

---

## REGIONAL SOCIO-ECONOMIC DISPARITIES IN POLAND

J. Wąsowicz

University of Economics in Katowice  
*ul. 1 Maja 50, 40-287 Katowice, Poland*

The purpose of the paper is to survey and discuss regional socio-economic disparities in Poland in the context of Poland's accession to the European Union. The paper examines development trends and changes in the scale of diversity of Polish voivodships (NTS-2) in the basic areas of economy. The analysis of statistical data from the period of 1999—2009 shows that the process of integration of Poland with the European Union and connected with it opportunities for realization of new investments, aiming at increasing the competitiveness of Poland on the international arena, did not result in the decrease of socio-economic development disparities of the voivodships (the internal convergence).

**Key words:** regions, socio-economic disparities.

The socio-economic diversification of territorial units is determined by a number of factors of exo- and endogenous characteristics (macroeconomic, structural, demographic), in particular: dynamics of economic growth in relation to the national average, structure of production potential (agriculture, manufacturing, modern services), concentration of foreign investment, volume and dynamics of income, rate of urban development, density of population, access of public health care. The complexity of these factors determines the position a territorial unit occupies in economic development rankings.

The subject scope of this analysis takes into account all voivodships in Poland (in the Central Statistical Office / *Główny Urząd Statystyczny* — GUS / terminology these are territorial units NTS-2, that are subjects to a regional policy). The purpose of this paper is the identification of development trends and changes in the scale of diversity of Polish voivodships in the basic areas of economy.

The variables were purposefully chosen for the analysis as to characterize the moulding of socio-economic situation in the particular voivodships: GDP per capita in relation to the national average, real GDP per capita, investments outlays in constant prices, gross disposable income per one inhabitant in relation to the average disposable income in a country, the average disposable income in real terms per one person in an average household, the gross average monthly wages and salaries in real terms in the national economy, the registered unemployment rate.

The time scope embraces years 1999—2007 mainly. The choice of such a research period comes from the availability and comparability, within the territorial section, of the statistical data. Taking the year 1999 as a base year is driven from the fact that on the 1<sup>st</sup> January 1999 a new administrative reform was implemented (1) (note: one of four Polish economic reforms). Some of the statistical data referring to the pre-reform period were converted and published by GUS. In such cases the time scope of the ana-

lysed data has been extended in this paper. The analysis of regional disparities in the social and economic development accounts for the dichotomous division of the researched period into before — and after the accession.

With the issue of regional socio-economic disparities a problem of territorial units convergence in the mezzo-economic scale is tightly connected [2. P. 5; 3. P. 75—77]. The objective of convergence, within the frame of the European Union Regional Policy, is: “...promoting growth-enhancing conditions and factors leading to the actual bridge the backwardness in the least developed Member States and regions...” which means that the convergence should take place within the EU regions and within the regions of particular Member States [4]. Within the financial perspective of 2007—2013 the aims of convergence are achieved by the use of financial resources coming from the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund. The fundamental condition for the increase of economic cohesion of the EU regions and Polish regions is lowering the differences in the levels of economic development per head. In this paper a specific issues connected with the use of Union funds and their effectiveness have not been addressed. The attention is only drawn into shaping certain variables that are characteristic of economic development in the period before and after the accession.

### **Regional differentiation of economic growth**

Within the years 1999—2009 Polish GDP increased in real terms of over 43% [5]. In this period of time Polish economy recorded a weaker economic growth rate twice i.e. years 2001—2002 and in 2009. With the accession of Poland to the European Union a dynamic economic growth started, which picked in 2007 (6.8%). Along with the economic growth in Poland some disparities in economic development deepened, in the voivodships as well as in their internal units. In order to evaluate the degree of diversification of the socio-economic situation of voivodships, in respect to particular characteristics, one of the classic measures of dispersion was used, i.e. a coefficient of variation ( $V_s$ ), interpreted as a percentage of an average per one standard deviation (2). The differences in the pace of voivodships' economic growth and the absolute level of GDP per capita in a given period of time are especially vital from the perspective of the regional policy objectives.

