#### Warsaw School of Economics



# REGIONAL INVESTMENT ATTRACTIVENESS 2014

### **Mazovian Voivodship**

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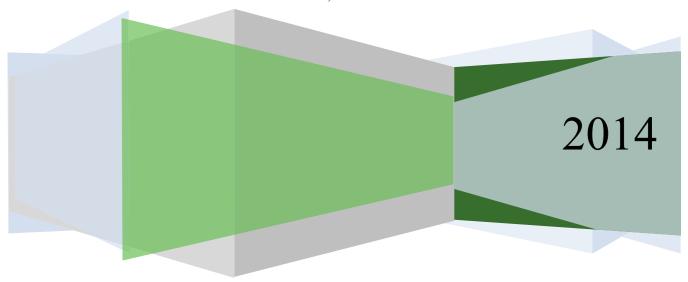
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**Polish Information and Foreign Investment Agency (PAIIIZ)** is a governmental institution and has been servicing investors since 1992. Its mission is to create a positive image of Poland in the world and increase the inflow of foreign direct investments by encouraging international companies to invest in Poland. PAIIIZ is a useful partner for foreign entrepreneurs entering the Polish market. The Agency guides investors through all the essential administrative and

legal procedures that involve a project. It also provides rapid access to complex information relating to legal and business matters regarding investments. Moreover, it helps in finding the appropriate partners and suppliers together with new locations.

#### PAIIIZ provides free of charge professional advisory services for investors, including:

- investment site selection in Poland,
- tailor-made investors visits to Poland,
- information on legal and economic environment,
- information on available investment incentives,
- facilitating contacts with central and local authorities,
- identification of suppliers and contractors,
- care of existing investors (support of reinvestments in Poland).

Besides the **OECD National Contact Point**, PAIiIZ also maintains an Information Point for companies which are interested in European Funds. All of the Agency's activities are supported by the **Regional Investor Assistance Centres**. Thanks to the training and ongoing support of the Agency, the Centres provide complex professional services for investors at voivodship level.

On the website **www.paiz.gov.pl** an investor can find all the necessary information concerning key facts about Poland, Polish economy, legal regulations in Poland and detailed information which could be useful for any company wanting to set up a business in Poland.

Since 2011 China – Poland Economic Cooperation Centre operates in PAIiIZ as a "one-stop shop" providing comprehensive information on investment opportunities in Poland and offering support for Chinese companies during the investment process. The Centre is responsible for: promotion of Poland as a location for FDI, identifying sources of foreign direct investment, supporting the missions and delegations from China, preparing analysis & information, maintaining regular contact with Chinese companies operating in Poland, Go China Project. More information you can find on: www.gochina.gov.pl.

Also since 2013 PAIiIZ is implementing the "Go Africa" program. Its aim is to encourage Polish entrepreneurs to enter the African markets and to promote Poland in Africa. Therefore PAIiIZ is organizing: fact finding missions to African countries, participation of Polish entrepreneurs in fairs, conferences, seminars and workshops both in Poland and in Africa. Furthermore the Agency is preparing publications on African markets. More information you can find on: www.goafrica.gov.pl.

#### 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 H. Godlewska-Majkowska, Ph.D., university professor of 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: *county*) and communes (Polish: *gmina*). The results of the investment attractiveness calculations for the Mazovian 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 third part of the report is completed by the presentation of the results of the 'A' Commune ranking. The ranking made it possible to point out such communes that are not only attractive for potential investors but also offer them well-prepared information on the Internet.

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 – tourism 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 voidoships, on the basis of characteristics available only on the regional or macroregional 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.

4

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

# 1. THE PROFILE OF REGIONAL ECONOMY OF MAZOVIAN (MAZOWIECKIE) VOIVODSHIP

**Mazovian voivodship** is situated in central-eastern Poland in the Mazovian Lowlands. It is the largest and most populous region of Poland. It is the most economically developed and the most attractive voivodship for investments and distances all other regions of Poland in terms of GDP per capita. A characteristic feature of the region is its servicisation, which means that in accordance with a high level of economic development modern services like financial intermediation, business services, telecommunications and education play an important role. Moreover, almost all branches of industry have developed in Mazovia, particularly manufacture of means of transportation and petrochemical industry. The main administrative centre is Warsaw, the capital city of Poland, which (together with its suburban area) is one of the most attractive investment areas in the whole country.

The advantages of the voivodship are:

- its central location at the intersection of traffic routes and in the trans-European transport corridors providing connection to the larger cities of Poland and Europe,
- Poland's largest international airport, i.e. Warsaw Chopin Airport, which handles almost 50% of the whole passenger traffic in Poland and maintains ca. 100 regular plane connections with domestic and foreign airports,
- presence of numerous higher education institutions and research establishments,
- the highest GDP per capita rate in the country,
- substantial human resources, including both low-qualified workers with low wage expectations and specialists trained in various fields,
- very high labour productivity compensating a relatively high level of wages and salaries,
- presence of the Warsaw Stock Exchange, the capital centre of Central and Eastern Europe,
- investment incentives for investors offered in special economic zones.

