



DISPROPORTIONS IN SOCIO-ECONOMIC DEVELOPMENT OF THE LOWER SILESIAN VOIVODESHIP WITH PARTICULAR EMPHASIS ON POST-MINING AREAS

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Abstract. The Lower Silesian Voivodeship is a region with relatively high social and economic disproportion between its territorial units. This diversification is due to many factors, including specialization, long-term mono-branching and ties with traditional sectors characterised by capital intensity, huge involvement of natural resources, low efficiency and negative environmental effects. The aim of the study is to determine what are the disproportions in the socio-economic development of Lower Silesia and whether the activation of post-mining areas in this region requires support as part of integrated just transition planning.

Keywords: business services, investment, Just Transition, post-mining areas, region, socio-economic transition.

Introduction

Regions play an essential role in the global economy since the global processes occur in their space (and at the local level). The socio-economic development of regions is determined by many factors, both endogenous and exogenous. It is not considered one-shot activities, but a complex process that takes place in the long term, with the involvement of many entities, capital, technical thought, technologies and communication links, as well as innovative and creative behaviour. In practice, socio-economic development does not occur with the same intensity and does not lead to similar effects. Consequently, it leads to the development disproportions within the regions. These disproportions are also a derivative of the quantity and quality of endogenous resources and their skilful use and co-use of exogenous resources in such a way as to create the synergy effects.

The Lower Silesian Voivodeship is an example of an internally diversified region with relatively high disproportions between its territorial units. It can be argued that the disproportions of socio-economic development divide the region into two parts: the north-east and the south-west. This is due to many factors, including specialization, long-term mono-branching and ties with traditional sectors characterised by capital intensity, huge involvement of natural resources, low efficiency and negative environmental effects. In this region, mining played a special role in the development for a long period, consequently leading to depression in some territorial units that rely on this economic sector.

The aim of the study is to determine what are the disproportions in the socio-economic development of Lower Silesia and whether the activation of post-mining areas in this region requires support as part of integrated just transition planning. The study focuses on the analysis of activation of post-mining areas in terms of the presence of business service companies and the amount of investment expenditure. The study provides answers to the following research questions: 1) What are the consequences of the post-mining areas' withdrawal from mining? 2) Has there been any socio-economic transition in the post-mining areas? 3) Do the post-mining areas need support as part of integrated just transition planning?

Theoretical fundamentals of distinctions in socio-economic development of regions under the present conditions

The EU guidelines of development suggest that the contemporary approach to development processes is largely focused on regions (Domański, 2012). Intra-regional disproportions in the level and dynamics of socio-economic development do not seem to follow any established pattern, phase structure or span. They may exert a negative impact on the economy, society (Putnam, 2000) and cohesion of the region as such. Therefore, an effective examination and measurement of any such disproportions may be deemed of fundamental significance in supporting regional stabilization and may form a functional platform for strategic programming of any activities designed to build and maintain its cohesion in both intra- and interregional dimension.

Proper identification of problems and challenges observed on a regional scale, supplemented by analytical evaluation and interpretation of easily accessible source data offers a more informed choice of remedial measures and a more adequate planning of regional policies to ensure effective elimination of barriers and improvement of social, economic and spatial cohesion. Regional disproportions are mainly identified in three aspects:

- physical – with differences formed on the basis of geographical or natural properties and conditions of regions;
- economic – differences are expressed directly in the level or quality of economic development;
- social – differences are expressed in general income or life quality of individual members of the region's population (Skubiak, 2013).

Disproportions in regions may also be formed by any combinations of the above aspects (Van-hove, 1999). Adequate identification of factors responsible for the emergence of intra-regional differences in development constitutes a sound basis for the effective selection of remedial measures and for effective support of intra-regional cohesion (Iammarino, Rodriguez-Pose & Storper, 2019).

Global trends are another group of factors affecting not only the path of socio-economic development but also the structure of disproportions in this respect, though it must be remembered that their effects are not evenly distributed between regions in terms of their frequency or intensity. Their impact is influenced by a number of determinants, including the availability of local (endogenous) resources and the history of local socio-economic transformations, particularly in post-mining or other post-industrial areas.

