

SPATIAL CONCENTRATION OF BUSINESSES WITH FOREIGN CAPITAL IN THE CAPITAL CITIES OF THE POLISH VOIVODESHIPS AND THEIR AGGLOMERATIONS FROM 1995–2016

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ABSTRACT

Foreign investments play an important role in fostering local development. This article is aimed at evaluating the inflow of FDIs to the capital cities of the Polish voivodeships in 1995–2016 and their closest agglomerations. Data on the number of businesses with foreign capital used in this article originate from the Local Data Bank of the Polish Central Statistical Office. To capture a spatial concentration of businesses with foreign capital and its change from 1995–2016, a method used in analysing regional convergence, among others, was employed. The spatial distribution of FDIs in relation to the capital cities of the Polish voivodeships was analysed using Quantum GIS software and calculations in STATA 14. Conclusions arrived at showed a divergence in the number of FDIs in communes and municipalities in Poland from 1995–2016 as well as a diverse spatial pattern of FDI locations in relation to the capital city of the voivodeship.

Key words: foreign direct investment, FDI, locational determinants, agglomeration, metropolis, capital cities of voivodeships

INTRODUCTION

According to Cieřlik [2005], increased internationalisation of national economies has a significant impact on the development of cities and regions of those countries and, in particular, on the processes of location and concentration of economic operators in their area. As Latocha suggests [2002], of great importance for regional business location is a progressive consolidation of national economies. Investors most frequently locate their new businesses in economically strong regions: urban and industrial centres, the so-called growth poles. This results in the flow of mobile production factors from peripheral regions to the centre and (gradually) induces the growth of neighbouring, less-developed regions [Latocha 2005].

Foreign Direct Investments are a crucial driver of regional development, which can be observed particularly in less-developed communes, municipalities, and voivodeships. Investment attractiveness is determined by location factors. Areas with the optimum combination of location factors are more attractive in terms of investments since they allow for a decrease in capital expenditures and current costs of running the business, they enable to maximise profits and reduce the investment failure risk due to the special features of the area where an economic activity is conducted.

Effects of the inflow of FDIs may vary depending on the features of the area where they are located and on the investor [Czaplewski and Karaszewski 2012]. The impact of FDIs on the economy of the region can be either

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positive or negative and can be of a direct or indirect nature. However, it is assumed that the benefits of FDI outweigh their adverse effects and are a driver for the development of the regional economy.

This article is aimed at evaluating the inflow of FDI to the capital cities of the Polish voivodeships in 1995–2016 and their closest agglomerations. In addition, the coverage of the agglomeration of businesses with foreign capital from the largest cities in Poland was identified. According to the research hypothesis, the number of businesses with foreign capital in communes and municipalities over 1995–2016 became divergent.

SPATIAL CONCENTRATION OF BUSINESSES WITH FOREIGN CAPITAL – AN OVERVIEW OF THEORIES AND EMPIRICAL STUDIES

There exists a range of theories explaining FDI development and the internationalisation of businesses. They tackle such issues as internationalisation factors, product life cycle, business competitive advantages and diversification of investment risk [Buckley and Casson 1976, Hymer 1976, Rugman 1979, Vernon 1966]. The eclectic Dunning's OLI Framework [1980] takes into account all the determinants (inflowing and outflowing) of FDI. The Ownership–Location–Internalisation Framework presents an FDI as a result of the combination of (i) business's ownership (oligopolistic) advantages, (ii) the existence of favourable location factors, and (iii) greater benefits for the business arising from internationalisation rather than from externalisation of its activities.

The location theory suggests that an FDI depends on the competitive advantages of a given country (region) that drive business development. When analysing the location of FDI in regions, the following factors are important. According to Misala [2003], these include mainly: spatial distribution of resources (natural resources, human capital, and other) and markets; productivity and quality of work; replacement costs, especially in relation to transport and communications; nature and extent of intervention of the state and regional authorities; investment climate (political, social, economic, and legal and administrative climate), quality of economic and transport infrastructure; psychological "distance" (linguistic and cultural differences) and economies of scale (production, sales, R&D) [Umiński 2012]. Dziemianowicz [1997] defines location-dependent competitive advantages as location factors. They offer businesses in foreign market ownership advantages, price advantages and economies of scale.

It is important to identify location factors that shape the overall investment climate for FDI. They include economic factors, i.e. market, production resources and their costs, legal circumstances (economic laws and regulations), social background (e.g. lifestyle), regional culture, knowledge of foreign languages and political determinants (political stability and the related investment risk in a given country) [Rymarczyk 2008, Lizińska 2012, Nazarczuk 2013]. However, business location in the region is determined primarily by its qualitative location factors, i.e. regional business environment institutions (finance, insurance, information, training, consulting, promotion) [Olesiński and Predygier 2002], advanced global transport and communications infrastructure and even the beauty of the landscape [Gorzela 2002]. Similar location factors taken into account when choosing the form and purpose of individual FDI can, however, have different weights.

