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WOMEN IN THE POLISH INDUSTRY – EMPLOYMENT NUMBERS AND STRUCTURE IN THE YEARS 1945-1956

Abstract: The first decade of the Polish People's Republic (PPR) saw a radical increase in the number of workers employed in the industry. Many of the new workers were women, whose situation on the job market was much more dynamic than men's. New staff was mainly recruited from the rural population. Workers were poorly educated and had little work experience, which begs a question regarding the economic rationale behind this process. Some of the new employees could actually be included in the category of "hidden unemployment". Their marginal productivity equaled zero, which means that their work had no actual impact on the gross national income. Furthermore, such "unemployment at work" negatively impacts morale and work quality, leads to increased staff turnover, and essentially prevents workers from improving their financial situation. Considering the poorer socio-demographic characteristics of women compared to men, one can pose the thesis that the rate of needless employment was significantly higher among women than among men.

Key words: women, workers, industry, hidden unemployment.

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INTRODUCTION

Modern professional activity of women in Poland dates back to the industrialization processes of the mid-19th century. However, this mainly included women from underclass backgrounds, who had already worked before as house servants, hired laborers, and pieceworkers. The development of the textile industry provided a strong impetus for their employment. In the early 20th century, as many as 74% of women employed in the industry in Poland were textile workers [Jarska N. 2015: 22-23], part-

ly due to lowering expectations regarding workers' qualifications. Ralf Dahrendorf noted that until the end of the 19th century, workers' qualifications tended to worsen, and unqualified workers became a clearly dominant group. They were mainly employed as part of "professional activation" programs for women and rural residents. The role of craftsmen and qualified workers decreased. These trends were correlated with the specific nature of industrialization processes, based on a narrow division of work and mechanization [Dahrendorf R. 2008: 52-55]. The third characteristic feature of pre-war women's employment was the fact that working women were usually unmarried, as pointed out by Natalia Jarska. This situation was the consequence of the social position of women [Jarska N. 2015: 26]. Young, unmarried women (as well as married but childless women) worked out of necessity, to make ends meet. Older women with their own families, in particular with children, were financially supported by their husbands (with a notable exception of female textile workers in Łódź).

Those characteristics are reflected in the description of the environment of Polish female workers in the period of 1918-1939, and surprisingly, also in the period of the Polish People's Republic. For the purposes of this paper, the available statistical data and information from personnel files from four industrial plants will be used in order to analyze the social and demographic background of female workers. Regarding the period of 1918-1939, basic information is available on 2986 workers (1079 female and 1907 male) employed in multiple sectors of the national economy, including 1243 working in industrial plants (337 women and 906 men). For the period of 1945-1956, information is available on 16,124 industrial workers, including 8139 women. These samples are by no means representative, though the fact that for the whole 1918-1939 period we have information on almost 0.2% of all women employed in the Polish industry in 1937, and for the post-war period — 1.2% of all female workers employed in 1955, warrants the conclusion that these numbers reflect some more general trends.[1]

[1] All data on workers in the pre- and post-war periods were obtained from databases created based on personnel files from 4 plants (2 from the metalworking industry and 2 from the textile industry, located in Kraków and Wrocław). In total, information has been gathered on 16,124 physical workers, including 8139 women and 7985 men. The entire database contains around half a million records, and owing to the correlation of various qualities, it can be used for drawing conclusions on the bio-social characteristics of industry workers.

FEMALE INDUSTRIAL WORKERS IN THE YEARS 1918-1939

According to the data for the year 1937, women comprised 23.8% of all workers employed in the industry, with more than one in two female workers (over 52%) working in the textile (47.4%) or clothing (4.7%) industries (see table 1). Only in these two sectors women outnumbered men, as the percentage of female employees exceeded 50%. In other sectors, it ranged from 2.3% (mining) to over 40% (paper making). In general, most women were employed in sectors that produced consumer goods. There, they comprised over 42% of workers, while in sectors producing production goods the share was only 12% [*Statystyka Przemysłowa…* 1949: IX; *Statystyka Przemysłowa…* 1950: 14; Widerszpil S. 1965: 99].

For 1947, there is an error in the "in total" and "women" sums. The total employment sum is 1,325,967 and the women's employment sum is 334,722.

A large part of female workers at the time were peasants — almost 44% were born in rural areas and worked in the industry before the year 1939. However, this rate was lower than for men, as in the latter group, it exceeded 48% [Chumiński J. 2015: 434]. Female industrial workers in the discussed period were poorly educated. Suffice it to say that their education index was 5.89, below primary education level. It was significantly lower than the education index for all female workers before the Second World War, which stood at 6.36 (including e.g. 6.55 for women working in crafts, or 6.5 in trade and services) [Strzelecki Z. 1974: 207-208].[2] This means that 47.6% of female workers did not even have primary education, and 36.3% finished their education at this level (only 16.1% entered into secondary education) [Chumiński J. 2014: 139]. According to a survey on physical workers' qualifications conducted in August 1936, 40% of female work-

[2] The index is a weighted arithmetic mean of the identified education categories. The calculations were performed according to the formula proposed by Strzelecki Z. [1974: 207-208], where: $E_{mn} = (\sum N_i K_w) / N$, where *Emn* is workers' mean education level; N_i — number of workers with a given level of education (i = level of education); K_w — coefficient for conversion of a given education level into the number of years in education; N - number of workers. Particular education levels were assigned the following weights: illiterate — 0; up to 4 grades — 3; 5–6 grades — 5.5; completed primary education — 7; partially completed vocational education — 8; completed vocational education — 9; partially completed technical or general secondary education — 9; completed technical or general secondary education — 11; partially completed college education — 13; college degree — 15.

Table 1. Share of women employed in the industry as physical workers compared to the total number of physical workers in 1937 and 1947

Industry sector	Number of employees in 1937			Number of employees in 1947		
	in total	women	% of women in the total employment	in total	women	% of women in the total employment
Mining	79378	1790	2.3	230033	14387	6.3
Mineral	58033	8878	15.3	96355	20797	21.6
Foundries	40176	1607	4.0	80607	11683	14.5
Metalworking	105690	9848	9.3	168199	20811	12.4
Mechanical engineering	19265	5607	29.1	22323	6087	27.3
Precision and optics	16281	3445	21.2	4132	866	21.0
Chemical	42597	11801	27.7	71058	17309	24.4
Textile	164034	85404	52.1	241891	125025	51.7
Paper making	19150	7790	40.7	30612	10480	34.2
Printing	13532	4230	31.3	19936	8737	43.8
Leather	9680	1410	14.6	6960	1156	16.6
Wood	55916	6326	11.3	70425	9846	14.0
Food	84750	23356	27.6	140221	43444	31.0
Clothing	16471	8464	51.4	55942	37897	67.7
Construction	31860	250	0.8	97273	6197	6.4
In total	756813	180206	23.8	1372074	338255	24.7

Source: Own development based on: *Statystyka Przemysłowa* …[1950: 14]; *Statystyka Przemysłowa*… [1949: IX]. Data on the mining industry as of December 1938, Archiwum Akt Nowych, (AAN, Archive of New Files), Centralny Urząd Planowania (CUP, Central Planning Office), 3723, f. 24

ers were qualified (27% were unqualified, and over 31% were trained on the job). These results, however, raise considerable doubts among scholars (table 2). The reason is that the numbers suggest a similar level of qualification among women and among men (for the latter: qualified — 39%, unqualified — 31%, trained on the job — approx. 23%) [*Statystyka Pracy* 1938, issue 1: 36-37]. Janusz Żarnowski suggested that this could result from confusion regarding the meaning of the term "qualified worker" at

the time [Żarnowski J. 1999: 357]. Another debatable claim from the survey is that almost 80% of qualified female workers were employed in the textile industry (as many as 60.3% working in this sector were considered qualified, 23% — as trained on the job, and only 16% — as unqualified). In other sectors, these numbers were much lower. With the exclusion of the textile sector, the percentage of qualified female workers in all other 11 sectors of the processing industry combined was lower than 18% (trained on the job — 40%, unqualified — 39%).