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

Table 1. General characteristics of the economy of Mazovian voivodship

Feature	Mazovian voivodship	Poland	Share [%]					
Market Potential								
GDP per capita 2012 (PLN/person)	67996.0	41439.1	-					
Population (persons) on 31 December 2013	5316840	38495659	13.8%					
	Human Resources Potential							
Higher education institutions graduates (persons) in 2013	79159	454986	17.4%					
Secondary schools graduates (persons) in 2013	38183	271333	14.1%					
Number of employed persons in 2013	2408	15568	15.5%					
Structure of employed persons in 2013	agriculture 11.0 industry 22.29 services 66.89	/ <sub>0</sub>	12.0% 30.5% 57.5%					
Investment outlays and capital	of companies with foreig	gn capital participation	in the voivodship					
Investment outlays (PLN m) in 2012	39236.5	79942.6	49.1%					
Capital of companies (PLN n) in 2012	98456.7	206992.3	47.6%					
Special I	Economic Zones (SEZs)	in the voivodship*						
<ul> <li>Lódź</li> <li>Starachowice</li> <li>Suwałki</li> <li>Tarnobrzeg</li> <li>Warmian-Mazurian</li> </ul>								
Distinguishing investmen			A, B and C)					
Potential investment attractiveness PAI_2  National economy class A Capital-intensive industry class A Labour-intensive industry class A Trade class A Tourism class A Education class A								
Real investment attractiveness RAI  Real investment attractiveness RAI  National economy class A Industry class A Trade class A Tourisma class A Professional, scientific and economic activities class								

Counties and communes distinguished according to the Potential Attractiveness Index for the national economy (PAI1_GN)							
Counties	Class A	Warszawa, city of Siedlce, city of Ostrołęka, city of Płock, pruszkowski, Piaseczno, Warsaw West, Grodzisk Mazowiecki, city of Radom					
Counties	Class B	Legionów					
Communes	Class A	Warszawa (u), Ząbki (u), Legionowo (u), Mińsk Mazowiecki (u), Pruszków (u), Piastów (u), Płońsk (u), Podkowa Leśna (u), Ostrołęka (u), Siedlce (u), Płock (u), Garwolin (u), Milanówek (u), Marki (u), Żyrardów (u), Pionki (u), Kobyłka (u), Ciechanów (u), Nowy Dwór Mazowiecki (u), Radom (u), Józefów (u), Sulejówek (u), Ostrów Mazowiecka (u), Otwock (u), Mława (u), Maków Mazowiecki (u), Sokołów Podlaski (u), Zielonka (u), Sierpc (u), Sochaczew (u), Lesznowola (r), Michałowice (r), Raszyn (r), Nadarzyn (r), Stare Babice (r), Słupno (r), Nieporęt (r), Izabelin (r), Czosnów (r), Jaktorów (r), Piaseczno (u-r), Ożarów Mazowiecki (u-r), Konstancin-Jeziorna (u-r), Grodzisk Mazowiecki (u-r), Wyszków (u-r), Łomianki (u-r), Serock (u-r), Kozienice (u-r), Radzymin (u-r), Brwinów (u-r), Tarczyn (u-r), Błonie (u-r), Wołomin (u-r), Halinów (u-r), Grójec (u-r), Białobrzegi (u-r)					
	Class B	Przasnysz (u), Węgrów (u), Gostynin (u), Rzekuń (r), Wieliszew (r), Siedlce (r), Radziejowice (r), Kołbiel (r), Garwolin (r), Różan (u-r), Góra Kalwaria (u-r), Karczew (u-r), Łosice (u-r), Mszczonów (u-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 5316840 (as of 2013), which is 13.8% of the population of Poland. The age structure in the voivodship in 2013 was as follows: 18.5% of the population at pre-productive age, 62.5% at productive age and 19.0% at post-productive age (for Poland it was 18.2%, 63.4% and 18.4% respectively).

The main potential for human capital creation in the voivodship lies in 107 higher education institutions in which there are 294413 students studying, which makes up 19% of all students in Poland. Moreover, 9.2% of the secondary school students in the voivodship attend vocational schools and 11.3% attend technical schools.

The registered unemployment rate in the voivodship amounted to 10.1% in August 2014, compared to 11.7% in Poland. The average monthly gross wages and salaries in enterprises sector in the first half-year of 2014 amounted to PLN 4707.5, which is 124.8% of the average for Poland.

In 2012 Mazovian voivodship made a contribution of 22.7 % to the GDP of Poland. Calculated per capita, it amounted to PLN 67996 with the average for Poland PLN 41439.1. With this result the voivodship takes the first place in the country. The GDP growth rate in the voivodship in the years 2003-2012 amounted to 205.3% while the average for Poland amounted to 189.2%.

In comparison with the whole country the structure of employment in the voivodship is characterised by a share of the service sector at the level of 66.8% whereas a share of the

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

agricultural and industrial sectors are respectively 11% and 11.2% (Central Statistical Office, Local Data Bank 2014).

In the structure of voivodship's industry important role is played by: electricity, gas, steam and air conditioning supply (19 % of sold production of the whole voivodship's industry at the end of 2013), manufacture of food products (18%) and manufacture of chemicals and chemical products (7%).

As the biggest Polish region the voivodship takes leading positions when it comes to competitive position in the most industries. The voivodship has big shares in county's sold production of the following industries:

- manufacture of chemicals and chemical products (30% of the country's sold production in 2013)
- printing and reproduction of recorded media (28%)
- manufacture of beverages (28%),
- manufacture of basic pharmaceutical products and pharmaceutical preparation (25%),
- manufacture of food products (24%)
- manufacture of computers, electronic and optical products (23%)
- manufacture of electric appliances (21%)

The voivodship improved or maintained its competitive position within the last three years (measured by its share in the country's sold production)<sup>2</sup> in the following sectors:

- manufacture of food products,
- manufacture of paper and paper products,
- manufacture of chemicals and chemical products,
- manufacture fabricated metal products (except machinery and equipment), electrical equipment and non-electric household appliances,
- manufacture of computers, electronic and optical products,
- manufacture of electric appliances,
- manufacture of machinery and appliances.

