



UNEMPLOYMENT IN THE WARMIŃSKO-MAZURSKIE AND WIELKOPOLSKIE VOIVODESHIPS – A COMPARATIVE ANALYSIS

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Abstract

Unemployment is a phenomenon that has significant consequences for society as well as for the economic development of a country, as it is a problem that manifests in both economic and social dimensions. Notably, there are significant differences in the extent of this phenomenon based on age, gender, place of residence, education, and spatial distribution. The lowest unemployment rate in Poland is observed in the Wielkopolskie voivodeship, while one of the highest is found in the Warmińsko-Mazurskie voivodeship. These differences arise from the distinct demographic, production, and infrastructural structures of these regions. However, the scale of these differences changes over time and may vary across different age groups or gender divisions. In light of the above, the aim of this study was to conduct a comparative analysis of the total unemployment and unemployment by age and gender in the Warmińsko-Mazurskie and Wielkopolskie voivodeships. The analysis covers the period from 2012 to 2022, based on data from the Central Statistical Office.

The conducted research shows that the unemployment rate in the years 2012-2022 (except for 2020) decreased in both voivodeships. In 2022, the unemployment rate in the Wielkopolskie voivodeship was the lowest in the country, while the Warmińsko-Mazurskie voivodeship was in the penultimate position in this respect, right after the Podkarpackie voivodeship. In all the years analyzed, in both regions, a higher share of unemployed people in the number of working-age population was recorded in the case of women, although a downward trend was also noted in this respect. The conducted analyses also showed that throughout the entire period under

review, the lowest unemployment in both analyzed voivodeships occurred among the age group of 35-44 years. Interestingly, in 2022, in the Wielkopolskie voivodeship, the highest unemployment occurred among people aged 18-24, while in the Warmińsko-Mazurskie voivodeship in the age group of 25-34 years.

BEZROBOCIE W WOJEWÓDZTWACH WARMIŃSKO-MAZURSKIM I WIELKOPOLSKIM – ANALIZA PORÓWNAWCZA

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A b s t r a k t

Bezrobocie to zjawisko z dużymi konsekwencjami dla społeczeństwa, a także dla rozwoju gospodarczego państwa, jest ono bowiem problemem występującym zarówno w wymiarze ekonomicznym, jak i społecznym. Co istotne, można zaobserwować znaczące różnice w jego rozmiarach ze względu na wiek, płeć, miejsce zamieszkania, wykształcenie, jak również w układzie przestrzennym. Najniższa stopa bezrobocia w Polsce występuje w województwie wielkopolskim, jedna z najwyższych stóp bezrobocia w Polsce występuje w województwie warmińsko-mazurskim. Różnice te wynikają z odmiennej struktury demograficznej, produkcyjnej czy infrastrukturalnej tych regionów. Skala tych różnic zmienia się jednak w czasie i może być inna w różnych grupach wiekowych społeczeństwa czy w grupach wyodrębnionych ze względu na płeć. Celem badań była analiza porównawcza rozmiarów bezrobocia ogółem oraz ze względu na wiek i płeć w województwach warmińsko-mazurskim i wielkopolskim. Zakres czasowy analizy obejmował lata 2012-2022, a podstawą analizy były dane Głównego Urzędu Statystycznego.

Z przeprowadzonych badań wynika, że stopa bezrobocia w latach 2012-2022 (z wyjątkiem roku 2020) malała w obu województwach. W roku 2022 stopa bezrobocia w województwie wielkopolskim była najniższa w kraju, z kolei województwo warmińsko-mazurskie zajmowało przedostatnią pozycję w tym zakresie, przed województwem podkarpackim. We wszystkich analizowanych latach w obu regionach wyższy udział bezrobotnych w liczbie ludności w wieku produkcyjnym odnotowano w przypadku kobiet, przy czym w tym zakresie również odnotowano tendencję spadkową. Przeprowadzone analizy wykazały również, że w całym badanym okresie najmniejsze bezrobocie w obu analizowanych województwach występowało w grupie wiekowej 35-44 lata. Co ciekawe, w roku 2022 w województwie wielkopolskim największe bezrobocie występowało wśród osób w wieku 18-24 lata, z kolei w warmińsko-mazurskim w grupie wiekowej 25-34 lata.