The low education level in women remained in sharp contrast with the level of education in men. Positive changes that occurred in the years 1918-1939 are exemplified by the fact that workers' average education level measured by the education index was above primary school level and equaled 7.18 (among men working in all sectors of the national economy, this index was 6.93). Only slightly more than a quarter (25.8%) of industrial workers did not even have primary education, 30.8% graduated primary school, and as many as 43.4% continued their education above this level (including 28% who graduated vocational schools). These data is even more telling considering the fact that before the war, the most common form of training was apprenticeship, which did not constitute formal education. This situation changed in the 1930s, when a candidate for an industrial job was expected to have a vocational school diploma. This was without a doubt the result of the development in Polish industry.

J. Żarnowski estimates that in the 1930s, around 300,000 Polish workers worked in modern sectors and industrial plants. Notably, in the prewar period, the level of intelligence in Polish male students in vocational schools was above average [Żarnowski J. 2014: 110, 173-4; Kączkowska J. 1935; 32-3]. The fact that industrial workers before the war were usually better educated than other groups of workers demonstrates their relatively elite character. The education index among craftsmen was 6.71; in the trade and services sector — 6.74; and in the construction sector — 5.61. The only group better educated than industrial workers were physical workers employed in public services and local government offices, such as the Polish Mail, Polish Railways, and education (7.94) [Chumiński J. 2014: 137-8].

The education level and age structure of female workers seem to reflect their disadvantaged social position. In working class families, the traditional family model dominated, in which an unmarried woman was dependent on her father, and once married, she had to subject to the will and control of her husband [Żarnowska A. 2000: 43-4]. In the conclusion

Table 2. Pre-war workers by sex and qualification level (August 1936)

Industry sector	Number of workers included in studies						
	Men					Women	
	in total	qualified	trained on the job	unqualified	not directly working in production	in total	qualified
Mineral	44539	12280	9729	20877	1653	10648	1834
Metalworking	56386	27361	16749	9889	2387	6754	767
Mechanical engineering	5694	2407	1717	1228	342	3798	656
Chemical	23744	7380	8029	6296	2039	9778	586
Textile	61869	34457	9758	12657	4997	74364	44828
Paper making	7605	2250	2670	2183	502	4821	626
Leather	4754	1650	1422	1389	293	1094	80
Wood	36049	9046	7047	18627	1329	5490	1429
Food	29994	8047	6433	11080	4434	13917	2696
Clothing	3938	1218	1755	658	307	6898	1818
Construction	16248	5802	2756	7109	581	134	2
Printing	5128	3241	1009	494	384	2962	721
in total	295948	115139	69074	92487	19248	140658	56043

Source: own development based on: *Statystyka Pracy* [1938: 36-37].

of his study on professional work of working-class women, Władysław Mierzecki stated that "in the Second Polish Republic, they were usually forced to do paid work by the economic situation of working-class families. In most cases, the professional activity of women could hardly be explained by their conscious pursuit to change their social position" [Mierzecki W. 2000: 117]. It was deemed natural that young women took up employment mainly out of economic necessity, and terminated it as soon as they got married. However, this significantly limited their options of obtaining education, which typically ended before graduating primary school. This problem is well illustrated by the age structure of female workers employed in the industry (data for the year 1934). Suffice it to say that the percentage of women below 29 years of age was 52.4%, while among men it stood at 38.8%, and median age in men was almost 4 years

Number of workers included in studies							
Women			Men and women in total				
trained on the job	unqualified	not directly working in production	in total	qualified	trained on the job	unqualified	not directly working in production
2399	6117	298	55187	14114	12128	26994	1951
2743	3011	233	63140	28128	19492	12900	2620
1530	1518	94	9492	3063	3247	2746	436
5825	2931	436	33522	7966	13854	9227	2475
17220	11807	509	136233	79285	26978	24464	5506
2155	1936	104	12426	2876	4825	4119	606
404	574	36	5848	1730	1826	1963	329
1532	2394	135	41539	10475	8579	21021	1464
5089	5264	868	43911	10743	11522	16344	5302
3786	1222	72	10836	3036	5541	1880	379
3	109	20	16382	5804	2759	7218	601
1366	762	113	8090	3962	2375	1256	497
44052	37645	2918	436606	171182	113126	130132	22166

higher than in women (33.3 and 29.4, respectively). The significant differences in the "below 25" age category (women — 30.8%, men — 19.8%) are particularly telling [Czajkowski T. 1936: 12-4; *Mały rocznik statystyczny* 1939: 263].

In the context of these factors — low education, young age and the resultant shorter work experience, as well as the stereotype of a lower productivity compared to men — it is not surprising that before the war, female workers earned considerably less than their male counterparts. In 1938, hourly rates for women were approx. 1/3 lower than for men (0.53 and 0.78 złoty, respectively). In reality, their situation was even worse. Out of 12 analyzed sectors, women's wages were higher than 60% of the average wage paid to men in only 3. Female workers employed in textile plants received the highest wages (0.62 złoty, or 72% of the men's rate of 0.86 złoty)

[*Mały rocznik statystyczny* 1939: 272]. The workers' qualification level had the strongest impact on wages. According to a study performed in August 1936, the average weekly wage earned by men was 31.54 złoty. Qualified workers earned 40.15 złoty, workers trained on the job — almost 30% less (28.86 złoty), and unqualified workers — over 40% less (22.51 złoty). In some sectors, qualified workers' wages were relatively high: in the metal-working industry, they earned 46.01 złoty, in the mechanical engineering industry — 49.91 złoty, in the chemical industry — 51.65 złoty, in the paper making industry — 50.24 złoty, and in the printing industry — 71.15 złoty. Incidentally, the estimates of L. Landau suggest that 39% of industrial workers and the same percentage of intellectual workers earned between 150-300 złoty. Wages of female workers, even qualified ones, paled in comparison with these numbers. Suffice it to say that qualified female workers earned marginally more than unqualified men — 23.56 złoty compared to 22.51 — with the average for women standing at 20.27 złoty: qualified female workers earned 23.56 złoty, trained on the job — 19.41 złoty, and unqualified — 16.55 [Chumiński J. 2014: 150-1; *Statystyka Pracy* 1938, issue 1: 37; Landau L. 1957: 245, 249-50].

The analysis of the situation of women working in the Polish industry in the years 1918-1939 is by its very nature superficial and excludes many important issues, but nonetheless warrants a conclusion that the problems accompanying women's employment reflect processes characteristic for the first half of the 20th century. Among women employed on a mass scale at the time, most had low education and poor professional skills, and were paid accordingly. Among men, the situation was different, in line with the pattern observed in the early 20th century. Dahrendorf claims that in the 20th century (especially from the 1930s onwards), the number of qualified and partially qualified workers grew, while the number of unqualified workers — decreased. Workers' wages also grew. In this context it is worth referencing Max Weber who in the early 20th century wrote that "low wages fail, even from a purely business point of view, wherever it is a question of producing goods which require any sort of skilled labor, or the use of expensive machinery which is easily damaged, or in general wherever any great amount of sharp attention or of initiative is required. Here low wages do not pay, and their effect is the opposite of what was intended" [Dahrendorf R. 2008: 52-5; Weber M. 1994: 43]. All this was reflected in the Polish industry by the improving education level among workers, their increasing professional qualifications and even better wages.

SOCIAL AND DEMOGRAPHIC CHARACTERISTICS OF FEMALE WORKERS IN THE YEARS 1945-1956

After the communists had risen to power in Poland after the Second World War, the employment processes clearly deteriorated. Increases in production were based on a 19th-century model involving mass employment of poorly qualified, unproductive, and badly paid labor.