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: agriculture, industry, services, tourism (especially foreign), chemical industry, construction, logistics, food industry, growth of innovativeness and competitiveness of the region, teleinformatization, improvement of communication and transport on the region (especially civil aviation) and multifunctional development of rural areas.

<sup>&</sup>lt;sup>2</sup> Calculations based on the Statistic Bulletin of the Masovian Voivodship from the 1st quarter of 2014 and Statistical Bulletin, I quarter of 2014, www.stat.gov.pl (10 November 2014).

For the entrepreneurs willing to invest in Mazovian 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 Mazovian voivodship self-government, based on the observations on investments inflows to the voivodship. The high potential sectors on the list include food, construction and BPO sectors.

Investments of this kind can be located on preferential conditions in the specially prepared places in the Special Economic Zones: Łódź SEZ, Starachowice SEZ, Suwałki SEZ, Tarnobrzeg SEZ, Warmian-Mazurian SEZ, in the following subzones:

- Łódź SEZ in subzones: Grodzisk Mazowiecki (u-r), Warszawa (u), Płock (u), Pruszków (u), Raciąż (u), Sochaczew (u), Żyrardów (u),
- Starachowice SEZ in subzones: Iłża (u-r), Szydłowiec (u-r),
- Suwałki SEZ in subzones: Małkinia Górna (r),
- Tarnobrzeg SEZ in subzones: Mińsk Mazowiecki (r), Nowe Miasto nad Pilicą (u-r), Ożarów Mazowiecki (u-r), Pilawa (u-r), Pionki (u), Przasnysz (r), Radom (u), Siedlce (u), Siedlce (r), Węgrów (u), Wyszków (u-r),
- Warmian-Mazurian SEZ in subzones: Ciechanów (u), Ciechanów (r), Mława (u), Ostrołęka (u), Płońsk (u).

In the all above-mentioned locations investors can benefit from tax allowances in most voivodship's subregions amounting to 35% - 55% (except from Warsaw, where it amounts from 15% to 35% till 31 December 2017 and from 10% to 30% since 1 January 2018; and except from Ciechanów subregion, where it amounts from 20% to 40%), depending on the enterprise size – more information can be found on

http://www.paiz.gov.pl/investment support/investment incentives in SEZ.

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

Mazovian voivodship is one of the most attractive voivodships in Poland and 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 national economy, industry, trade and repair. It also takes a very high position, when it comes to foreign capital inflows to Poland.

In 2012 the region took the third place in Poland in terms of accumulated share capital in the companies with foreign capital participation (an 8.5% share of its total value in all voivodships).

Mazovian voivodship 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 2003-2011 its market share measured with the value of foreign capital in the above mentioned companies rose from 5.8% to 9%.

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 two years. They are based on measurements of attractiveness of human resources, market and innovativeness.<sup>3</sup> However, due to different methodology of research and variables taken into account in Poland and EU, results of research are incomparable This is because not all data are available for voivodships, communes and counties, e.g. not all regions collect current information about the infrastructure.

Based on the above-mentioned indices it can be stated that the voivodship is characterized by a high class of investment attractiveness (class B) as the only Polish region, compared to the EU regions, taking 56th place of 270 regions, for whom the indices were calculated. Compared to the previous year, the voivodship increased its position by 2 places. When it comes to the new EU-members' regions, Mazovian voivodship takes the 5th place (after capital regions: Prague, Bratislava, Budapest, Bucharest).

Mazovian voivodship has competitive advantages when it comes to all of the analysed microclimates. Its biggest advantage is human capital (class A), ranked at the 28th place of all European regions. What is more innovation microclimate was ranked class B, and market microclimate was ranked class C.

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

- in Austria: Salzburg, Vorarlberg, Tirol, Steiermark, Oberösterreich, Kärnten, Niederösterreich, Burgenland;
- **in Belgium:** Prov. West-Vlaanderen, Prov. Namur, Prov. Liège, Prov. Limburg, Prov. Hainaut;
- in the United Kingdom: East Anglia, South Western Scotland, Leicestershire, Rutland and Northamptonshire, Eastern Scotland, West Midlands, Kent, East Wales, Essex, North Yorkshire, West Yorkshire, Derbyshire and Nottinghamshire, Northumberland and Tyne and Wear, Merseyside (NUTS 2006), Herefordshire, Worcestershire and Warwickshire, Lancashire, Devon, Dorset and Somerset, Northern Ireland, South Yorkshire, Shropshire and Staffordshire, Tees Valley and Durham, Highlands and Islands, Cumbria, East Yorkshire and Northern Lincolnshire;

http://kolegia.sgh.waw.pl/pl/KNoP/struktura/IP/struktura/ZOB/

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<sup>&</sup>lt;sup>3</sup> More on this topic: *Atrakcyjność inwestycyjna regionów Polski na tle Unii Europejskiej*, edited by H. Godlewska-Majkowska, Oficyna Wydawnicza SGH, Warsaw 2014 and