Introduction

Unemployment is a phenomenon that occurs when people of working age, who are able and willing to work, remain unemployed despite actively seeking employment (Kwiatkowski, 2018, p. 618, 619). In such cases, the labor supply exceeds the demand for labor (Wiśniewski, 2012, p. 11). The primary measure of unemployment is the unemployment rate, which represents the percentage of unemployed individuals among the economically active population – the total number of employed and unemployed individuals (Wojciechowski, 2008, p. 5; Englama, 2001, p. 2). Unemployment can be analyzed by age, gender, or region. The unemployment level is connected to the GDP of a given region or country and their level of economic development. Simply put, if GDP grows, the unemployment rate decreases (Grzybowski, 2013, p. 13; Andrei *et al.*, 2018, p. 321). Conversely, if a region or country is less economically developed, unemployment is higher and vice versa (Woźniak, 2014, p. 39, 40). The causes of unemployment include (Gębura, 2015, p. 57, 58):

- continuous technological progress, which facilitates the replacement of people with machines, leading to a reduced demand for workers;
- insufficient qualifications of labor market participants relative to the current demand for workers;
- high unemployment benefits compared to wages, resulting in the unprofitability of employment for the unemployed;
- difficulties in finding housing in areas with better employment opportunities,
- seasonal employment.

In addition to the above-mentioned causes of unemployment, other factors may exacerbate the phenomenon. These include (Sowa, 2014, p. 255):

- restructuring processes in enterprises, the liquidation of certain industries;
- reduction in production;
- high costs of conducting business for entrepreneurs;
- low economic development in certain regions of the country;
- the liquidation of small and medium-sized enterprises.

Unemployment is examined in two interconnected aspects: objective and subjective. Objectively, unemployment is considered an economic problem that arises when the labor supply exceeds labor demand, resulting in an imbalance between the labor force and the number of available jobs. The subjective aspect refers to social issues, specifically the situation of individuals affected by unemployment, which leads to a lack of income, threatening their existence (Młonek, 1999, p. 8).

The economic effects of unemployment include (Bilska & Tyczyńska, 2022, p. 10):

- reduced production due to the inefficient use of labor resources;
- the expansion of the so-called gray economy;
- the direct effect of underutilization of production factors;

- decreased state budget revenues;
- financial costs associated with supporting unemployed individuals;
- loss of skills in cases of long-term unemployment.

The social effects of this phenomenon include (Bilska & Tyczyńska, 2022, p. 10):

- numerous social pathologies;
- deteriorating public health;
- emergence of conflicts within families and communities;
- loss of social status;
- a sense of social maladjustment due to reliance on benefits.

In Poland, unemployment rates increased significantly after 1989, linked to the period of transformation, privatization, and the liquidation of unprofitable jobs (Czapski, 2021, p. 87; Lewandowska-Gwarda, 2018, p. 2). Despite the passage of time and changes since the transformation, it should be noted that the spatial differentiation of unemployment in Poland has not changed significantly. In areas that experienced high levels of structural unemployment in the 1990s, this problem persists (Tokarski, 2008, p. 26). The economic situation in individual regions is also influenced by geographical-environmental factors and various socio-economic factors (Malina, 2020, p. 138; Jarosz-Nojszewska, 2018, p. 116). The spatial differentiation of unemployment is a challenging issue for the labor market in Poland. There is a significant difference between the unemployment rate in the Warmińsko-Mazurskie and Wielkopolskie voivodeships. The Warmińsko-Mazurskie voivodeship has one of the highest unemployment rates in Poland (Rokicki, 2016, p. 46). It is also the region with the lowest level of industrialization, partly due to its landscape profile. Agriculture and tourism dominate in this region (Łojko, 2016, p. 59; Batyk, 2011, p. 25). The Wielkopolskie voivodeship, on the other hand, has the lowest unemployment rate in Poland and is one of the most industrialized regions in the country (Michoń, 2017, p. 91). The most developed industries in this voivodeship include vehicle manufacturing, foundry, pharmaceutical, furniture, ceramics and glass, tire, textile, and clothing industries (Sass, 2020, p. 59). The voivodeships differ in terms of size, level of economic development, and unemployment rate, hence the comparative analysis of these voivodeships in terms of the characteristics of unemployment present there.

Research Methodology

The aim of the research was a comparative analysis of overall unemployment levels, as well as by age and gender, in the Warmińsko-Mazurskie and Wielkopolskie voivodeships. The analysis covered the period from 2012 to 2022. The study employed both vertical and horizontal comparative analysis methods.