Development represents a process of positive changes (Parysek, 2018) expressed in quantitative or qualitative dimension, with the former representing economic progress, and the latter being an expression of transformations of the local socio-economic structures (Klóska, 2015).

Due to some important correlations and dependencies between the quantitative and the qualitative aspects of the studied process (Parysek, 2018), the most common approach is to examine the two dimensions in tandem. In addition, the practical programming of regional socio-economic development should include analytical evaluation of changes in both of those aspects (Fig. 1). The effective satisfaction of regional development needs also requires proper integration between social and economic progress, as important correlations and dependencies are readily observed also in this context. In effect, the socio-economic development of regions represents a combined result of their economic potential and their elected path of social progress. Lastly, the socio-economic development is a product of both intraregional relationships as well as those observed in interregional dimension (be it in the immediate vicinity or in a global perspective) (Michoń, 2017).

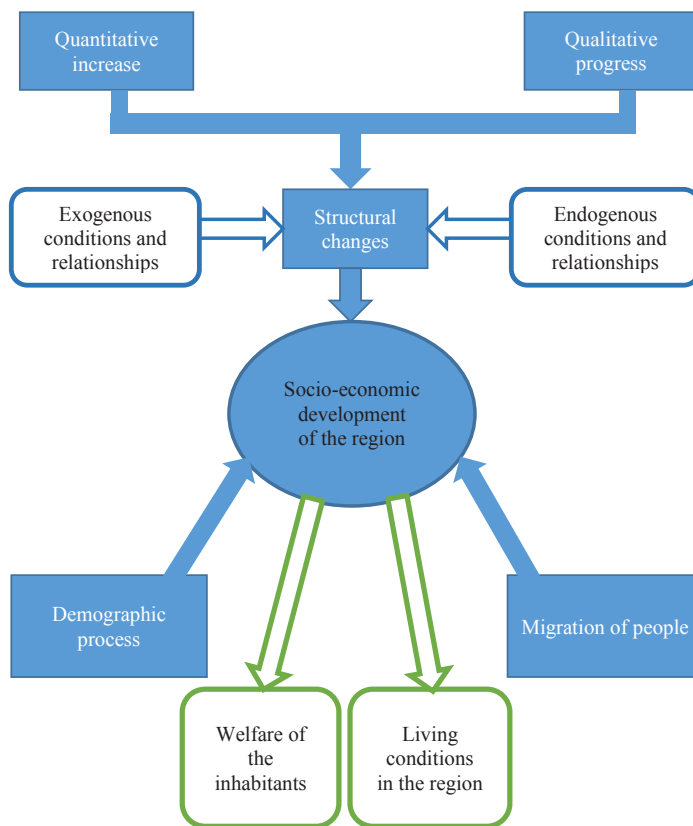


Figure 1. Relations in the socio-economic development of the region
Source: own elaboration.

Monitoring of the above correspondences is designed to ensure regional coherence. Lack of cohesion and development inequalities may stimulate and augment the processes of polarization and divergence. Correction of development imbalances between countries and regions is one of the long-term objectives directly expressed in the EU Cohesion Policy, with a number of support instruments designed to combat inequality, disproportions in socio-economic development, depopulation, and land degradation (Gawlikowska-Hueckel & Szlachta, 2014).

Disproportions in regional development are a subject of analytical evaluations in many economic models, including the growth pole model (Perroux, 1978), the core and periphery model, and the polarization theory of Hirschman and Myrdal (Churski, 2011), with focus placed on explanation of reasons behind the observed disproportions in development, and with emphasis on the fact that short-term effects of free market forces may serve to intensify such processes and stimulate the formation of regional disproportions. At the same time, each of the above theories is founded on the assumption of the cyclic nature of the development processes resulting from the growth and accumulation of such processes in a given area. In consequence, the increase in the pace of socio-economic development has the effect of stimulating the polarization of space and divergence of income between regions. According to G. Myrdal (1957), regional inequalities have the tendency to stratify and, in the long-term dimension, have a 'soaking' effect on resources (capital, but also workforce and produce) from less developed regions to more developed areas (growth centres or, after Perroux – growth poles). Growth centres are expected to extend their growth impulses to the neighbouring areas, in a wave-like fashion, but this effect is not always pronounced and not strong enough to alleviate the differences in development.

