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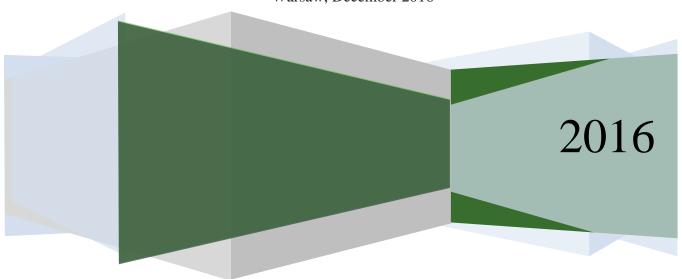


## REGIONAL INVESTMENT ATTRACTIVENESS 2016

### **Lower Silesian Voivodship**

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#### INTRODUCTION

The report has been prepared to order of the Polish Information and Foreign Investment Agency and is the next edition of the regional investment attractiveness reports. The reports have been published since 2008. They are the result of scientific research conducted since 2002 under the supervision of prof. H. Godlewska-Majkowska, Ph.D., full professor in the Warsaw School of Economics, in the Institute of Enterprise, Collegium of Business Administration of the Warsaw School of Economics. All the authors are the core members of a team that develops methodology of calculating regional investment attractiveness.

The report consists of a few parts. The first part includes the synthetic presentation of the voivodship's economy, including social-economic potential of the voivodship and the level of economic development as well as economy structure. The most important socio-economic data, including information on investment attractiveness, is presented in a table. The first part of the report also presents the position of the voivodship compared to other Polish and European Union regions, paying special attention to the most important industries and high potential sectors.

The second part of the report presents internal diversification of voivodship's investment attractiveness at the levels of counties (Polish: *powiat*) and communes (Polish: *gmina*). The results of the investment attractiveness calculations for the Lower Silesian voivodship's territorial units can be compared to the other territorial units from all of the Polish regions as the calculations have been made for all of them.

In the third part of the report the main business environment institutions in the voivodship are presented, taking into consideration kinds of support which they offer to investors. This part also includes information on location of the Special Economic Zones (SEZs) in the voivodship and information on the results of their activities.

The report is completed with the Appendix including tables with comparisons of investment attractiveness indices for voivodship's counties and communes. There is also some more detailed information in the Appendix concerning effects of functioning of the Special Economic Zones in the region.

There are two approaches to the investment attractiveness presented in this work. One of them is **potential investment attractiveness**, defined as a set of regional location advantages that influence achieving investors' goals (such as costs of running a business, sales revenues, net return on investment and investment's competitiveness).

Another approach is **real investment attractiveness**, defined as region's ability to create investor's satisfaction and influence absorption of financial and physical capital in form of investments. They can be measured by effectiveness of capital spending.<sup>1</sup>

Potential investment attractiveness indices in their simplified version (PAI1) measure the location-specific advantages of regions. They are calculated for territorial units of various levels of statistical division of the country (communes – Polish: *gmina*, counties – Polish: *powiat*, subregions, voivodships/regions). These indices refer to the whole national economy and to the selected sections: C – manufacturing industry, G – trade and repair, I – accommodation and catering, M – professional, scientific and technical services. These sections are the core of the national economy.

Besides, some indices are calculated only for the voivodships, on the basis of characteristics available only on the regional or macro-regional level which allows evaluating their investment attractiveness in a much broader context. These are PAI2 indices, which are calculated both from a general point of view and with reference to the above mentioned sections of the economy.

What is more, ranks of real investment attractiveness, which relates to the inflow of capital (in the form of investments) and the effects of investments considered from a point of view of productivity and returns on the outlays made, are used in this report. Real investment attractiveness can be calculated for voivodships, based on the statistical data available on the regional level.

The measurements in use are subject to annual review thanks to consulting them with foreign investor assistance institutions and direct contact to territorial self-government units as well as organizations of entrepreneurs. A description of methodological approach to measuring investment attractiveness of Polish regions, counties and communes can be found online on the website of **the Institute of Enterprise at the Warsaw School of Economics** (<a href="http://kolegia.sgh.waw.pl/pl/KNoP/struktura/IP/struktura/ZOB/">http://kolegia.sgh.waw.pl/pl/KNoP/struktura/IP/struktura/ZOB/</a>), as well as in numerous scientific publications and expert opinions.

Dimensions, M. Weresa (ed.), Oficyna Wydawnicza SGH, Warsaw 2013, p. 299-316.

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<sup>&</sup>lt;sup>1</sup> More information on this topic can be found in: *Atrakcyjność inwestycyjna regionów Polski jako źródło przedsiębiorczych przewag konkurencyjnych*, H. Godlewska-Majkowska (ed.), Studia i Analizy Instytutu Przedsiębiorstwa, Oficyna Wydawnicza SGH, Warszawa 2012; H. Godlewska-Majkowska, *Polish regions and their investment attractiveness in the EU*, in: POLAND Competitiveness Report 2013. National and Regional

# 1. THE PROFILE OF REGIONAL ECONOMY OF LOWER SILESIAN (DOLNOŚLĄSKIE) VOIVODSHIP

**Lower Silesian (dolnośląskie) voivodship** is one of the three most attractive regions of Poland from investors' point of view.

#### Its advantages are:

- very high level of economic development, significantly exceeding the national average,
- highly beneficial geopolitical location by virtue of the proximity of Germany and the Czech Republic as well as an attractive location in view of sales markets of agglomerations of Prague, Berlin and Warsaw,
- very well-developed transport infrastructure (roads, railways, waterways, airways) and communications/tele-computer infrastructure:
  - o convenient road connections: A4 highway, international roads: E40, E36, E65 and E67,
  - o an expanded system of railways: international railways E30 and E59,
  - o a well-developed network of water transport (the Oder system enables to ship by barges from Lower Silesia to the port complex of Szczecin-Świnoujście and through the Oder-Spree and Oder-Havel channels. Lower Silesia is connected to the system of inland waterways of Western Europe),
  - Copernicus Airport Wrocław in Wrocław-Strachowice offers international air connections with Frankfurt upon Main, Munich, London, Copenhagen, Milan, Dublin, Nottingham, Dortmund, Shannon, Glasgow, Liverpool, Stockholm, Cork and Rome,
  - o a very good access to the Internet (in this respect the voivodship belongs to the highest rated regions in Poland),
- the presence of many higher education institutions among which there are many renowned Polish scientific establishments,
- rich cultural heritage (numerous monuments among which UNESCO World Heritage Sites: The Centennial Hall in Wrocław and the Churches of Peace in Świdnica and Jawor should be noted) and natural conditions (The Sudetes, Sudetian Foreland) set foundations for the development of tourist services,
- a high level of the development of industry which is reflected in the region's specialization in the modern kinds of industrial production (the manufacture of: means of transport, pharmaceuticals, consumer electronics, household appliances/ white and brown goods),
- highly developed agriculture, in particular plant production which is a foundation of the development of food processing,
- numerous locations of special economic zones offering favourable conditions of conducting a business to investors.

The general characteristics of the Lower Silesian voivodship are presented in Table 1.

