

Multivariate Analysis on Gender Inequality in Post Retirement Benefits

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There predominantly exists a certain kind of inequality between men and women. The present study identifies and analyzes this anomaly in the context of post retirement benefits. The results obtained were in conformity with the research hypothesis.

Keywords: Income inequality, Gender inequality, Gender gap, Post retirement benefits

I. Introduction

Retirement pension, by changing wages, becomes the most important source of income for the elderly population. Individuals who have reached the retirement age without adequate pension benefits face the risk of poverty and the restraint of economic independence. According to [3], pensions can contribute to poverty reduction, especially in the long run. However, according to the economist, the distribution of pensions between men and women may raise important issues of justice. Gender and age remain key determinants of the risk of poverty. The EU Equality Report 2014 also states that elderly women are more vulnerable to poverty than men at the same age group [7]. Gender aspects have been rooted in retirement systems since they began to form, since men were considered to be family feeders, and pension systems were built on this paradigm. Although women's pension rights existed, they were more likely to be derived from men's work [12]. However, it is often said that gender differences do not affect the size of pensions, but rather these differences are determined by different stages of life - choices and circumstances. However, according to [8], it can be argued that different life styles do create problems in pension accumulation, but gender in general affects the ability to accumulate adequate old-age pensions. Reference [10], who analyzed gender differences in the United States, argue that gender is a source of inequality

in terms of pensions - women are at greater risk of poverty than men, especially when their spousal support is abandoned. Reference [2], who analyzed the social problems of men and women in the older age in Great Britain, found that the poorest retirees are women living alone and over 80 years old. Lower retirement income is also linked to the role of women as caretakers, which affects their participation in the labor market and the ability to accumulate adequate retirement income. An analysis of the countries of the Organization for Economic Cooperation and Development showed that older women are dependent on their men's support. Therefore, it is now becoming increasingly known that pension systems in the future should be such that women are guaranteed the possibility of collecting both public and private pensions themselves [11]. Equality between women and men is one of the fundamental principles of the European Union (EU) Treaty. Discrimination is prohibited in employment, occupation, social security and finance. The economic independence was considered to be a priority in the EU Strategy on Equality between Men and Women 2010-2015. Pensions are considered as one of the most important factors of economic independence, and the differences in pensions between men and women are identified as a problem to be addressed. The EU Commission and the Social Protection Committee have recognized that

gender mainstreaming is an important part of the issue of matching pensions, which is why it is urgent and necessary to analyze gender-based pensions. However, in studies and analyzes, age was usually used only as a controlling variable, rather than as a research object, or research on pension issues focused on the analysis of pension reforms and their outcomes. According to [4], the combination of factors that determine the pensions gap between men and women and, in general, the logic of the system itself, could be overlooked in such way. While [9] argue that, although women are at increased risk of poverty, literature that is abundant about pension reforms rarely takes into account the circumstances in which men and women are involved in the labor market.

Nevertheless, in recent years, there have been significant changes in this area in order to understand the lives of older women: more and more studies take the perspective of a political economy, emphasizing the position of older women [1]. Nevertheless, based on [5], the issue of gender equality in pensions was scarcely analyzed, and only in the second half of 20th century. Meanwhile, at the EU level, the first report on pension disparities between men and women was only submitted in 2013. The report also highlighted the importance of pensions as one of the key drivers of economic independence [6]. It is important that women make up a large share of the aging population of Europe, so talking and tackling gender inequalities in the area of pensions is essential and necessary [6]. In addition, the two main objectives of the EU pension policy are, firstly, to ensure an adequate level of income, so that people in the ages do not face the risk of poverty, and secondly, to ensure that quality of life standards are maintained in the older age [12]. Failure to make a gender pay gap jeopardizes the fulfillment of these goals, which is why it once again shows why gender equality is a topical issue and needs to be analyzed. This paper employs multivariate regression analysis and aims to reveal the factors determining the differences in the pensions of men and women in EU countries.

II. Research Methodology

The paper uses multiple regression analysis to find out the determinants of pension disparities between

women and men in the EU countries. The difference in pensions used in the EU accounts, defined as the percentage by which the average woman's pension is lower than that of men, is the dependent variable in this study.

The factors determining pension differences are divided into three groups: the economic, the social and the institutional. Each group of the factors includes certain variables that may affect the gender pension gap in the EU.

Economic factors: Wage gap between men and women: the percentage difference between the average salary of men and women in EU countries; The average female employment rate: the percentage of employed women aged at 15-64 in the whole employed population; Part time employment of women: part time employment of women aged at 15-64 as a percentage of total employment.

Social factors: Level of education: the percentage of women aged at 15-64 with tertiary education; The number of marriages per thousand inhabitants; Number of single mothers with children: the number of households consisting of single mothers with at least one child.

