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Gender as a Differentiating Factor in the Process of Exiting Unemployment: The Case of Poland

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Abstract:

Purpose: *The aim of the article is to assess and compare the impact of gender on the probability of a form of de-registration from the labour office in Poland in two different research periods: a period of the financial crisis and economic recovery.*
Design/Methodology/Approach: *The study used survival analysis methods. The cumulative incidence function (CIF) was used to assess the probability of a form of exiting unemployment. To investigate the differences in influence of gender, the Gray test was used. The study was carried out in subgroups separated by the characteristics of unemployed people. Individual data describing persons registered in the Poviat Labour Office were used in the study.*
Findings: *Gender was a feature that differentiated the process of exiting unemployment. In the period of the highest unemployment, the unemployed more often looked for a job through the labour office (mainly women). On the other hand, in the period of economic recovery, they were more inclined (regardless of gender) to resign from cooperation with the office. Women used subsidized work more often than men.*
Practical Implications: *Gender is a determining factor in some socio-economic phenomena. The identification of women's and men's behaviour in the labour market will allow for effective social policy. It will also allow for the correct targeting of professional activation tools so as not to aggravate gender-based discrimination. Such actions may contribute to the improvement of the quality of life in the modern world.*
Originality/value: *In labour market research, researchers often focus on the unemployed taking up work. Other forms of de-registration were also analyzed, including resignation from cooperation with the office. It is important to identify such behaviours and correctly target professional activation tools.*

Keywords: *Unemployment, gender, survival analysis, cumulative incidence function, Gray's test.*

JEL classification: *C41, J64.*

Paper Type: *Research study.*

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1. Introduction

The differences in the situation of women and men in the labour market are the subject of many studies and reports. More difficult position of women in this area is evidenced by lower activity rate, lower employment rate, higher unemployment level, inequality in wages, low presence of women in senior positions and in company boards. The transformations of the contemporary labour market and the cultural transformations taking place in recent years have influenced the gradual change of this situation. Positive factors include the popularisation of flexible forms of employment, increase in women's education and moving away from the traditional family model towards a partnership model. The women's unemployment rate is generally higher than that of men. The duration of female unemployment is longer than that of men. It is more difficult for women to return to work, especially after a longer break related to maternity or parental leave. Women seeking work for the first time are also in a more difficult situation. The main task of powiat employment offices is primarily to provide employment services. However, this is not the main reason for de-registration. Unemployed people take advantage of the possibility of retirement or pension, take advantage of pre-retirement benefits, take up education in the daily system. One of the more frequent reasons for de-registration from the labour office is the refusal to accept an offer of suitable employment without a justified reason, which results in removing such a person from the register of the office.

The aim of the article is to assess the influence of gender on the probability of a form of exit from registered unemployment and to compare the results for two research periods. The first period (2013-2014) is characterised by the highest rate of unemployment resulting from the global financial crisis. The second period (2016-2017) is a moment of significant improvement in the Polish labour market. In the study, selected methods of survival analysis were used, considering censored observations. The cumulative incidence function (CIF) was used to assess the probability of exiting unemployment for a specific reason. The differences during CIF curves for gender were compared using the Gray's test. The analysis was conducted using data from the Poviat Labour Office in Szczecin (Poland).

2. Literature Review

The different aspects of economic activity of women and men are often analyzed in economic literature (Altonji and Blank, 1999). Numerous empirical studies focus on the wage gap (Blinder, 1973; Oaxaca, 1973; Beblo *et al*., 2003). Analyses show that men earn more than women, even if they have the same education, age, and work experience. Studies show that women are in a weaker position in the labour market and are discriminated, even if they have higher qualifications (Petrongolo, 2004). Women have been shown to have less chance of finding a new job (Katz and Meyer, 1990), especially a permanent one (Edin, 1989), and are more likely to be unemployed (Steiner, 1989; Jensen and Westergard-Nielsen, 1990). Gender discrimination can lead to significant productivity losses. The gender discrimination is a major challenge