Financial and physical capital retain their role of important factors of development, but – more often than not – it is the human capital that serves as the main impulse of development processes, on par with the role of central cities (Lucas, 1988). Concentration of human resources in central cities only adds to the growing disproportions in the region. In modern terms, reasons for observed disproportions in regional development are of varied nature and related, among other things, to: regional wealth, engagement, interregional relations, and intraregional determinants. Disproportions may also result in positive changes in the structure and functional arrangement of a region, with a centre of intensive development delegating parts of its activities and growth impulses to other areas; this offers the opportunity for more effective programming of regional socio-economic development as a method to ensure a long-term effect of alleviating the disproportions between central and peripheral areas.

In modern settings, programming of policies of regional socio-economic development is focused on managing the relations between endo- and exogenous factors of development to produce added value and cohesiveness to the region. Endogenous resources represent the entire set of resources available locally. These may serve to determine the direction and pace of socio-economic development in the region. Endogenous resources constitute the individuality and competitive advantage of the region, an important quality from the viewpoint of long-term capital involvement in regional development, as emphasized, among others, by B. Nooteboom (2005) and J. Grzeszczak (1999). The endogenous growth is supported by the effects of knowledge-based economy (Solow, 1956) and creativity (Florida, 2002), further accentuating the role of human resources in the design of regional development strategies. In view of the above, it may be concluded that, irrespective of the value of skills and quality of human capital in development management, the excessive concentration of such capital in central cities may stimulate and propagate the disproportions in development between centres and peripheries.

Concentration of development in selected areas is also associated with the emergence of new industrial sectors (e.g. hi-tech) and relocation of certain services to areas other than the historical centres of traditional industrial development, further accentuating the gap between rich areas and those of lesser affluence (Korenik & Korenik, 2017). The non-uniformity of supply in endogenous resources, coupled with the lack of skill in their successful management, results in polarization in spatial development of the region. The operation of many traditional sectors, including

non-competitive sectors on state support, only aggravates the development disproportions and imbalances in selected areas. The resulting polarization of space forms a stratified deposit of problems and challenges, requiring continuous control and maintenance, and burdened with constant efforts to reinstate some degree of cohesion.

Determinants of the variance in socio-economic development of the Lower Silesian Voivodeship and new challenges in the economic development of post-mining areas

The clarifications (theses) formulated above may be directly related to the progress of socio-economic development of the Lower Silesia region of Poland. Polarization of the region's socio-economic development is produced by imbalance of supply in endogenous factors, inopportune structure of the human capital, differences in access to business services and financing limitations (including investment) – observed particularly in post-mining areas of the region. While the Lower Silesia region is one of Poland's leading regions in terms of socio-economic development, it is also one of the top regions burdened with significant development disproportions. Aside from areas of rapid growth and development, the region is also characterized by large areas of major neglect (often in post-industrial and post-mining locations), some of them in urgent need of development initiatives, or even stagnant (Rynio & Zakrzewska-Półtorak, 2018).

Development activities are concentrated in the region's central city of Wrocław and areas in its immediate vicinity (particularly the Wrocław land district), followed by the Legnica-Głogów Copper District with its mining industry (copper and other deposits) consisting of the Legnica Municipal Area and the neighbouring land districts of Legnica, Głogów, Lubin, and Polkowice. Areas with lower level and pace of development are located mostly in the southern part of the region; aside from peripheral areas (mountains, state borders), these include post-industrial districts (such as Wałbrzych Municipality, districts of Wałbrzych, Lwówek, Kamienna Góra, Dzierżoniów, Kłodzko) and the peripheral Góra district in the northern part of the region.

While sources of advantage for the Lower Silesia region varied over time, they were in large part associated with industry. The most difficult challenge for the region was the departure from coal. For decades, the Lower Silesia Coal Basin (LSCB) was a major player, with coal annual output of 5.5 bln tonnes (early 20th century figures), the LSCB employment figures reached 29 thousand; later, due to technical difficulties (geological conditions) and investment deferrals, both figures dropped significantly and resulted in the initiation of a liquidation procedure in 1990 (Lasak & Zemska, 2022). The design of the liquidation process was based on poor strategic choices and proceeded without adequate financial support.