The values of coefficient of variation for GDP per capita for the particular voivodships, in relation to the national average and expressed in absolute units as well as the GDP real level per capita, show an increasing level of income disparities per one inhabitant in the years 1999—2007 (table: 1). At the same time it needs to be stressed that the diversity among the voivodships did not increase in the years 2001—2004. After Poland's accession to the EU, in the conditions of dynamic economic growth of the whole economy, the diversity of voivodships in respect to the income per capita, deepened. As a result it may be stated that the Union funds used by Poland, coming from the time frame of 2004—2006 and used at the beginning of the financial perspective of 2007—2013, did not account for the decrease in income disparities in the particular voivodships.

Table 1

**GDP per capita in relation to national average in 2000–2007  
(Poland = 100)**

No.	Territorial unit (NTS-2)	2000	2005	2006	2007
		%			
1	Łódzkie	90.0	91.8	91.8	91.9
2	Mazowieckie	151.0	158.4	159.7	160.1
3	Małopolskie	87.0	85.3	86.7	85.7
4	Śląskie	107.7	107.9	106.1	106.1
5	Lubelskie	70.0	68.3	67.6	67.7
6	Podkarpackie	69.8	69.0	68.4	67.5
7	Podlaskie	75.2	74.0	73.4	74.2
8	Świętokrzyskie	77.5	74.8	76.0	76.9
9	Lubuskie	90.1	90.2	89.0	88.6
10	Wielkopolskie	106.5	106.9	105.3	104.5
11	Zachodniopomorskie	101.7	92.8	91.1	89.8
12	Dolnośląskie	103.9	103.3	107.0	108.7
13	Opolskie	84.4	82.8	80.4	82.9
14	Kujawsko-Pomorskie	91.5	87.2	87.4	86.8
15	Pomorskie	99.4	98.2	98.5	98.5
16	Warmińsko-Mazurskie	78.3	76.5	75.6	74.4
17	Coefficient of variation (%)	20.8	23.1	23.6	23.7

Source: own calculation based on: [5].

In the researched period of time the rate and direction of changes of GDP per capita increase in the particular voivodships in relation to the national average were diversified too. It means that part of the voivodships, in the years 1999–2007, reached an income per capita increase in relation to the national average and part recorded a decrease. As a result, in relation to the income changes, a progressive divergence process can be observed. The degree of economic growth diversification in the voivodships was lower than the average diversification in the 27 EU states [9. P. 8].



Fig. 1. Voivodships in Poland (16 units, NTS-2)

Source: [5]

One of the primary reasons and results of the economic growth diversification of Polish voivodships is a great concentration of productive capacity in a few voivodships with the best socio-economic situation. In 2000 the relation between the voivodships with the highest GDP per capita (Mazowieckie) and the poorest voivodships (Podkarpackie) amounted to 2.0. At the end of the researched period, i.e. in the year 2007, this relation increased to the level of 2.37 (see: table 1).

While in 1999 five voivodships reached higher GDP per capita than the national average (Mazowieckie, Śląskie, Wielkopolskie, Dolnośląskie, Zachodniopomorskie), in 2007, their number dropped to four (Mazowieckie, Dolnośląskie, Śląskie, Wielkopolskie). The positions within the ranking in reference to the income per one inhabitant (see: table 1) changed too. At the end of the year 2007 the relation between the GDP per capita of eleven voivodships to the national average worsened in comparison with the year 1999. In the whole researched period the slowest rate of national income increase per one inhabitant (3) was achieved by Zachodniopomorskie voivodship (50.4%) and the fastest rate of growth had Mazowieckie voivodship (80.7%).

### Investment outlays

The size, structure and growth rate of investment outlays in voivodships are the factors that determine the achieved economic growth, job creation processes and level of social wealth. The investment outlays, which mainly contribute to the economic growth, are, in particular, outlays in new capital assets or improvements (development, re-building, reconstruction, modernisation) of the existent fixed assets. The increase in investment outlays in particular voivodships is a cause and result of economic attractiveness of these territorial units simultaneously.

