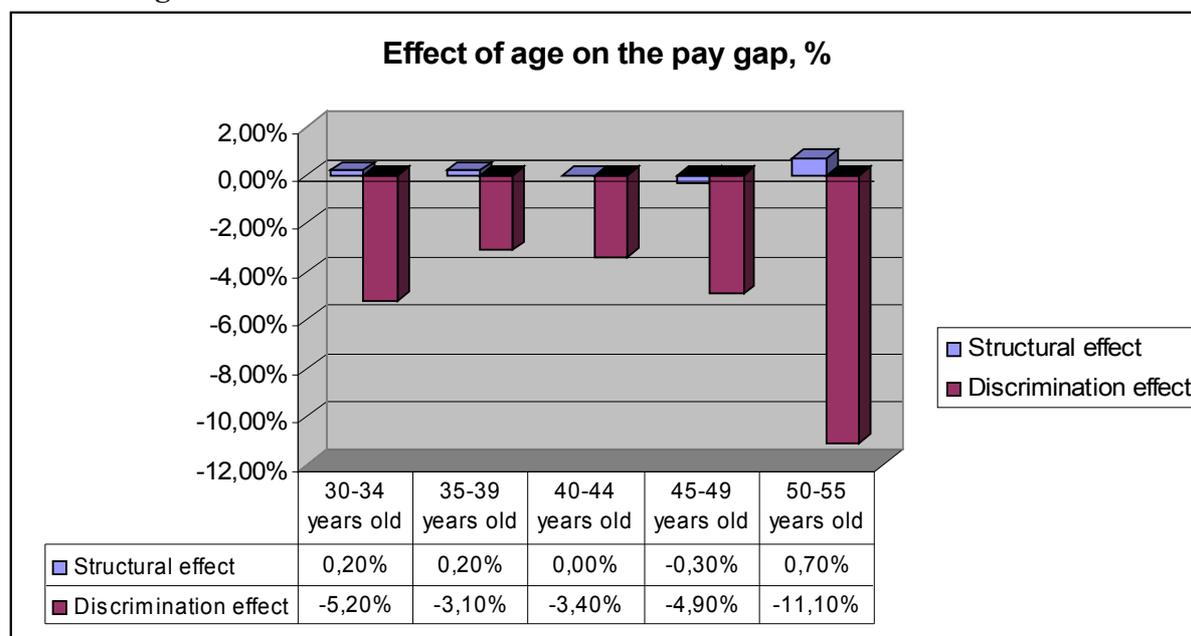
5. Regression analysis and results

The regression analysis and the so called **Oaxaca-Blinder decomposition method** help us to determine the different structural and discrimination effects generating the wage gap between men and women. As basis of calculation the filtered sample of the Hungarian WageIndicator database was used.

Effects of type of settlement and region

The type of settlement and the regional aspects (geographical situation) contributes to the pay gap in a small degree. Only in Vas County we find a discrimination effect more than 3%.

Effects of age



Source: Hungarian WI database 2006 October

According to the Hungarian filtered sample the discrimination effect does not increase in the older age groups but decreases. Some irrelevant structural effect raises the pay gap in the age group of 30-39 years old women.

Effects of having children

Surprisingly when we use the decomposition method of possible effects on pay gap, we find that the fact of having children in itself does not contribute to the pay gap, moreover it makes it decrease (negative structural (-1.4 %) and discrimination effect (-6.7 %)). It seems to contradict to our data on pay gap according to children. But in the later case we looked simply only the respondents' salaries having children and did not examined the composition and effects of various other influencing factors.

Effects of type of economic sector

In relation to the competitive sector both public and non-profit sphere contributes to the decrease of pay gap. In the public sphere the strong structural effect (3.8 %) is counterbalanced by the high negative discrimination effect (-4.9 %). In the non-profit sphere both the structural and discrimination effects are negative.

Effects of type of economic (NACE) sector

The overwhelming majority of the sectors do not contribute to the discrimination effect. Only in one sector we find a higher discrimination effect, 2.6 % in the health sector. In textile sector, trade and real estate the discrimination effect is a little higher than 1 %.

It is not the case in concern of structural effects: we find sectors with high positive and negative structural effects as well.

High positive structural effect characterises the transport sector (32 %), the construction (26 %). High negative structural effects influences the health sector (-49 %) and education (-33 %). In these latest sectors the average wage of women is a little above of the national average and the men's wage a little less than the national average but at the same time in these sectors much more women work than men. As a consequence the wage of women in these sectors raises the national average of female wages.