The post-mining areas examined in the study were related in particular to hard coal mining. The exploitation of hard coal deposits in the LSCB concerned resources in the Polish-Czech border area. The main area of exploitation can be roughly limited by the cities: Kudowa-Zdrój – Nowa Ruda – Wałbrzych – Kamienna Góra – Żacléř – Hronov, where coal was mined from the end of the Middle Ages to the beginning of the 21st century (Lesiw-Głowacka, Skoczéń, Molecki, Kasprzak & Krahl, 2021). This applies to the Wałbrzych subregion and the Kamienna Góra district, which is located in the Jelenia Góra subregion, but it is functionally connected with the Wałbrzych subregion. The unfinished transformation of the 1990s of the subregion meant that many post-mining areas in this

area still require revitalization, and the liquidation of mines caused problems in the development of this area. At the end of the 20th century, mining was stopped. The mines in Nowa Ruda, Wałbrzych and Boguszów-Gorce were closed (the coal mines: Nowa Ruda, Thorez, Julia, Wałbrzych, Chrobry, Victoria, anthracite mining and processing plant in Wałbrzych) (Lesiw-Głowacka et al., 2021). In the long-term perspective, the monoindustrial structure based on coal-mining served to aggravate the development disproportions in the region. The dominion of the mining industry had the effect of solidifying the negative patterns – economic, social, technical, energy management, and environmental. The path of departure from monoindustrial culture selected for the region was varied and based on a number of stimulation instruments for the development of subregions, including the formation of Special Economic Zones (Kamiennogórska SEZ, Legnicka SEZ and Wałbrzyska SEZ), to varied effects (Hajduga, 2011). At present, the Lower Silesia region (and the Wałbrzych subregion in particular) requires a series of correlated activities to effectively support further transformations to satisfy the demands of a developed economy and to meet the objectives of the European Green Deal.

From the viewpoint of contemporary economic challenges, pro-development activities of the Lower Silesia region should concentrate, most of all, on providing the most suitable conditions for ensuring sustainable, cohesive development and fair (socially just) transformation. With the latter, the most important issues to be addressed include social aspects (energy poverty, poor energy management in households, low awareness of climate changes), economic backwardness (excessive energy consumption in industry, coal dependency, high cost of low-emission and energy-saving adjustments, low innovation of local businesses) as well as spatial and environmental problems and demands (transport emission, waste management, reclamation of areas degraded or otherwise directly affected by mining operations) (Lasak & Zemska, 2021).

In the context of social just transition in the region, the most urgent needs for decisive action are concentrated in Wałbrzych subregion and its functional extension of Kamienna Góra district. The latter is regarded part of the Wałbrzych subregion based on its strong associations with LSCB functional structures, and despite its formal attachment to the Jelenia Góra subregion. The process of just transition is designed to focus on three pillars (economic, social, and spatial/environmental), with energy aspects serving as a common denominator. Transformation priorities for the Wałbrzych subregion expressed by year 2030 goals include decarbonisation and thermo-modernization of households and businesses as well as differentiation of business activities in relation to the use of green and competitive technologies (in accordance with the objectives expressed in the European Green Deal) (Lasak & Zemska, 2022). Any forms of involvement related to social justice should emphasize and stimulate innovation, entrepreneurship and job creation, along with climate neutrality, zero-emission economy and transport, modern RES (renewable energy source) heating solutions, decarbonisation of households, and provision energy cooperatives to ensure local energy independence (Lasak & Zemska, 2022).

Animation of post-mining areas in the Lower Silesian Voivodeship – development of business services and increased investment

The study was conducted in the Wałbrzych subregion (6 districts, including Wałbrzych as a city with district rights) and in the Kamienna Góra district and involved examination of the data against statistical reports available for the region and for Poland. The fundamental timeframe covers the years 2009-2020 (with inclusion of partial data for the first half of 2021). Analyses of spatial organization and arrangement of business entities (overall, and separately for companies of the business services sector) were performed using the REGON registry of firms, examined by section as defined in the Polish Classification of Activities 2007 (PKD 2007), with special attention placed on section J (companies operating in the IT and communications sector) and section M (professional scientific and technical services). Analyses of investment outlays – as illustrations of investment trends – were based on: capital investment of companies per one thousand inhabitants in their productive age, for the years 2009-2020, and budgetary shares of investments in total expenditures of districts, for the years 2009-2020.