It is generally accepted that the effects of the activities of businesses with foreign capital are beneficial for the host country at a national level. Such effects may vary across regions. Uneven distribution of those businesses in Poland may limit the positive effects of their activities related to the inflow of capital, transfer of technology and foreign knowledge diffusion to regions where such businesses are located. As a result, the existing regional disparities can increase or become difficult to eradicate instead of eliminating them [Cieślik 2007].

The analysis of location factors for businesses with foreign capital in Poland is aimed at better understanding what makes foreign investors choose a given location for their businesses. The spatial concentration of businesses with foreign capital in certain relatively well-developed regions of the country is associated with insufficient investment incentives from the state, encouraging investors to locate their businesses in poorer and less-attractive parts of Poland. Empirical research carried out to date shows that fiscal incentives affect location

decisions of businesses only to a marginal extent [Wells 1986, Mintz 1990, Devereux and Griffith 1998, Head et al. 1999]. Hence, the geographical concentration of businesses may be a consequence of various benefits of agglomeration, uneven distribution of technical infrastructure and many other factors, as suggested in the literature on urban economics and the new economic geography as having an impact on location decisions made by businesses [Fujita and Thisse 2013].

Cieślik [2007] employed an analytical framework related to the location theory, originating from the pioneering papers of Launhardt [1882] and Weber [1909], in the empirical analysis of the business location factors nationwide. Those papers are part of the so-called German tradition in the location theory which investigates the problem of spatial location of an economic operator operating in several markets and acquiring resources from various sources. In the traditional Launhardt–Weber model, both the production volumes and expenditure were considered as provided in advance, thus the whole issue was about finding the best location to minimise the total transport costs. Economists noted that such an approach does not entail considering microeconomic circumstances when making location decisions. The Launhardt–Weber model did not describe how prices, forms of competition among companies or market structures are defined; it also failed to explain how individual businesses should make location decisions or how their decisions could affect each other and lead to the spatial concentration of businesses [Krugman 1997].

According to Cieślik [2007], the contemporary theoretical models are built on micro-economics and describe the spatial concentration of businesses as a result of the process affected by agglomeration- (concentration-) and deglomeration-oriented forces. In a state of equilibrium, since these forces are balanced, businesses do not see any reason for changing their locations and the spatial structure of the economy consolidates. A neoclassical analysis shows that the most significant force for the dispersion of economic activity are transport costs, whereas a force for the concentration of economic activity are agglomeration benefits, which are exogenous variables.

Krugman and Fujita [Krugman 1996, Krugman 1998, Fujita et al. 2001, Fujita and Krugman 2003] emphasised various forces of spatial business concentration and deglomeration. The business concentration forces include natural benefits of location, i.e. convenient geographical location, benefits associated with the size of the market comprising demand and supply interrelations and specialist labour market, as well as pure external effects, i.e. diffusion of knowledge. The business deglomeration forces include production costs and the impact of such non-market factors as congestion and environmental pollution.

Empirical research on factors affecting location decisions of businesses using the formal methods of statistical analysis started in the early 1980s with the pioneering paper of Carlton [1983]. His (and subsequent) experiments [Bartik 1985, Luger and Shetty 1985] confirmed the thesis that the benefits of agglomeration are statistically relevant factors affecting the choice of an optimum location for an economic activity. Nowadays, most empirical studies are based on this theory to a lesser or greater extent by assuming that when investors look for the optimum location, they are driven by the possibility to maximise their profits, which is affected by the features of the region where they locate their businesses. Such features can be interpreted as measures of the agglomeration- and deglomeration-oriented forces through their impact on profits earned and costs borne by investors in a given region.

The paper of Head and Ries [1999] could serve as an example of an analysis of the investing reasons for foreign businesses that closely combines practice and theory by deriving the estimated regression equation directly from the theoretical model. They applied the formal model of agglomeration to a wide range of businesses, in which the endogenous externalities, the economic base of the region, the infrastructure variables, the conditions on local labour markets and the fiscal incentives in the form of Special Economic Zones may influence the location decisions of foreign investors. Head and Ries [1996] argued that the profits of foreign investors locating their businesses in a given region would be directly proportional to the number of possible suppliers of goods and services (which is linked with the size of the economic base of the region), the prices of finished goods and services depending on the transport infrastructure of the region, the overall productivity of the region also

depending on other types of infrastructure, geographically determined fiscal incentives as well as the effects of externalities related to the number of foreign businesses already operating in the region. On the other hand, high production costs will have a negative impact on the profits of businesses investing in the region. By being aware of the impact of FDIs on the labour market and employment in the region, as well as of the importance of FDIs for transfer of technology, business competitiveness and links with local businesses and communities, local authorities should encourage foreign investors to locate their businesses in the region.