The massive employment of women in the industry during the time of the Polish People's Republic is a perfect example of this situation. Of course, to some extent, this resulted from objective problems. The Second World War and the subsequent changes in the Polish territory led to a drastic decline in the number of people able to work in the Polish economy. It is worth noting that the population of Poland shrank from 35.3 million in 1939 to 23.9 million in 1946 (of which 20.5 million were Poles).[3] Compared to the year 1931, working age population (18-59 years old) decreased by 4,184,000 people, and the number of people under the age of 18 — by 3,696,000 [*Mały rocznik statystyczny* 1939: 10; *Historia Polski w liczbach* 2003: 357, 393; *AAN, Ministerstwo Ziem Odzyskanych, MZO*, 159, f. 45]. Losses were sustained mostly among men, which also negatively impacted the available labor resources. In 1946, there were 2.3 million fewer men than women, which means that in cities, there were 130.8 women per every 100 men, and in the countryside — 117.4 women per 100 men (in the so-called Recovered Territories, there were 137.1 women per 100 men, and in the so-called Former Territories, there were 117.8 women per 100 men) [*Zatrudnienie kobiet* 1945: 60; Gawryszewski A. 2005: 208-11].[4] In 1955, the final year of the six-year plan, there were 110.7 women per 100 men in the population between the ages of 18 and 59 (and in the 60 and over category — a staggering 150.8 women per 100 men) [*Rocznik statystyczny* 1956: 43]. According to Stanisław Wyrobisz, the maximum number of professionally active individuals in 1947 in the industry could stand at 2 million people, and in 1949, this number could potentially rise do 2.1 million.

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[3] According to the 1946 census, the total population of Poland was 23,930,000, 45.8% of which were men (10,954,000) and 54.2% were women (12,976,000). Compared with the 1931 census, this represented a decrease by 4,474,000 men and 3,512,000 women.

[4] According to the 1950 census there were 1.2 million fewer men than women, or 109.6 women per 100 men. These ratios were among the worst in Europe — worse results were only found in the Soviet Union (122 women per 100 men in 1959), Austria (115.5 women per 100 men) and West Germany (114.3 women per 100 men). Notably, the women-to-men ratio in Poland in 1950 was the same as in 1921.

Table 3. Average employment of physical workers in state-controlled and private industry in the years 1937-1956

Private and state-controlled industry	Average employment					
	1937	1945	1946	1947	1948	1949
Employees in total	786952	607846	1076788	1291153	1420688	1530172
1937=100	100.00	77.2	136.8	164.1	180.5	194.4
Women	181527	-	265488	331626	375073	434610
1937=100	100		146.3	182.7	206.6	239.4
Men	605425	-	811300	959527	1045615	1095562
1937=100	100	-	134.0	158.5	172.7	181.0

Source: own development based on: *Statystyka przemysłu 1944-1955* [1956 : 14]. For the year 1956, estimates are based on: *Statystyka przemysłowa …*[1958: 2]. Data from *Statystyka przemysłu 1944-1955* comprise numerous errors in totals. We included the data from the source.

In his words, this was the country's "limit in terms of its labor force in the industry, and the force of which we must take maximum advantage" [Wyrobisz S. 1947: 260].

Women remained a natural reserve for increasing employment. Even more so, since (as estimated in mid-1945) out of 8 million women of working age (15-59), 1.2 million were employed in all sectors of the economy, excluding the agriculture. This represented around a third of women living in urban areas. Two million women were housewives, though large reserves were also expected to exist in this group due to the small number of children of pre-school age (under 7 at the time: 1.6 million). 600,000 traded in the black market, worked illegally or semi-legally, were involved in smuggling, or did not want to take up any work at all. The total was 3.8 million women (the remaining 4.2 million lived and worked in the countryside), of which an estimated 800,000 were considered potential candidates for employment in subsequent years. A substantial part of them would work in the industry [Ney E. 1947: 310-2; *Zatrudnienie…* 1945: 58-60].

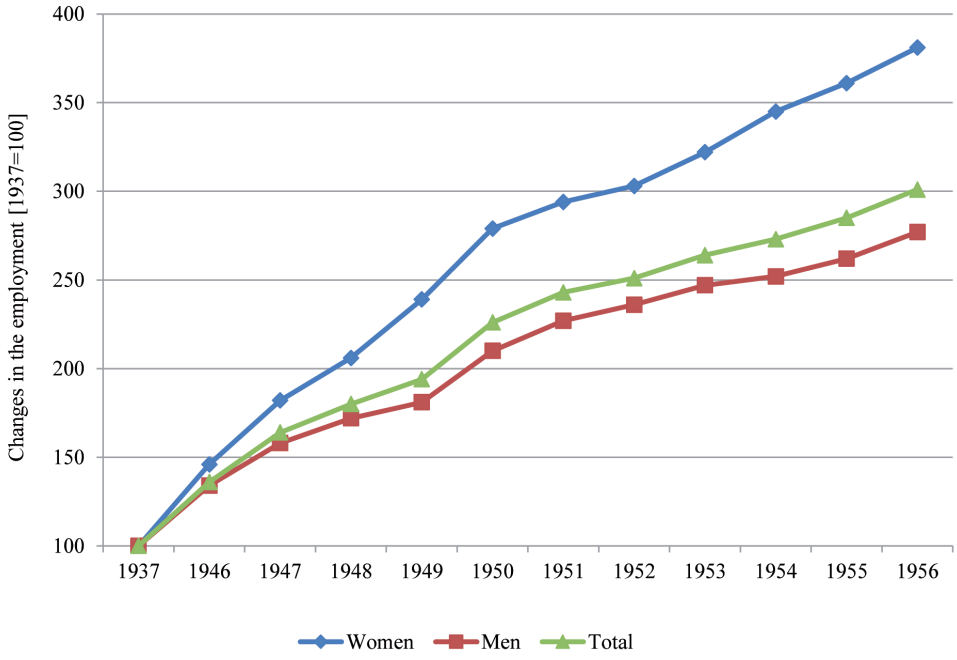
This context helps to understand the radical growth (especially in absolute numbers) in the number of women employed in the industry. As early as 1946, the number was higher than in 1937 by 46%, in 1947 — by

	Average employment						
	1950	1951	1952	1953	1954	1955	1956
	1779753	1912704	1981286	2084420	2153242	2246615	2369900
	226.2	243.1	251.8	264.9	273.6	285.5	301.1
	506597	534879	550037	584781	626800	655893	691885
	279.1	294.7	303.0	322.1	345.3	361.3	381.1
	1273156	1377825	1431249	1499639	1526442	1590722	1678015
	210.3	227.6	236.4	247.7	252.1	262.7	277.2

82%, and in 1948 — by 106%. In the case of men, the increase was 34%, 58%, and 72% respectively (table 3).[5]

In absolute numbers, this represented an increase by 83,000 in 1946, by over 150,000 in 1947, and by 193,000 in 1948. This means that the number of women working in the industry doubled compared to 1937. The structure of women's employment is also worth examining. Although in percentages, the largest surge was found in the case of mining (over 800% — from 1790 workers in 1937 to 14,387 in 1947) and foundries (700% — from 1607 to 11683), the increases were not as impressive in absolute numbers. In the structure of employment, three sectors continued to dominate: textile, clothing, and food industries. Overall, in 1947, employment in these three sectors grew by 89,000 workers. In 1937, women comprised 65% of all workers there, and in 1947 — 61%. Also in subsequent years, the employment of women increased much faster than in the case of men. Suffice it to say that in 1956, the number of working women grew by over 510,000 (381%) compared to the year 1937: from 181,500 to 691,800. In the

[5] There are small differences in the number of employees between the data shown in table 1 and 2. This depends on whether the numbers represent average employment in a year or e.g. in a specific month.