For the Wałbrzych subregion (including the Kamienna Góra district), the share of entities registered by REGON in total and in each of the sections examined in detail against regional trends was found to follow a decreasing trend; the most rapid decline was observed in the J section (Table 1). As of the day of Jul. 30 2021, the decline in total number of firms registered in the subregion compared to Dec. 31 2009 was found in excess of 2.5 p.p., with nearly 4.5 p.p. for firms in the J section, and more than 2.4 p.p. for those bearing the M classification of activities. It was also found in decline compared to general figures in Poland, and the decline in section J was also the steepest here.

Another noteworthy observation concerning the above section was that, for each of the years under examination, the share of entities from the district under study remained significantly low compared to that for the entire region. Moreover, this was followed by a consecutive decline from the year 2015 onward, evidenced both in the regional statistics and by-district analyses.

Table 1. Share of the Wałbrzych subregion (along with the Kamienna Góra district) in the number of firms registered in the REGON registry in the region, in % (Lower Silesian Voivodeship = 100)

Firms	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021*
Total	23.17	23.22	23.09	22.78	22.41	22,18	21.86	21.55	21.33	20.98	20.97	20.68	20.53
Section J	11.94	11.71	11.44	11.12	10.86	10.27	9.74	9.15	8.71	8.19	7.90	7.56	7.48
Section M	14.70	14.81	14.39	13.98	13.70	13.38	13.14	12.98	12.84	12.61	12.57	12.46	12.28

* 1st half of the year

Source: own calculation based on data from LDB (2022).

As of the day of Jun. 30 2021, the share of companies registered in sections J and M in the total number of entities was found to fluctuate between 1.43% in section J for Kłodzko district (ca. 1.5% for Ząbkowice district and less than 1.6% in Wałbrzych district) and 2.24% for Świdnica district; for comparison, in Poland, the average share was at 4.45%, in the Legnica Głogów Copper District – ca. 2%, in Wrocław and Wrocław land district (as a whole) – over 9.3% and in the Lower Silesia region – over 4.9% (Table 2). With section M, the share was between less than 5.2% for Wałbrzych district and nearly 7.3% for Świdnica district (with national average of 10.6%, ca. 10.5% for the Lower Silesia region, nearly 9% in the Legnica Głogów Copper District and ca. 15.3% in Wrocław and Wrocław land district). This only attests to the poor

representation of business service enterprises in companies formally registered in post-mining areas of the region under study.

Table 2. Share of sections J and M in the total number of entities in a territorial unit in % (as of Jun. 30, 2021)

Unit (country/voivodeship/district)	Section J	Section M
Poland	4.45	10.64
Lower Silesian Voivodeship	4.92	10.45
Legnica-Głogów Copper District	1.99	8.96
City of Wrocław and Wrocław land district	9.37	15.34
Dzierżoniów	1.76	6.61
Kamienna Góra	1.77	5.65
Kłodzko	1.43	5.38
Świdnica	2.24	7.27
Wałbrzych	1.57	5.18
Ząbkowice	1.51	5.85
City of Wałbrzych	1.94	6.62

Source: own calculation based on data from LDB (2022).

Table 3. Newly registered firms net per 10 thousand inhabitants in 2010-2020 (number of firms)