Table 2

Investment outlays in constant prices in 1999–2008 (in PLN)

No.	Territorial unit (NTS-2)	1999	2000	2005	2006	2007	2008
1	Łydzkie	6 216 414	5 988 566	8 825 849	9 901 135	13 498 811	14 182 098
2	Mazowieckie	32 236 182	38 083 548	28 421 844	32 954 706	40 532 102	45 407 345
3	Małopolskie	7 935 969	8 544 045	9 849 535	12 833 794	14 813 942	15 452 297
4	Śląskie	15 097 847	13 935 858	15 156 241	19 386 780	24 038 326	26 247 368
5	Lubelskie	3 712 118	3 662 919	4 257 767	4 869 117	5 923 108	7 321 175
6	Podkarpackie	3 953 785	3 567 080	5 013 636	5 848 311	6 857 267	7 565 367
7	Podlaskie	2 170 334	2 072 723	3 199 690	3 633 483	4 162 461	4 628 285
8	Świętokrzyskie	2 719 988	2 498 419	2 926 103	3 068 351	4 009 980	5 358 390
9	Lubuskie	2 776 737	2 386 803	3 248 798	3 531 279	4 455 796	4 241 854
10	Wielkopolskie	10 477 808	10 783 519	12 511 528	13 953 354	16 101 984	19 327 533
11	Zachodniopomorskie	4 187 275	4 465 793	4 698 525	6 430 667	6 771 682	8 659 256
12	Dolnośląskie	10 012 032	9 234 945	11 239 138	14 494 414	16 972 651	17 725 823
13	Opolskie	2 683 245	2 384 101	2 623 869	2 866 827	3 631 896	3 751 758
14	Kujawsko-Pomorskie	4 383 309	4 360 365	5 309 334	6 099 142	7 908 949	9 552 794
15	Pomorskie	6 443 203	6 575 197	7 251 439	8 795 493	12 112 638	13 414 534
16	Warmińsko-Mazurskie	2 379 050	2 400 863	3 826 090	4 679 956	5 246 006	5 666 730
17	Coefficient of variation (%)	103.1	117.2	82.8	82.5	83.1	82.5

Source: own calculation based on: [5].

The values of coefficient of variation, calculated for the investment outlays, give the basis for formulating at least three conclusions. Firstly, in the years 1999—2008, the degree of diversification of real investment outlays in particular voivodships was decreasing significantly from year to year (with the exception of the year 2007). Secondly, greater disparities of investment outlay volume among the voivodships had already existed in the period from the administrative reform to the accession of Poland to the EU. The accession of Poland to the EU did not influence significantly the process of internal voivodships' convergence in reference to the investment outlays (table 2). Thirdly, the accession of Poland to the EU significantly induced the investment processes in the whole country and in the system of voivodships, on the scale unprecedented before the integration. In the period before the accession to the EU, in all voivodships, there was a significant decrease in investment.

Taking the year 1999 as the basis it can be stated that the biggest real investment outlays in voivodships were accomplished in 2008 (table 2). In 1999—2008 the greatest increase in investments occurred in the following voivodships: Warmińsko-Mazurskie (138%), Łódzkie (128%), Kujawsko-Pomorskie (118%), Podlaskie (113%), Pomorskie (108%), Zachodniopomorskie (107%). The high investment growth dynamics in these voivodships was caused by, among the other factors, so called the base effect i.e. the low level of value of absolute investment outlays incurred in 1999.

The changes in the inflow of direct foreign investment (DFI) into Poland were mainly connected with the integration process. In 1999 the supply of DFI stayed at the level of ₴ 6.8 bln, ₴ 4.07 bln in 2003 and ₴ 16.7 bln in 2007. After the accession to the EU (in 2004) to Poland flew over 2.5 fold more DFI than in the previous year. In 2008 the most attractive for the investment voivodships were [1. P. 10—13, 15—21]: Śląskie, Mazowieckie, Dolnośląskie and Wielkopolskie. These regions are characterized by a very well-developed economic infrastructure, relatively big and absorbent markets and above the average availability of transport.