Graph 1. Changes in the employment of men and women in state-controlled and private industries in the years 1946-1956 (1937 = 100)

Source: as in table 3.

case of men, the increase was only 274% (graph 1). At the end of the six-year plan (1955), women comprised 29.2% of all workers, and still most of them worked in textile (192,800), clothing (77,500) and agricultural and food (72,000) sectors — 342,000 in total, i.e. 52% of all employed women. Other large employers included metalworking plants, as well as precision and optics (72,600) and chemical (47,500) plants. It is also worth noting that in 1955, most women employed in the state-controlled economy outside agriculture and forestry worked in the industry — 41.9% (813,500 out of 1,939,600). Other sectors with high numbers of female workers were trade (336,300), education (225,400), and health care (175,000) [*Przekroje terenowe*… 1967: 365]. Compared with other European countries, the index of professional activity among women was quite high already in the early 1950s — in 1950, it stood at 42.4%, compared with approximately 30% in capitalist countries (in France it was below 30%, in West Germany — 31%, in Great Britain — 27%, in Italy — 22%, and in Spain — 12%). Only other socialist countries had rates as high as in Poland (e.g. 52% in Romania and 45% in Bulgaria). Surprisingly, the percentage of professionally ac-

Table 4. Estimated data on employment in the heavy and light industry, in plants located in the Recovered Territories and the Former Territories, in 1955 (in thousands)

Employment in the industry	Recovered Territories			Former Territories			In total		
	women	men	in total	women	men	in total	women	men	in total
Light industry	88.3	97.2	185.5	273.5	301.2	574.7	361.8	398.4	760.2
Heavy industry	79.8	323.5	403.3	214.1	868.8	1082.9	293.9	1192.3	1486.2
In total	168.1	420.7	588.8	487.6	1170	1657.6	655.7	1590.7	2246.4

Source: own calculations based on the available statistical data.

tive men in Poland was quite low compared to other countries — in 1950 it was 57.5%, while in France it was 62%, in West Germany — 63%, in Great Britain — 66%, in Italy — 66%, and in Spain — 67% [*Aktywność zawodowa…* 1975: 22-24].

In order to assess the economic rationality of the processes associated with the employment of women (and men) at the time, it is crucial to examine the socio-demographic characteristics of the population, such as social background, education, professional experience, age structure, and family situation. Of course, data that would allow one to accurately describe the characteristics of all Polish female workers are not available. However, the data collected from the personnel files of the four aforementioned industrial plants can shed some light on this issue.

In order to obtain a full picture of the socio-demographic characteristics of Polish female workers, calculations for the whole population may be performed based on the indicators obtained from the four plants. This is based on an assumption that, with some degree of simplification, these proportions reflect more general trends, characteristic of employment in the entire Polish industry in the years 1945-1956. The first step involves determining the proportions of men and women working in plants manufacturing production and consumption goods, located in the Recovered Territories and the Former Territories. According to estimates, out of 2,246,400 workers in 1955, 29.2% were women (655,700), and 1,590,700 were men. 588,800 people (including 168,100 women) worked in plants located in the Recovered Territories, accounting for 26.2% of all employees. Heavy industry workers dominated — there were 1,486,200 of them (66.2%). The remaining 760,200 worked in the light industry (table 4).

Let us first determine the share of women born in the countryside who started work in the industry after the Second World War (table 5). Out of over 655,000 female workers, 57% (374,900) came from rural areas. This was a slightly lower percentage than among men (61%, or 970,300). Unsurprisingly, a significantly higher percentage was found in plants located in the Recovered Territories (63.8%) than in the Former Territories (51.8%). Clear disproportions can also be observed among those undertaking employment in the years 1945-1949 and 1950-1956. During the period of the six-year plan, this percentage was higher in women by around 10 percentage points (1945-1949: 56.9%, 1950-1956: 66.6% — information from the four examined plants). In total, almost 59% of Polish workers, both male and female, were born in the countryside. This warrants the conclusion that the main reserve of labor force in Poland after the Second World Wars was the countryside. According to estimates, in the years 1946-1950, 1.2 million people migrated from rural to urban areas (around 240,000 people annually on average), and in the years 1951-1960 — another 1.3 million (130,000 annually). In total, 2.5 million people left the countryside in the years 1945-1960, and a substantial part of this group found employment in the industry. These data are also confirmed by the study of Stanisław Widerszpil, who determined that in the early 1960s, 55.4% of Polish workers were individuals who until the age of 14 had lived in villages, and another 5.6% — in rural settlements [Pohoski M. 1963: 53; Widerszpil S. 1965: 102-103, 220].

Another important factor defining the "quality" of workers was their education (table 6). Among women, nearly 70% finished their education at or below primary school level (37.1% were primary school graduates, and 32% did not graduate primary school). In total, 453,200 of female workers had a minimum level of education. Among men, this percentage was lower by almost 10 percentage points — 59.6% (32% and 27.6% respectively). Only slightly more than 60,000 women (9.3%) graduated vocational school, and many had at least partially completed secondary education (84,600, i.e. 12.9%). These data is reflected by the education index. Among women, it stood at 6.82, or below primary education level (for men, it was 7.1). The result for female workers in the Recovered Territories was very low (6.14), but higher in the Former Territories — 7.05 (men — 7.28). Interestingly, this index decreased during the period of the six-year plan. In the years 1945-1949, the education index among women was 6.53, and in the years 1950-1956 — 6.47 (based on data from the four plants) [Chumiński J. 2015: 91].

Table 5. Employment of people born in rural areas in light and heavy industry plants located in the Recovered Territories and the Former Territories (in thousands)

Specification	Light industry		%	Heavy industry		%	In total		%
	total employment	born in rural areas		total employment	born in rural areas		total employment	born in rural areas	
Recovered territories									
Women	88.3	58.4	66.1	79.8	48.8	61.2	168.1	107.2	63.8
Men	97.2	64.1	65.9	323.5	206.8	63.9	420.7	270.9	64.4
In total	185.5	122.5	66.0	403.3	255.6	63.4	588.8	378.1	64.2
Former territories									
Women	273.5	152.1	55.6	214.1	100.3	46.8	487.6	252.4	51.8
Men	301.2	173.8	57.7	868.8	514.1	59.2	1170.0	687.9	58.8
In total	574.7	325.9	56.7	1082.9	614.4	56.7	1657.6	940.3	56.7
In total									
Women	361.8	210.5	58.2	293.9	149.1	50.7	655.7	359.6	54.8
Men	398.4	237.9	59.7	1192.3	720.9	60.5	1590.7	958.8	60.3
In total	760.2	448.4	59.0	1486.2	870.0	58.5	2246.4	1318.4	58.7

Source: own calculations based on the available statistical data.

Table 6. Worker's education level in light and heavy industry plants located in the Recovered Territories and the Former Territories (in thousands)

Level of education	Light industry plants						Heavy industry plants	
	wo-men	%	men	%	in total	%	wo-men	%
Recovered territories								
No education	0.6	0.7	0.6	0.6	1.2	0.6	1.0	1.3
Primary: up to 4 grades	14.2	16.1	18	18.5	32.2	17.4	19.1	23.9
Primary: 5-6 grades	22.8	25.8	23.9	24.6	46.7	25.2	19.6	24.6
Completed primary education	36.4	41.2	32.2	33.1	68.6	37.0	27.1	34.0
Partially completed vocational education	4.6	5.2	4.5	4.6	9.1	4.9	1.5	1.9
Completed vocational education	3.3	3.7	9	9.3	12.3	6.6	1.9	2.4
Partially completed technical secondary education	0.2	0.2	0.1	0.1	0.3	0.2	0.2	0.3
Completed technical secondary education	0.3	0.3	0.7	0.7	1	0.5	0.3	0.4
Partially completed general secondary education	3.6	4.1	3.8	3.9	7.4	4.0	4.8	6.0
Completed general secondary education	2.3	2.6	4.2	4.3	6.5	3.5	4	5.0
Higher education (completed or partially completed)	0.0	0.0	0.2	0.2	0.2	0.1	0.3	0.4
In total	88.3	100	97.2	100	185.5	100	79.8	100
Education index	6.25		6.37		6.31		6.01	
Former Territories								
No education	1.1	0.4	1.5	0.5	2.6	0.5	3.4	1.6
Primary: up to 4 grades	23.6	8.6	28	9.3	51.6	9.0	35.1	16.4
Primary: 5-6 grades	38.8	14.2	39.8	13.2	78.6	13.7	30.6	14.3
Completed primary education	111.9	40.9	92.2	30.6	204.1	35.5	67.9	31.7
Partially completed technical secondary education	0.6	0.2	0.1	0.0	0.7	0.1	2.3	1.1