Institutional factors: The pension system model: countries where the state pension system prevails are marked 1, while in countries where the multi-level system prevails, are marked zero; Women's retirement age: the average age of women who receive the first retirement benefit;

Compensation scheme: countries which pay contributions to pension funds for women not working because of childcare are marked 1, while the rest countries are marked zero. As the issue of pension differences between men and women has got attention only recently, there is not much statistical data. Therefore, the data of 2010 and 2012 is used in the analysis since data availability limit the choice.

III. Research Results

First, the linear multiple regression analysis is applicable for 2010 data. The model explains 65% of the range and three independent variables are statistically

significant: wage differences between men and women ($p = 0.008$), the share of women working part-time ($p = 0.034$) and pension system model ($p = 0.017$), and the regression equation looks like this:

$$Y = 0.366 - 0.908 * X1 - 0.450 * X2 + 0.339 * X3 - 0.154 * X4 + 0.014 * X5 + 2.922 * X6 - 0.089 * X7 - 0.006 * X8 + 0.103 * X9,$$

where:

Y: Pensions gap between men and women; X1: Wage gap between men and women; X2: Average female employment rate;

X3: Part time employment of women; X4: Level of education;

X5: Number of marriages;

X6: Number of single mothers with children; X7: Pension system model;

X8: Women's retirement age; X9: Compensation scheme.

The model with 2012 variables explains 60% of the range, while wage differences between men and women ($p = 0.032$), the share of women working part-time ($p = 0.034$) and the compensation payment system ($p = 0.036$) were statistically significant variables.

$$Y = -0.377 - 0.768 * X1 - 0.389 * X2 + 0.361 * X3 - 0.181 * X4 + 0.003 * X5 + 2.371 * X6 - 0.057 * X7 - 0.007 * X8 + 0.123 * X9,$$

where:

Y: Pensions gap between men and women; X1: Wage gap between men and women; X2: Average female employment rate;

X3: Part time employment of women; X4: Level of education;

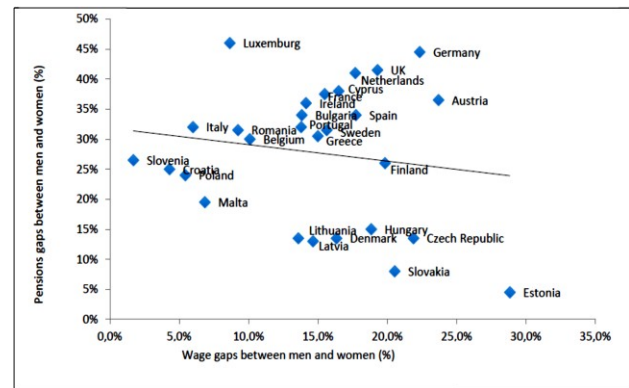
X5: Number of marriages;

X6: Number of single mothers with children; X7: Pension system model;

X8: Women's retirement age; X9: Compensation scheme.

Regression reveals that there is a reverse relation between the wage gap and pension gap between men and women - with a one percentage point increase in the wage gap, the pension gap between men and women is down by 0.9% in 2010 and 0.8% 2012 the relationship between the pension and the wage gaps is shown in Figure 1.

Figure 1: The relationship between wage gaps and pension gaps between men and women

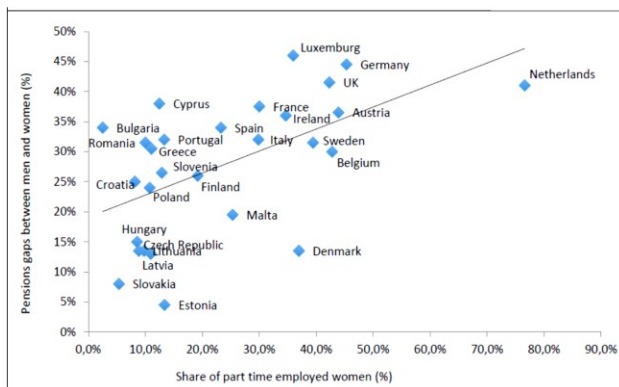


Source: Research data

The picture reveals that a large proportion of countries concentrate where wage and pension differences are high, and in those countries where the difference in pensions between men and women is particularly high, such as in Germany, Luxembourg or the Netherlands, the wage gaps between men and women are twice or even more lower. On the other hand, there are also exceptions, such as Estonia, Slovakia or the Czech Republic, where there are relatively high gender wage gaps, however, the differences in pensions are low. For example, in Estonia, where the pension gap is one of the lowest (5%), the wage gap is the highest in the EU - 28.9%. Such an uneven distribution of the countries influences the results of the analysis, and it can be argued that wage differences between men and women do not always result pension disparities. As retirement benefits are the result of total labor market participation, wage differences in the past can also determine the current disparities in pensions between men and women, thus the historic wage gaps should be taken into account. The