for politicians and society. The level of female entrepreneurship is also analyzed. Nina-Pazarzi and Giannacourou (2005) examined the change in the women's professional patterns in Greece. Most companies set up by women were in the service sector. However, the growth of the number of women continuing their careers in technical professions points to new non-traditional directions of their employment, moving away from traditional roles and fulfilling personal aspirations. Martynova and Sazonova (2018) draw attention to the economic activity of women in Russia. The longer period of education and the need for more professional experience make it difficult to find female entrepreneurs in the age group up to 30. An important factor is also the model of Russian society, which in comparison with Western countries is still characterised by the earlier age of women getting married and having children. As a result, the start of business activity by women is delayed.

Research on the influence of gender on labour force participation is also conducted in Poland. Landmesser (2013) has shown that in the Polish labour market women are usually less likely to leave unemployment than men. The gap in the chances of leaving unemployment results from the fact that women are different from men due to certain characteristics relevant to the labour market. On average, women are better educated than men, but less often have technical education, which results in a lower probability of employment. The unemployment exit rate is lower for women and there is a negative dependence on the duration of unemployment (Landmesser, 2014). However, the gender gap decreases after around the age of 40. Women have a higher unemployment exit rate than men, but this gap also disappears as age increases.

The biggest impact on the income gap between men and women is the level of education. The higher average level of education of women has reduced the income gap. The importance of the education level feature has increased with income. Part-time work increased the income gap, but the importance of this feature decreased with the size of the income. Similarly, a higher number of years spent in the labour market increased the income gap between women and men, but this effect was weaker as incomes increased (Landmesser, 2017).

Kompa and Witkowska (2018) analysed the situation on the Polish labour market in 2000-2015. They studied the structure of employment and wages in various branches of the economy, large professional groups and by education level. They showed that women in Poland usually work in industries where average wages are lower. The main factor of income inequality between women and men seems to be the phenomenon of employing women in low-paid jobs. Some researchers of the Polish labour market indicate that wage discrimination against women should be perceived in rooted socio-cultural norms, beliefs, and stereotypes. The views on traditionally perceived roles of women and men continue to gain acceptance of a large part of society. It seems that this widespread acceptance of traditional male roles in Poland also results in a situation where a large part of women – despite low wages – do not feel discriminated in the labour market (Kopycińska and Kryńska, 2016). Jonek-Kowalska *et al*. (2020) analysed the role, participation and motivation of women and men in the Polish

science sector. According to the results of the research, the place and role of women in obtaining higher degrees in scientific careers (post-doctoral degree and full professor's title) were still significantly lower than that of men. Additionally, there were some inequalities in the use of motivating factors between men and women.

In Poland women have lower chances for both professional activity and having a job than men. This is particularly visible in the case of age-related models of economic activity. The chances of men in relation to women for the population aged 15-24 are 60% higher, and for the population aged 24-34 they are four times higher. In the case of job ownership models, these differences are not so great (Bieszk-Stolorz and Markowicz, 2013). Research has also shown the impact of gender on the form of exiting registered unemployment. Women took up work more intensively than men, while men were more intensively removed from the register. The gender of an unemployed person did not influence the intensity of de-registration due to other reasons (Bieszk-Stolorz, 2017b).

3. Data Used in the Study

The study used anonymous individual data obtained from the Poviat Labour Office (Polish abbreviation PUP) in Szczecin (Poland) and generated from the SYRIUSZ IT system. Two cohorts of unemployed people were created. The first cohort included people registered in the labour office in 2013 and observed for 12 months after registration. The second cohort included persons registered in 2016 and also observed for 12 months. Information was collected on 22 078 unemployed people (including 9770 women) registered in 2013. The event ending the observation of each unit was the moment of de-registration from office for a specific reason. If de-registration did not take place by the end of the 12-month observation period, such observation was assumed to be right censored (3773 observations, including 1851 women). The 2016 cohort consisted of 19688 people, including 8694 women. 737 observations were right censored, of which 408 were women. The analysis covered the time from the moment of registration to de-registration, which is a random variable T. The registers of labour offices, apart from precise data on unemployed persons, now also include several dozen reasons for their de-registration. They are, among others related to taking up employment, retirement or disability pension, continuation of education in the daily system, going abroad, change of residence. These reasons are contained in seven groups: unsubsidised work, subsidised work, transition to a pension, retirement, or allowance, starting up a business, going abroad, removal and others. These groups are different forms of competing events that were analysed.