Table 1. General characteristics of the economy of Lower Silesian voivodship

Feature	Lower Silesian voivodship	Poland	Share [%]			
Ma	rket Potential					
GDP per capita 2014 (PLN/person)	50 031	44 686	-			
Population (persons) on 31 December 2015	2 904 207	38 437 239	7.6%			
Human Resources Potential						
Higher education institutions graduates (persons) in 2015	34 717	394 987	8.8%			
Secondary school graduates (persons) in 2015	18 365	284 187	6.5%			
Number of employed persons in 2015 (in thousands)	1 132	16 084	7.0%			
Structure of employed persons in 2014	industrial se	sector 4.8% ector 35.2% ector 60%	11.5% 30.5% 58.0%			
Investment outlays and capital of companion	es with foreign capit	al participation in th	ne voivodship			
Investment outlays (PLN mln) in 2014	5 446.4	78 823.1	6.9%			
Capital of companies (PLN mln) in 2014	16 587.7	215 594.8	7.7%			
Special Economic Z	ones (SEZs) in the v	oivodship*				
<ul> <li>Kamienna Góra SEZ</li> <li>Legnica SEZ</li> <li>Tarnobrzeg SEZ</li> <li>Wałbrzych SEZ</li> <li>Distinguishing investment attractive</li> </ul>	ness ratings PAI 2 :	and RAI (class A. B	and C)			
National economy class A Capital-intensive industry class A Labour-intensive industry class A Trade and repair class A Accommodation and catering class I Professional, scientific and technical class A						
Real investment attractiveness RAI	Indu Trad Acco Profi class	National economy class B Industry class A Trade and repair class B Accommodation and catering class A Professional, scientific and technical services class B				
Counties and communes distinguished according to the Potential Attractiveness Index for the national economy (PAI1_GN)						
Counties Class Lubin, city of Jelenia Gó		ty of Wrocław, Polko	owice, Wrocław			

	Class B	Głogów, Kamienna Góra, Świdnica, Zgorzelec
Communes	Class	Bielawa (u), Bogatynia (u-r), Boguszów-Gorce (u), Bolesławiec (u), Bolesławiec (r),
	A	Brzeg Dolny (u-r), Chojnów (u), Czernica (r), Długołęka (r), Duszniki-Zdrój (u),
		Dzierżoniów (u), Głogów (u), Jawor (u), Jedlina-Zdrój (u), Jelenia Góra (u),
		Jerzmanowa (r), Kamienna Góra (u), Karpacz (u), Kąty Wrocławskie (u-r), Kłodzko (u),
		Kobierzyce (r), Kowary (u), Kudowa-Zdrój (u), Kunice (r), Legnica (u), Lubań (u),
		Lubawka (u-r), Lubin (u), Lubin (r), Mściwojów (r), Nowa Ruda (u),
		Oborniki Śląskie (u-r), Oleśnica (u), Oława (u), Piława Górna (u), Polanica-Zdrój (u),
		Polkowice (u-r), Rudna (r), Siechnice (u-r), Strzegom (u-r), Strzelin (u-r),
		Szczawno-Zdrój (u), Świdnica (u), Świebodzice (u), Świeradów-Zdrój (u),
		Wałbrzych (u), Warta Bolesławiecka (r), Wołów (u-r), Wrocław (u), Zawidów (u),
		Ząbkowice Śląskie (u-r), Zgorzelec (u), Złotoryja (u), Żarów (u-r)
	Class	Dobromierz (r), Gaworzyce (r), Góra (u-r), Grębocice (r), Jelcz-Laskowice (u-r), Jeżów
	В	Sudecki (r), Krośnice (r), Lądek-Zdrój (u-r), Legnickie Pole (r), Miękinia (r), Piechowice
		(u), Pieńsk (u-r), Podgórzyn (r), Prochowice (u-r), Radków (u-r), Radwanice (r),
		Siekierczyn (r), Sobótka (u-r), Stronie Śląskie (u-r), Syców (u-r), Szklarska Poręba (u),
		Środa Śląska (u-r), Trzebnica (u-r), Wisznia Mała (r), Zgorzelec (r), Żukowice (r)

Additional information: (u) – urban commune, (r) – rural commune, (u-r) – urban-rural commune.

PAI – potential investment attractiveness, RAI – real investment attractiveness

Source: Authors' own calculations.

The number of inhabitants of the voivodship amounts to 2 904 207 (as of 2015), which is 7.6% of the population of Poland. The age structure in the voivodship in 2015 was as follows:16.8% of the population at pre-productive age, 62.8% at productive age and 20.4% at post-productive age (for Poland it was 18%, 62% and 20% respectively).

The main potential for human capital creation in the voivodship lies in 36 higher education institutions in which there are 133 000 students studying, which makes up 9.5% of all students in Poland.

According to a report prepared by the Committee for Evaluation of Research (KEJNA) for the Ministry of Science and Higher Education in Lower Silesia 4 faculties universities received the highest scientific category A +, they are: Faculty of Microsystem Electronics and Photonics, Wroclaw University of Technology, Faculty of History and Pedagogy, as well as Faculty of Biotechnology of the University of Wroclaw, as well as University of Social Sciences and Humanities, Faculty of Social Psychology in Wroclaw; 24 faculties received the category - A; 30 faculties have received a category - B; and 4 faculties category - C. It is also worth mentioning that 23 colleges had not received any category awarded by KEJNA. Detailed information can be found in Appendix (- see table 5).

Moreover, 10% of the secondary school students in the voivodship attend vocational schools and 30.7% attend technical schools.

<sup>\*</sup> For more information see Table 3 in the Appendix.

The registered unemployment rate in the voivodship amounted to 7.5% in September 2016, compared to 8.5% <sup>2</sup> in Poland. The average monthly gross wages and salaries in enterprises sector in the first half-year of 2016 amounted to PLN 4 186.55, which is 108% of the average for Poland.

In 2014 Lower Silesia voivodship made a contribution of 8.5% to the GDP of Poland. Calculated per capita, it amounted to PLN 50 031 with the average for Poland PLN 44 686. With this result the voivodship takes the 2nd place in the country. The GDP growth rate in the voivodship in the years 2004-2014 amounted to 204% while the average for Poland amounted to 181%.

In comparison with the whole country the structure of employment in the voivodship is characterised by share of the service sector at the level of 60% whereas a share of the agricultural and industrial sectors are respectively 4.8% and 35.2% (Central Statistical Office, Local Data Bank 2016).

In the structure of voivodship's industry important role is played by: manufacture of motor vehicles, trailers and semi-trailers (21% of sold production of the whole voivodship's industry at the end of 2015), manufacture of computers, electronic and optical products (9%), as well as manufacture of rubber and plastic products (8%), metal products (6%) and food products (5%).

High development potential of the voivodship and high level of industrialization made Lower Silesian voivodship the main manufacturer of motor vehicles and vehicle parts in the country (18% of the country's sold production in 2015), paper and paper products (10%) and chemicals and chemical products (7%).

The voivodship's position is especially strong among the voivodships specialized in manufacture of computers, electronic and optical products (28% of the country's sold production). It also distinguishes itself as a region that manufactures textiles (24%), electric appliances (12%), machinery and appliances (12%), rubber and plastic products (11%), paper and paper products (10%), metal products (9%).<sup>3</sup>

The information on sectors that are found as strategic by the region's authorities can be important for the investors. The voivodship's strategic sectors mentioned in the strategy of regional development include above all: mining and processing of copper ore, lignite, extraction of raw rock minerals, the production of textiles, manufacture of food products and beverages, production of wood products, the production of chemical products, manufacture of machinery and electrical equipment, the production of electrical machinery

<sup>&</sup>lt;sup>2</sup> The unemployed and the unemployment rate according to regions, sub-regions and counties (end of October 2016). Central Statistical Office.

<sup>&</sup>lt;sup>3</sup> Calculations based on Statistic Bulletin of the Lower Silesian Voivodship from the 1st quarter of 2016 and Statistical Bulletin, 1st quarter of 2016, www.stat.gov.pl (26.10.2016).

and apparatus, manufacture of glass and ceramic and production of parts and components of motor vehicles.

For the entrepreneurs willing to invest in Lower Silesian voivodship the list of the high potential sectors may be a good hint. The list was prepared by the Polish Information and Foreign Investment Agency in cooperation with the Lower Silesian voivodship self-government, based on the observations on investments inflows to the voivodship. The high potential sectors on the list include automotive, electric machines, high-tech and BPO sectors.