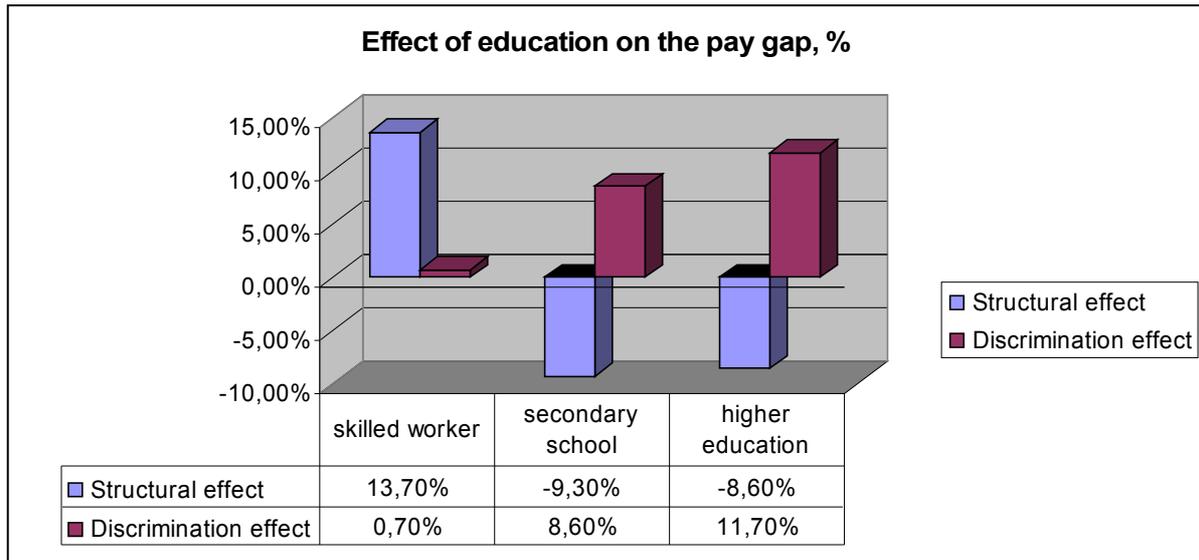
Effects of occupations

In three occupational categories we could find that the profession has impact on the pay gap that is in case of the agricultural workers (8 %), industrial and construction workers (38 %) and operators and drivers (2 %). Only in case of agricultural workers we could separate positive discrimination effect (1.2 %).

Effects of workplace status

Having the blue collar workers as the basis of comparison, we may assume that higher negative structural effect concerns the group of white collar workers (-13.5 %), contributing to the decrease of pay gap. But also in this group we find positive discrimination effect (1.9 %). Relatively strong structural effect (5.2 %) can be found in the group of managers which follows from the higher proportion of men among them. At the same time in this group a negative discrimination effect (-1.8 %) also plays role due to the fact that in this group the difference between average female and male wage is less than the difference at national level.

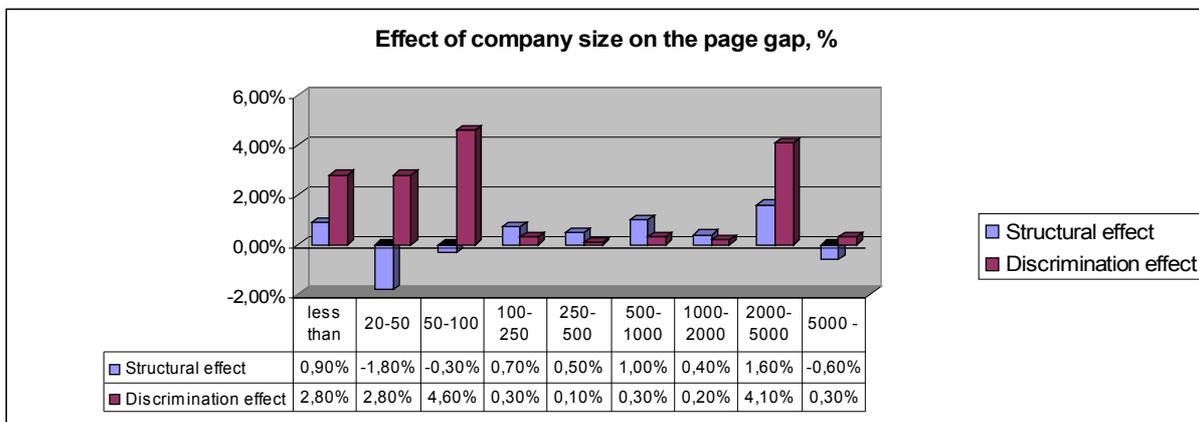
Effects of education



Source: Hungarian WI database 2006 October

The professional school education greatly influences the pay gap (14.5 %), but it is almost totally due to the structural effect. **In case of higher education we find a sharp – 11.7 % – discrimination effect, similarly to the Belgian findings.**