The voivodships were compared with each other as well as across different years. The Warmińsko-Mazurskie and Wielkopolskie voivodships were selected for comparative analysis, as they differ significantly in terms of unemployment. Therefore, it was considered that the selection of these voivodships for comparative analysis would be appropriate.

The research utilized data from the Central Statistical Office (GUS), generated from the Local Data Bank (BDL). The analysis focused on the total registered unemployment and the registered unemployment rate. The unemployment rate is calculated as the ratio of the number of unemployed individuals registered at labor offices to the number of economically active civilian population, excluding those performing active military service and employees of budgetary units involved in national defense and public safety activities. The unemployment rate also accounts for those employed in individual agricultural households. Additionally, the number of registered unemployed individuals and their share in the working-age population were analyzed by gender, as well as the share of registered unemployed individuals by age group within the total population of that age. The following age ranges were considered: 18-24 years, 25-34 years, and 35-44 years.

To determine the extent of variation in the registered unemployment rate between the voivodships, the coefficient of variation was used. This measure indicates the percentage share of the absolute measure of variation (standard deviation) in the central value (arithmetic mean). The formula for the coefficient of variation can be expressed as follows (Ręklewski, 2020, p. 52):

$$V_x = \frac{S_x}{\bar{x}} \cdot 100,$$

where:

S_x – standard deviation,
 \bar{x} – arithmetic mean.

A high coefficient value indicates significant variation and suggests heterogeneity in the studied population, while a low value indicates homogeneity and minimal variation.

To analyze the changes occurring over the studied period in the analyzed indicators, the chain index, also known as the individual variable-base index, was employed. This index indicates how the level of the examined phenomenon changed during the studied period compared to the previous period. The formula for calculating this index is as follows (Ręklewski, 2020, p. 135):

$$I_{t/t-1}^z = \frac{y_t}{y_{t-1}} \cdot 100,$$

where:

y_t – value in the current period,
 y_{t-1} – value in the previous period.

The unemployment rate in the studied voivodeships was also compared with their GDP per capita to demonstrate the relationship between these categories. It is widely known that the level of economic development is linked to unemployment. Economic development is often narrowly analyzed through the growth of production volume measured by GDP or national income per capita and its structure (Woźniak, 2014, p. 39, 40). Among the measures of socio-economic development, GDP per capita is predominant, along with aspects related to education, healthcare, and increasingly, broad environmental awareness (Sobczak, 2020, p. 37, 38). In this article, GDP per capita was used as a measure of the economic development level of the studied voivodeships. The data were obtained from the Local Data Bank.

Research Results

Both the Wielkopolskie and Warmińsko-Mazurskie voivodeships stand out in terms of unemployment rates. To provide a closer look at the situation in these regions, Table 1 presents the registered unemployment rate across all voivodeships in Poland from 2012 to 2022. The degree of variation in unemployment rates among the voivodeships and the changes occurring in this regard were also examined.

During the analyzed period, the registered unemployment rate in Poland and its individual voivodeships significantly decreased. Throughout almost the entire period, specifically from 2012 to 2020, the Warmińsko-Mazurskie voivodeship had the highest unemployment rate. Only in the years 2021-2022 did the Podkarpackie voivodeship record a higher unemployment rate. The Wielkopolskie voivodeship had the lowest unemployment rate in Poland throughout the entire analyzed period. However, the gap between the analyzed voivodeships significantly narrowed. In 2012, the unemployment rate in the Warmińsko-Mazurskie voivodeship was 21.3%, while in the Wielkopolskie voivodeship it was 9.8%, resulting in a gap of 11.5 percentage points. In comparison, in 2022, the unemployment rate in the Warmińsko-Mazurskie voivodeship was 8.6%, and in the Wielkopolskie voivodeship, it was 2.9%, resulting in a difference of 5.7 percentage points. The unemployment rate in the Warmińsko-Mazurskie voivodeship decreased by almost 60% over the entire period, while in the Wielkopolskie voivodeship, it decreased by about 70%. It is worth noting that in each voivodeship, the unemployment rate increased in 2020 due to the crisis caused by the COVID-19 pandemic. It can also be observed that the variation in unemployment rates among the voivodeships is growing. Up until 2015, this variation could be described as small, while in subsequent years, it can be considered moderate. Despite the decreasing unemployment rate, the voivodeships are becoming more varied in this regard, meaning that their collective is becoming increasingly heterogeneous.