The voivodships of southern Poland are attractive for production operations (long-lasting manufacturing traditions, well-developed production enterprises, specialist labour resources, relatively easy availability of transport). Likewise in the whole Polish economy, structural transformations are taking place in the southern voivodships economies, which are based on the relative employment growth in the service industry (market and non-market related), with a simultaneous significant fall in employment in agriculture and production. The metropolitan regions offer good conditions for service operations development (trained personnel, well-developed economic infrastructure, good transport availability, absorbent markets) and technologically advanced business operations (infrastructure concentration and specialists in the field of research and development) [7. P. 57—58].

### **Households income and situation on regional labour markets**

The dynamics of wages and salaries changes in real terms and their absolute level depend on the overall country's macroeconomic situation, the situation on regional and local labour markets, migration processes and many other factors. A disposable in-

come is for expenditures on consumer goods and services, and the accrual of savings. According to the statistical data, in the period of 1999—2007, the deviation rate of gross disposable income per capita, in the particular voivodships, decreased in comparison to the average of whole national economy. In 2000 the disposable income was higher than the national average in five voivodships only. Łódzkie voivodship joined the group of these voivodships in 2007, but at the same time most of these voivodships reduced their advantage in relation to the others. This is proved by the decreasing coefficient of variable of disposable income in the researched period (see: table 3). It seems that the process of closing the gap between the voivodships of lower disposable income to the national average is going to be extended over a long period of time.

Table 3

**Gross disposable income per 1 inhabitant in 2000—2007 (Poland=100)**

No.	Territorial unit (NTS-2)	2000	2005	2006	2007
1	Łódzkie	96.8	100.7	102.0	101.6
2	Mazowieckie	129.4	128.6	127.7	127.6
3	Małopolskie	92.4	89.6	89.8	89.0
4	Śląskie	111.0	112.3	111.7	112.2
5	Lubelskie	79.9	80.4	80.6	81.5
6	Podkarpackie	77.8	76.1	76.9	77.0
7	Podlaskie	82.6	84.5	85.3	84.7
8	Świętokrzyskie	85.9	86.3	87.5	87.8
9	Lubuskie	93.1	91.9	91.9	92.5
10	Wielkopolskie	104.4	105.1	104.5	103.2
11	Zachodniopomorskie	104.2	101.0	100.6	99.9
12	Dolnośląskie	103.8	102.7	102.5	102.6
13	Opolskie	82.0	84.0	84.1	86.4
14	Kujawsko-Pomorskie	92.8	93.9	93.7	93.5
15	Pomorskie	95.3	94.9	95.7	97.1
16	Warmińsko-Mazurskie	85.4	85.3	85.1	84.1
17	Coefficient of variation (%)	14.2	14.1	13.6	13.5

**Source:** own calculation based on: [5].

The scale of variation in the net real income was shaped differently in the particular voivodships, which is proved by the calculated coefficient of variable of disposable income per one person in a household. The degree of diversity of disposable income per one person in a household, in the voivodships (the coefficient of variable increased in this period from 10.6% to 11.8%) rose in 1999—2008. In the researched period the net income increased in all voivodships but the growth dynamics differed significantly. The smallest disposable income growth in constant prices took place in voivodships: Podkarpackie (59%), Śląskie (67%) and Łódzkie (69%), and the biggest growth in voivodships: Opolskie (104%), Warmińsko-Mazurskie (101%), Mazowieckie (88%).

The dynamics of net income changes does not reflect the diversification of absolute income level. The relation of the voivodship with the highest net profit per one person (Mazowieckie) to the voivodship with the lowest income (Warmińsko-Mazurskie) amounted to 1.45 in 1999. In 2008 this relation increased to the level of 1.68 but the voivodship with the lowest income per one person in a household was Podkarpackie.