- in Bulgaria: Yugozapaden, Severoiztochen;
- in the Czech Republic: Jihovýchod, Strední Cechy, Severovýchod, Jihozápad, Moravskoslezsko;
- in Denmark: Midtjylland, Syddanmark, Sjælland, Nordjylland;
- in Finland: Åland, Pohjois-Suomi (NUTS 2006), Länsi-Suomi;
- in France: Provence-Alpes-Côte d'Azur, Alsace, Aquitaine, Corse, Guadeloupe, Martinique, Bretagne, Réunion, Nord Pas-de-Calais, Haute-Normandie, Centre, Pays de la Loire, Guyane, Languedoc-Roussillon, Franche-Comté, Lorraine, Auvergne, Basse-Normandie, Limousin, Bourgogne;
- in Greece: Attiki, Kentriki Makedonia,
- in Spain: Cataluña, Comunidad Foral de Navarra, Ciudad Autónoma de Melilla, Cantabria, Aragón, Principado de Asturias, La Rioja, Castilla y León, Galicia, Comunidad Valenciana, Ciudad Autónoma de Ceuta;
- in the Netherlands: Flevoland, Gelderland, Limburg (NL), Overijssel, Zeeland, Friesland, Drenthe;
- in Ireland: Border, Midland and Western;
- in Germany: Leipzig (NUTS 2006), Dresden, Freiburg, Rheinhessen-Pfalz, Unterfranken, Hannover, Kassel, Gießen, Saarland, Detmold, Trier, Arnsberg, Oberfranken, Brandenburg, Mecklenburg-Vorpommern, Thüringen, Koblenz, Oberpfalz, Schwaben, Schleswig-Holstein, Münster, Chemnitz (NUTS 2006), Niederbayern, Weser-Ems, Sachsen-Anhalt, Lüneburg;
- in Portugal: Região Autónoma da Madeira, Algarve, Norte, Alentejo, Região Autónoma dos Açores, Centro; rumuńskie: Vest, Nord-Vest, Centru, Sud-Est, Nord-Est, Sud-Vest Oltenia, Sud Muntenia;
- in Slovakia: Západné Slovensko, Stredné Slovensko;
- in Slovenia: Zahodna Slovenija, Vzhodna Slovenija;
- in Sweden: Mellersta Norrland, Småland med öarna, Norra Mellansverige;
- in Hungary: Nyugat-Dunántúl, Közép-Dunántú;
- in Italy: Liguria, Emilia-Romagna (NUTS 2006), Veneto (NUTS 2006), Piemonte, Provincia Autonoma Bolzano/Bozen (NUTS 2006), Provincia Autonoma Trento (NUTS 2006), Toscana (NUTS 2006), Friuli-Venezia Giulia (NUTS 2006), Valle d'Aosta/Vallée d'Aoste, Marche (NUTS 2006), Campania.

# 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 3 and Chart 4). 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.

considering the most attractive sections Ostrołęka (C) Płock (C) Legionów Wołomin Warsaw West Warszawa (C) 🏖 Siedlce (C) Pruszków Otwock Grodzisk Mazowiecki Piaseczno POTENTIAL INVESTMENT ATTRACTIVENESS of counties (poviats) for national economy in 2012 Ranks above the average for C, G, I, M sections according The highest rank for all the sections according PKD to PKD (Polish Classification of Economic Activity) (Polish Classification of Economic Activity): C, G, I and M С Industry Trade Ranks above the average for all the sections according PKD Hotels and restaurants Ε Professional, scientific, (Polish Classification of Economic Activity): C, G, I and M technical activities

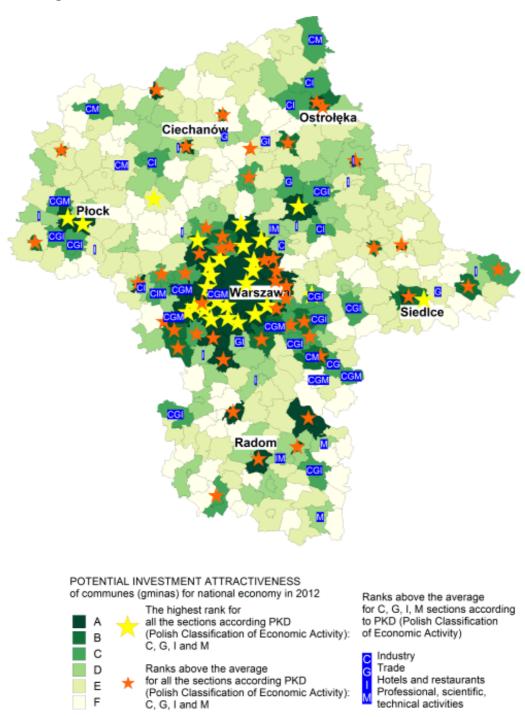
Chart 3. Potential investment attractiveness of counties of Mazovian voivodship,

#### Golden star counties:

Warszawa, Ostrołęka, Płock, Siedlce, Piaseczno, Pruszków, Warsaw West

Source: Authors' own work.

Chart 4. Potential investment attractiveness of communes of Mazovian voivodship, considering the most attractive sections



#### Golden star communes:

Grodzisk Mazowiecki (u-r), Izabelin (r), Józefów (u), Konstancin-Jeziorna (u-r), Lesznowola (r), Łomianki (u-r), Warszawa (u), Marki (u), Michałowice (r), Milanówek (u), Mińsk Mazowiecki (u), Nadarzyn (r), Nieporęt (r), Nowy Dwór Mazowiecki (u), Ożarów Mazowiecki (u-r), Piaseczno (u-r), Płock (u), Płońsk (u), Podkowa Leśna (u), Pruszków (u), Radzymin (u-r), Raszyn (r), Serock (u-r), Siedlce (u), Słupno (r), Stare Babice (r), Wyszków (u-r), Ząbki (u)

Source: Authors' own work.

When it comes to counties, the highest ranked city counties were Warszawa, Ostrołęka, Płock, Siedlce and when it comes to land counties, the highest ranked ones were Piaseczno, Pruszków, Warsaw West as well as (distinguished with orange stars:) land counties Grodzisk Mazowiecki, Legionów, Otwock, Wołomin.