MATERIALS AND METHODS

Data on the number of businesses with foreign capital compiled on the basis of information gathered in the REGON database and used in this article come from the Local Data Bank of the Polish Central Statistical Office. Even though the database is limited to a certain extent, it is the official source of information on the number of businesses with foreign capital operating in communes and municipalities in Poland from 1995–2016.

In order to capture the spatial concentration of businesses with foreign capital and its change over 1995–2016, a method used in analysing regional convergence, among others, was employed (analysis of the initial level as compared to the dynamics of the phenomenon being analysed, expressed on a logarithmic scale and then presented on a scatter diagram) [Wójcik 2007].

In addition, to understand the heterogeneity of the distribution of the number of businesses with foreign capital in relation to the individual capital cities of the voivodeships, distances of individual communes and municipalities (their centroids) were calculated in relation to the capital city of a given voivodeship. The calculations were made using Quantum GIS and the results were subsequently used in a descriptive analysis after their aggregation using STATA 14.

RESULT AND DISCUSSION

The growing internationalisation of economies of individual countries has an impact on the location and concentration of FDIs implemented in their area. Of interest seems to be a spatial dimension of the operation of international corporations in Poland. However, the influence of the inflow of FDIs may vary depending on the features of the area where they are located and on the investor. According to Cieślak [2007], the concentration-oriented forces include primarily natural benefits of location that include: a convenient geographical position, e.g. the availability of a port or a transport hub, and the benefits related to the market size, including the supply and demand interrelations and the specialist labour market.

Figure 1 shows the regional diversification of FDIs in Poland in 2016. One of the most important factors allowing for the concentration of businesses is the convenient location of important transport routes along roads or at the crossing of crucial international transport channels. Cities in western Poland are more likely to attract FDIs due to their convenient location (proximity to foreign markets, a well-developed communication network) when compared to the east of Poland. Thus, the largest aggregations of FDIs in Poland include: Katowice, Cracow, Poznań, Wrocław, Szczecin, Gorzów Wielkopolski, Zielona Góra, Trójmiasto and Warsaw.

The road infrastructure and, therefore, easier access to national and international roads significantly enhance efforts of local authorities to provide incentives to foreign investors. Some of the regions of Poland have a lower chance of attracting FDIs since their economies are primarily based on agriculture and their infrastructure, especially transport infrastructure, is poorly developed, making them less connected to larger cities. That is why FDIs agglomerate mostly in selected regions of a given voivodeship, but first and foremost in the large capital cities of voivodeships.

Apart from a few large agglomerations, areas attractive for tourists and some of the Western border, Polish regions are at risk of peripheralisation. Currently, only big cities, i.e. Warsaw, Poznań, Cracow, Wrocław,

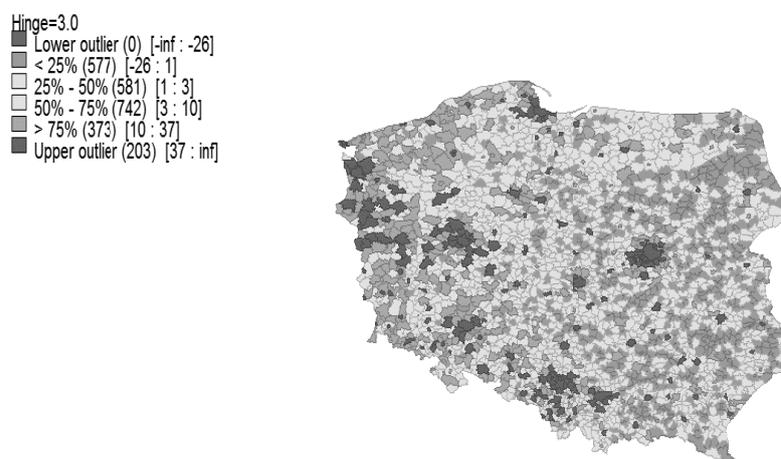


Fig. 1. Number of FOEs in 2016

Source: Own elaboration.