The disparities of absolute disposable income values in constant prices increased among the voivodships. It seems that the real disposable income expressed in the absolute values creates the most reliable basis for the evaluation of actual income disparities of the population than the disposable income per capita in relation to the national average. In Poland the distribution of households income is upward asymmetric, what means that there is a predominance occurring around the low number of variable values (there is an insignificant percentage of very rich households).

Due to limited availability of data regarding gross monthly wages and salaries for the voivodships setting, the analysis of changes embraces period of 2002—2008. Within the whole researched period, the rate of real monthly wages and salaries rise was similar in all voivodships. The range of wages and salaries increase differential in voivodships, expressed in constant prices, amounted to 11 percentage points. The highest wages and salaries increase was reached by the voivodships: Dolnośląskie (41%), Pomorskie (40%) and the lowest Warmińsko-Mazurskie (30%) and Kujawsko-Pomorskie (34%). The coefficient of variable, calculated for the period of 2002—2008, proved an insignificant growth in diversification of wages and salaries in the particular voivodships.

In the period of 1999—2009, in two voivodships only, there was a drop in the number of inhabitants at a working age (Śląskie by 1.5% and Łódzkie by 0.5%) (4). In the remaining fourteen voivodships the number of inhabitants at a working age increased from 0.3% in Dolnośląskie to 7.5% in Małopolskie. Under the conditions of good macroeconomic situation, in the period of 2004—2009, Poland reached one of the quickest growing employment indices of inhabitants at a working age, in comparison to the other 27 EU countries (increase by 7.6 percentage point, Bulgaria reached the growth rate of 9.8%).

In 2009 the employment ratio in Poland was one of the lowest among the 27 EU states (the fourth position from the bottom in the 27 EU ranking) and reached the level of 59.3% in relation to 65.7% average of the 27 EU states. The employment of persons at the working age on the level of over 70% was only recorded in Mazowieckie voivodship in 2009, and mainly it referred to Warsaw. Zachodniopomorskie voivodship achieved the lowest employment rate (below 60%) [7. P. 54]. The employment ratios are a fairly objective measurement of inhabitants' labour market activity in the particular voivodships. However, the analysis of development trends in employment should also take into account the changes in employment in the researched period. In the years 1999—2009 there was a decrease in employment in five voivodships: Podlaskie (7%), Wielkopolskie (2.5%), Opolskie (2.3%), Zachodniopomorskie (2.1%) and Dolnośląskie (1.5%). The greatest improvement in the situation on the labour market, reflected in the increase of employment, reached the voivodships: Śląskie (19.3%), Mazowieckie (18.6%) and Warmińsko-Mazurskie (18.3%).

The coefficient of variable of the unemployment rate in 2009 (18.7%), calculated for all voivodships, amounted to the level lower than in 1999 (20.6%). It proves that the regional diversification of the unemployment rate in Poland lowered. The coefficient of variable underwent significant changes in the researched period. The lowest rate of voivodships diversification in relation to the registered unemployment rate took place

in 2006 (12.6%) but from 2008 the disproportions among the voivodships started to increase.

The permanent disparities of regional development and backward structural transformations, in some regions, draw the map of the regional unemployment diversification from the beginning of the Polish economic transformation. The high level of unemployment in the voivodships of northern Poland had a structural character and mainly was the outcome of the downfall of economic base in small towns and of the state-owned farms [8. P. 33]. In 2008, in all voivodships, the rate of the registered unemployment amounted to one digit level. Due to the global economic crisis, in 2009 in five voivodships the unemployment rate exceeded the level of 10% (see: table 7).

The analysis of statistical data from the period of 1999—2009 shows that the process of integration of Poland with the European Union and connected with it opportunities for realization of new investments, aiming at increasing the competitiveness of Poland on the international arena, did not result in the decrease of socio-economic development disparities of the voivodships (the internal convergence). The use of the European funds coming from the financial perspective of 2004—2006 and 2007—2013 resulted in the external convergence (matching the levels of Polish regions development in relation to the total of European Union regions). The process of external convergence of Polish regions was also boosted by the positive dynamics of economic growth in Poland in the years 2008 and 2009, when the other EU Member States suffered from recession.