Heavy industry plants				In total					
men	%	in total	%	wo-men	%	men	%	in total	%
Recovered territories									
3.2	1.0	4.2	1.0	1.6	1.0	3.8	0.9	5.4	0.9
60.5	18.7	79.6	19.7	33.3	19.8	78.5	18.7	111.8	19.0
66	20.4	85.6	21.2	42.4	25.2	89.9	21.4	132.3	22.5
82.2	25.4	109.3	27.1	63.5	37.8	114.4	27.2	177.9	30.2
27.5	8.5	29	7.2	6.1	3.6	32	7.6	38.1	6.5
42	13.0	43.9	10.9	5.2	3.1	51	12.1	56.2	9.5
2.6	0.8	2.8	0.7	0.4	0.2	2.7	0.6	3.1	0.5
6.8	2.1	7.1	1.8	0.6	0.4	7.5	1.8	8.1	1.4
12.3	3.8	17.1	4.2	8.4	5.0	16.1	3.8	24.5	4.2
16.8	5.2	20.8	5.2	6.3	3.7	21	5.0	27.3	4.6
3.6	1.1	3.9	1.0	0.3	0.2	3.8	0.9	4.1	0.7
323.5	100	403.3	100	168.1	100	420.7	100	588.8	100
6.67		6.54		6.14		6.6		6.47	
Former Territories									
2.6	0.3	6	1.5	4.5	0.9	4.1	0.4	8.6	0.5
78.8	9.1	113.9	28.2	58.7	12.0	106.8	9.1	165.5	10.0
117.5	13.5	148.1	36.7	69.4	14.2	157.3	13.4	226.7	13.7
303.2	34.9	371.1	92.0	179.8	36.9	395.4	33.8	575.2	34.7
9.6	1.1	11.9	3.0	2.9	0.6	9.7	0.8	12.6	0.8

Level of education	Light industry plants						Heavy industry plants	
	women	%	men	%	in total	%	women	%
Former Territories								
Completed technical secondary education	3	1.1	1.8	0.6	4.8	0.8	1.1	0.5
Higher education (completed or partially completed)	0.3	0.1	1.2	0.4	1.5	0.3	1.1	0.5
In total	273.5	100	301.2	100	574.7	100	214.1	100
Education index	7.12		7.33		7.23		6.97	
In total								
No education	1.7	0.5	2.1	0.5	3.8	0.5	4.4	1.5
Primary: up to 4 grades	37.8	10.4	46	11.5	83.8	11.0	54.2	18.4
Primary: 5-6 grades	61.6	17.0	63.7	16.0	125.3	16.5	50.2	17.1
Completed primary education	148.3	41.0	124.4	31.2	272.7	35.9	95	32.3
Partially completed vocational education	36.9	10.2	30.4	7.6	67.3	8.9	10.5	3.6
Completed vocational education	44.1	12.2	94.9	23.8	139	18.3	16.7	5.7
Partially completed technical secondary education	0.8	0.2	0.2	0.1	1	0.1	2.5	0.9
Completed technical secondary education	3.3	0.9	2.5	0.6	5.8	0.8	1.4	0.5
Partially completed general secondary education	13.5	3.7	18.3	4.6	31.8	4.2	27.5	9.4
Completed general secondary education	13.5	3.7	14.5	3.6	28	3.7	30.1	10.2
Higher education (completed or partially completed)	0.3	0.1	1.4	0.4	1.7	0.2	1.4	0.5
In total	361.8	100	398.4	100	760.2	100	293.9	100
Education index	6.9		7.09		7		6.71	

Source: own calculations based on the available statistical data.

Heavy industry plants				In total					
men	%	in total	%	wo-men	%	men	%	in total	%
Former Territories									
9.6	1.1	10.7	2.7	4.1	0.8	11.4	1.0	15.5	0.9
4.3	0.5	5.4	1.3	1.4	0.3	5.5	0.5	6.9	0.4
868.8	100	1082.9	269	487.6	100	1170	100	1657.6	100
7.27		7.21		7.05		7.28		7.22	
In total									
5.8	0.5	10.2	0.7	6.1	0.9	7.9	0.5	14	0.6
139.3	11.7	193.5	13.0	92	14.0	185.3	11.6	277.3	12.3
183.5	15.4	233.7	15.7	111.8	17.1	247.2	15.5	359	16.0
385.4	32.3	480.4	32.3	243.3	37.1	509.8	32.0	753.1	33.5
123.1	10.3	133.6	9.0	47.4	7.2	153.5	9.6	200.9	8.9
228.8	19.2	245.5	16.5	60.8	9.3	323.7	20.3	384.5	17.1
12.2	1.0	14.7	1.0	3.3	0.5	12.4	0.8	15.7	0.7
16.4	1.4	17.8	1.2	4.7	0.7	18.9	1.2	23.6	1.1
36.6	3.1	64.1	4.3	41	6.3	54.9	3.5	95.9	4.3
53.3	4.5	83.4	5.6	43.6	6.6	67.8	4.3	111.4	5.0
7.9	0.7	9.3	0.6	1.7	0.3	9.3	0.6	11	0.5
1192.3	100	1486.2	100	655.7	100	1590.7	100	2246.4	100
7.11		7.03		6.82		7.1		7.02	

The results of the first "personnel census" carried out in 1958 demonstrate a low level of education in women. According to this census, in sectors of the industry where most women worked, workers' level of education was the lowest. The average percentage of primary school graduates or those below this level was 86% for the whole industry, while in the textile industry, this percentage stood at 95.6% (52.8% and 42.8% respectively), in the clothing industry — 90.7% (36.2% and 54.5%), and in the food industry — 90.2% (41% and 49.2%). This suggests that the actual level of education among workers was even lower than calculated here [*Rocznik statystyczny przemysłu…* 1967: 418-420].

Previous professional experience remains an important factor determining the level of professional qualifications. Professional training obtained before the Second World War was considered particularly valuable, as even if workers had no professional education suitable for the sector in which they worked after the war, their specific knowledge e.g. of systems used in factories, made it easier for them to adapt to the requirements of their new workplace. What is also important is that their system of values and world view developed in the period of national independence, with all the limitations of political and organizational plurality. This made them less susceptible to biased communist propaganda, and meant they played an important role in the intergenerational transmission of traditional norms and values [Chumiński J. 2015: 95].

In this context, women's professional experience was minimal, especially in terms of factory work. According to our estimates, out of over 655,000 women employed at the end of the six-year plan, only 7.5% (49,400) had worked in factories before the war (table 7). In the case of men, this percentage stood at 12.2% (193,500). The data from the four plants suggest that 13.2% of women and 24% of men had worked in some sector of the national economy before the war.