Table 1

Total registered unemployment rate and coefficient of variation in Poland in 2012-2022

Voivodeship	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	%	%	%	%	%	%	%	%	%	%	%
Dolnośląskie	13.5	13.1	10.4	8.5	7.2	5.7	5.2	4.6	5.6	4.9	4.5
Kujawsko-Pomorskie	18.1	18.2	15.5	13.2	12	9.9	8.8	7.9	9	8.1	7.3
Lubelskie	14.2	14.4	12.6	11.7	10.3	8.8	8	7.5	8.2	8.7	8
Lubuskie	15.9	15.7	12.5	10.5	8.6	6.5	5.8	4.9	6.3	5.1	4.4
Łódzkie	14	14.1	11.8	10.3	8.5	6.7	6.1	5.4	6.2	6.1	5.5
Małopolskie	11.4	11.5	9.7	8.3	6.6	5.3	4.7	4.1	5.3	5	4.4
Mazowieckie	10.7	11.1	9.6	8.3	7	5.6	4.9	4.4	5.2	4.7	4.3
Opolskie	14.4	14.2	11.8	10.1	9	7.3	6.3	5.8	6.9	6.4	5.9
Podkarpackie	16.4	16.3	14.6	13.2	11.5	9.6	8.7	7.9	9.1	9.9	8.8
Podlaskie	14.7	15.1	12.9	11.8	10.3	8.5	7.7	6.9	7.8	7.8	7
Pomorskie	13.4	13.2	11.1	8.9	7.1	5.4	4.9	4.5	5.9	5.2	4.6
Śląskie	11.1	11.3	9.6	8.2	6.6	5.1	4.3	3.6	4.9	4.3	3.7
Świętokrzyskie	16	16.6	14.1	12.5	10.8	8.8	8.3	8	8.5	8.7	7.8
Warmińsko-Mazurskie	21.3	21.6	18.7	16.2	14.2	11.7	10.4	9.1	10.2	9.1	8.6
Wielkopolskie	9.8	9.6	7.6	6.1	4.9	3.7	3.2	2.8	3.7	3.2	2.9
Zachodniopomorskie	18.2	18	15.5	13.1	10.9	8.5	7.4	6.8	8.4	7.3	6.7
Standard deviation [p.p.]	3.07	3.10	2.82	2.60	2.48	2.17	1.99	1.87	1.84	2.01	1.87
Arithmetic mean [%]	14.6	14.6	12.4	10.7	9.1	7.3	6.5	5.9	6.9	6.5	5.9
Coefficient of variation [%]	21	21	23	24	27	30	30	32	26	31	32

Source: own study based on the Local Data Bank (2024).

Differences between the studied voivodeships are also evident when considering the number of registered unemployed individuals and their share of the working-age population by gender (Tab. 2).

The number of unemployed women and men in both voivodeships decreased year by year. The exception was 2020, when the number of unemployed individuals increased compared to 2019. This increase was more pronounced among men. In the Warmińsko-Mazurskie voivodeship, the number of unemployed men increased by 20% that year, while the number of unemployed women rose by 7%. In the Wielkopolskie voivodeship, the number of unemployed men increased by as much as 39%, and the number of unemployed women by 27%. Thus, the number of unemployed people in 2020 grew more in the Wielkopolskie voivodeship, although it still remained the region with the lowest unemployment rate in Poland.

Table 2

Number of unemployed persons and their share in the working-age population (by gender)

Specification		Warmińsko-Mazurskie voivodeship			Wielkopolskie voivodeship		
		number of unemployed in thousands of people	rate of change	share in the working-age population [%]	number of unemployed in thousands of people	rate of change	share in the working-age population [%]
Men	2012	-	-	10.9	-	-	5.7
	2013	-	-	11.3	-	-	5.6
	2014	47,154	-	9.6	50,568	-	4.4
	2015	39,427	84	8.1	39,504	78	3.4
	2016	33,452	85	6.9	31,981	81	2.8
	2017	26,186	78	5.5	23,091	72	2
	2018	22,447	86	4.7	19,415	84	1.7
	2019	19,222	86	4.1	18,327	94	1.6
	2020	23,040	120	5.1	25,410	139	2.3
	2021	18,548	81	4.2	20,250	80	1.8
	2022	18,528	99,9	4.3	19,144	95	1.8
Women	2012	-	-	13.3	-	-	7.7
	2013	-	-	13.7	-	-	7.6
	2014	50,985	-	11.8	65,842	-	6.3
	2015	44,083	86	10.3	53,807	82	5.2
	2016	39,627	90	9.4	45,716	85	4.5
	2017	33,817	85	8.1	35,766	78	3.5
	2018	30,694	91	7.5	31,452	88	3.2
	2019	26,509	86	6.6	27,986	89	2.8
	2020	28,435	107	7.4	35,548	127	3.6
	2021	24,019	84	6.4	29,600	83	3
	2022	22,541	94	6	27,145	92	2.8

Source: own study based on the Local Data Bank (2024).