Detailed information on the reasons for de-registration included in each form of exit from unemployment, together with the numbers, is presented in Table 1. The study analysed the impact of gender on the probability of de-registration of unemployed people depending on their education, age, number of registrations in the office and seniority. Table 2 shows how variants of particular characteristics were marked.

***Table 1**. Forms of de-registration from the labour office and their number*

Forms	Designation	Specific reasons	Total 2013 (women)	Total 2016 (women)
Unsubsidised work	Event 1	taking up work or other employment	7141 (3631)	6385 (3035)
Subsidised work	Event 2	undertaking public works, intervention works, working within the framework of an additional job created due to a loan granted or co-financing of remuneration for employing the 50+ unemployed	893 (404)	1404 (757)
Pension/ pension/ allowance	Event 3	acquisition of the right to retirement, rehabilitation benefit, disability pension, drawing a permanent benefit, being subject to pension insurance for permanent work as a household member in an agricultural holding, drawing a carer's benefit, supplement to family allowance for single parenting, drawing a guardian's benefit, granting the right to draw retirement benefit/allowance	617 (341)	403 (214)
Business activities	Event 4	undertaking non-agricultural business activity, granting of one-off funds for undertaking business activity, starting up business activity from PFRON funds	775 (327)	547 (222)
Going abroad	Event 5	going abroad for at least 30 days – not ready	410 (184)	196 (84)
Removal	Event 6	refusal to accept a proposal of employment or other paid work, performing intervention works, public works, participation in training, internship, professional preparation in the workplace; failure to appear in the PUP within the prescribed period, failure to present a certificate of inability to work as a result of illness, refusal or interruption of participation in activities under the Activation and Integration Programme, lack of readiness to take up work for at least 10 days, application of the unemployed person to be removed from the register	8020 (2853)	9725 (3856)
Other	Event 7	change of the place of residence or stay outside the PUP's area of operation, inability to work as a result of illness or staying in a closed detoxification centre, commencement of training organised by an entity other than the PUP, death, appointment to basic military service, undertaking stationary education	449 (179)	290 (118)

***Source:** Own study.*

4. Research Methodology

The methods of survival analysis, derived from demography, were used in the study. They are more and more often applied to study the duration of socio-economic phenomena, including unemployment. It is assumed that the duration of an individual

in a given state, until the occurrence of a specific event ending the observation, is a random variable *T*. The basic concept is the survival function defined as follows (Kleinbaum and Klein, 2005):

$$S(t) = P(t > T) = 1 - F(t) \tag{1}$$

where: *T* – duration of the phenomenon, *F*(*T*) – cumulative distribution function of random variable *T*.

Table 2. *Variants of observed characteristics and their designation*

Feature	Designation
Education	
At lower secondary	S_1
Basic vocational	S_2
General secondary	S_3
Vocational secondary	$S4$
Higher	S_5
Age	
18-24	W_1
25-34	W_2
35-44	W_3
45-54	W_4
55-59	W_5
60+	W_6
Seniority	
Without seniority	D_0
With seniority	D_1
Number of subsequent registrations	
First	Z_0
Subsequent	Z_1

Source: *Own study.*

The survival function determines the probability that a certain event will not occur until at least time *t*. Depending on the defined event, it is sometimes more convenient to analyse the cumulative distribution function *F*(*T*), expressing the probability that the event will occur at most until time *t*. If the duration of unemployment is examined, and the event is taking a job by an unemployed person registered in the office, then the estimator of the survival function informs about the probability of staying in the register, and the estimator of the cumulative distribution function allows to determine the probability of taking up a job. In this case both estimators are curves.