Investments of this kind can be located on preferential conditions in the specially prepared places in the Special Economic Zones: Kamienna Góra SEZ, Legnica SEZ, Tarnobrzeg SEZ and Wałbrzych SEZ in the following subzones:

- Kamienna Góra SEZ, subzones: Bolków (u-r), Gryfów Śląski (u-r), Janowice Wielkie (r), Jawor (u), Jelenia Góra (u), Kamienna Góra (u), Kamienna Góra (r), Lubań (u), Lubań (r), Lubawka (u-r), Mirsk (u-r), Nowogrodziec (u-r), Piechowice (u), Prusice (u-r), Zgorzelec (u), Żmigród (u-r),
- Legnica SEZ, subzones: Chojnów (u), Chojnów (r), Głogów (u), Gromadka (r), Jawor (u), Kostomłoty (r), Legnica (u), Legnickie Pole (r), Lubin (u), Miękinia (r), Męcinka (u-r), Miłkowice (r), Polkowice (u-r), Prochowice (u-r), Przemków (u-r), Środa Śląska (u-r), Złotoryja (u), Złotoryja (u),
- Tarnobrzeg SEZ, subzone: Kobierzyce (r),
- Wałbrzych SEZ, subzones: Bielawa (u), Bolesławiec (u), Brzeg Dolny (u-r), Bystrzyca Kłodzka (u-r), Długołęka (r), Dzierżoniów (u), Góra (u-r), Jelcz-Laskowice (u-r), Kłodzko (u), Kłodzko (r), Kobierzyce (r), Kudowa-Zdrój (u), Nowa Ruda (u), Nowa Ruda (r), Oleśnica (u), Oława (u), Oława (r), Strzegom (u-r), Strzelin (u-r), Syców (u-r), Świdnica (u), Świdnica (r), Świebodzice (u), Twardogóra (u-r), Wałbrzych (u), Wiązów (u-r), Wołów (u-r), Wrocław (u), Ząbkowice Śląskie (u-r), Żarów (u-r).

In the all above-mentioned locations investors can benefit from tax allowances amounting to 25% - 45%, depending on the enterprise size – more information can be found on <a href="http://www.paiz.gov.pl/investment\_support/investment\_incentives\_in\_SEZ">http://www.paiz.gov.pl/investment\_support/investment\_incentives\_in\_SEZ</a>.

# 2. REGION'S RANK IN TERMS OF INVESTMENT ATTRACTIVENESS IN POLAND AND IN THE EUROPEAN UNION

Lower Silesian voivodship is characterised by a very high level of overall investment attractiveness, which is indicated by the high rank (class A) according to the main potential investment attractiveness indices calculated for the national economy (class B in terms of actual investment attractiveness), as well as for the activities of professional scientific

and technical, trade and industry and repairs on the basis of specially prepared indicators for the individual sections of the national economy. It also takes a very high position, when it comes to foreign investment inflows to Poland. In 2013 Lower Silesian region took the 3<sup>rd</sup> place in Poland in terms of accumulated share capital in the companies 8.3% with foreign capital participation (an share of its total value in all voivodships).

Lower Silesia is also characterised by a high increase in its competitiveness in terms of foreign direct investments, which is reflected in the fact that in the years 2003-2013 its market share measured with the value of foreign capital in the above mentioned companies rose from 5.3% to 8.6%.

Based on the methodology prepared by the team of the Enterprise Institute while conducting statutory research in Collegium of Business Administration at the Warsaw School of Economics, calculations of European regions' investment attractiveness have been made for three years. They are based on measurements of attractiveness of human resources, market and innovativeness.<sup>4</sup> However, due to different methodology of research and variables taken into account for regions in Poland only and regions in the EU, the results of research are incomparable. This is because not all data are available for all the regions, e.g. data on infrastructure.

Based on the above-mentioned indices it can be stated that the voivodship is characterized by a relatively low class of investment attractiveness (class D), compared to the EU regions, taking 115<sup>th</sup> place of 273 regions, for whom the indices were calculated. Compared to last year's survey voivodeship recorded the largest improvement among Polish voivodships - about 1732 places and was classified as second among the Polish voivodships. Lower Silesia voivodship has a competitive advantage, when it comes to human capital, ranked class A, at the 17<sup>th</sup> place among all the EU regions.

It is worth mentioning that the voivodship is more attractive than EU regions such as:

- in Austria: Burgenland, Niederösterreich, Vorarlberg;
- **in Belgium:** Prov. Limburg, Prov. West-Vlaanderen, Prov. Hainaut, Prov. Liège, Prov. Luxembourg, Prov. Namur;
- in Great Britain: Tees Valley and Durham, Cumbria, Lancashire, East Yorkshire and Northern Lincolnshire, Lincolnshire, Shropshire and Staffordshire, Dorset and Somerset, Cornwall and Isles of Scilly, Devon, West Wales and The Valleys, Highlands and Islands, Northern Ireland;

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<sup>&</sup>lt;sup>4</sup> More on this topic: *Atrakcyjność inwestycyjna regionów Polski na tle Unii Europejskiej*, edited by H. Godlewska-Majkowska, Oficyna Wydawnicza SGH, Warsaw 2013 and <a href="http://kolegia.sgh.waw.pl/pl/KNoP/struktura/IP/struktura/ZOB/">http://kolegia.sgh.waw.pl/pl/KNoP/struktura/IP/struktura/ZOB/</a>

- **in Bulgaria:** Severozapaden, Severen tsentralen, Severoiztochen, Yugoiztochen, Yuzhen tsentralen;
- in Czech Republic: Jihozápad, Severozápad, Severovýchod, Strední Morava, Moravskoslezsko;
- in Denmark: Sjælland, Syddanmark;
- in France: Champagne-Ardenne, Picardie, Haute-Normandie, Centre, Basse-Normandie, Bourgogne, Nord Pas-de-Calais, Lorraine, Franche-Comté, Pays de la Loire, Poitou-Charentes, Aquitaine, Limousin, Auvergne, Languedoc-Roussillon, Guadeloupe, Martinique, Guyane, Réunion;
- in Greece: Anatoliki Makedonia Thraki, Kentriki Makedonia, Dytiki Makedonia, Thessalia, Ipeiros, Ionia Nisia, Dytiki Ellada, Sterea Ellada, Peloponnisos, Voreio Aigaio, Notio Aigaio, Kriti;
- in Spain: Galicia, Principado de Asturias, Cantabria, La Rioja, Aragón, Castilla y León, Castilla-La Mancha, Extremadura, Comunidad Valenciana, Illes Balears, Andalucía, Región de Murcia, Ciudad Autónoma de Ceuta, Ciudad Autónoma de Melilla, Canarias;
- in The Netherlands: Friesland, Drenthe, Zeeland;
- in Ireland: Border Midland and Western;
- in Lithuania: Lietuva;
- in Latvia: Latvija;
- **in Germany:** Oberfranken, Schwaben, Brandenburg, Kassel, Mecklenburg-Vorpommern, Lüneburg, Weser-Ems, Münster, Detmold, Arnsberg, Koblenz, Trier, Saarland, Chemnitz, Sachsen-Anhalt, Schleswig-Holstein, Thüringen;
- in Portugal: Norte, Algarve, Centro, Alentejo, Região Autónoma dos Açores, Região Autónoma da Madeira;
- in Romania: Nord-Vest, Centru, Nord-Est, Sud-Est, Sud Muntenia, Sud-Vest Oltenia, Vest;
- in Slovakia: Západné Slovensko, Stredné Slovensko, Východné Slovensko;
- in Slovenia: Vzhodna Slovenija;
- in Sweden: Småland med öarna, Norra Mellansverige;
- **in Hungary:** Közép-Dunántúl, Nyugat-Dunántúl, Dél-Dunántúl, Észak-Magyarország, Észak-Alföld, Dél-Alföld;
- in Italy: Piemonte, Valle d'Aosta/Vallée d'Aoste, Liguria, Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, Sardegna, Provincia Autonoma Bolzano/Bozen, Veneto, Friuli-Venezia Giulia, Toscana, Umbria, Marche.

# 3. Internal diversification of regional investment attractiveness

**Investment attractiveness** of the particular administrative units in the voivodship is the result of how investors assess conditions of conducting business that are important for them. These conditions include labour market, technical infrastructure, market and natural conditions.

**Labour market** assessment gives investor the information on opportunities to recruit the right employees for their companies and labour surpluses or shortages, which indirectly influences costs of hiring workers.

**Technical infrastructure** assessment allows entrepreneurs to plan their investments that need preparing of investment plot equipped with the basic technical elements such as water, gas and electric installations and environment protection equipment such as sewage farms.

**Social infrastructure** is rated as equipment of a place where the investment is to be located with facilities influencing citizens' life quality and human resources development. These facilities provide the citizens with access to education, healthcare, sports and recreation facilities or information technologies such as Internet.

**Market conditions** informs on market absorptive power that means the number of potential customers and indirectly on their wealth that means ability to buy goods and services. **Environment conditions** were rated as they are a basic factor influencing tourism development and citizens' life quality.