Importantly, throughout the entire period under study, the share of unemployed women in the working-age population was higher than that of men in both voivodeships. The unemployment rate among women has consistently remained higher than among men. Labor market studies indicate that employers are more likely to hire men than women, and that men hold a privileged position in the labor market, while women face discrimination despite often being better educated. It is also worth noting that the share of unemployed men and women in the working-age population has decreased in both voivodeships, although it remains significantly higher in the Warmińsko-Mazurskie voivodeship.

In 2022, this share for men was 4.3% in the Warmińsko-Mazurskie voivodeship (a decrease of 6.6 percentage points compared to 2012) and 1.8% in the Wielkopolskie voivodeship (a decrease of 3.9 percentage points compared to 2012). For women, the share was 6% in the Warmińsko-Mazurskie voivodeship (a decrease of 7.3 percentage points compared to 2012) and 2.8% in the Wielkopolskie voivodeship (a decrease of 4.9 percentage points compared to 2012).

The next important issue is the number of unemployed individuals by age. Differences in this regard in the studied voivodships are presented in Table 3.

In each age group, the share of registered unemployed individuals is lower in the Wielkopolskie voivodeship than in the Warmińsko-Mazurskie voivodeship. In every group, the share of unemployed individuals decreased year by year, with the exception of 2020. When analyzing the Warmińsko-Mazurskie voivodeship, it is worth noting that in 2012, the highest share of unemployed was recorded in the 18-24 age group, while ten years later, the highest share was seen in the 25-34 age group. In contrast, in the Wielkopolskie voivodeship, the highest percentage of unemployed was recorded in the 18-24 age group in both 2012 and 2022. High unemployment in this age group results from an unstable life situation, lack of experience, or insufficient qualifications required by employers. In both voivodships, the smallest percentage of unemployed individuals was found in the 35-44 age group. This is likely due to the fact that people in this age group generally have a stable life and career situation. This is particularly true for women, who have often completed the child-rearing phase and are more readily employed by employers.

Table 3

Share of registered unemployed by age group in the population of that age group

Specification			Warmińsko-Mazurskie voivodeship	Wielkopolskie voivodeship
1			2	3
18-24 years old	2012	%	15.6	10
	2013	%	15.6	9.3
	2014	%	12.3	6.6
	2015	%	10	5.2
	2016	%	7.9	4
	2017	%	6.3	3
	2018	%	6	2.6
	2019	%	5.5	2.5
	2020	%	6.7	3.3
	2021	%	5.4	2.5
2022	%	5.8	2.9	

cont. Table 3

1			2	3
25-34 years old	2012	%	13.7	7.6
	2013	%	13.5	7.2
	2014	%	11.5	5.9
	2015	%	9.9	4.7
	2016	%	8.8	4
	2017	%	7.4	3.2
	2018	%	6.8	2.8
	2019	%	6	2.6
	2020	%	7.5	3.5
	2021	%	6.3	2.8
	2022	%	6	2.4
35-44 years old	2012	%	11.3	5.7
	2013	%	11.4	5.7
	2014	%	9.9	4.6
	2015	%	8.2	3.6
	2016	%	7.3	3
	2017	%	6.1	2.4
	2018	%	5.3	2.1
	2019	%	4.4	1.9
	2020	%	5.3	2.6
	2021	%	4.5	2.2
	2022	%	4.5	2

Source: own study based on the Local Data Bank (2024).

The level of unemployment is strongly correlated with the level of GDP per capita. Simply put, when unemployment is high, Gross Domestic Product decreases. Conversely, a decrease in unemployment leads to an increase in GDP. Table 4 presents data on GDP per capita in the studied voivodeships and relates it to the changes that have occurred in the unemployment rate.