Effects of size of company

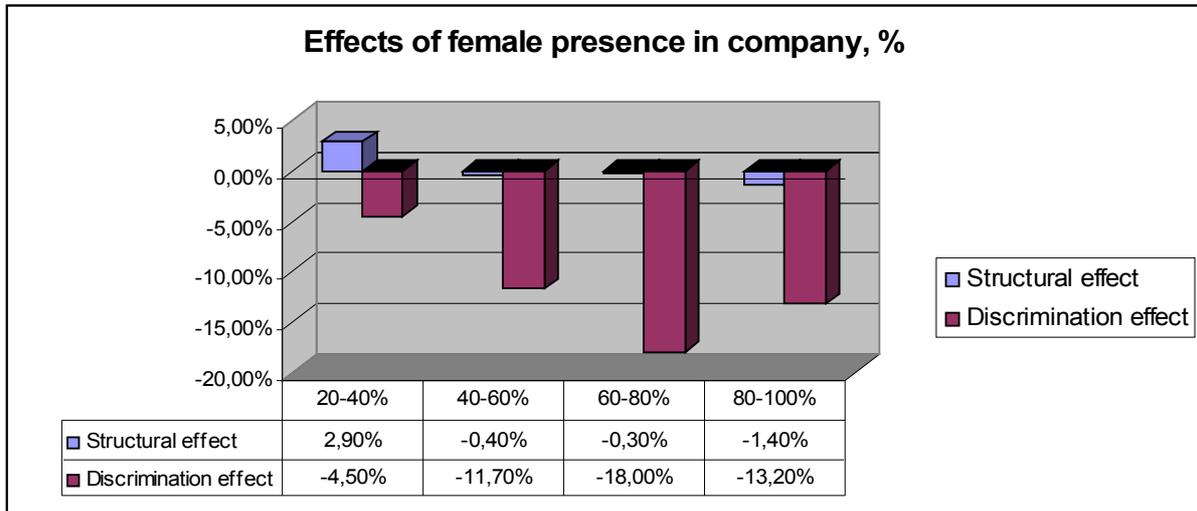


Source: Hungarian WI database 2006 October

In case of companies with staff of 50-100 persons and 2 000-5 000 persons we can observe a heavy discrimination effect above 4 %.

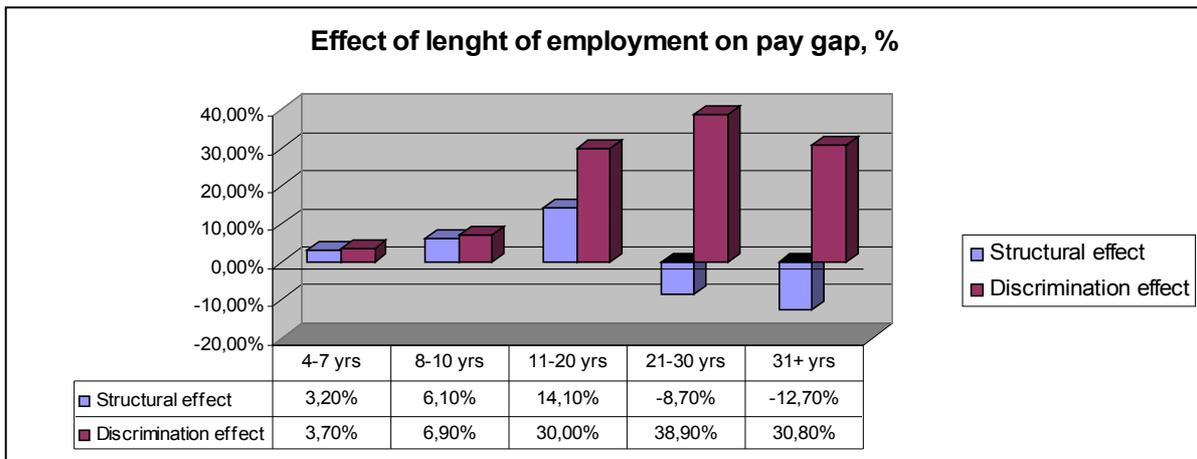
Effects of proportion of female employees

The high proportion of female employees in a company contributes highly to the decrease of discrimination effect on the pay gap. The situation is the best in the companies where 60-80 % of staff is woman.