The composite assessment of all the above-mentioned elements in particular counties or communes shows spatial differentiation of investment attractiveness in the voivodship. What is more, calculations for particular sectors of economy are presented such as industry, trade and modern services connected with professional, scientific and technical activities are presented (Chart 1 and Chart 2). The distinguished locations presented on the map are marked with stars that indicate highest marks for the above-mentioned areas of conducting business.

An **orange star** means that a county or a commune was rated above average in all the sections analysed (national economy, industry, trade, tourism and professional services) and the **golden star** is the highest distinction and means that all the rated sections in a particular commune or county were ranked at the highest level.

When it comes to counties, the highest ranked city counties distinguished with a golden star were city of Jelenia Góra, city of Legnica, city of Wrocław and when it comes to land counties Polkowice and distinguished with orange stars counties such as Głogów, Kłodzko, Lubin, Oława, Świdnica, Wołów, Wrocław and Zgorzelec.

When it comes to urban communes, the highest ranked of them were:

distinguished with a golden star: Bolesławiec (u), Duszniki-Zdrój (u), Głogów (u) Jelenia Góra (u), Karpacz (u), Kłodzko (u), Legnica (u), Lubin (u), Oława (u), Polanica-Zdrój (u), Szczawno-Zdrój (u), Świdnica (u), Wałbrzych (u), Wrocław (u), Zgorzelec (u).

• distinguished with an orange star: Bielawa (u), Boguszów-Gorce (u), Chojnów (u), Jawor (u), Jedlina-Zdrój (u), Kamienna Góra (u), Kowary (u), Kudowa-Zdrój (u), Lubań (u), Oleśnica (u), Piechowice (u), Pieszyce (u), Szklarska Poręba (u), Świebodzice (u), Świeradów-Zdrój (u), Zawidów (u), Złotoryja (u).

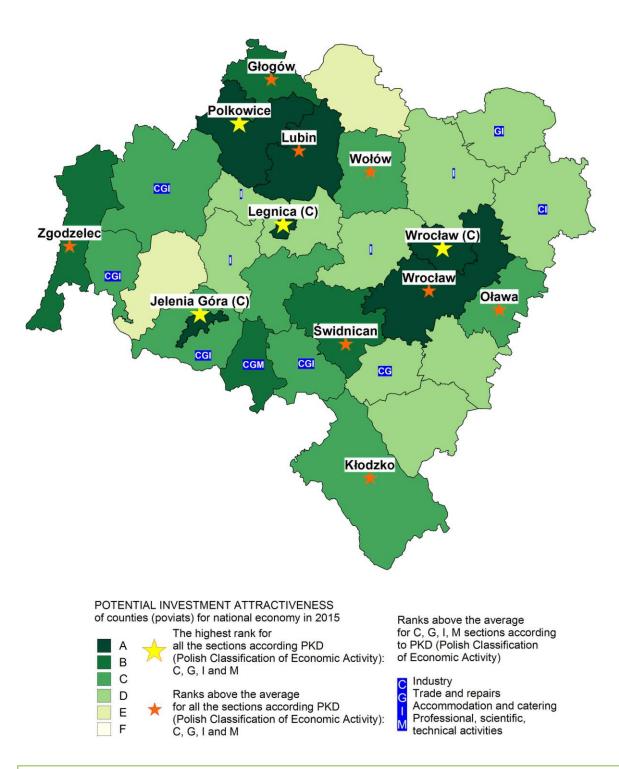
#### **Among rural communes** the highest rank communes include:

- **golden star communes:** Jerzmanowa (r), Kobierzyce (r), Lubin (r).
- orange star communes: Bolesławiec (r), Czarny Bór (r), Czernica (r), Długołęka (r), Dobromierz (r), Gaworzyce (r), Grębocice (r), Jeżów Sudecki (r), Krośnice (r), Kunice (r), Legnickie Pole (r), Mietków (r), Miękinia (r), Podgórzyn (r), Radwanice (r), Rudna (r), Siekierczyn (r), Walim (r), Warta Bolesławiecka (r), Wisznia Mała (r), Zgorzelec (r), Żukowice (r).

#### Among urban-rural communes the highest rank communes include:

- **golden star communes:** Brzeg Dolny (u-r), Kąty Wrocławskie (u-r), Polkowice (u-r) Siechnice (u-r).
- orange star communes: Bogatynia (u-r), Głuszyca (u-r), Góra (u-r), Jelcz-Laskowice (u-r), Ladek-Zdrój (u-r), Lubawka (u-r), Milicz (u-r), Oborniki Śląskie (u-r), Pieńsk (u-r), Prochowice (u-r), Radków (u-r), Sobótka (u-r), Stronie Śląskie (u-r), Strzegom (u-r), Strzelin (u-r), Syców (u-r), Ścinawa (u-r), Trzebnica (u-r), Ślaska (u-r), Twardogóra (u-r), (u-r), Zabkowice Ślaskie (u-r), Żarów (u-r).

Chart 1. Potential investment attractiveness of counties of Lower Silesian voivodship, considering the most attractive sections

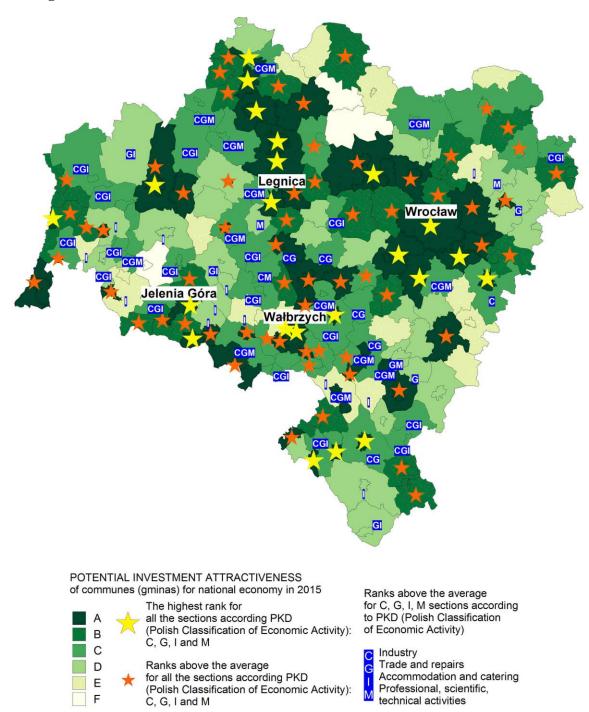


#### **Golden star counties:**

Polkowice, city of Wrocław, city of Jelenia Góra, city of Legnica

Source: Authors' own work

.Chart 2. Potential investment attractiveness of communes of Lower Silesian voivodship, considering the most attractive sections



#### **Golden star communes:**

Bolesławiec (u), Duszniki-Zdrój (u), Głogów (u), Jelenia Góra (u), Karpacz (u), Kłodzko (u), Legnica (u), Lubin (u), Oława (u), Polanica-Zdrój (u), Szczawno-Zdrój (u), Świdnica (u), Wałbrzych (u), Wrocław (u), Zgorzelec (u), Jerzmanowa (r), Kobierzyce (r), Lubin (r), Brzeg Dolny (u-r), Kąty Wrocławskie (u-r), Polkowice (u-r), Siechnice (u-r)

Source: Authors' own work

# 4. VOIVODSHIP'S INSTITUTIONAL SUPPORT FOR INVESTORS AND ENTREPRENEURS

The development of business supporting institutions in a region is a vital component of its investment attractiveness. The institutions that support entrepreneurship, pro-investment solutions, research commercialization and enterprises' innovativeness are of special importance.

#### 4.1. BUSINESS ENVIRONMENT INSTITUTIONS

Among business environment institutions (excluding R&D institutions) that influence region's economic development are: chambers of commerce, associations, business incubators, technology parks, technology transfer centres, consulting centres, financial institutions and development agencies. <sup>5</sup>

For the investors especially important is a system of regional Investor Services Centres set up by the Polish Information and Foreign Investment Agency in consultation with voivodships'marshals to ensure complex services for investors in each voivodship.

#### In Lower Silesian voivodship such centre is:

#### the Investor Assistance Centre operating within

Lower Silesian Agency for Economic Cooperation plc (*Dolnośląska Agencja Współpracy Gospodarczej S.A.*) in Wrocław www.dawg.pl



**Lower Silesian Investor Assistance Centre** is a partner of the Polish Information and Foreign Investment Agency and a one stop shop: a source of regional information that are useful for investors, legal acts, investment offers and current data on region's economy. The personnel of the centre have qualifications to offer services for investors and are working according to the standards set by the Polish Information and Foreign Direct Investment Agency, which offers it substantive help and trainings.