Trójmiasto, with diversified economies, connected to Europe thanks to relatively well-developed transport and telecommunications infrastructure, with research and development institutions and inhabited by well-educated people are able to attract foreign capital. Large agglomerations, which are scientific and research centres, are one of the reasons behind locating investments in them. Investors more frequently look for locations whose attractiveness is connected with people, i.e. the so-called creative assets, which include a whole spectrum of phenomena – from technological advancement to skilled manpower.

When it comes to the regional policy, of great relevance is the identity of cities which can be the so-called growth poles, i.e. rapidly growing centres that foster the development of the region or the sub-region. Over the years 1995–2016, the number of businesses with foreign capital in Poland increased. The concentration and increase in the number of businesses with foreign capital in specific regions of the country may result from opinions of Polish and foreign companies already operating there. As the research of Lizińska [2012] suggests, the core source of information on the conditions for operating an economic activity in Poland are assessments made by foreign and domestic businesses. When making a location decision in a region, of greater significance are institutions providing support to investors. Initiatives undertaken by local authorities are also important in attracting FDIs. It may encourage investors to locate investments in specific locations. Insufficient initiatives by local authorities may result in lower interest of businesses with foreign capital in locating their investments in a given region. Babuchowska and Kisiel [2006] argued that the laws and regulations applicable in Poland equipped local authorities with instruments to shape the economic structure of their commune or municipality. Communes and municipalities may choose to support economic initiatives or not; they can also encourage external entities to locate their investments in their area. Actions undertaken affect business development as well as foster the creation of new businesses and jobs.

Lizińska [2012] found that the main reasons behind choosing Poland as a place of business included the economic situation of the country, the situation on the labour market, the size and absorptive power of the market and the presence and experience of businesses with foreign capital already operating in Poland. Decisions to choose a region for a place of business were made by entities with foreign capital first of all based on the situation on the labour market, and then taken into account were the condition of infrastructure, the presence of businesses with foreign capital already operating there and the size and absorptive power of the market. When selecting a particular commune, municipality, town or city for a place of businesses, the same factors were taken into consideration as when selecting a region for a place of business, though their weights were different when

compared to each other. Lizińska and Nazarczuk [2008] studied the involvement of local authorities in attracting new (domestic and foreign) investors and concluded that local authorities use various instruments to encourage investors to invest in their commune or municipality. Most often, communes and municipalities employed tax relief for that purpose. Other incentives used by local authorities consisted in helping to find vacant land or premises and improving technical infrastructure. Another important form of support for investors was an accommodating attitude of officials and local communities towards them.

One of the crucial aspects of business location is the present concentration of foreign entities in specific locations. Entities operating in a big city or a metropolis take advantage of the typical benefits of agglomeration (concentration): urbanisation and shared location benefits, which are external costs and benefits. Businesses gain additional profits without additional expenditures. They can share technical infrastructure, including road infrastructure, waterworks and sewerage infrastructure, environmental protection infrastructure (sewage treatment plants, landfills, and waste incineration plants), as well as social infrastructure (educational and health care institutions, culture centres, universities and R&D facilities), etc. Easy access to the foregoing allows businesses quicker implementation of innovations and facilitates access to markets where their products and services may be sold. The co-location benefits refer both to production and services. Businesses are capable of exploiting the specialist labour market to a great extent and diversity. Such capabilities will also result from easy access of businesses to administrative, consulting and specialised institutions offering, for example, consulting in advanced technologies, R&D, as well as financial, banking and insurance services, but also inspection and certification institutions.

According to Pietrzyk [2004], metropolises and zones of organised production will achieve the greatest successes in attracting FDIs. For metropolises, these are primarily benefits of the concentration of various economic activities, while for zones of organised production, those include effects of spatial concentration of businesses of similar profiles. Urban agglomerations, metropolises, and recently separated metropolitan areas are considered to be areas more developed than peripheral areas and they can more successfully attract foreign capital. The impact of a metropolitan area on the socio-economic development of the region where it is located is diverse and depends on many features of the economy, i.e. on the production structure, the quality of spatial development, the ability of authorities to cooperate, the socio-economic characteristics of the entire region, the specifics of economies of neighbouring areas, the level of entrepreneurship in the region, the networks of towns and cities, but first and foremost on internal cohesion and transport accessibility. Gaczek [2013] argued that the geographical proximity – undoubtedly a decisive determinant of the benefits of agglomeration – is one of the conditions sufficient for the formation of industrial as well as industrial and services clusters. The size of the market in an agglomeration and better and easier access of businesses to knowledge and skills sought on the labour market result in attracting cooperating sectors as well as competitors.