A high GDP per capita indicates the prosperity of residents and a high level of development in a given region. According to GUS data, the GDP per capita level in the Wielkopolskie voivodeship is one of the highest in Poland. In 2022, the GDP per capita in this region was nearly 86,000 PLN, placing the voivodeship third in the ranking of regions by GDP per capita. This means that it is one of the most developed regions in Poland. Only the Mazovian and Lower Silesian voivodeships have better standings in this regard. In 2022, the GDP per capita in the Warmińsko-Mazurskie voivodeship was approximately 56,000 PLN, ranking it 14th in Poland, indicating that this region is among

Table 4

Gross Domestic Product per capita in the Warmińsko-Mazurskie and Wielkopolskie voivodeships in 2012-2022

Specification		Warmińsko-Mazurskie	Wielkopolskie
GDP per capita	2012	PLN 30,068	44,342
	2013	PLN 30,456	45,445
	2014	PLN 31,973	47,529
	2015	PLN 33,351	50,822
	2016	PLN 34,556	52,744
	2017	PLN 36,449	56,448
	2018	PLN 38,271	59,865
	2019	PLN 40,810	64,801
	2020	PLN 43,662	66,499
	2021	PLN 49,098	74,224
	2022	PLN 56,368	85,867

Source: own study based on the Local Data Bank (2024).

the least developed in the country. Even such a simple analysis can be the basis for concluding that the low GDP per capita in the Warmińsko-Mazurskie voivodeship may be partly due to the high unemployment rate, while the high value of this indicator in the Wielkopolskie voivodeship may result from the low unemployment rate in that region.

Summary

Based on the conducted research, it was found that the unemployment rate in both analyzed voivodeships decreased between 2012 and 2022, with the exception of 2020, when the COVID-19 pandemic broke out. Until 2020, the Warmińsko-Mazurskie voivodeship had the highest registered unemployment rate in Poland, while the Wielkopolskie voivodeship enjoyed the lowest unemployment rate in the country throughout the entire period. In 2022, the unemployment rate in the Warmińsko-Mazurskie voivodeship was 8.6%, while in Wielkopolskie, it was 2.9%.

In all the analyzed years, both regions recorded a higher share of unemployed women in the working-age population, which may be linked to, among other factors, gender discrimination in the labor market. In 2012, the share of unemployed women in the working-age population was 13.3% in the Warmińsko-Mazurskie voivodeship and 7.7% in the Wielkopolskie voivodeship, while in 2022, it was 6% and 2.8%, respectively. The share of unemployed men in the working-age population was lower, amounting to 10.9% in the Warmińsko-Mazurskie

voivodeship and 5.7% in the Wielkopolskie voivodeship in 2012, and decreasing to 4.3% and 1.8% in 2022. This downward trend confirms the improvement in the labor market situation in both regions.

The analysis also revealed that throughout the entire period, the lowest unemployment in both voivodeships was observed in the 35-44 age group. In the Warmińsko-Mazurskie voivodeship, the highest unemployment in 2012 was among individuals aged 18-24, while ten years later, it shifted to the 25-34 age group. In the Wielkopolskie voivodeship, the highest unemployment was consistently among those aged 18-24. Thus, the younger generation faces more challenges in the labor market, largely due to the transition from education to work and the lack of experience required by employers.

The research also provided information on the GDP per capita in the analyzed voivodeships. The Wielkopolskie voivodeship has a high GDP per capita, indicating a high standard of living for its residents. It is a highly developed and urbanized region with a diverse and robust labor market, as evidenced by its low unemployment rate. In contrast, the Warmińsko-Mazurskie voivodeship has a relatively low GDP per capita and a high unemployment rate. It can therefore be concluded that differences in unemployment rates in the studied regions are determined, among other factors, by the varying levels of their socio-economic development, differences in employment structures, uneven changes in labor demand, differences in the education levels of the population, as well as historical and natural conditions.