An important tool supporting investors are the Special Economic Zones, which are described in the further part of this report.

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<sup>&</sup>lt;sup>5</sup> Information included in this part of the report refer to the end of 2015.

Below some chosen business environment institutions are presented that operate for entrepreneurship development by supporting development of new technologies and cooperation of enterprises.

#### These institutions are among others:

### **Lower Silesian Chamber of Commerce** (*Dolnośląska Izba Gospodarcza*) (www.dig.wroc.pl)

This is an organization of economic self-government, whose members are business entities. It arranges partnerships of Polish and international partners and actively looks for their offers, organizes domestic and international trade missions, organizes and coordinates trainings, informs on EU and domestic funds. DIG organizes international meetings and provides provides information on trade fairs, and exhibitions. The Chamber organizes participation in foreign trade missions, fairs and other business event. The Chamber also helps with the documents. DIG has the Arbitration Tribunal established to resolve disputes and conduct conciliation and issue expertise.

#### Western Chamber of Commerce (Zachodnia Izba Gospodarcza) (www.zig.pl)

The chamber is and organization of economic self-government, securing and representing interests of its members, propagating ethical rules in conducting business and supporting entrepreneurship development and cooperation with self-governments and other organizations. It organizes trainings for entrepreneurs, meetings with experts. It also helps to establish contacts in Poland and abroad. The Chamber helps its members in promoting the services and products Promotion can be done, among others, by: placing ads on the site of the Chamber, placing an ad in the magazine "Horizons", placing an ad during meetings, training sessions, seminars and conferences.

#### Business Centre Club Lower Silesian Chamber (www.bcc.org.pl)

BCC is an organization of entrepreneurs and individual employers. BCC members have to represent high standards of ethical principles of the Code of trade and act in accordance with the idea of corporate social responsibility. It lobbies for development of free market economy, legal regulations and interests of Polish entrepreneurs. BCC represents interests of employers in numerous bodies lobbying or deciding on relations between employers and employees such as Trójstronna Komisja ds. Społeczno-Gospodarczych, Wojewódzkie Komisje Dialogu Społecznego, Rady Zatrudnienia (in counties and voivodships), Rada Ochrony Pracy, Fundusz Gwarantowanych Świadczeń Socjalnych, Naczelna Rada Zatrudnienia. BCC is an initiator of Dialogue Forum (communication platform for different social groups) and promotes the idea of Corporate Social Responsibility.

#### Legnica Technology Park LETIA S.A. (www.letia.pl)

The mission of the park is creating competitive and innovative region's economy by fostering entrepreneurship development. The main goals of the park are seeking for investors, entrepreneurship development and jobs creation. The park disposes of attractive investment

plots (about 30 ha of land) located near Legnica Copper Smelter, near A4 motorway and national road no. 3. Investment plots can be included to the SEZ. In addition Park offers office space for rent in two locations in Legnica, a virtual office service, as well as prototyping lab which allows companies to print objects in three dimensions (3D).

#### Wrocław Technology Park (Wrocław Park Technologiczny) (www.technologpark.pl)

The park is targeted at hi-tech enterprises, laboratories and R&D centres. The goals of the park are: seeking for investors, increasing investment attractiveness of the park and its environment, building right infrastructure for innovative entrepreneurs and supporting such entrepreneurs, commercialization of research results, research, development and implementation works in biotechnology and technical sciences, upgrading high-tech and pro-innovative management skills of business units personnel and cooperation with domestic and foreign pro-innovative units. Park offers companies training, rental of laboratory and office space and conference rooms, access to the various laboratories and prototyping facilities. Within the park is functioning cluster NUTRIBIOMED.

### Lower Silesian Innovation and Science Park (Dolnośląski Park Innowacji i Nauki) (www.dpin.pl)

The main goals of the park are: seeking for and promotion of new products and services, commercialization of innovative research results, fostering effective communication between Lower Silesian enterprises and universities, adaptation of modern technology solutions and services in enterprises. Within the park companies can locate their businesses in the park itself (companies declaring cooperation with scientific units and companies working on or introducing new market solutions), in the Technology Incubator (small and medium enterprises working on new products, services or processes) and in the Business Incubator (new-born small and medium enterprises). There is a Cluster of Innovative Manufacturing Technologies working within the park (CINNOMATECH Cluster) and the Design Center of the Lower Silesian Innovation and Science Park, aimed at disseminating knowledge about programs supporting entrepreneurship and innovation businesses in Lower Silesia and activation entrepreneurs to participate in dedicated to their programs and projects in the framework of regional programs and national, international and NFOŚiGW / WFOŚiGW.

#### 4.2. SPECIAL ECONOMIC ZONES IN THE VOIVODSHIP – EFFECTS

There are four special economic zones (SEZs) in Lower Silesian voivodship: Kamienna Góra SEZ, Legnica SEZ, Tarnobrzeg SEZ and Wałbrzych SEZ. At the end of 2015 the areas of the SEZs were parts of 25 cities and 39 communes (there are 2 zones in the area of Kobierzyce – Wałbrzych SEZ and Tarnobrzeg SEZ, 2 zones in the area of Zgorzelec – Kamienna Góra SEZ and Legnica SEZ, 2 zones in the area of Jawor – Kamienna Góra SEZ and Legnica SEZ) – see Chart 3.

The first SEZ areas were brought into life in 1997. The investment outlays made by SEZ companies operating in the communes of Lower Silesia by the end of 2015 amounted to PLN

28.8 billion, which made 26% of all investment outlays made in the Polish SEZs. In the same time the SEZ companies in the region created 62 thousand new jobs which made 20% of all jobs created in the Polish SEZs (see Table 4 in the Appendix).

The largest investments in voivodship's SEZs have been completed in Wałbrzych, Kobierzyce, Wrocław, Polkowice, Legnica, Jelcz-Laskowice, Nowogrodziec, Oława, Świdnica and Żarów and are mostly related to automotive industry. TOYOTA has invested over 3,1 billion PLN in Wałbrzych and Jelcz.

Other communes have attracted firms producing parts and semi-products used in car construction like AGC SILESIA Ltd (manufacture of glass products for the automotive industry), Autoliv Poland (manufacture of airbags), EPP Ltd. (manufacture of plastic products for household appliances industry and automotive industry), FAURECIA WAŁBRZYCH S.A. (manufacture of metal components for car seats), Mando Corporation Poland Ltd. (manufacture of vehicle parts and accessories), NSK Steering Systems Europe (Polska) Ltd. (manufacture of steering gears), Sanden Manufacturing Poland Ltd. (automotive industry), Simoldes Plasticos Polska Ltd. (rubber and plastic products, motor vehicles parts and accessories, engines parts), Sitech Ltd. (automotive industry) and Volkswagen Motor Polska Ltd. (automotive industry).

According to the plans of development for particular SEZs the voivodship intends to acquire the following kinds of investors:

- investors from machine, metal, textile and synthetic materials industries, who would create jobs related to the existing labour resources and facilities as well as investors from wood, furniture and chemical industries and companies interested in transferring innovation into industry in the Kamienna Góra SEZ,
- investors from automotive, electronic, synthetic materials, household appliances industries and the ones who would like to invest in innovation development and research projects in municipal areas in the Wałbrzych SEZ,
- investors from hi-tech industries, related to institutions gathering and processing of data as well as investors from logistics, automotive, machinery, textile, construction and food industries in the Legnica SEZ,
- investors that are cooperating with entrepreneurs from LG Technological Park in the field of advanced technologies and services in the Tarnobrzeg SEZ.