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

- distinguished with a golden star: Józefów (u), Warszawa (u), Marki (u), Milanówek (u), Mińsk Mazowiecki (u), Nowy Dwór Mazowiecki (u), Płock (u), Płońsk (u), Podkowa Leśna (u), Pruszków (u), Siedlce (u), Ząbki (u),
- distinguished with an orange star: Ciechanów (u), Garwolin (u), Gostynin (u), Kobyłka (u), Legionowo (u), Maków Mazowiecki (u), Mława (u), Ostrołęka (u), Ostrów Mazowiecka (u), Otwock (u), Pionki (u), Przasnysz (u), Radom (u), Sierpc (u), Sochaczew (u), Sokołów Podlaski (u), Sulejówek (u), Węgrów (u), Zielonka (u), Żyrardów (u).

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

- **distinguished with a golden star:** Izabelin (r), Lesznowola (r), Michałowice (r), Nadarzyn (r), Nieporęt (r), Raszyn (r), Słupno (r), Stare Babice (r),
- distinguished with an orange star: Celestynów (r), Czosnów (r), Jabłonna (r), Kampinos (r), Kołbiel (r), Leszno (r), Pomiechówek (r), Radziejowice (r), Rzekuń (r), Sarnaki (r), Siedlce (r), Wiązowna (r), Wieliszew (r), Żabia Wola (r).

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

- **distinguished with a golden star:** Grodzisk Mazowiecki (u-r), Konstancin-Jeziorna (u-r), Łomianki (u-r), Ożarów Mazowiecki (u-r), Piaseczno (u-r), Radzymin (u-r), Serock (u-r), Wyszków (u-r),
- distinguished with an orange star: Białobrzegi (u-r), Brwinów (u-r), Góra Kalwaria (u-r), Grójec (u-r), Halinów (u-r), Kozienice (u-r), Łosice (u-r), Mszczonów (u-r), Pilawa (u-r), Pułtusk (u-r), Różan (u-r), Szydłowiec (u-r), Tarczyn (u-r), Wołomin (u-r).

# 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.

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 Mazovian voivodship such centre is:

the Investor Services Centre operating within Mazovia Development Agency (Agencja Rozwoju Mazowsza S.A.) www.coie.armsa.pl



**Mazovian Investor Services 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.

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:

## Polish Industrial and Trade Chamber of Construction (Polska Izba Przemysłowo-Handlowa Budownictwa) (http://izba.budowlany.pl)

The chamber is an organization of economic self-government operating in construction industry. It represents economic interests of its members towards country's and territorial self-government units in Poland and abroad. It also cooperates with other organizations from construction, gives opinions on legal acts concerning construction and construction products industry, promotes its members' successes on the international markets, initiates contacts with investors, producers and traders on domestic and international markets. The chamber's offer includes i.a.: training and consulting services, building companies' image in Internet. There is an arbitration court operating at the chamber.

## Polish Chamber of Trade in Warsaw (Polska Izba Handlu w Warszawie) (http://www.pih.org.pl)

Polish Chamber of Trade in Warsaw is a retail trade chamber of commerce whose members are shops, wholesale companies, FMCG environment companies and service companies. The chamber's tasks are i.a.: taking part in social dialogue and giving opinions on trade and services issues, representing companies and building their image in media and representing its members towards state institutions. Chamber's offer includes i.a.: fostering business contacts between enterprises, organization of trainings according to its members' individual needs, legislation monitoring and supporting at solving problems connected with legal solutions valid for conducting business, promotion of its members' successes, IT security audits and general audits.

## Foreign Investors' Chamber of Commerce and Industry (Izba Przemysłowo-Handlowa Inwestorów Zagranicznych) (http://izbainwestorow.pl/)

The chamber is an organization of economic self-government representing economic interests of its members who are foreign investors operating in Poland and Polish investors who cooperate with them. The chamber represents its members' opinions towards state and self-government units, gives opinions on legal acts of economic law, gathers information on strategic state investments and commune investments, organizes conferences and business meetings and business trips. The chamber issues a quarterly magazine 'Foreign Investor' containing information on economic, legal, Sejm and EU issues as well as the most important information on chamber's activities.

### Pionki Industry Park (under construction) (Pionkowski Park Przemysłowy) (www.inwestycje.pionki.pl)

Pionki offer fully equipped investment areas for sale or lease with possibility of sharing into plots. The areas are owned by the city and are included into Local Spatial Development Plan and a part of them is included into Tarnobrzeg SEZ.

Płock Techno-Industrial Park (Płocki Park Przemysłowo-Technologiczny) (www.pppt.pl)

is an investment area of over 200 ha with a valid spatial development plan. There are 3 components of the park: industrial park, technology park, and R&D park. The park is cooperating with the Polish Information and Foreign Investment Agency in marketing and promotion to attract investors. The park's offer includes property tax exemptions, income tax exemptions (SEZ zone status can be granted to investments in the park), help at seeking for human resources (like tailor-made recruitment and trainings), support at investment preparation and realization, technical consulting, architectonic and technical design, assistance at contacts with offices and other administrative units, assistance at application for EU funds.

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

There are 5 special economic zones (SEZs) in Mazovian voivodship: Łódź SEZ, Starachowice SEZ, Suwałki SEZ, Warmian-Masurian SEZ and Tarnobrzeg SEZ. At the end of 2013 the areas of the SEZs were parts of 14 cities and 16 communes – see Chart 5.

The first SEZ areas were brought into life in 2001. The investment outlays made by SEZ companies operating in the communes of Mazovia by the end of 2012 amounted to PLN 3.2 billon, which made 3% of all investment outlays made in the Polish SEZs. In the same time the SEZ companies in the region created 6,7 thousand new jobs which made 3% of all jobs created in the Polish SEZs (see Table 4 in the Appendix).