Source: Hungarian WI database 2006 October

Effects of length of employment



Source: Hungarian WI database 2006 October

The length of employment indicates a strong discrimination effect which is rapidly increasing until 21-30 years. There is a significant and increasing structural effect as well until the 11-20 years of length of employment.

Summary

There are several effects affecting the pay gap. According to our database the most important structural and discrimination effects are:

Main structural and discrimination effect contributing to the pay gap based in the filtered sample of Hungarian Wageindicator (BérBarométer) database, 2006 October

Main structural effects	Main discrimination effects
Professions: industry and construction	Length of employment: 21-30 years
Sector (NACE): transport, post, telecommunication	Length of employment: 31+ years
Sector (NACE): construction	Length of employment: 11-20 years
Professions: operators, drivers	Education: higher education
Length of employment: 11-20 years	Education: secondary
Education: professional school	Length of employment: 8-10 years
Sector (NACE): real estate	Staff number: 50-100
Sector (NACE): machinery	Staff number: 2 000-5 000
Sector (NACE): metallurgy	Length of employment: 4-7 years
Sector (NACE): public administration, defence, compulsory social security	Type of settlement: capital of county

Summarising, the most important factors causing the structural effects on pay gap are the factors relating to type of profession and NACE sector. When calculating the national pay gap we meet such negative structural effects – like working in the education and health care - which neutralise the positive ones.

The part of the pay gap which is not explicable by the structural effects is due to the discrimination effects. The length of employment, education and volume of company proved to be the most important basis of the discrimination effect. These discrimination effects are somewhat neutralised by such negative discrimination effects like female staff in 40-100 % in the company, age more than 50 years and office professions.

In sum, using decomposition method, the so called structural and discrimination effects were segregated. The sum of structural effects is (-3%). It means that if there would not be any discrimination in concern of female pay, due to structural effects the male pay would be 3 % lower than the female pay. But according to the Hungarian WageIndicator database the pay gap is 16 % which is due to the high discriminative effects which neutralise even the favourable structural effects.

The Netherlands

1. WageIndicator database⁵

The WageIndicator website for women has been initiated in September 1999 by a journalist/webmanager of www.fnv.nl within FNV trade union confederation, a manager of the frequently visited www.vrouwonline.nl related to the three largest women's magazines and the research officer at AIAS, University of Amsterdam.

The aim was on behalf of FNV to inform their membership about wages, on behalf of women's website/magazines to have a web tool and inform the readers and on behalf of the University to gather data on women's wages and occupations. The questionnaire on wages to promote this target was ready by September 2000. It was enclosed for the subscribers to the three women's magazines, in a few trade union newsletters and magazines and available at the two websites. In September 2000 and April 2001 more than 15 000 questionnaires were completed. The WageIndicator website has been launched in May 2001 giving an extensive publicity in the media about research results on women in management, gender wage gap, part-time jobs, work and family life. In October 2002 Monsterboard, the world's largest career-site, took a licence in the WageIndicator website and FNV, Monsterboard and University of Amsterdam established the WageIndicator Foundation to run the website as a non-profit making enterprise. By August 2003 the website had 200 000 visitors a month and approximately 54 000 questionnaires were completed.

The WageIndicator provided information first for 50 women's occupations, later from February 2003 for 130 women's and men's occupations.

The WageIndicator family in the Netherlands consists of several websites among others like

- The Women's Website (www.vrouwenloonwijzer.nl)
- The Men's Wage Indicator (www.mannenloonwijzer.nl)
- The Youth Wage Indicator (www.jeugdloonwijzer.nl)
- The 40plus Wage Indicator (www.40plusloonwijzer.nl)

The web-based self-administered questionnaires have an advantage due to the use of direct data-entry, thus avoiding data-entry errors, immediate checks on the reliability of the data, for example hourly wages are calculated instantly and accepted within boundaries, etc.

⁵ Source: Kea Tijdens /Cécile Wetzels AIAS University of Amsterdam, The Netherlands

2. Representativeness

The success of internet based survey in the Netherlands is guaranteed as the percentages of regular users in the population grew from 30 % in 1998 to 55 % in 2002 and groups that traditionally were not reached by written information may use the Internet, because icons representing concepts visually eases understanding.