Unit (country/voivodeship/district)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2010-2020 average
Poland	42	-10	28	25	14	18	14	19	16	40	42	22.5
Lower Silesian Voivodeship	49	-12	32	37	13	21	14	26	22	27	46	24.9
City of Legnica	45	-51	34	28	5	25	-7	3	-6	44	36	14.1
Głogów	34	-26	14	-1	-1	4	-4	3	2	19	19	5.6
Legnica	37	-15	19	24	6	17	24	26	24	36	27	20.6
Lubin	33	-19	24	7	2	9	5	3	19	-11	28	9.1
Polkowice	25	-20	15	11	8	9	4	20	5	17	17	10.1
City of Wrocław	64	-1	63	56	34	48	52	63	44	7	82	46.6
Wrocław	70	44	57	56	50	36	30	51	77	91	79	58.2
Dzierżoniów	82	-1	4	11	6	2	-6	15	7	35	29	16.8
Kamienna Góra	65	-16	29	11	-11	-6	3	19	10	29	40	15.8
Kłodzko	44	-20	16	6	3	3	-5	13	13	26	25	11.2
Świdnica	44	-5	20	15	3	9	1	11	9	26	29	14.7
Wałbrzych	41	-30	21	19	0	1	6	43	3	14	21	12.6
Ząbkowice	38	-19	15	71	7	11	12	17	9	25	27	19.5
City of Wałbrzych	N/A	N/A	N/A	12	-2	1	-7	-2	-29	22	16	1.3 ^a

a – an average for 2013-2020

Source: own calculation based on data from LDB (2022).

In the next stage, dynamics of changes was studied based on analyses of newly registered firms (net per 10 thousand inhabitants, i.e. without regard for their classification) (Table 3). Significant fluctuations were observed in each year, related mainly to business cycle trends, both for the analysed subregion and for Poland and the Lower Silesia region. The year 2011 proved the most adverse, with figures in the negative range. For all the post-mining districts, the average for 2010-2020 was well below the average for Poland and for the entire region, with the lowest scores registered for the city of Wałbrzych (based on analyses of 2013-2020). It is worth noting that the results for analysed post-mining areas – in most cases – were close or better compared to the units of the Legnica Głogów Copper District, and much worse compared to Wrocław and Wrocław land district.

In the analysed districts, investment expenditures per one thousand inhabitants in their productive age (average for 2009-2020) were decidedly below regional average, and near the national average, with only the Świdnica district reaching that value (Table 4). Expenditures in excess of those in Poland and in the region were only found for city of Wałbrzych, but these were assessed over the period of 2013-2020 (data accessible from the moment the district rights were reinstated). Comparisons of the same timeframe for Poland and for the Lower Silesia region suggest that the level of expenditures was close to the region's average and in excess of that for Poland. The significantly higher average investment expenditure took place in districts: Polkowice, Wrocław land and Głogów. At the same time, it may be worth noting that, compared with the end of 2009, the closing of 2020 brought the steepest increase for the district of Kamienna Góra. Figures above the national average were also found for the Dzierżoniów district.

Table 4. Investment expenditures per one thousand inhabitants in their productive age in 2009-2020 (in entities employing more than 9 employees)

Unit (country/voivodeship/district)	Increase in 2020 compared to 2009 (2009=100)	Average for 2009-2020 (in thous zloty)
Poland	167.3	6345.18
Lower Silesian Voivodeship	235.3	8831.18
City of Legnica	172.3	7424.52
Głogów	187.8	14810.37
Legnica	132.2	6352.42
Lubin	217.9	9116.19
Polkowice	220.1	35391.41
City of Wrocław	170.7	10371.01
Wrocław	352.1	24198.21
Dzierżoniów	286.2	2886.86
Kamienna Góra	310.5	2733.66
Kłodzko	229.0	2441.49
Świdnica	154.9	6205.38
Wałbrzych	153.4 ^a	1907.56 ^b
Ząbkowice	195.4	2360.53
City of Wałbrzych	198.3 ^a	10431.08 ^b

a – an increase in 2020 compared to 2013

b – an average for 2013-2020

Source: own calculation based on data from LDB (2022).

The average share of investment in total budgetary expenditure of municipalities and cities with district status in 2009-2020 was in excess of the national and regional average only for Wałbrzych municipality, Świdnica district, and Wałbrzych district (with the latter compared against the average expenses for the period of 2013-2020) (Table 5). The highest (outstanding) average share was that of Wrocław land district, over 26%. It is worth noting that the average share of investments in budgetary expenses was found to follow a turbulent pattern of fluctuations, both for the areas under examination and in regional and national dimension. These were caused by a number of factors, including the availability of EU support, phases of the business cycle or the shape of economic reforms, to name a few.