The largest investments in voivodship have been completed in Radom, Warszawa and Mława. In Mława the biggest investor is Korean LG Electronics Mława sp. z o.o., a manufacturer of computers, electronic and optical products. Other important investors in the voivodship are: DAG-DRUK Piotr Falkiewicz (Poland, storage and support activities for transportation), Wipasz S.A. (Poland, food products), Polska Grupa Drobiarska sp. z o.o. (Poland, chemicals and chemical products). In Radom the following companies invested: in manufacture of metal products: ALMECH s.c. Alina i Stanisław Jasik, HART MET Sp. z o.o. ALTHA POWDER METALLURGY Sp. z o.o. TOHO POLAND Sp. z o.o., and MEDICOFARMA Sp. z o.o. – in manufacture of pharmaceuticals and pharmaceutical products, ZBYSZKO COMPANY Sp. z o.o. – producer of beverages and juices. In Warszawa the following companies invested: Procter and Gamble Operations Poland Sp. z o.o. (the Netherlands, hygiene products), ATM S.A. (Poland, BPO), and in Ostrołęka: GIPSEL Sp. z o.o. (Poland, other non-metallic mineral products), Produkcja Elementów Betonowych NATRIX Sp. z o.o. (Poland, other non-metallic mineral products), Stora Enso Poland S.A. (Sweden, paper and paper products), MELVIT S.A. (Poland, food products).

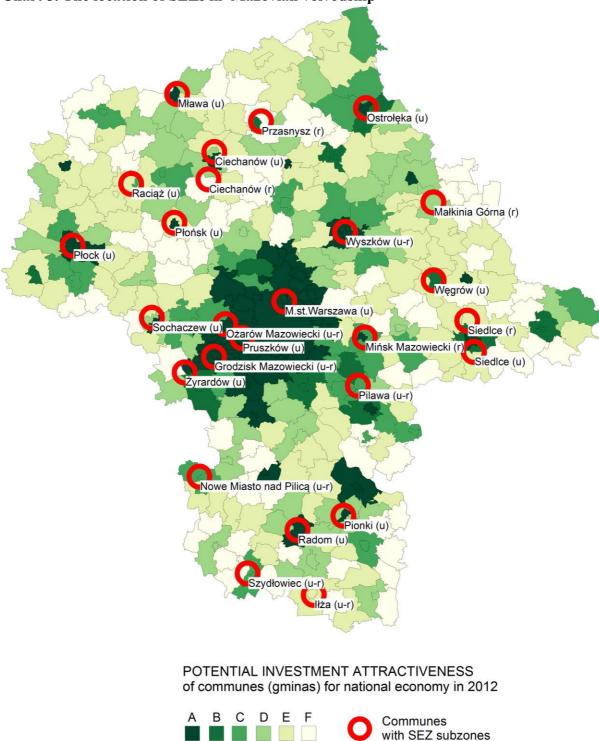


Chart 5. The location of SEZs in Mazovian voivodship

Source: Authors' own work.

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

• from modern services sector including R&D services that would make use of the existing R&D facilities and create centres of advanced technologies, industrial parks as well as stimulate cooperation between businesses in Łódź SEZ,

- from food-processing, machinery, construction materials, electro-technic and automotive industries that would create jobs in post-industrial areas affected by high unemployment in Starachowice SEZ,
- that would create a considerable number of new jobs and utilise the industrial traditions of eastern Mazovia and available workforce in Suwałki SSE,
- from food-processing, machinery, construction materials, electro-technic, automotive, metal, precise mechanics and synthetic materials industries that would enable activation of Warsaw agglomeration surroundings in SEZ Tarnobrzeg,
- from electronic, electro-technic, machinery, chemical industries Warmian-Mazurian SEZ.

#### 4.3. 'A' COMMUNE

Student Scientific Organisation for Entrepreneurship and Regional Analyses affiliated to the Institute of Enterprise of the Warsaw School of Economics, has again published the results of its research into the quality of investor assistance offered by the communal authorities. The subject of this qualitative research of investment attractiveness is evaluation of the websites and evaluation of e-mail contact with communal authorities in two languages: Polish and English (using *mystery client* method). The effect of this research is a ranking 'A' Commune, which is thought to distinguish best performing self-government territorial units in terms of the use of means of electronic communication to provide assistance to the customers. The research is carried out with the use of mystery client method. In this year's edition all communes belonging to Class A and B according to the PAI 2012 index were subject to evaluation.

As a result 59 communes were distinguished, of which 5 are situated in Mazovian voivodship: Grodzisk Mazowiecki (r), Mińsk Mazowiecki (u), Płońsk (u), Nowy Dwór Mazowiecki (u), Wyszków (r).

All the distinguished communes answered e-mails both in Polish and in English and almost all the answers were good and informative. Especially Grodzisk Mazowiecki and Mińsk Mazowiecki should be distinguished as their e-mails explained all investors' doubts and were awarded maximal number of points (they were among 7 such communes in the whole Poland). The communes' websites are well-prepared. Płońsk and Nowy Dwór Mazowiecki were awarded the 'A' Commune title for the next time this years.