The second function in the survival analysis is the hazard function describing the intensity of occurrence of the event at time *t* provided survival to time *t* is defined as follows:

$$h(t) = \lim_{\Delta t \to 0} \frac{P(t \leq T < t + \Delta t | T \geq t)}{\Delta t} \tag{2}$$

The research also determines the function of cumulative hazard, which is the sum of

hazard up to time *t* and for discrete time and is determined by a formula:

$$H(t) = \sum_{j:t_j \le t} h(t_j) \tag{3}$$

The study related to the application of survival models usually involves observation of units belonging to a defined cohort. If an observation period is set, some of the units may not know the event before its end and the duration is only partially known. Such observations are considered as right censored.

In the analysis of the duration of phenomena, several events ending the observations can be distinguished. If the occurrence of each of them excludes the occurrence of the remaining events or fundamentally changes the probability of their occurrence (Pepe, 1991), then we talk about competing events, and the risk of their occurrence is called competing risk (Gooley *et al*., 1999). Two assumptions are made in this type of research. First, the events are independent of each other, i.e., the occurrence of a certain type of event has no effect on the probability of any other event occurring (Crowder, 1994; 1996; 1997). Secondly, the entity under investigation is exposed to different risks at the same time. However, it is assumed that a possible event is due to only one of these factors, which is called "cause of failure". (Aly, Kochar and McKeague, 1994). The survival analysis often uses an approach in which events other than those analysed are treated as censored observations. This leads to some overestimation of the probability of an event occurring (Bieszk-Stolorz, 2017a). In the case of various events ending the observation, it is worthwhile to use models of competing risks (Klein and Bajorunaite, 2004). The cumulative incidence function CIFk(t), used to assess the probability of occurrence of an event due to k (one of K competing events) before time *t*, is defined as follows (Klein and Moeschberger, 2003, p. 52):

$$CIF_k(t) = P(t \le T, \delta = k) = \int_0^t S(u)\, h_k(u) du = \int_0^t S(u)\, dH_k \tag{4}$$

where: $H_k(t)$ for $k = 1, 2, ..., K$ – the cumulative hazard function, $S(t)$ – the survival function, $\delta = 0$ for censored observations and $\delta = 1, 2, ..., K$ for observations ending with an event of type k (one of K competing events).

Estimator of the cumulative incidence function, first proposed by Kalbfleisch and Prentice (2002), has the form (Marubini andValsecchi, 1995):

$$\hat{CIF}_k(t) = \sum_{j:t_j \le t} \hat{S}(t_{j-1}) \frac{d_{kj}}{n_j} \tag{5}$$

This estimator is the cumulative probability of a *k*-event occurring before or at time t (Bryan and Dignam 2004). It allows to determine patterns of occurrence of an event due to *k* and to assess the extent to which each reason contributes to a total failure.
Because $\sum_{k=1}^{K} d_{kj} = d_j$, the following relationship is true:

$$\sum_{k=1}^{K} \hat{CIF}_k(t) = 1 - \hat{S}(t) \tag{6}$$

In a particular case, if there are no competing events, there is equality:

$$\hat{CIF}(t) = 1 - \hat{S}(t) \tag{7}$$

Then the cumulative incidence function estimator coincides with estimator of the cumulative distribution function.

For competing events, the equivalence of the cumulative incidence functions for *n* subgroups is verified using the Gray's test (1988). This test compares the weighted means of hazard of the cumulative incidence function. For the two subgroups *A* and *B* and the *k*-type of risk being compared, it takes the form:

$$\int_0^{\infty} W(u) \left(\hat{f}_k^A(u) / \left(1 - \hat{CIF}_k^A(u)\right) - \hat{f}_k^B(u) / \left(1 - \hat{CIF}_k^B(u)\right) \right) \mathrm{d}u \tag{8}$$

where: $W(u)$ – weight function, $\hat{f}_k^A$, $\hat{f}_k^B$ – estimators of probability density function, $\hat{CIF}_k^A$, $\hat{CIF}_k^B$ – the estimators of cumulative incidence function for subgroups *A* and *B* respectively.