Góra (u-r) Głogów (u) Przemków (u-r) Polkowice (u-r) Żmigród (u-r) Gromadka (r) Lubin (u) Twardogóra (u-r) Chojnów (r) Nowogrodziec (u-r) Miękinia (r) Legnica (u) Lubań (r) Środa Śląska (u-r) Długołęka (r) Zgorzelec (u) Legnickie Pole (r) Złotoryja (u Lubań (u) Kostomłoty (r) Gryfów Śląski (u-r) Jelcz-Laskowice (u-r) Męcinka (r) Kobierzyce (r) Oława (u) Bolków (u-r) Mirsk (u-r) Świebodzice (u) Jelenia Góra (u) Świdnica (u Świdnica (r) Piechowice (u) Wiązów (u-r) Kamienna Góra (u) Wałbrzych (u) Dzierżoniów (u) Kamienna Góra (r) Bielawa (u) lowa Ruda (r) Ząbkowice Śląskie (u-r) owa Ruda (u) udowa-Zdrój (u) Kłodzko (u) Kłodzko (r) Bystrzyca Kłodzka (u-r)

Chart 3. The location of SEZs in Lower Silesian voivodship

POTENTIAL INVESTMENT ATTRACTIVENESS of communes (gminas) for national economy in 2015



Source: Authors' own work.

#### **APPENDIX**

Table 1. POTENTIAL INVESTMENT ATTRACTIVENESS OF POLISH VOIVODSHIPS FOR THE NATIONAL ECONOMY AND ITS SELECTED SECTIONS

	PAI1_GN	PAI1_GN	PAI1_C	PAI1_G	PAI1_I	PAI1_M
Voivodship	National economy	National economy	Industry	Trade and repairs	Accommodation and catering	Professional, scientific and technical activities
		Voivo	lships			
LOWER SILESIAN	0,868	A	A	A	В	В
KUYAVIAN-POMERANIAN	0,556	С	С	Е	Е	D
LUBLIN	0,131	F	F	F	F	F
LUBUSZ	0,296	Е	Е	D	D	Е
ŁÓDŹ	0,636	C	В	E	Е	D
LESSER POLAND	0,759	В	В	A	A	В
MAZOVIAN	1,000	A	A	A	A	A
OPOLE	0,243	Е	E	E	F	Е
SUBCARPATHIAN	0,314	Е	E	D	Е	D
PODLASKIE	0,210	Е	Е	E	D	Е
POMERANIAN	0,716	В	С	A	A	В
SILESIAN	0,988	A	A	С	С	A
ŚWIĘTOKRZYSKIE	0,000	F	F	F	F	F
WARMIAN-MASURIAN	0,291	Е	Е	С	С	D
GREATER POLAND	0,618	С	С	В	D	В
WESTERN POMERANIAN	0,693	B	C	D	A	C

Source: Authors on the basis of the results of statutory research carried out in Collegium of Business Administration in 2016 under the guidance of H. Godlewska-Majkowska.

Table 2. POTENTIAL INVESTMENT ATTRACTIVENESS OF COUNTIES OF LOWER SILESIAN VOIVODSHIP FOR THE NATIONAL ECONOMY AND SELECTED SECTIONS

	PAI1_GN	PAI1_GN	PAI1_C	PAI1_G	PAI1_I	PAI1_M
County	National economy	National economy	Industry	Trade and repairs	Accommodation and catering	Professional, scientific and technical activity
		Cour	nties			
city of Wrocław	0,341	A	A	A	A	A
Polkowice	0,298	A	A	A	A	A
city of Legnica	0,286	A	A	A	A	A
Wrocław	0,276	A	A	В	A	A
Lubin	0,276	A	A	A	В	A
city of Jelenia Góra	0,273	A	A	A	A	A
Zgorzelec	0,250	В	В	В	A	C
Głogów	0,250	В	В	В	С	В
Świdnica	0,245	В	В	В	В	С
Kamienna Góra	0,240	В	C	С	Е	С
Jelenia Góra	0,234	С	C	С	A	D
Oława	0,230	C	C	C	С	C
Wołów	0,229	С	C	В	С	С
Bolesławiec	0,225	C	C	C	A	D
Lubań	0,222	C	C	C	A	D
Kłodzko	0,221	С	С	С	В	С
Wałbrzych	0,220	C	C	C	В	D
Jawor	0,214	C	D	D	D	D

Source: Authors on the basis of the results of statutory research carried out in Collegium of Business Administration under the guidance of H. Godlewska-Majkowska (2016).

Table 3. POTENTIAL INVESTMENT ATTRACTIVENESS OF COUNTIES OF LOWER SILESIAN VOIVODSHIP FOR THE NATIONAL ECONOMY AND SELECTED SECTIONS

VOIVODSIIII FOR THE NA	PAI1_GN	PAI1_GN	PAI1_C	PAI1_G	PAI1_I	PAI1_M
Commune	National economy	National economy	Industry	Trade and repairs	Accommodation and catering	Professional, scientific and technical activity
		Urban comi	nunes			
Wrocław (u)	0,235	A	A	A	A	A
Świdnica (u)	0,230	A	A	A	A	A
Chojnów (u)	0,230	A	A	A	В	A
Zgorzelec (u)	0,228	A	A	A	A	A
Bolesławiec (u)	0,227	A	A	A	A	A
Lubin (u)	0,223	A	A	A	A	A
Głogów (u)	0,218	A	A	A	A	A
Złotoryja (u)	0,218	A	A	A	C	A
Oleśnica (u)	0,213	A	A	A	В	A
Oława (u)	0,213	A	A	A	A	A
Jawor (u)	0,212	A	A	A	В	A
Legnica (u)	0,209	A	A	A	A	A
Lubań (u)	0,209	A	A	A	В	A
Karpacz (u)	0,204	A	A	A	A	A
Jelenia Góra (u)	0,204	A	A	A	A	A
Polanica-Zdrój (u)	0,203	A	A	A	A	A
Kamienna Góra (u)	0,198	A	A	A	В	A
Kłodzko (u)	0,198	A	A	A	A	A
Dzierżoniów (u)	0,197	A	A	A	D	A
Świebodzice (u)	0,195	A	A	A	С	A
Świeradów-Zdrój (u)	0,194	A	A	A	A	В
Wałbrzych (u)	0,190	A	A	A	A	A
Szczawno-Zdrój (u)	0,190	A	A	A	A	A
Nowa Ruda (u)	0,188	A	A	A	D	A
Duszniki-Zdrój (u)	0,187	A	A	A	A	A
Kowary (u)	0,186	A	A	A	В	В
Kudowa-Zdrój (u)	0,185	A	A	A	A	В
Piława Górna (u)	0,184	A	A	A	D	В
Boguszów-Gorce (u)	0,182	A	A	A	С	В
Bielawa (u)	0,182	A	A	A	В	A
Jedlina-Zdrój (u)	0,182	A	A	A	A	В
Zawidów (u)	0,180	A	A	A	С	В
Piechowice (u)	0,174	В	В	A	A	В
Szklarska Poręba (u)	0,172	В	В	В	A	В
Pieszyce (u)	0,152	С	С	С	В	С
Wojcieszów (u)	0,136	D	D	D	C	E

	Rural communes					
Jerzmanowa (r)	0,227	A	A	A	A	A
Kobierzyce (r)	0,219	A	A	A	A	A
Lubin (r)	0,202	A	A	A	A	A
Rudna (r)	0,196	A	A	A	В	A
Czernica (r)	0,189	A	A	A	В	A
Długołęka (r)	0,185	A	A	В	В	В
Kunice (r)	0,183	A	A	В	С	A
Warta Bolesławiecka (r)	0,180	A	A	A	C	В
Mściwojów (r)	0,177	A	A	C	D	D
Bolesławiec (r)	0,176	A	В	A	В	В
Grębocice (r)	0,172	В	В	A	С	В
Gaworzyce (r)	0,170	В	В	В	С	С
Legnickie Pole (r)	0,165	В	В	В	A	С
Radwanice (r)	0,165	В	В	В	С	С
Wisznia Mała (r)	0,163	В	В	С	С	В
Krośnice (r)	0,163	В	В	A	A	С
Jeżów Sudecki (r)	0,162	В	В	В	В	С
Żukowice (r)	0,161	В	В	В	С	С
Podgórzyn (r)	0,161	В	В	В	A	С
Dobromierz (r)	0,160	В	В	В	С	С
Miękinia (r)	0,160	В	В	С	С	С
Zgorzelec (r)	0,160	В	В	В	A	С
Siekierczyn (r)	0,159	В	В	В	В	С
Malczyce (r)	0,158	С	В	С	С	D
Kamienna Góra (r)	0,157	С	С	С	D	В
Mietków (r)	0,157	С	В	В	С	С
Czarny Bór (r)	0,155	С	С	С	С	С
Męcinka (r)	0,154	C	C	В	C	D
Walim (r)	0,154	С	С	С	В	C
Udanin (r)	0,153	С	C	С	D	D
Miłkowice (r)	0,152	С	С	С	D	С
Kamieniec Ząbkowicki (r)	0,152	С	С	В	С	D
Głogów (r)	0,150	C C	C C	C C	D D	C D
Dzierżoniów (r) Świdnica (r)	0,150 0,150	C	C	C		
Żórawina (r)	0,130	C	C	C	A D	D B
Marcinowice (r)	0,148	C	C	C	D	D
Sulików (r)	0,146	С	C	С	C	D
Złotoryja (r)	0,146	C	C	C	E	C
Oława (r)	0,146	C	C	D	E	D
Paszowice (r)	0,146	C	C	D	D	С
Urban-rural communes						
Polkowice (u-r)	0,238	A	A	A	A	A
Siechnice (u-r)	0,214	A	A	A	A	A
Ząbkowice Śląskie (u-r)	0,206	A	A	A	C	A
Brzeg Dolny (u-r)	0,201	A	A	A	A	A
U V (	1 1	I .	I .	1		