To some extent, the scarce professional experience resulted from the female workers' young age. The data from the four plants suggest that as many as 58.1% of women were below 24 years of age when they started work. Including women below the age of 29, the percentage goes up to 73.7% (median age was 23). It is worth remembering that (according to a 1934 representative study) before the war, 52.4% of working women were below 29, and median age was 29.4 (these data however are not fully comparable). A similar "rejuvenation" also occurred among men, as after the war 54.4% of men were below the age of 24, and 71.5% were below the age of 29 (median age: 24). Before the war, the number of men below

Table 7. Pre-war factory work experience of workers from light and heavy industry plants located in the Recovered Territories and the Former Territories (in thousands)

Industry sector	Number of workers in the Recovered Territories			Number of workers in the Former Territories			In total		
	in total	workers employed in factories before the war (in thousands)	%	in total	workers employed in factories before the war (in thousands)	%	in total	workers employed in factories before the war (in thousands)	%
Light industry	185.5	9.2	5.0	574.7	49.1	8.5	760.2	58.3	7.7
Women	88.3	2.2	2.5	273.5	14.5	5.3	361.8	16.7	4.6
Men	97.2	7	7.2	301.2	34.6	11.5	398.4	41.6	10.4
Heavy industry	403.3	44.7	11.1	1082.9	139.9	12.9	1486.2	184.6	12.4
Women	79.8	4.9	6.1	214.1	27.8	13.0	293.9	32.7	11.1
Men	323.5	39.8	12.3	868.8	112.1	12.9	1192.3	151.9	12.7
In total	588.8	53.9	9.2	1657.6	189	11.4	2246.4	242.9	10.8
Women	168.1	7.1	4.2	487.6	42.3	8.7	655.7	49.4	7.5
Men	420.7	46.8	11.1	1170	146.7	12.5	1590.7	193.5	12.2

Source: own calculations based on the available statistical data.

the age 29 stood at 38.8%, while the median was 33.3. The disproportion between the age of men and women is demonstrated by the fact that in 1949, the percentage of women below 24 in the whole industry was over 35%, and of men – barely 27% [AAN, Państwowa Komisja Planowania Gospodarczego, 3231]. Including all those employed in state-controlled companies in 1954, the median age of women was 29, and of men – 35 [*Przekroje terenowe …* 1967: 370].

Considering the age of workers, it is no surprise that most of them were not married when they started work. A staggering 64% of women were single, and only 28.8% were married. A relatively high percentage of widows (6.6%) was one of the dramatic consequences of the war. A small fraction of women were divorced – only 0.5%. In the case of men, the num-

bers were as follows: 40.5% of men were married, 58.6% were single, 0.7% were widowers, and 0.2% were divorced (data from the four plants).

If one were to describe the population of women employed in the industry in the first decade of the PPR based on these data, most were first-generation workers. Around 55% had been born in the countryside, though in the case of the plants located in the so-called Recovered Territories, this percentage was 64%. They had little education, usually below the primary education level, and very poor professional experience. When they started work, most were very young — 60% were younger than 24 years old — and almost 2/3 were single.

In the final step of this socio-demographic analysis, differences between men and women employed in the industry will be presented quantitatively. For this purpose, multidimensional statistical analysis using the linear ordering method will be applied, as it allows for aggregating and presenting various qualities in a synthetic form [Morrison D. F. 1990]. Of course, the established measures must be treated with caution, as it is difficult to precisely demonstrate qualitative differences using quantitative measures (table 8).[6]

Men achieved higher values in 9 out of 10 parameters. Only the percentage of workers employed in factories for over 10 years is the same for both sexes (8.3%). The measure was 0.78 for women and 0.99 for men. It should be stressed, though, that the differences are not as significant as it could be expected. In the case of workers employed before the war, the disproportions between women and men were considerably larger. This confirms the thesis that both in the case of women and men, a 19th-cen-

[6] When analyzing differences between male and female workers, 10 characteristics that could possibly affect their behavior or be a reflection of their attitudes were distinguished. In the former category, the most important ones were: education level, professional experience obtained before the war (both in factories and in other sectors of the national economy), share of workers who had been born in towns with a population over 50,000 and those who lived in such towns in August 1939. Workers' age structure and the percentage of individuals with a stable family situation was included. Among the characteristics reflecting workers' attitudes, the most important ones were the length of professional experience, percentage of workers in long-term employment (over 10 years), and the percentage of individuals who had belonged to political parties before the war. Those factors were assigned points for importance, assuming that the most important ones were: education level (3 points), pre-war work experience from factories (2), long-term employment of over 10 years (2), living in towns with a population over 50,000 in August 1939 (2). Other factors were assigned an importance of 1 point. The measure is a weight function of the value of individual factors with relative standardization compared to the model, i.e. the maximum value of a characteristic for each factor.

Table 8. Measures regarding men and women employed in industrial plants in Wrocław and Kraków

Characteristic	Importance	Weight	Model	Employed in the Wrocław and Kraków plants		
				wo-men = 8139	men = 7985	in total = 16124
Education index	3	0.2	6.87	6.5	6.87	6.68
Pre-war professional experience from factories (%)	2	0.13	11.3	4.1	11.3	7.7
Pre-war professional experience overall (%)	1	0.07	24	13.3	24	18.6
Work experience in years	1	0.07	3.69	3.63	3.69	3.66
Workers employed in a factory for more than 10 years (%)	2	0.13	8.3	8.3	8.3	8.3
Workers born in towns with a population over 50,000 (%)	1	0.07	31.8	30.8	31.8	31.3
Workers living in towns with a population over 50,000 on August 31, 1939 (%)	2	0.13	22.4	19.6	22.4	21
Median age	1	0.07	24	23	24	23
People in relationships	1	0.07	40.5	28.8	40.5	34.6
Members of political parties before 1939	1	0.07	1.9	0.3	1.9	1.1
Measure	15	1		0.78	0.99	0.88

Source: own calculations based on the available statistical data.

tury employment model was applied after the war, based on using large numbers poorly educated, poorly qualified, and poorly paid workers. At the same time, the calculated measures indicate that women had a poorer standing than male workers.

SOCIAL AND ECONOMIC EFFECTS OF HIDDEN UNEMPLOYMENT IN THE INDUSTRY

It is not easy to unequivocally evaluate the mass employment of women in the industry after the Second World War. Scholars specializing in

the subject point to many positive outcomes, especially regarding social transformation and relationships between the two sexes. Natalia Jarska and Małgorzata Fidelis, authors of important publications on the situation of women in the period of PPR, point to the complex nature of the problem. According to Fidelis, even the period of Stalinism "presented specific chances and opportunities for some social groups, including women, who could throw off the traditional limitations imposed on their sex and redefine their identity" [Fidelis M. 2015: 263]. On the other hand, women themselves considered their professional activity as an economic necessity. Dariusz Jarosz quotes the results of the first academic studies from 1960, which found that almost 70% of women said they would quit their job if only their husbands were capable of supporting the family on their own. A little over 20% claimed they would still work, though they named office or teaching jobs as suitable options for women. Physical work did not enjoy much recognition, especially in professions considered "masculine" [Jarosz D. 2000: 144].

Although opinions on social transformations and shifts in power between men and women can be considered "mixed", the economic balance of the massive employment of women is clearly negative, as it was part of a broader, adverse trend prevalent throughout the period of PPR, namely, over-employment in the economy. The problem, termed "unemployment at work" by Janos Kornai, was one of the main weaknesses plaguing the socialist economy. It resulted with low morale, poorer quality of work, decreased diligence of workers, higher turnover, and limited opportunities to improve the financial situation of workers. But worst of all, "over-employed" individuals had a marginal work productivity of zero, which meant that their work had no actual impact on the national income [Kornai J. 1985: 346-7; Karpiński A. 1980: 129-32; Góra M., Rutkowski M. 1990: 421].