The null hypothesis assumes that there are no differences between the cumulative incidence functions determined for subgroups. For the *k*-th competing risk and two subgroups *A* and *B* it is expressed by a formula:

$$H_0: CIF_k^A(t) = CIF_k^B(t) \text{ for } t \leq T \tag{9}$$

$$H_A: CIF_k^A(t) \neq CIF_k^B(t) \text{ for certain } t \tag{10}$$

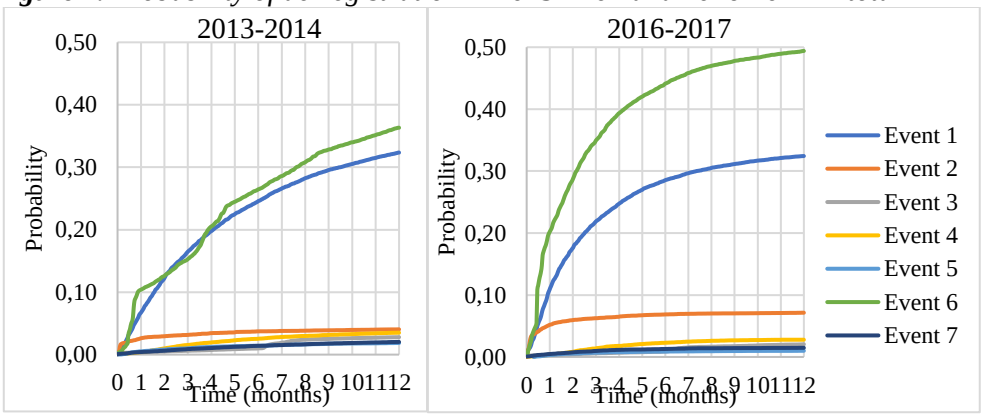
The test statistic has a χ^2 distribution with $n - 1$ degrees of freedom. In the absence of competing events, the Gray's test becomes a simple log-rank test.

5. Results of the Study on the Impact of Gender on the Exit from Unemployment

The analysis was carried out in two stages. In each of them, the phenomenon was assessed for two observation periods: 2013-02014 and 2016-2017. The first stage consisted in using the cumulated incidence function (*CIF*) to assess the probability of different forms of exiting unemployment and considering the gender of the unemployed person (Figures 1-3). The courses of these functions for the total unemployed (Figure 1) indicate that for both periods the most probable reason for de-registration of the unemployed was removal from the register, while the first form was particularly dominant in 2016-2017 and amounted to almost 50% after 12 months

since registration. In both analysed periods, the probability of de-registration due to taking up unsubsidised work was similar, while in the case of subsidised work it was higher in 2016-2017. The probability of taking up business activity, going abroad, going on a pension, retirement or benefit and other forms were marginal and did not exceed 0.05 in both analysed periods.

Figure 1. *Probability of de-registration in 2013-2104 and 2016-2017 in total*



Source: *Own study.*

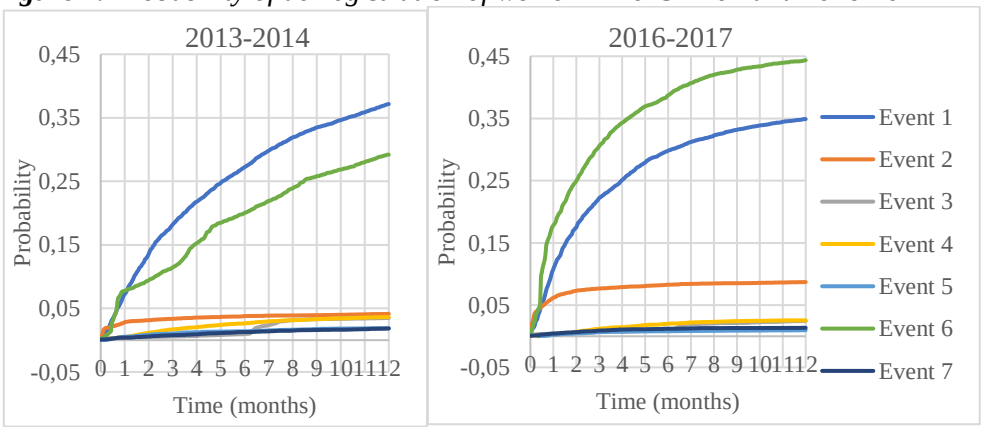
The analysis with respect to gender is interesting (Figures 2-3). In 2013-2014, women were more likely to take up employment than they were removed, while in 2016-2017 the situation was the opposite. In 2016-2017 women took up subsidised jobs more often (almost 9% after 12 months) than in the previous period (over 4% after 12 months). Men in both periods were more often removed from the register than they took up work.