Kąty Wrocławskie (u-r)	0,192	A	A	A	A	A
Żarów (u-r)	0,189	A	A	A	В	В
Bogatynia (u-r)	0,185	A	A	A	A	В
Strzegom (u-r)	0,184	A	A	A	A	В
Strzelin (u-r)	0,181	A	A	A	A	В
Lubawka (u-r)	0,178	A	A	A	A	В
Wołów (u-r)	0,176	A	A	A	С	В
Oborniki Śląskie (u-r)	0,175	A	A	В	В	В
Prochowice (u-r)	0,175	В	В	A	В	С
Środa Śląska (u-r)	0,175	В	A	A	A	В
Syców (u-r)	0,173	В	В	В	С	В
Góra (u-r)	0,171	В	В	В	С	В
Sobótka (u-r)	0,170	В	В	В	В	В
Lądek-Zdrój (u-r)	0,169	В	В	В	A	С
Jelcz-Laskowice (u-r)	0,168	В	В	В	С	В
Pieńsk (u-r)	0,163	В	В	В	С	С
Trzebnica (u-r)	0,161	В	С	В	A	В
Radków (u-r)	0,160	В	В	В	В	С
Stronie Śląskie (u-r)	0,160	В	В	С	A	С
Szczytna (u-r)	0,158	С	В	С	A	D
Chocianów (u-r)	0,157	С	С	С	D	В
Gryfów Śląski (u-r)	0,157	С	С	C	D	С
Ścinawa (u-r)	0,155	C	C	C	C	C
Twardogóra (u-r)	0,155	C	C	C	C	C
Węgliniec (u-r)	0,155	C	В	C	В	D
Olszyna (u-r)	0,155	C	C	C	C	D
Międzybórz (u-r)	0,153	C	C	C	В	D
Mieroszów (u-r)	0,153	С	С	В	A	D
Wleń (u-r)	0,151	С	В	В	A	D
Bolków (u-r)	0,151	С	С	С	В	D
Jaworzyna Śląska (u-r)	0,150	С	С	С	D	С
Żmigród (u-r)	0,150	С	С	C	D	С
Głuszyca (u-r)	0,149	С	С	С	С	С
Milicz (u-r)	0,149	С	С	С	С	С
Złoty Stok (u-r)	0,149	С	С	С	В	D
Przemków (u-r)	0,147	С	С	С	Е	С
Nowogrodziec (u-r)	0,147	С	С	С	С	D
Polkowice (u-r)	0,238	A	A	A	A	A
Siechnice (u-r)	0,214	A	A	A	A	A

<sup>(</sup>u) – urban commune, (r) – rural commune, (u-r) – urban-rural commune

Source: As for Table 1.

Note: All the indices in the report have been calculated on the basis on the most up-to-date data from the Local Data Bank (RDB), 2016.

Table 4. Effects of special economic zone functioning at the end of 2015

SEZ	County, commune	Cumulated capital expenditure in million PLN	New jobs number	Leading industries (at least 20% share of revenue or employment)
Kamienna Góra	Bolesławiec, Nowogrodziec (u-r)	1 136	2 032	services related to publishing
Kamienna Góra	Jawor, Bolków (u-r)	-	-	no leading industry
Kamienna Góra	Jelenia Góra, Janowice Wielkie (r)	169	1 338	rubber and plastic
Kamienna Góra	Jelenia Góra, Piechowice (u)	315	358	paper and paper products; products of other non-metallic mineral
Kamienna Góra	Kamienna Góra, Kamienna Góra (u)	109	613	textiles; motor vehicles (excluding motorcycles), trailers and semi-trailers
Kamienna Góra	Kamienna Góra, Kamienna Góra (r)	252	694	motor vehicles (excluding motorcycles), trailers and semi-trailers
Kamienna Góra	Kamienna Góra, Lubawka (u-r)	17	409	textiles
Kamienna Góra	Lubań, Lubań (u)	121	323	chemicals and chemical products
Kamienna Góra	Lubań, Lubań (r)	-	-	no leading industry
Kamienna Góra	Lwówek, Gryfów Śląski (u-r)	0	-	fabricated metal products, except machinery and equipment
Kamienna Góra	Lwówek, Mirsk (u-r)	-	-	no leading industry
Kamienna Góra	city of Jelenia Góra, Jelenia Góra (u)	8	13	products of other non-metallic mineral
Kamienna Góra	trzebnicki, Prusice (u-r)	-	-	no leading industry
Kamienna Góra	trzebnicki, Żmigród (u-r)	37	119	fabricated metal products, except machinery and equipment
Kamienna Góra/ Legnica	Jawor, Jawor (u)	-	-	no leading industry
Kamienna Góra/ Legnica	Zgorzelec, Zgorzelec (u)	-	-	no leading industry
Legnica	Bolesławiec, Gromadka (r)	193	355	groceries; machinery and equipment nec
Legnica	Głogów, Głogów (u)	9	1	products of other non-metallic mineral
Legnica	Jawor, Męcinka (r)	-	-	no leading industry
Legnica	Legnica, Chojnów (u)	55	118	machinery and equipment nec
Legnica	Legnica, Chojnów (r)	-	-	no leading industry
Legnica	Legnica, Legnickie Pole (r)	603	2 089	fabricated metal products, except machinery and equipment; motor vehicles (excluding motorcycles), trailers and semi-trailers
Legnica	Legnica, Miłkowice (r)	-	-	no leading industry

		I	T	no leading industry
Legnica	Legnica, Prochowice (u-r)	-	-	no leading mausary
Legnica	Lubin, Lubin (u)	-	-	no leading industry
Legnica	city of Legnica, Legnica (u)	1 447	3 782	rubber and plastics; fabricated metal products, except machinery and equipment
Legnica	Polkowice , Polkowice (u-r)	4 181	4 375	motor vehicles (excluding motorcycles), trailers and semi-trailers
Legnica	Polkowice , Przemków (u-r)	-	-	no leading industry
Legnica	Środa Śląska, Kostomłoty (r)	-	-	no leading industry
Legnica	Środa Śląska, Miękinia (r)	-	-	no leading industry
Legnica	Środa Śląska, Środa Śląska (u-r)	1 012	1 505	products of other non-metallic mineral; motor vehicles (excluding motorcycles), trailers and semi-trailers
Legnica	Złotoryja, Złotoryja (u)	98	128	rubber and plastics; other products
Tarnobrzeska/ Wałbrzych	Wrocław, Kobierzyce (r)	4 220	7 312	computers, electronic and optical products
Wałbrzych	Bolesławiec, Bolesławiec (u)	234	575	rubber and plastics; fabricated metal products, except machinery and equipment
Walbrzych	Dzierżoniów, Bielawa (u)	5	27	fabricated metal products, except machinery and equipment
Wałbrzych	Dzierżoniów, Dzierżoniów (u)	833	2 221	chemicals and chemical products; rubber and plastic
Wałbrzych	Góra, Góra (u-r)	9	34	fabricated metal products, except machinery and equipment
Wałbrzych	Kłodzko, Bystrzyca Kłodzka (u-r)	-	-	no leading industry
Wałbrzych	Kłodzko, Kłodzko (u)	255	989	electrical and non-electrical household appliances
Wałbrzych	Kłodzko, Kłodzko (r)	12	54	motor vehicles (excluding motorcycles), trailers and semi-trailers
Wałbrzych	Kłodzko, Kudowa-Zdrój (u)	20	102	fabricated metal products, except machinery and equipment
Wałbrzych	Kłodzko, Nowa Ruda (u)	46	265	rubber and plastics; electrical and non- electrical household appliances
Walbrzych	Kłodzko, Nowa Ruda (r)	118	85	electrical and non-electrical household appliances; motor vehicles (excluding motorcycles), trailers and semi-trailers
Walbrzych	city of Wrocław, Wrocław (u)	1 769	6 473	chemicals and chemical products
Wałbrzych	Oleśnica, Oleśnica (u)	142	258	motor vehicles (excluding motorcycles), trailers and semi-trailers