Translated by Authors

References

- Andrei, D.B., Vasile, D., & Adrian, E. (2009). The correlation between unemployment and real GDP growth. A study case on Romania. *Annals of Faculty of Economics*, 2(1), 317-322.
- Batyk, I. (2011). Prospects and barriers for development tourism in rural areas Warmia and Mazury. *Journal of Education, Health and Sport*, 1(1), 15-27.
- Bilska, A., & Tyczyńska, I. (2022). Poziom i struktura bezrobocia w Polsce w latach 2018-2021. *Studia Ekonomiczne, Prawne i Administracyjne*, 1(3), 5-20. <https://doi.org/10.24136/sepia.2022.010>.
- Czapski, G. (2021). Społeczne skutki bezrobocia w Polsce. In M. Stradomska (Ed.). *Wymiar współczesnych zagrożeń człowieka w teorii i zagadnieniach praktycznych – ujęcie interdyscyplinarne*. Łódź: ArchaeGraph.
- Englama, A. (2001). Unemployment: concepts and issues. *Bullion*, 25(4), 1-5.
- Gębura, R. (2015). Bezrobocie jako problem Polityki Społecznej. *Acta Scientifica Academiae Ostroviensis. Sectio A. Nauki Humanistyczne, Społeczne i Techniczne*, 5(1), 53-68.
- Grzybowska, A. (2013). Globalizacja-szanse i zagrożenia. *Studia Ekonomiczne*, 139, 10-19.
- Jarosz-Nojszewska, A. (2018) Unemployment in Poland in 1918-2018. *Kwartalnik Kolegium Ekonomiczno-Społecznego „Studia i Prace”*, 35(3), 101-120.
- Kwiatkowski, E. (2018). Bezrobocie. In R. Milewski & E. Kwiatkowski E. (Eds.). *Podstawy ekonomii*. Warszawa: Wydawnictwo Naukowe PWN.
- Lewandowska-Gwarda, K. (2018). Geographically weighted regression in the analysis of unemployment in Poland. *ISPRS International Journal of Geo-Information*, 7(1), 1-16

- Local Data Bank. (2024). Główny Urząd Statystyczny. Retrieved from <https://bdl.stat.gov.pl/bdl/dane/podgrup/temat> (16.04.2024.).
- Łojko, M. (2016). Rynek pracy na Warmii i Mazurach – strategie i działania lokalne. *Studia Ekonomiczne*, 286, 56-71.
- Malina, A. (2020). Analiza przestrzennego zróżnicowania poziomu rozwoju społeczno-gospodarczego województw Polski w latach 2005-2017. *Nierówności Społeczne a Wzrost Gospodarczy*, 61(1), 138-155.
- Michoń, D. (2017). Zróżnicowanie rozwoju społeczno-gospodarczego województw ze względu na realizację celów polityki spójności. *Wiadomości Statystyczne*, 12(679), 80-94.
- Młonek K. (1999). *Bezrobocie w Polsce XX wieku w świetle badań*. Warszawa: Krajowy Urząd Pracy.
- Ręklewski, M. (2020). *Statystyka opisowa. Teoria i przykłady*. Włocławek: Wydawnictwo Państwowej Uczelni Zawodowej we Włocławku.
- Rokicki, T. (2016). The diversification of the social and economic development of voivodeships in Poland. *Economic and Regional Studies*, 9(4), 39-52.
- Sass, R. (2020). Rozwój społeczno-gospodarczy województwa warmińsko-mazurskiego i wielkopolskiego po akcesji Polski do Unii Europejskiej. *Zagadnienia Doradztwa Rolniczego*, 1(99), 48-64.
- Sobczak, E. (Ed.). (2020). *Regionalne i lokalne uwarunkowania rozwoju gospodarki Polski*. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- Sowa, B. (2014). Bezrobocie. In: W. Kalita, M. Kurek, L. Piczak & B. Sowa. *Ekonomia. Wybrane zagadnienia mikro i makroekonomii*. Rzeszów – Przemysł: Wyższa Szkoła Prawa i Administracji.
- Tokarski, T. (2008). Przestrzenne zróżnicowanie bezrobocia rejestrowanego w Polsce w latach 1999-2006. *Gospodarka Narodowa*, 7-8, 25-41.
- Wiśniewski, Z. (2012). Aktywna polityka rynku pracy. In: M. Maksim & Z. Wiśniewski (Eds.). *Metody i narzędzia badania efektywności aktywnej polityki rynku pracy*. Warszawa: Centrum Rozwoju Zasobów Ludzkich.
- Wojciechowski, W. (2008). *Skąd się bierze bezrobocie?* Warszawa: Forum Obywatelskiego Rozwoju.
- Woźniak, M.G. (2014). Rozwój społeczno-ekonomiczny w III Rzeczypospolitej. Efekty. Defekty. Warunki integracji. *Nierówności Społeczne a Wzrost Gospodarczy*, 39, 38-54.