However, in 2016-2017 they did so more often (53% after 12 months) than in 2013-2014 (42% after 12 months). The estimated survival functions for the reasons "Removal" and "Pension/retirement/allowance", both for women and men, are characterised by irregular curvature. For the "Removal" event, a significant jump in the first month was associated with an increased number of de-registrations due to an unemployed person's failure to appear in the PUP within the prescribed period.

In the case of "Pension/retirement/allowance", the jump in value in the seventh month after registration was caused by an increased number of de-registrations due to granting the right to receive a pension, a retirement or an allowance. The sum of CIF_k estimates for all forms of de-registration is less than 1.

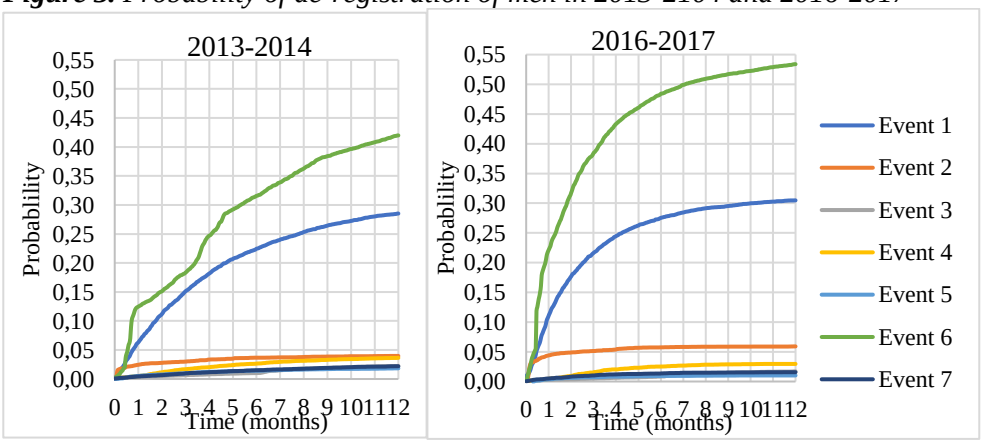
This is due to the existence of censored observations. Not all persons were de-registered by the end of 2014 or 2017. The non-zero difference that has arisen allows to determine the probability of staying in the unemployment register after 12 months from the moment of registration. For women it was 0.05 for both periods and 0.04 for men in 2013-2014 and 0.03 in 2016-2017.

Figure 2. *Probability of de-registration of women in 2013-2104 and 2016-2017*



Source: *Own study.*

Figure 3. *Probability of de-registration of men in 2013-2104 and 2016-2017*



Source: *Own study.*

The probability of various forms of exiting unemployment for women and men was also analysed in subgroups distinguished by education, age, number of registrations and seniority. The second stage of the study was to assess the gender impact on the form of exiting unemployment using the Gray's test (Table 3). This test made it possible to compare the probability of de-registration of women and men. The significance level was assumed to be $p = 0.05$.

The lack of grounds for rejecting the null hypothesis indicates that there are no significant differences in the course of CIF_k curves, i.e. no gender impact on the probability of a specific form of de-registration. Gray's test allows to detect differences in the course of curves but does not allow to determine their mutual position. For this purpose, the values of CIF_k estimators should be analysed by using their charts. The results of such analysis are presented in Table 4.