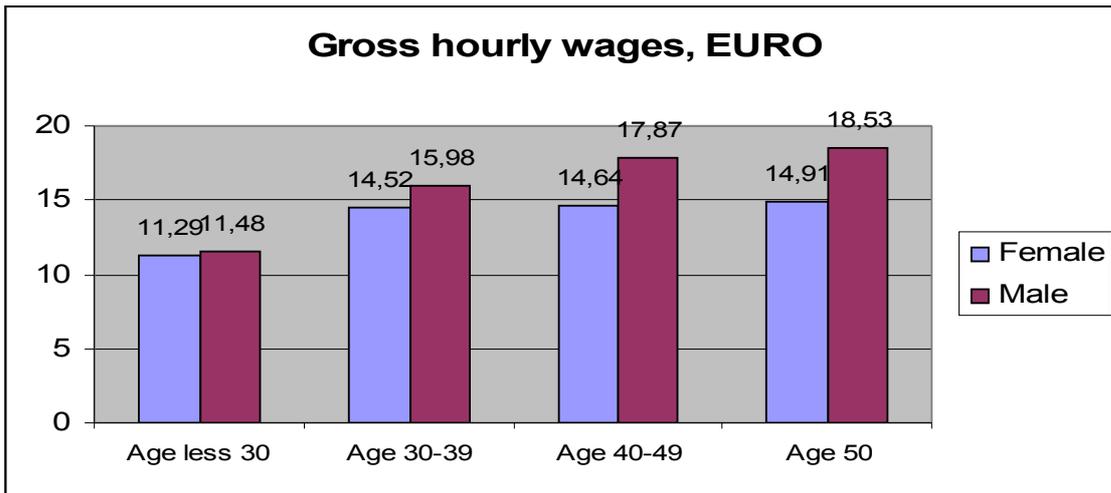
In nearly all cells the difference between LFS (Labour Force Survey) and WageIndicator database (WIQ) is less than 5%. The full-time prime age women are heavily overrepresented in WIQ, but part-time women aged 45-54 are underrepresented in WIQ. We have to note that the LFS includes self-employed women, the WIQ does not. (It is not the case for example in the Hungarian WI database which gathers the data of self-employed as well.)

3. Two data source on female wage in the Netherlands

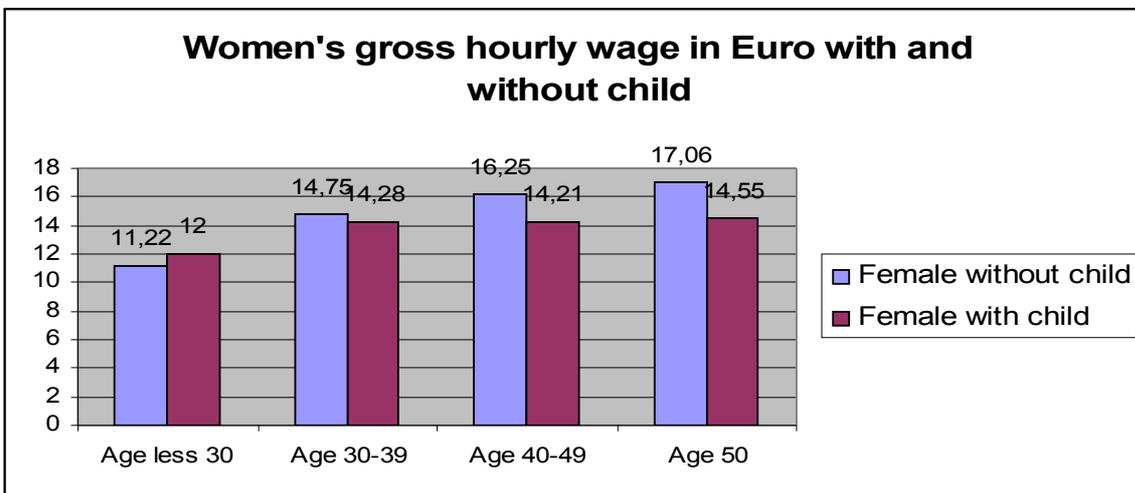
According to the WageIndicator data (2001) women working less than 29 hours a week earned higher average wages compared to the official Statistics Netherlands. In all other cases the women who filled the questionnaires in WageIndicator website earned less than the official statistics of Netherlands. We may find the biggest difference in the case of women aged 35-44 years and working 12-19 hours a week: there is a 20 % difference between the data of the two sources. We have to note that Statistics Netherlands uses data from personal files from firms and has not survey data for calculating wages.