#### ANNOTATIONS

- (1) Until the end of 1998 there was a division into 49 voivodships in Poland. According to the new administrative division, from 1<sup>st</sup> January 1999, there are 16 voivodships in Poland (NST-2 units).
- (2)  $V_s = \frac{S}{\bar{x}}$ , where  $S$  — the standard deviation,  $\bar{x}$  — the arithmetic mean of the whole population.
- (3) GDP per capita in Purchasing Power Standards in Poland in the years 2000—2008 (EU 27 = 100%): 2000 = 48%, 2001 = 48%, 2002 = 48%, 2003 = 49%, 2004 = 51%, 2005 = 51%, 2006 = 52%, 2007 = 54%, 2008 = 56%.
- (4) 15—59 years of age for women, 15—64 years of age for men.

#### REFERENCES

- [1] Atrakcyjność inwestycyjna województw i podregionów Polski 2008 r. (Investment attractiveness of voivodships and regions of Poland 2008), The Gdańsk Institute for Market Economics, Gdańsk 2008.
- [2] Churski P. Czynniki rozwoju regionalnego w świetle koncepcji teoretycznych (Factors of regional development in light of the theoretical concepts), Instytut Geografii Społeczno Ekonomicznej i Gospodarki Przestrzennej UAM w Poznaniu ([http://www.staff.amu.edu.pl/~chur/bibliografia/CZYNNIKI\\_ROZWOJU\\_REGIONALNEGO.pdf](http://www.staff.amu.edu.pl/~chur/bibliografia/CZYNNIKI_ROZWOJU_REGIONALNEGO.pdf)).
- [3] Geodecki T. Procesy konwergencji i polaryzacji w regionach Unii Europejskiej (Processes of Convergence and Polarisation in Regions of the European Union), Zeszyty Naukowe Akademii Ekonomicznej w Krakowie, Kraków, Zeszyt nr 714/2006.
- [4] URL: [http://ec.europa.eu/regional\\_policy/policy/object/index\\_pl.htm](http://ec.europa.eu/regional_policy/policy/object/index_pl.htm) — European Commission Homepage.



- [5] URL: [http://www.stat.gov.pl/bdr\\_n/app/strona.indeks](http://www.stat.gov.pl/bdr_n/app/strona.indeks) — Central Statistical Office of Poland.
- [6] URL: [http://www.stat.gov.pl/gus/wskazniki\\_makroekon\\_PLK\\_HTML.html](http://www.stat.gov.pl/gus/wskazniki_makroekon_PLK_HTML.html) — Central Statistical Office of Poland.
- [7] Krajowa strategia rozwoju regionalnego 2010—2020. Regiony, miasta, obszary wiejskie. Załączniki (National Development Strategy 2010—2020. Regions, cities, rural areas. Anexes), Ministry of Regional Development, Warsaw, september 2009.
- [8] Raport o rozwoju i polityce regionalnej (Report on development and regional policy), Ministry of Regional Development, Warsaw november 2007.
- [9] Rozwój regionalny w Polsce. Raport 2009 (Regional Development in Poland. Report 2009), Ministry of Regional Development, Warsaw may 2009

## **РЕГИОНАЛЬНЫЕ СОЦИАЛЬНО-ЭКОНОМИЧЕСКИЕ РАЗЛИЧИЯ В ПОЛЬШЕ**

**Я. Вайсович**

Экономический Университет в Катовицах, Польша

*ул. 1 Мая 50, 40-287 Катовице, Польша*

В статье анализируются региональные социально-экономические различия Польши в контексте вступления страны в ЕС; влияние региональной политики ЕС на динамику территориального неравенства по главным макроэкономическим показателям (ВРП на душу населения, объемы ВРП, инвестиции в основной капитал). Анализ показал, что вступление Польши в ЕС и связанные с этим надежды на рост инвестиций мало сказались на уровне территориального неравенства. Росту неравенства также способствовал экономический рост в Польше во время кризиса 2007—2009 гг.

**Ключевые слова:** регионы, социально-экономические различия.