Table 3. *Gray test results for periods 2013-2014 and 2016-2017*

Feature	Unsubsidised work	Subsidised work	Pension/ retirement/ allowance	Business activities	Going abroad	Removal	Other
Period 2013-2014							
S_1	24.687*	0.044	9.054*	11.633*	0.540	74.252*	10.986*
S_2	8.849*	0.161	13.426*	3.367	0.428	31.668*	2.766
S_3	0.036	7.415*	26.771*	6.222*	0.094	19.138*	4.058*
S_4	10.430*	0.925	22.398*	3.279	2.381	80.727*	2.154
S_5	16.838*	24.001*	0.418	10.323*	10.296*	45.468*	1.504
W_1	36.590*	10.190*	0.810	0.012	0.130	131.512*	0.213
W_2	76.101*	7.449*	4.664*	0.494	0.000	230.984*	0.830
W_3	58.896*	1.233	0.744	1.283	1.114	99.454*	3.021
W_4	10.034*	0.009	11.198*	4.701*	0.661	33.866*	8.473*
W_5	14.633*	2.813	149.206*	0.523	0.092	13.586*	1.939
W_6	0.713	0.444	91.516*	0.051	0.039	3.521	0.064
Z_0	45.080*	3.318*	7.260*	0.495	0.238	139.715*	0.095
Z_1	119.792*	0.671	19.776*	2.593	0.475	262.405*	9.039*
D_0	87.345*	0.608	0.390	0.116	0.256	145.567*	0.027
D_1	74.447*	0.013	30.719*	1.538	0.000	220.954*	5.743*
Period 2016-2017							
S_1	0.417	0.838	0.843	3.838*	0.053	0.007	5.369*
S_2	0.107	2.535	13.061*	6.280*	7.767*	1.174	2.497
S_3	0.994	19.099*	7.645*	8.431*	0.340	26.247*	0.063
S_4	0.089	19.032*	8.714*	6.352*	0.851	13.035*	3.102
S_5	0.249	93.829*	0.004	13.380*	0.591	37.888*	0.079
W_1	1.714	5.114*	3.553	4.288*	0.118	16.871*	0.180
W_2	4.628*	80.286*	3.630	3.012	0.103	97.221*	0.631
W_3	24.066*	32.688*	0.953	0.785	5.632	92.474*	2.654
W_4	14.492*	14.285*	1.384	2.464	1.182	32.655*	11.460*
W_5	8.851*	0.629	94.191*	0.239	3.512	7.456*	1.936
W_6	12.293*	1.374	62.147*	0.826	1.603	22.334*	1.603
Z_0	17.754*	12.352*	1.404	11.352*	0.007	35.477*	0.217
Z_1	16273*	53.036*	11.572*	0.080	0.116	123.694*	2.247
D_0	12.626*	0.609	4.452*	13.070*	1.149	17.458*	0.006
D_1	11.694*	42.637*	6.913*	0.063	0.117	118.076*	2.115

Note: ** significant at 0.05*
Source: *Own study.*

The results of the comparison between men and women for the two analysed periods overlap to a large extent. In both analysed periods the gender impact was strongest in the case of unsubsidised work (women predominated), removal (men predominated) and transition to a pension, retirement, or benefit (from the seventh month onwards women predominated). In the case of unsubsidized work, the exceptions were men aged 55-59 (2013-2014 and 2016-2017) and 60+ (2016-2017). For women, this is the pre-retirement age, which may suggest that most of them have benefited from pre-retirement benefits. In 2013-2014, the probability of taking up subsidised employment was significantly higher for women with secondary general and higher education and in the 18-24 and 25-34 age groups, as well as those registered for the first time. In

2016-2017, on the other hand, women were much more likely than men to take up subsidised employment in most analysed groups. In 2013-2014, starting up a business was most likely for men with lower secondary, secondary general and higher education and 45-54 years of age at most. In 2016-2017, men were more likely to start a business at all levels of education, in the group up to 25 years of age, registered for the first time and without seniority. The smallest gender impact was on de-registration due to going abroad and for other reasons - men prevailed in several groups.