4. Gender pay gap

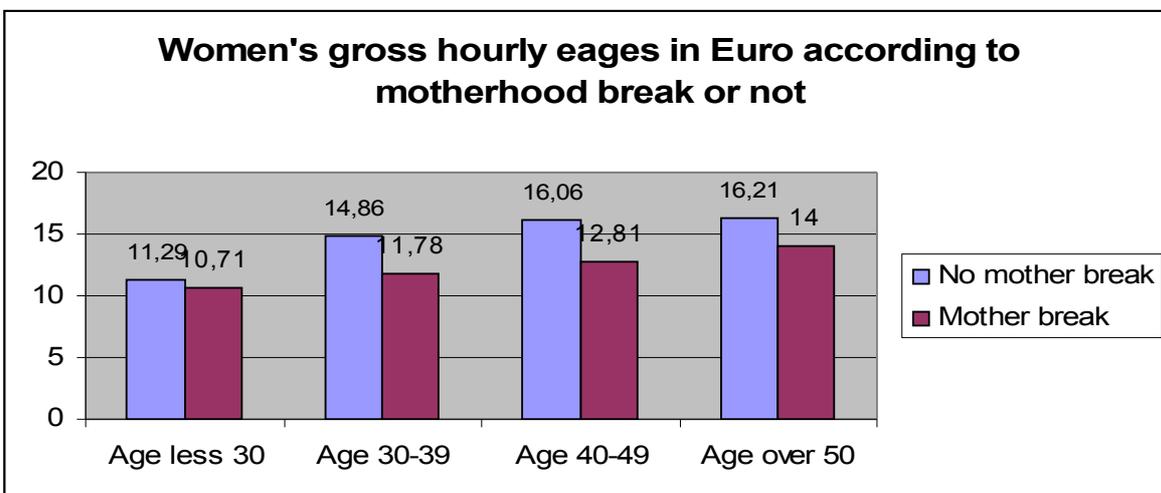
In the Netherlands the men average gross pay has been **EUR 15.03 /hour and the women average gross pay has been 13.50 /hour** (WageIndicator database, 2002). It means that according to the WageIndicator database in the Netherlands the difference between men's and women's net monthly wage as a percentage of men's average net monthly wage is 10.2 %. If we measure how many percentage the male net monthly wage is higher than the female we find that it is in average 11.3 % higher. Both calculations show that the Netherlands is characterised by a much lower gender pay gap than Belgium or Hungary.



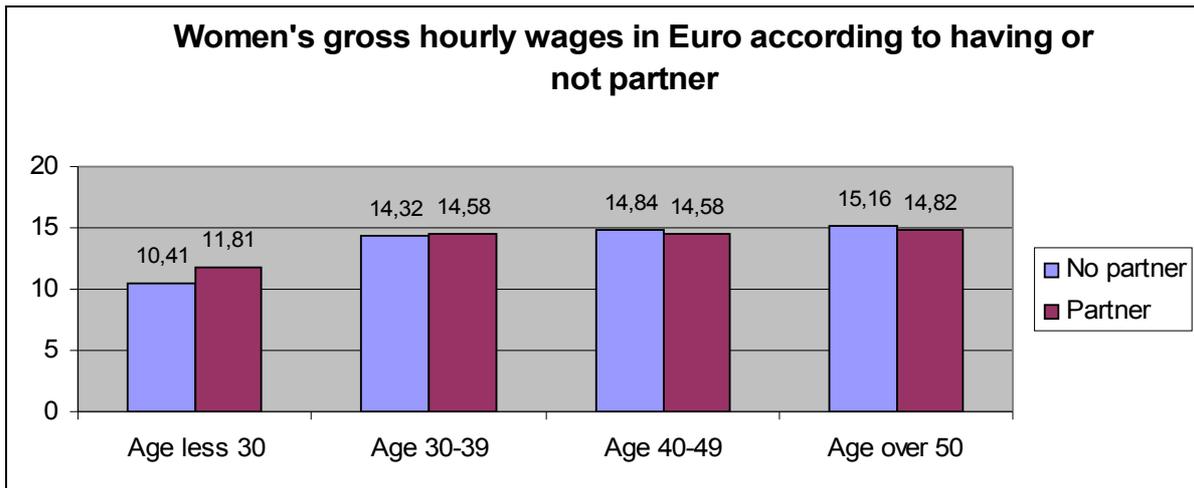
Source: WageIndicator Questionnaire (WIQ), women (27960 samples), men (10257 samples), at level 2002