Table 5. Share of investment expenditures in total expenditures of budgets of municipalities and cities with district status, in %, an average for 2009-2020

Unit (country/voivodeship/district)	Average share
Poland	17.3
Lower Silesian Voivodeship	17.6
City of Legnica	12.3
Głogów	17.7
Legnica	15.4
Lubin	14.1
Polkowice	19.3
City of Wrocław	17.9
Wrocław	26.6
Dzierżoniów	15.1
Kamienna Góra	15.5
Kłodzko	16.4
Świdnica	18.5
Wałbrzych	17.7 ^a
Ząbkowice	15.4
City of Wałbrzych	21.1

a – an average for 2013-2020

Source: own calculation based on data from LDB (2022).

On the fundament of the analytical evaluations of this study, it may also be useful to reference the level of unemployment, which was relatively high over the studied period and spanned between 5.9% in Wałbrzych, through 6.8% in Dzierżoniów and Świdnica districts, nearly 8% in Kamienna Góra district, ca. 10% in Ząbkowice district, up to nearly 15% in the Wałbrzych land district (as of Dec. 31 2020) (DWUP, 2022).

Subregional centers in which the concentration of new functions should take place are, for example the city and towns: Wałbrzych, Świdnica, Kamienna Góra, Dzierżoniów, Kłodzko, Ząbkowice Śląskie. These centers need a new approach to development and the role they should play in Lower Silesian Voivodeship. The Just Transition has to support this process. The development paths of the local centers in the region should focus on: innovation, activating entrepreneurship and improving the quality of life, especially in relation to environmental protection and climate neutrality.

Conclusions and recommendations

Change is a crucial characteristics of development processes in modern times and represents a response to the increasingly turbulent economic environment. At the same time, regions display wide disproportions in socio-economic development in response to a number of other impulses and factors. The most important challenge in programming local policies of socio-economic development is to secure cohesive development of all areas. This task requires proper determination of the bundle of endogenous resources that constitute the inimitable advantage for the region, examination of their spatial relations, evaluation of the potential for cohesive development, and introduce corrections necessary to establish effective and balanced mechanisms of such development. Disproportions in socio-economic development may have a degrading effect on neighbouring areas or the region as a whole if the accumulation of development challenges leads to drastic imbalances and results in further relative advantage of growth centres or to depreciation of central resources by the economic 'burden' of less developed areas in their vicinity. Another possible scenario involves perception of disproportions as a factor motivating the development of backward areas, as postulated and supported by the EU Cohesion Policy.

The findings of this study suggest that post-mining areas were the ones to suffer the most in all of the examined categories, and was decidedly below the regional or national average. These areas show no practical trace of any socio-economic transformation or restructuring, despite the fairly dynamic growth of the region as a whole. Intraregional disproportions are still manifested and significant, thus hampering the effort. Post-mining areas still require sizeable support. The core-periphery system is rooted in the structure of the region, with the city of Wrocław as its core, supported by other strong territorial units in the region (centres). The post-mining areas are among the peripheral units. Supporting and renewing local and subregional centres would be a way to relieve the existing ones in the region. The new activity (based on endogenous resources and created functions of local centres) should constitute the economic base of the region. In the new system, the central functions would remain in the main centres of the region, and the specialist functions would be associated with subregional and local centres. In the post-mining areas, the introduction of new functions and the use of endogenous resources supports their development, while reducing their dependence on the core. An expression of the creation of the economic base in subregional/local centres is the size of the share of both companies operating in the IT and communications sector and institutions providing professional scientific and technical services and their activities as well as the investment outlays in these places.

The main purpose of activities designed in Territorial Just Transition Plan for Wałbrzych subregion is expressed as follows: 'solidarity in our strife for secure and stable socio-economic development based on climate neutrality, learning, and life quality improvement' (Lasak & Zemska, 2021). This objective remains crucial, and Just Transition offers instruments of support for this purpose. It is important to ensure proper animation of the subregion based on development of entrepreneurship, particularly in the sector of business services, and place adequate emphasis on investment expenditures of parishes and enterprises. These activities represent the core of pro-developmental approach, offering potential for the subregion to draw level with other areas and to reduce the extent of intraregional disproportions in socio-economic development in the Lower Silesia region of Poland.

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