Table 4. *Impact of gender on the probability of exiting unemployment (statistically significant variants) in 2013-2014 and 2016-2017*

Feature	Unsubsidised work	Subsidised work	Pension/ retirement/ allowance	Business activities	Going abroad	Removal	Other
Period 2013-2014							
S_1	K	=	K	M	=	M	M
S_2	K	=	K > 6m	=	=	M	=
S_3	=	K	K	M	=	M	M
S_4	K	=	K > 6m	=	=	M	=
S_5	K > 3m	K	=	M	M	M	=
W_1	K	K	=	=	=	M	=
W_2	K	K	K	=	=	M	=
W_3	K	=	=	=	=	M	=
W_4	K	=	K > 6m	M	=	M	M
W_5	M	=	K > 6m	=	=	M	=
W_6	=	=	K	=	=	=	=
Z_0	K	K	K > 6m	=	=	M	=
Z_1	K	=	K > 6m	=	=	M	M
D_0	K	=	=	=	=	M	=
D_1	K	=	K > 6m	=	=	M	M
Period 2016-2017							
S_1	=	=	=	M	=	=	M
S_2	=	=	K	M	M > 4m	=	=
S_3	=	K	K	M	=	M	=
S_4	=	K	K > 6m	M	=	M	=
S_5	=	K	=	M	=	M	=
W_1	=	K	=	M	=	M	=
W_2	K > 6m	K	=	=	=	M	=
W_3	K	K	=	=	M	M	=
W_4	K	K	=	=	=	M	M
W_5	M	=	K	=	=	M > 2m	=
W_6	M	=	K	=	=	M	=
Z_0	K	K	=	M	=	M	=
Z_1	K > 4m	K	K	=	=	M	=
D_0	K > 2m	=	K	M	=	M	=
D_1	K > 4m	K	K	=	=	M	=

Note: *K – prevalence of women, M – prevalence of men, K > xm – prevalence of women after x months from the moment of registration, M > xm – prevalence of men after x months from the moment of registration, "=" – no significant differences between women and men.*
Source: *Own study.*

6. Conclusions

The study showed that gender was a differentiating factor in the process of exiting unemployment. In addition, it was shown that willingness to take up employment was not the only reason for registering in the labour office. The unemployed were also willing to use other forms of exiting unemployment. In the analysed period, the probability of de-registering for reasons other than taking up employment was differentiated by the gender of the unemployed. In both periods, gender was a particularly strong determinant of taking up non-subsidized employment (mainly women) and removal (mainly men). Differences were also noticeable in the groups distinguished by the characteristics of the registered unemployed such as: education, age, number of registrations and seniority.

In years 2013-2014, gender differentiated mostly the unemployed with at lower secondary or higher education and those aged 45-54, the least – those aged 35-44 and without professional experience. In 2016-2017, gender differentiated mainly the unemployed with secondary education (general and vocational), aged from 35 to 55, in both groups of professional experience and number of registrations. It should be noted that subsidized work is an auxiliary measure. It does not guarantee permanent employment, but it is an important factor of professional activation, especially for the long-term unemployed. Also, self-employment through starting up a business or granting funds by the office is an important measure aimed at counteracting unemployment. Sustainable development will not be possible without gender equality and recognition for women's work. Nor will it be possible to reap the full benefits of this development, which serve current and future generations. Therefore, the elimination of the diagnosed symptoms of discrimination may contribute to improving the quality of life in the modern world.

The analysis carried out reveals differences in the behaviour of the registered unemployed. In the period of the highest unemployment, such people more often look for a job with the help of the labour office (mainly women). On the other hand, in the period of economic upturn, the unemployed (regardless of their gender) are more likely to resign from cooperation with the office.

The presented study also gives an important methodological observation. If there are different types of events ending the observation, it is worth to use models that allow to estimate the competing risk. In the case of the duration of registered unemployment, they make it possible to determine the probability of taking up work and compare it with other reasons for de-registration.

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