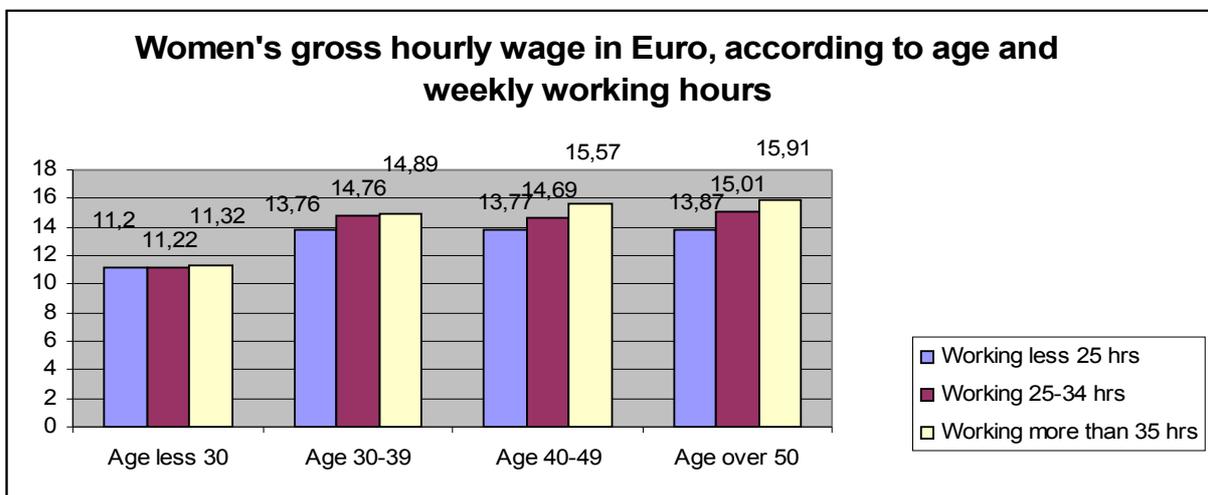
Source: WageIndicator Questionnaire (WIQ), women only (27960 samples), at level 2002



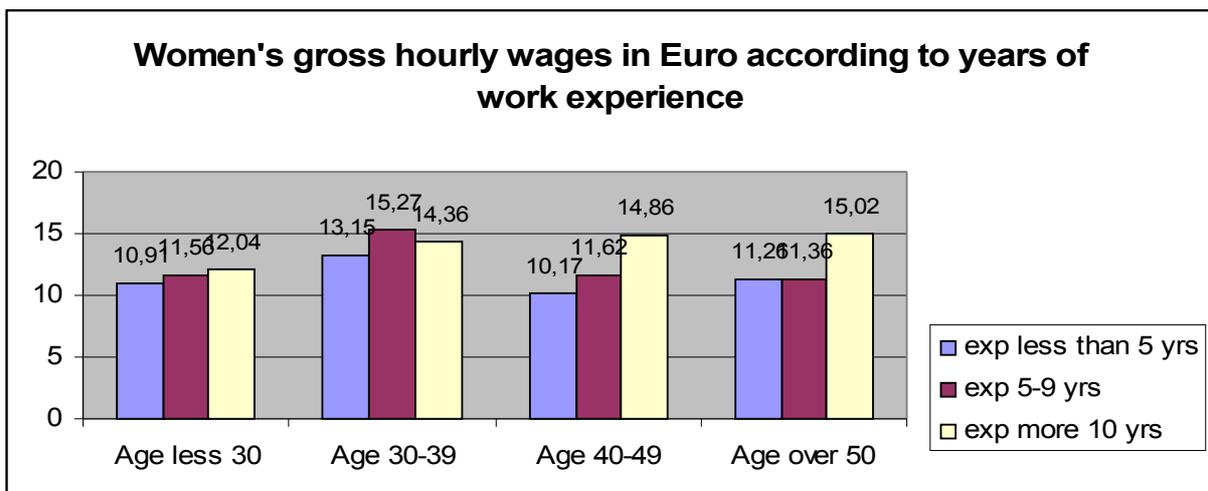
Source: WageIndicator Questionnaire (WIQ), women only (27960 samples), at level 2002