#### **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	Hotels and restaurants	Professional, scientific and technical activities
		Voivoc	lships			
LOWER SILESIAN	0.39	A	A	A	В	A
KUYAVIAN-POMERANIAN	0.29	С	С	Е	D	D
LUBLIN	0.17	F	F	F	F	F
LUBUSZ	0.23	Е	Е	D	C	D
ŁÓDŹ	0.29	C	C	D	Е	D
LESSER POLAND	0.32	C	C	В	В	C
MAZOVIAN	0.40	A	A	A	A	A
OPOLE	0.22	Е	Е	D	Е	D
SUBCARPATHIAN	0.23	Е	Е	Е	Е	D
PODLASKIE	0.20	F	F	F	Е	Е
POMERANIAN	0.34	В	С	В	A	В
SILESIAN	0.41	A	A	В	С	A
ŚWIĘTOKRZYSKIE	0.16	F	F	F	F	F
WARMIAN-MASURIAN	0.24	Е	Е	С	С	Е
GREATER POLAND	0.31	С	С	С	D	В
WESTERN POMERANIAN	0.34	В	В	В	A	В

Source: Authors on the basis of the results of statutory research carried out 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	Hotels and restaurants	Professional, scientific and technical activities
		Count	ies			
capital city of Warszawa	0.423	A	A	A	A	A
city of Siedlce	0.361	A	A	A	A	A
city of Ostrołęka	0.353	A	A	A	A	A
city of Płock	0.350	A	A	A	A	A
Pruszków	0.324	A	A	A	A	A
Piaseczno*	0.318	A	A	A	A	A
Warsaw West	0.302	A	A	A	A	A
Grodzisk Mazowiecki	0.299	A	A	A	A	В
city of Radom	0.298	A	В	В	D	A
Legionów	0.280	В	В	В	A	В
Otwock	0.259	С	С	С	В	С
Wołomin	0.258	С	С	С	С	С
Nowy Dwór Mazowiecki	0.245	С	С	С	С	D

Source: Authors on the basis of the results of statutory research carried out under the guidance of H. Godlewska-Majkowska.

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

	PAI1 GN	PAI1 GN	PAI1 C	PAI1 G	PAI1 I	PAI1 M
Commune	National economy	National economy	Industry	Trade	Hotels and restaurants	Professional, scientific and technical activities
		Urban con	ımunes			
capital city of Warszawa (u)	0.317	A	A	A	A	A
Ząbki (u)	0.297	A	A	A	A	A
Legionowo (u)	0.296	A	A	A	В	A
Mińsk Mazowiecki (u)	0.291	A	A	A	A	A
Pruszków (u)	0.283	A	A	A	A	A
Piastów (u)	0.282	A	A	A	D	A
Płońsk (u)	0.279	A	A	A	A	A
Podkowa Leśna (u)	0.278	A	A	A	A	A
Ostrołęka (u)	0.275	A	A	A	В	A
Siedlce (u)	0.274	A	A	A	A	A
Płock (u)	0.264	A	A	A	A	A
Garwolin (u)	0.261	A	A	A	В	A
Milanówek (u)	0.260	A	A	A	A	A
Marki (u)	0.259	A	A	A	A	A
Żyrardów (u)	0.259	A	A	A	С	A
Pionki (u)	0.258	A	A	A	В	A
Kobyłka (u)	0.251	A	A	A	В	A
Ciechanów (u)	0.250	A	A	A	С	A
Nowy Dwór Mazowiecki (u)	0.248	A	A	A	A	A
Radom (u)	0.247	A	A	A	С	A
Józefów (u)	0.246	A	A	A	A	A
Sulejówek (u)	0.244	A	A	A	В	A
Ostrów Mazowiecka (u)	0.234	A	A	A	В	A
Otwock (u)	0.233	A	A	A	С	A
Mława (u)	0.232	A	A	A	С	A
Maków Mazowiecki (u)	0.231	A	A	A	С	A
Sokołów Podlaski (u)	0.228	A	A	В	С	A
Zielonka (u)	0.224	A	A	В	A	A
Sierpc (u)	0.222	A	A	A	С	В
Sochaczew (u)	0.221	A	A	A	В	A
Przasnysz (u)	0.207	В	В	В	С	В
Węgrów (u)	0.206	В	В	В	В	В
Gostynin (u)	0.204	В	В	С	С	В
Łaskarzew (u)	0.190	С	С	С	Е	С
Raciąż (u)	0.190	С	С	D	D	С
Rural communes						

Lesznowola (r)	0.287	A	A	A	A	A		
Michałowice (r)	0.287	A	A	A	A	A		
` ′	0.270	A	A	A	A			
Raszyn (r)						A		
Nadarzyn (r)	0.262	A	A	A	A	A		
Stare Babice (r)	0.258	A	A	A	A	A		
Słupno (r)	0.245	A	A	A	A	A		
Nieporęt (r)	0.238	A	A	A	A	A		
Izabelin (r)	0.231	A	A	A	A	A		
Czosnów (r)	0.225	A	A	В	A	В		
Jaktorów (r)	0.223	A	A	В	D	В		
Rzekuń (r)	0.216	В	A	В	A	С		
Wieliszew (r)	0.215	В	В	В	В	В		
Siedlce (r)	0.212	В	В	В	В	С		
Radziejowice (r)	0.212	В	В	В	A	С		
Kołbiel (r)	0.208	В	В	В	С	C		
Garwolin (r)	0.206	В	В	D	D	В		
Mińsk Mazowiecki (r)	0.198	С	С	С	A	D		
Jabłonna (r)	0.198	С	В	С	A	В		
Pomiechówek (r)	0.198	С	В	С	С	С		
Wiązowna (r)	0.197	С	С	С	A	В		
Leszno (r)	0.197	С	С	С	В	В		
Stara Biała (r)	0.195	С	С	С	D	С		
Łyse (r)	0.194	С	С	D	D	С		
Żabia Wola (r)	0.194	С	С	A	A	С		
Sarnaki (r)	0.193	С	С	В	С	С		
Brańszczyk (r)	0.192	С	С	С	A	D		
Celestynów (r)	0.192	С	С	С	С	С		
Jadów (r)	0.190	С	С	D	С	Е		
Kampinos (r)	0.189	С	С	С	С	С		
Teresin (r)	0.189	С	С	D	С	С		
Osieck (r)	0.188	С	С	С	В	D		
Olszewo-Borki (r)	0.187	С	С	D	В	D		
Siennica (r)	0.187	С	С	С	С	D		
Mrozy (r)	0.184	С	С	С	С	D		
Górzno (r)	0.184	С	С	С	D	D		
Łąck (r)	0.183	C	C	C	C	D		
Rząśnik (r)	0.183	С	D	С	D	D		
Lelis (r)	0.182	C	C	D	C	D		
Urban-rural communes								
Piaseczno (u-r)	0.266	A	A	A	A	A		
Ożarów Mazowiecki (u-r)	0.261	A	A	A	A	A		
Konstancin-Jeziorna (u-r)	0.258	A	A	A	A	A		
Grodzisk Mazowiecki (u-r)	0.238	A	A	A	A	A		
Wyszków (u-r)	0.237	A	A	A	A	A		
Łomianki (u-r)	0.236	A	A	A	A	A		
Dominiki (u 1)	0.230	Л	Α.	П	11	17		