The problem of "hidden unemployment" existed in all sectors of the national economy, though it was particularly evident in the industry. The scale of over-employment is evidenced by the fact that, assuming pre-war work productivity levels, Poland could dispense with almost the entire increase in employment that happened in the first decade of the PPR with no major consequences. One should remember that in 1950, the pre-war volume of production was achieved (within new borders), but employment was higher — by over 600,000 workers — than before the war. The results of a 1953 study by the Department of Economic Sciences of the Polish Academy of Sciences concerning the estimates of the productivity

increase margin in large and medium factories (excluding the mining industry) are quite telling. The study included plants employing a total of 309,000 workers and accounting for approximately 20% of the total production. It concluded that the employment margin in the whole industry (if the productivity level of the best plant in the sector was the average) comprised 615,000 people, i.e. over 80% of the employment increase in industry which occurred between 1949 and 1953. Even considering the average productivity level in individual sectors, the employment margin still comprised 400,000 people. In some sectors (including the "feminine" ones) the situation was catastrophic. For example, in one cotton fabrics plant, the employment margin was a staggering 60% compared with the productivity of the best plants in the sector (i.e. ones accounting for 1/4 of the whole production). Considering these data, it is no surprise that the authors of the study concluded that labor force was greatly wasted, own costs in a large part of the industry were too high, and a large part of the labor force could be freed and own costs could be decreased through technical restructuring of old plants and optimized work organization. Thus, the authors claimed, it was "no longer possible to tolerate a situation when a large part of the labor force with habits and qualifications required for manufacturing, is used in the industry in an irrational matter" [AAN, PKPG, 330, f. 17-27; Chumiński J. 2016: 298].

Without any doubt, many women (but also men) employed in the industry were part of the "hidden unemployment". This resulted from the socio-demographic characteristics that have been identified in this paper, which were worse in the case of female workers. Many factors contributed to this situation, including work productivity, quality of production, staff turnover, work discipline etc. Data concerning work productivity are particularly telling. At the end of the three-year plan (in 1949), in almost all sectors of the economy where a significant share of employees were women, pre-war productivity levels were not achieved.[7] With the average for the whole industry standing at 106.6 (whereas 1937=100), in the

[7] Productivity calculated as a value of global production per 1 worker, according to constant prices. Data for the post-war period are overestimated, as only industrial workers were included. A significant share of workers employed in the economic and auxiliary departments were not included. As a result, productivity in the mining sector in the year 1949 was reported at 103.1 compared with the year 1937, while in reality it was 73, considering all physical workers employed in 1949 (in 1938, this translated into 1814 kg per working day, and in 1949 — 1328 kg). Considering only those working underground, the disproportion would be even larger: 68.1% (2680 kg and 1826 kg, respectively).

textile industry the indicator was 96.7, in the clothing industry — 77.5, and in the food and agriculture sector — 92.7 [*Statystyka przemysłu…* 1956: 15]. In the early 1949, norms were not met by around 17% of workers employed in the mining sector, 16% employed in foundries, 22% in the metalworking industry, 20% in the mineral industry, 32% in the wood industry, and a staggering 53% in the textile industry [Chumiński J. 2015: 312]. At the end of the six-year plan, little improvement was observed. Data from 1954 on the so-called natural productivity indicators (the size of production divided by employment) are quite telling. In many important sectors of the industry, these values were lower than before 1939, for example in the textile, foundry, paper, and mining industries — which employed over a third of Polish workers. In 1954, productivity in black coal mining per one worker equaled 80 (compared to the year 1937=100), in foundries — 73, in the textile industry — 84, and in the paper industry — 90 [Chumiński J. 2015: 292].

As before 1939, women earned significantly less than men. According to the 1949 assessment by Halina Diamand, average wages of women employed in the textile, clothing, mechanical engineering, chemical and food sectors were lower by 5-25% than those of men, at similar levels of productivity and a similar scope of responsibilities. Their professional position was also vulnerable — in the textile industry (where women comprised over 50% of all employees) only 2% were supervisors, 1.9% were specialists, and 2.1% were engineers. In 1947, only 70 women out of over 250,000 employed in the industry (including over 24,854 white-collar workers) were in managerial positions [Diamand H. 1949: 139-140; *Praca kobiet…* 1947: 194]. Data on female workers promoted to white-collar positions are also telling. Until the end of December of 1948, 13,791 physical workers had been promoted, of whom 393 (less than 3%) were women. This included only 9 women promoted to directorial or higher technical supervisory positions, compared with 786 men [AAN, Komitet Centralny Polskiej Zjednoczonej Partii Robotniczej (KC PZPR), 237/V-1a/38, f. 36]. Paradoxically, this problem affected private factories to a much lesser extent. Suffice it to say that in 1948, when the sector of non-state-controlled enterprises was still quite large, in the state-controlled plants 61.2% of women earned below 6,000 złoty monthly (men — 31.1%), while in private plants — 38.7% (men — 15.5%). In turn, the group with the highest earnings (more than 12,000 złoty) included 1.6% of women and 13.7% of men in state-controlled plants, and 8.2% of women and 35.3% of men in private

plants [AAN, Komisja Centralna Związków Zawodowych (KCZZ, Trade Union Central Commission), 456]

In subsequent years, the situation not only did not improve, but actually became a structural issue. In the "feminine" sectors, wages were much lower than in the "masculine" sectors. In 1955, average pay in the textile and clothing sectors (867 złoty) equaled 72.9% of the average pay in the whole industry (1189 złoty). In the food industry, this was 80% (956 złoty) [*Rocznik statystyczny*… 1956: 111-3]. The scale of the problem is exemplified by the fact that before the war, textile industry workers earned 102.6% of the average wage, and food industry workers — 95.3% [*Mały rocznik statystyczny* 1939: 272]. The fact that by the end of the six-year plan (according to estimates) industrial workers' wages had not even reached the level from 1938 is quite telling. At the same time, the "impoverishment" of female sectors was particularly evident: for all sectors of the industry, the index compared with the year 1938 was 93, but in the case of the textile industry it was 73, and the food industry — 90 [Chumiński J. 2015: 558].

The same problem was observed in the final years of the Polish People's Republic. Considering how low average wages were, the privileged position of workers in the petrol and energy sector and the metalworking sector is particularly striking — in 1986, they earned 190.1% and 124.9% of the average wage, respectively. These regularities had been observed earlier — in 1955 wages in mining were 146% of the average wage, in 1960 — 151.1%, in 1970 — 156.6%, and in 1980 — 170.1%. Workers employed in the light industry earned only 78.9% of the average wage, while those employed in the food sector — 80.9%. These disproportions had no economic justification and mainly resulted from political pressures, or attempts to find some kind of economic "relief". It is hard to argue with the opinion expressed by Jan Wiktor, who said that the "irrational scale of privileging the heavy industry significantly distorts the actual picture of wages. This is manifested by the fact that wages are not decided based on the type of work, in compliance with the legal regulations, but instead depend on the specific sector of the industry or economy" [Chumiński J. 2010: 140; *Ekonomiczne uwarunkowania*… 1989 : 263-267]. And coincidentally, in the whole period of the Polish People's Republic, wages were significantly lower in the so-called "feminine" sectors than in the male-dominated ones.

CONCLUSIONS

Lastly, it is worth asking whether there was any alternative to mass employment of men and women in the industry. "Hidden unemployment" was one of the socialist economy's main weaknesses, and in the long-term, led to its demise. It seems that from the economic point of view (leaving the social and ideological aspects aside), it would have been much more rational to limit employment, while attempting to increase workers' professional skills and their wages. This would have stabilized employment and allowed for increasing work productivity and production quality. Increased productivity among women could have been achieved by supporting the growth of craftsmanship and services. During the Second World War, Poland lost over 65% of craftsmen, and there was a lot of potential to increase employment in sectors "particularly suitable for women" (as was the term back then), such as garment manufacturing, tailoring, confectionery, shoe maintenance, gloves manufacturing etc. Ewa Ney (a columnist of the "Gospodarka Planowa" magazine) claimed that this would only require some investments in trade education, and a relatively small financial support from the state [Ney E. 1947: 312]. In Poland, there was also enormous potential for women's employment in services. According to the analysis by N. Jarska, in 1950, the share of women working in services was 17.9%, while in Spain it was 56%, and in France — 47% (data for 1957). Even in 1970, the percentage in Poland was below 30% [Jarska N. 2011: 120].

REFERENCES

Archive materials

Archiwum Akt Nowych, Centralny Urząd Planowania (AAN, CUP), sign. 3723, Polityka zatrudnienia w kopalniach węgla kamiennego, 24.