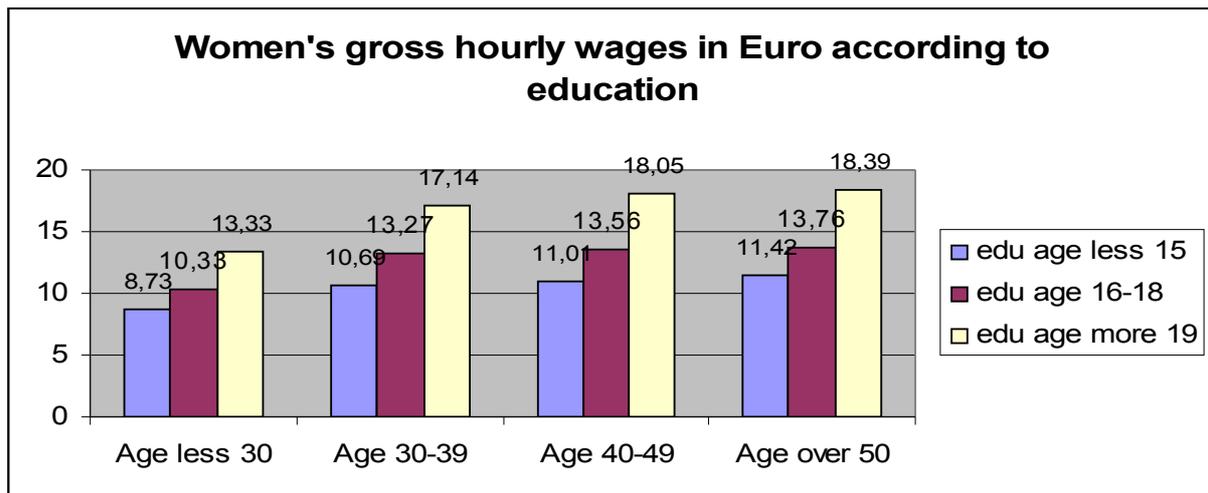
Source: WageIndicator Questionnaire (WIQ), women only (27960 samples), at level 2002



Source: WageIndicator Questionnaire (WIQ), women only (27960 samples), at level 2002



Source: WageIndicator Questionnaire (WIQ), women only (27960 samples), at level 2002



Source: WageIndicator Questionnaire (WIQ), women only (27960 samples), at level 2002

Based on the graphics we may conclude that

- Preventing a career break is very profitable
- Working hours do affect wages from age more than 30 years old
- Having a child or a partner is not profitable, except age less than 30 years old
- Higher levels of education are very profitable
- More years of experience is very profitable

5. Female cumulative life earnings: an innovative approach

Basic case: consequence of being “only” woman

According to the WageIndicator database (2003) the average gross hourly wage of women in case of uninterrupted career was EUR 15.37. In case of women returning to work after career break was 23 % less, that is EUR 11.87. If we take 20 years of working life into consideration, theoretically – in case if nothing changes – **the cumulative sum of loss in this case would be EUR 134 000!**

Consequence of working in part-time

In the Netherlands women with kids frequently works part time. How does this type of employment affect the female life earning? According to the WageIndicator database the average gross hourly pay of men in case of 40 hours working week is EUR 12.41, the yearly pay EUR 25 812. The female pay in case of 20 hours working week (part time) is EUR 12.00, that is EUR 12 480/year. After 20 years of work the cumulative loss of women working only **20 hours per week is EUR 266 640.**

Consequence of working in small company without choice to promotion

Man in a big company	Woman in a small company
<ul style="list-style-type: none"> hourly wage start EUR13.95 yearly pay EUR 29 016 promotion yes full time no kids 	<ul style="list-style-type: none"> hourly wage start EUR10.19 yearly pay EUR 21 195 no promotion full time no kids

The cumulative loss of woman after 20 years of work is EUR 156 422.

Consequence of being boss of a small company

Man in a big company	Woman in a small company
<ul style="list-style-type: none"> hourly wage start EUR 23.45 yearly pay EUR 48 776 promotion yes full time no kids 	<ul style="list-style-type: none"> hourly wage start EUR 17.41 yearly pay EUR 36 212 promotion yes full time no kids

The cumulative loss of woman after 20 years of work is EUR 251 280.

6. Findings of WageIndicator database: low wages as characteristics for women

According to the latest findings of WageIndicator⁶ database in concern of six countries - the Netherlands, Belgium, Germany, Finland, UK and Poland - the share of low wage earners varies greatly. In Poland 27 % of wage earners falls into this category and the percentage in the Netherlands (23 %) is relatively high, too. Belgium (18%) and the UK (16 %) make up the middle bracket, while the percentage is the lowest in Germany (12 %) and Finland (5 %).

What all countries have in common is that the share of women with low pay is almost everywhere twice as big as that of men. The worst rate is found in the Netherlands (31 % of women against 16 % of men), closely followed by Belgium (26 % women, 12 % men).

What one strikes also as a remarkable feature is that the percentage 'low paid' increases with the **duration of the working week**. In 5 out of 6 countries the share of low wage earners is highest amongst those who work **48 or more hours per week**: in the Netherlands even 32 %, only surpassed by Polish figures.

⁶ Source: Maarten van Klaveren, Kea Tijdens: Low Wages in EU-countries
<http://www.wageindicator.org/main/newsletter/gazette/WageIndicatorGazette14/>