Serock (u-r)	0.235	A	A	A	A	A
Kozienice (u-r)	0.233	A	A		В	A
` '				A		
Radzymin (u-r)	0.232	A	A	A	A	A
Brwinów (u-r)	0.231	A	A	В	С	A
Tarczyn (u-r)	0.228	A	A	A	A	В
Błonie (u-r)	0.227	A	A	В	D	A
Wołomin (u-r)	0.223	A	A	В	С	A
Halinów (u-r)	0.221	A	A	В	В	В
Grójec (u-r)	0.221	A	A	A	В	A
Białobrzegi (u-r)	0.221	A	A	A	В	В
Różan (u-r)	0.206	В	В	В	В	С
Góra Kalwaria (u-r)	0.205	В	В	С	С	В
Karczew (u-r)	0.204	В	В	С	D	В
Łosice (u-r)	0.203	В	В	В	С	С
Mszczonów (u-r)	0.201	В	С	С	С	С
Żelechów (u-r)	0.198	С	С	В	D	С
Nowe Miasto nad Pilicą (u-r)	0.193	С	С	С	В	D
Pułtusk (u-r)	0.193	С	С	С	С	В
Pilawa (u-r)	0.190	С	С	С	A	С
Szydłowiec (u-r)	0.188	С	С	С	С	С
Glinojeck (u-r)	0.188	С	С	D	С	D
Gąbin (u-r)	0.187	С	С	С	С	D
Zwoleń (u-r)	0.187	С	С	С	С	D
Żuromin (u-r)	0.183	С	С	D	Е	С

<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), 2014.

Table 4. Effects of special economic zone functioning at the end of 2013

SEZ	County, commune	Cumulated capital expenditure in million PLN (end of 2013)	New jobs number (end of 2013)	Leading industries (at least 20% share of revenue or employment)
Warmian-	Ciechanów (u)	87.25	160	printing services
Masurian	Ciechanów			
Warmian-	Ciechanów (r)	154.38	200	food products
Masurian	Ciechanów			
Warmian-	Mława (u) Mława	596.56	2 422	computers, electronic
Masurian	( )			and optical products
Warmian- Masurian	Płońsk (u) Płońsk	0.00		no leading industry
Łódź	Płońsk (u) Raciąż	83.85	82	food products
Łódź	city of Płock (u) Płock	91.79	65	rubber and plastic products
Suwałki	Ostrów Mazowiecka (r) Małkinia Górna	249.94	158	other non-metallic mineral products
Tarnobrzeg	Przasnysz (r) Przasnysz	0.00		no leading industry
Tarnobrzeg	Siedlce (r) Siedlce	234.97	175	machinery and equipment n.e.c.
Tarnobrzeg	Węgrów (u) Węgrów	22.84	24	rubber and plastic products
Tarnobrzeg	Wyszków (u-r) Wyszków	229.79	1 021	printing and reproduction of recorded media
Warmian- Masurian	city of Ostrołęka (u) Ostrołęka	1.71	0	food products
Tarnobrzeg	city of Siedlce (u) Siedlce	0.00		no leading industry
Łódź	Grodzisk Mazowiecki (u-r) Grodzisk Mazowiecki	65.45	37	machinery and equipment n.e.c.

Tarnobrzeg	Grójec (u-r) Nowe Miasto nad Pilicą	0.00		no leading industry
Tarnobrzeg	Mińsk Mazowiecki (r) Mińsk Mazowiecki	15.52	0	paper and paper products
Łódź	Pruszków (u) Pruszków	9.27	33	other products
Łódź	Sochaczew (u) Sochaczew	0.00		no leading industry
Tarnobrzeg	Warsaw West (u-r) Ożarów Mazowiecki	123.43	400	fabricated metal products (except machinery and equipment), computers, electronic and optical products
Łódź	Żyrardów (u) Żyrardów	2.56	0	electrical and non- electrical household appliances
Tarnobrzeg	Garwolin (u-r) Pilawa	115.94	90	chemicals and chemical products, metals
Tarnobrzeg	Radom (u) Pionki	2.96	52	furniture
Starachowice	Radom (u-r) Iłża	0.00		no leading industry
Starachowice	Szydłowiec (u-r) Szydłowiec	35.42	165	paper and paper products
Tarnobrzeg	city of Radom (u) Radom	580.93	1 341	beverages, machinery and equipment n.e.c.
Łódź	capital city of Warszawa (u) capital city of Warszawa	549.55	143	paper and paper products

Source: Authors' own calculations based on the Ministry of Economy data. Notice: (u) – city commune, (u-r) urban-rural commune, (r) rural commune.

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