Wałbrzych	Oleśnica, Syców (u-r)	-	-	no leading industry
Walbrzych	Oleśnica, Twardogóra (u-r)	3	-	rubber and plastic
Wałbrzych	Oława, Jelcz-Laskowice (u-r)	1 644	3 481	motor vehicles (excluding motorcycles), trailers and semi-trailers
Wałbrzych	Oława, Oława (u)	1 390	2 194	paper and paper products; electrical and non-electrical household appliances
Walbrzych	Oława, Oława (r)	184	245	groceries; products of other non-metallic mineral
Wałbrzych	Strzelin, Strzelin (u-r)	137	182	machinery and equipment nec
Wałbrzych	Strzelin, Wiązów (u-r)	2	-	paper and paper products
Wałbrzych	Świdnica, Strzegom (u-r)	246	208	groceries
Walbrzych	Świdnica, Świdnica (u)	1 113	2 852	chemicals and chemical products; electrical and non-electrical household appliances
Wałbrzych	Świdnica, Świdnica (r)	-	-	no leading industry
Wałbrzych	Świdnica, Świebodzice (u)	48	196	machinery and equipment nec
Walbrzych	Świdnica, Żarów (u-r)	1 114	2 217	electrical and non-electrical household appliances; machinery and equipment nec
Wałbrzych	Wałbrzych*, Wałbrzych (u)	4 944	7 233	motor vehicles (excluding motorcycles), trailers and semi-trailers
Wałbrzych	Wołów, Brzeg Dolny (u-r)	522	456	chemicals and chemical products
Walbrzych	Wołów, Wołów (u-r)	31	77	rubber and plastic
Walbrzych	Wrocław, Długołęka (r)	1	-	metals
Walbrzych	Ząbkowice, Ząbkowice Śląskie (u-r)	21	28	wood and products of wood and cork, except furniture; articles of straw and materials of a kind used for plaiting

Source: Authors' own calculations based on the Ministry of Economy data.

Table 5. Universities, Faculties and its categories

School Name	Ministry of Science and Higher Education Category
The Karol Lipiński Academy of Music in Wroclaw	A – The Faculty of Composition, Conducting, Theory of Music and Music Therapy
	B – The Faculty of Music Education
	B – The Vocal Faculty
	B – The Instrumental Faculty
The Eugeniusz Geppert Academy of Art. And Design in Wroclaw	A – Faculty of and Sculpture
Design in wrociaw	A – Faculty of Ceramics and Glass
	B – Faculty of Graphic Arts and Media Art
	B – Faculty of Interior Design and Designing
Academy of Physical Education in Wroclaw	B – Faculty of Physiotherapy
	B – Faculty of Physical Education
	B – Faculty of Sciences in Sport
University of Lower Silesia in Wroclaw	B – Faculty of Social Sciences and Journalism
	B – Faculty of Pedagogical Sciences
	C – Faculty of Technical Sciences
	C – Branch Campus University of Lower Silesia in Kłodzk
Lower Silesian College of Entrepreneurship and Technology in Polkowice	no data
Lower Silesian College of Public Services "Assessor" in Wroclaw	no data
Evangelical School of Theology in Wroclaw	no data
Karkonoska State College in Jelenia Góra	no data
International University of Logistics and Transport in Wroclaw	B – Faculty of Logistics and Transport
Non-public School of Medicine in Wroclaw	no data
State Higher Vocational School. Angelus Silesius in Walbrzych	no data
Witelon State Higher Vocational School in Legnica	C – Technical and Economic Faculty

State Higher Vocational School in Glogow	no data
Pontifical Faculty of Theology in Wroclaw	no data
Wroclaw University of Technology	A+ – Faculty of Microsystem Electronics and Photonics
	A – Faculty of Environmental Engineering
	A – Faculty of Electronics
	A – Faculty of Electrical Engineering
	A – Faculty of Architecture
	A – Faculty of Fundamental Problems of Technology
	A – Faculty of Chemistry
	A – Faculty of Mechanical Engineering
	<b>B</b> – Faculty of of Civil Engineering
	<b>B</b> – Faculty of Mechanical Engineering
	<b>B</b> – Faculty of of Geoengineering, Mining and Geology
	<b>B</b> – Faculty of Computer Science and Management
Sudecka Higher School in Kłodzk headquartered in Kłodzk	no data
Higher School of Applied Arts and Management in Wroclaw	<b>B</b> – Faculty of of Arts and Crafts
The School of Vocational Education in Lubin Copper Basin	no data
University of Economics in Wroclaw	A – Faculty of Engineering and Economics
	A – Faculty of Management, Computer Science and Finance
	A – Faculty of Economic Sciences
	A – Faculty of Economics, Management and Tourism in Jelenia Gora
Wroclaw Medical University in Wroclaw	A – Faculty of of Postgraduate Medical Training
	A – Faculty of Health Sciences
	B – Faculty of Medicine
	B – Faculty of Pharmacy and Division of Laboratory Medicine
	<b>B</b> – Faculty of Dentistry

Wrocław University of Environmental and Life Sciences	A – Wydział Nauk o Żywności
	A – Faculty of Veterinary Medicine
	B – Faculty of Sciences and Technology
	B – Faculty of Environmental Engineering and Geodesy
University of Wrocław	A + – Faculty of History and Pedagogical Sciences
	A+ – Faculty of Biotechnology
	A – Faculty of Biological Sciences
	A – Faculty of Chemistry
	A – Faculty of Phisics and Astronomy
	A – Faculty of Mathematics and Computer Science
	A – Faculty of Philology
	B – Faculty of Earth and Environmental Science
	B – Faculty of Law, Administration and Economy
	B – Faculty of Social Sciences
Wroclaw Higher School of Applied Informatics in Wroclaw	C – Faculty of Computer Sciences
WSB University in Wroclaw	B – Faculty of Finance and Management
The Philological School of Higher Education in Wroclaw	no data
Academy of Physiotherapy in Wrocław	no data
University of Business in Wrocław	B – Faculty of Economics and Management
Higher School of Humanities in Wroclaw	no data
Higher School of Computer Science and Management "Copernicus" in Wroclaw	no data
Higher MEdical School in Klodzk	no data
Higher Medical School in Legnica headquartered in Legnica	no data
Higher School of Management in Jelenia Gora	no data
School of Management in Legnica	no data

The General Tadeusz Kościuszko Military Academy of Land Forces in Wrocław	B – Faculty of Safety Sciences
	B – Faculty of Management
Helena Chodkowska Higher School of Law.	no data
Higher College of Technology and Economics	no data
in Swidnica headquartered in Swidnica	
College of Management "Edukacja" in	B – Faculty of Management
Wroclaw	
Higher School of Management and Coaching	no data
in Wroclaw	
Higher School of Management and Finance in Wrocław	no data
Wiociaw	
Higher School of Management and Marketing	no data
in Wroclaw	
Higher School of Management and	B – for the whole school
Entrepreneurship headquartered in Wałbrzych	
University of Social Sciences and Humanities	A+ – for the whole faculty
Faculty in Wrocław	

Source: Authors' own work based on the Official Journal of the Ministry of Science and Higher Education Warsaw, 9 July 2014 .; Item 38; Communication from the Minister of Science and Higher Education of July 4, 2014 year; of scientific terms granted to scientific institutions.

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