Archiwum Akt Nowych, Komisja Centralna Związków Zawodowych (AAN, KCZZ), sign. 456, Pracownicy fizyczni według skali miesięcznych zarobków gotówkowych (1948), no page number.

Archiwum Akt Nowych, Komitet Centralny Polskiej Zjednoczonej Partii Robotniczej (AAN, KC PZPR), sign. 237/V-1a/38, Wykaz statystyczny robotników wysuniętych w przemyśle, December 31, 1948, p. 36.

Archiwum Akt Nowych, Ministerstwo Ziem Odzyskanych (AAN, MZO), sign. 159, 1945-January 21, 1949, p. 45.

Archiwum Akt Nowych, Państwowa Komisja Planowania Gospodarczego (AAN, PKPG), sign. 3231, Zatrudnienie według płci i wieku poza rolnictwem w sektorze socjalistycznym, 1949, no page no.

Archiwum Akt Nowych, Państwowa Komisja Planowania Gospodarczego (AAN, PKPG), sign. 330, Szacunek rezerw wzrostu wydajności pracy w przemyśle wielkim i średnim (1953), p. 17-27.

Literature

Aktywność zawodowa ludności w Polsce i wybranych krajach (1975), Główny Urząd Statystyczny, Warszawa.

Chumiński J. (2010), *Mentalne bariery rozwoju gospodarczego PRL (na przykładzie pracowników przemysłu)*, [in:] Chumiński J. (ed.), *Modernizacja czy pozorna modernizacja. Społeczno-ekonomiczny bilans PRL 1944–1989*, Wydawnictwo Gajt, Wrocław.

Chumiński J. (2014), *Robotnicy przemysłowi w Drugiej Rzeczpospolitej – analiza społeczno- demograficzna*, [in:] Mędrzecki W., Leszczyńska C. (eds.), *Metamorfozy społeczne. Praca i społeczeństwo Drugiej Rzeczypospolitej*, T. IX, Wydawnictwo Instytut Historii PAN, Warszawa.

Chumiński J. (2015), *Robotnicy polscy 1945–1956. „Stary" i „nowy" ośrodek przemysłowy na przykładzie Krakowa i Wrocławia*, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław.

Chumiński J. (2016), *Wpływ zmian własnościowych w przemyśle na skład środowiska robotniczego w Polsce (1945-1956)*, [in:] Osiński T. (ed.), *Rewolucja społeczna czy dzika przebudowa? Społeczne skutki przekształceń własnościowych w Polsce (1944–1956)*, Wyd. IPN, Lublin.

Czajkowski T. (1936), *Wiek i lata pracy robotników przemysłowych w Polsce*, Statystyka Pracy, XV/ 1.

Dahrendorf R. (2008), *Klasy i konflikt klasowy w społeczeństwie przemysłowym*, Wydawnictwo NOMOS, Kraków.

Diamand H. (1949), *Zagadnienie masowego przekwalifikowania*, Nowe Drogi, 1 (13).

Ekonomiczne uwarunkowania kształtowania się sytuacji politycznej w Polsce. Raport syntetyczny za rok 1987 i opracowania studialne (1989), J. Hausner (ed.), Wydawnictwo Akademii Ekonomicznej w Krakowie, Kraków.

Fidelis M. (2015), *Kobiety, komunizm i industrializacja w powojennej Polsce*, W.A.B, Warszawa.

Gawryszewski A. (2005), *Ludność Polski w XX wieku*, Wydawnictwo Instytut Geografii i Przestrzennego Zagospodarowania PAN, Warszawa.

Góra M., Rutkowski M. (1990), *Popyt na pracę oraz bezrobocie ukryte w Polsce w latach 1980-ych*, Ekonomista, 2–3.

Historia Polski w liczbach (2003), vol. 1, Główny Urząd Statystyczny, Warszawa.

Jarosz D. (2000), *Polacy a stalinizm 1948–1956*, Wyd. IH PAN, Warszawa.

Jarska N. (2011), *Praca zawodowa kobiet w Polsce w latach 1945–1970 na tle porównawczym*, Annales Universitatis Paedagogicae Cracoviensis, 87, Studia Politologica, V, 115-127.

Jarska N. (2015), *Kobiety z marmuru. Robotnice w Polsce w latach 1945–1960*, Wydawnictwo IPN, Warszawa.

Karpiński A. (1980), *Zarys rozwoju gospodarczego Polski Ludowej*, Książka i Wiedza, Warszawa

Kączkowska J. (1935), *Kandydaci do szkół zawodowych w świetle badań psychologicznych*, Wydawnictwo Polskie Towarzystwo Psychotechniczne, Warszawa.

Kornai J. (1985), *Niedobór w gospodarce*, PWE, Warszawa.

Landau L. (1957), *Płace w Polsce w związku z rozwojem gospodarczym*, [in:] Szturm de Sztrem T. (selected by), *Ludwik Landau. Wybór pism*, Państwowe Wydawnictwo Naukowe, Warszawa.
Mały rocznik statystyczny (1939), Central Statistical Office, Warszawa.
Mierzecki W. (2000), *Praca zawodowa kobiet w środowisku robotniczym w Polsce międzywojennej*, [in:] Żarnowska A., Szwarc A. (eds.), *Kobiety w Polsce międzywojennej. Równe prawa i nierówne szanse*, Wydawnictwo DiG, Warszawa.
Morrison D. F. (1990), *Wielowymiarowa analiza statystyczna*, PWN, Warszawa.
Ney E. (1947), *Produktywizacja kobiet*, Gospodarka Planowa, 8 (10).
Pohoski M. (1963), *Migracje ze wsi do miast. Studium wychodźstwa w latach 1945-1957 oparte na wynikach ankiety Instytutu Ekonomiki Rolnej*, PWE, Warszawa.
Praca kobiet w przemyśle (1947), Gospodarka Planowa, 5 (7).
Przekroje terenowe 1945–1965 (1967), Główny Urząd Statystyczny, Warszawa.
Rocznik statystyczny 1956 (1956), Główny Urząd Statystyczny, Warszawa.
Rocznik statystyczny przemysłu 1945–1965 (1967), Główny Urząd Statystyczny, Warszawa.
Statystyka Pracy (1938), ch. XVII, vol. 1.
Statystyka Przemysłowa 1947 (1949), Statystyka Polski, series D, vol. 15, Warszawa.
Statystyka Przemysłowa 1947–1949 (1950), Statystyka Polski, series D, vol. 19, Warszawa.
Statystyka przemysłowa. Statystyka produkcji, zatrudnienia i płac 1956 (1958), Statystyka Polski, series E, vol. 8, Główny Urząd Statystyczny, Warszawa.
Statystyka przemysłu 1944–1955 (1956), Główny Urząd Statystyczny, Warszawa.
Strzelecki Z. (1974), *Zmiany w poziomie kwalifikacji załogi*, [in:] Szulc W. (ed.), *Kształtowanie się załóg w regionach uprzemysłowionych*, Wydawnictwo SGPiS, Warszawa.
Weber M. (1994), *Etyka protestancka a duch kapitalizmu*, Wydawnictwo Test, Lublin.
Widerszpil S. (1965), *Skład polskiej klasy robotniczej. Tendencje zmian w okresie industrializacji socjalistycznej*, PWN, Warszawa.
Wyrobisz S., (1947), *O racjonalnym planie zatrudnienia*. Gospodarka Planowa, II, 7 (9).
Zatrudnienie kobiet (1945), Przegląd Socjalistyczny, 4/5, 18/19, XX-XX.
Żarnowska A. (2000), *Praca zarobkowa kobiet i ich aspiracje zawodowe w środowisku robotniczym i inteligenckim na przełomie XIX i XX w,*. [in:] Żarnowska A., Szwarc A. (eds.), *Kobiety i praca. Wiek XIX i XX*, Wydawnictwo DiG, Warszawa.
Żarnowski J. (1999), *Polska 1918–1939. Praca, technika, społeczeństwo*, Wydawnictwo Książka i Wiedza, Warszawa.

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