Eurostat data reveals that the wage gaps between men and women in the EU haven't changed much in 20 years. It is possible to distinguish some of the countries where these gaps diminished the most, i.e. Luxembourg, the Netherlands, Slovenia, Ireland and Poland; however, pension disparities in these countries remained relatively high or even highest in the EU. With a one-percent increase in the proportion of women working part-time, the pension gap between men and women increases by 0.34% in 2010 and 0.36% in 2012. Part-time working women accumulate less working years during their professional lives, which contribute to higher retirement benefits. Consequently, the gap between men with a lower part-time employment rate and women is rising. Figure 2 shows that in countries where a significant proportion of women work part-time, such as the Netherlands, Luxembourg or Germany, the gender pay gap is higher. Meanwhile, where fewer women work part-time (in Estonia, Slovakia, and Latvia), pension differences between men and women are lower.

Figure 2: The relationship between the proportion of women working part-time and pension gaps between men and women



Source: Research data

In the countries where the state pension systems predominate, pension differences between the sexes in 2010 were lower by 0.089%. It can also be linked to a higher proportion of women working part time than men. For women who work part-time more often, the state pension becomes more important, because in this case the availability of private pension funds is decreasing. Meanwhile, in countries where there are

paid contributions to pension funds for women not working because of childcare, gender gaps in pensions were higher by 0.12% in 2012. The purpose of these contributions is reducing gender inequalities in terms of pension income, but it should be noted that these contributions are often not recognized in occupational or personal pension schemes. This could be one of the reasons why the compensation scheme did not reduce the gender inequality in pension income.

IV. Conclusion

The present paper analyzed the factors that determine gender gap in pensions in the EU countries. The multivariate regression analysis reveals that the wage gaps lead to pension inequalities, yet lower gender wage gap does not necessarily lead to lower pension disparities between men and women. Therefore, the differences between the pensions of women and men should not be explained solely on the basis of gender wage gap. Research leads to conclusion that the increase in the proportion of women working part-time increases the gender wage gap. Two other variables - the pension system model and the compensation payment system - were not significant in all the cases analyzed. Nevertheless, they were significant with the combinations of certain factors, so it can be argued that the prevailing public pension system results in a lower pension gap, while the compensation system did not reduce the gender inequality in pension income. The other factors covered by the study – the female employment rate, their education, the number of marriages, the number of single mothers with children and the retirement age of women – did not show a significant impact on gender pension gap.

V. References

1. A. M. O'Rand, K. M. Shuey, "Gender and the Devolution of Pension Risks in the US", *Current Sociology*, vol. 55(2), 2007, pp. 287 – 304.
2. A. Zaidi, A., "Poverty Risks for Older People in EU Countries – An Update", Policy Brief 1/2010, Vienna: European Centre, 2010.

3. C. Bonnet, J.M. Hourrie, "Gender Equality in Pensions: What Role for Rights Accrued as a Spouse or a Parent?" *Population-E*, vol. 67 (1), 2012, pp. 123– 146.
4. European Commission, Report on Equality between Women and Men, 2014.
5. F. Bettio, P. Tinios, G. Betti, "The gender gap in pension in the EU", European Commission, DG Justice, 2013.
6. I. Burkevica, A. L. Humbert, N. Oetke, M. Paats, "Gender gap in pensions in the EU", European Institute for Gender Equality, 2015.
7. J. Ginn, D. Street, S. Arber, "Women, Work and Pensions: International Issues and Prospects", Buckingham: Open University Press, 2001.
8. N. Barr. "The Economics of Welfare State", Oxford: Oxford University Press, 2004.
9. Frericks, R. Maier, W. de Graaf, "European Pension Reforms: Individualization, Privatization and Gender Pension Gaps", *Social Politics*, vol. 14 (2), 2007, pp. 212 – 237.
10. S. Arber, J. Ginn, "Gender Dimensions of the Age Shift", In the *The Cambridge Handbook of Age and Ageing*, in Malcolm L. Johnson (ed.), Cambridge: Cambridge University Press, 2005, pp. 527-537.
11. S. Arber, K. Davidson, J. Ginn, "Gender and Ageing: Changing Roles and Relationships", UK: McGraw- Hill Education, 2003.
12. T. Sefton, M. Evandrou, J. Falkingham, A. Vlachantoni, "The Relationship Between Women's Work and Incomes in Later Life in the UK, US and West Germany", *Journal of European Social Policy*, vol. 21(1), 2011, pp. 20 – 36.