In 1995–2016, when the number of businesses with foreign capital in Polish communes and municipalities was analysed, a divergence in their number at the local level was observed (Fig. 2). On average, communes and municipalities which in 1995 hosted a greater number of businesses with foreign capital (logarithmic values) showed an increase in their number between 1995 and 2016 (logarithmic values). In addition, the positive slope at a logarithmic value of businesses with foreign capital in 1995 (*lnkz_95*) confirms the increasing divergence in the number of businesses with foreign capital between 1995 and 2016.

When analysing the distances between the locations chosen by investors with foreign capital for their places of business and the capital city of the region, one may note a tendency that most FDIs were located at a distance of 0–15 km from the capital city of the voivodeship. It was best observed in the Mazowieckie Voivodeship where 83.5% of all the companies registered there were located up to 15 km from Warsaw. The next were the Małopolskie voivodeship (81.7% of all the companies located up to 15 km from Cracow) and the Łódzkie voivodeship (71% of all the businesses with foreign capital located near the city of Łódź). The lowest concentration of businesses around the capital city of the voivodeship was observed in Olsztyn in the Warmińsko-Mazur-

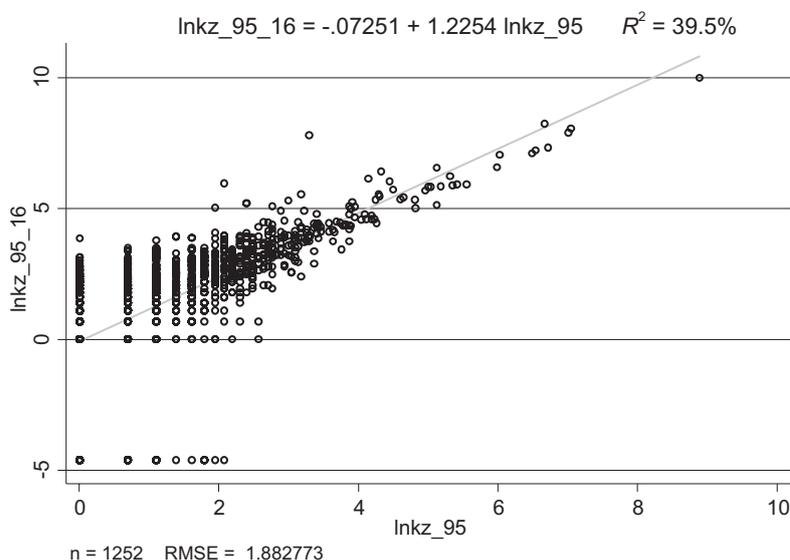


Fig. 2. Number of firms with foreign capital in 1995 vs. increment in the FOEs number between 1995–2016

Source: Own elaboration.

skie voivodeship (32.3% of all the FDIs in the entire voivodeship), in Rzeszów in the Podkarpackie Voivodeship (37.4%), and around Katowice in the Śląskie voivodeship (40.3%).

Relatively more FDIs in the region in the case of Gdańsk (26.7%), Katowice (21.7%), and Opole and Zielona Góra to a lesser extent, were located around a wider ring (15–30 km) from the capital city of the voivodeship. However, one has to remember that the results achieved for FDIs at a larger distance from the capital city of a voivodeship may be affected by the structure of the settlement network of a region and the proximity of other large urban areas and their conurbations (Table 1).

Cieślak [2007] argued that the analysis of location factors for businesses with foreign capital in Poland is aimed at better understanding what makes foreign investors choose a given location for their businesses. In particular, it is important as far as implications for the economic policy are concerned, whose purpose is to improve the investment attractiveness of the least developed regions of the country. It is often argued that the spatial concentration of businesses with foreign capital in certain relatively well-developed regions of the country is associated with insufficient investment incentives from the state, encouraging investors to also locate their businesses in poorer and less attractive parts of Poland.

On the other hand, fiscal incentives are often believed to be ineffective in attracting FDIs. They cannot overcome other disadvantages of possible locations for foreign investments (e.g. difficult access to infrastructure or complex legal procedures). The impact of fiscal incentives on decisions on locating foreign investments gets worse the more common such incentives become in other countries/regions. The use of tax exemptions may, however, be necessary for attracting investors to peripheral areas or regions lagging behind in economic development [Nazarczuk and Kisiel 2013].

Instruments employed by communes and municipalities to make investors locate their businesses in their areas are additional, non-decisive determinants. More important determinants in choosing a regional location are sites prepared for investments and the condition of the existing technical infrastructure. Of major importance are also such qualitative locational determinants as skilled specialists and the possibility of collaborative production. As the research of Nazarczuk and Krajewska [2017] suggests, of relevance is also the proximity to,

Table 1. Share of the no. of firms with foreign capital by distance from the city in 2016 (km)

Town/City	0–15	15–30	30–45	45–60	60–75	75–90	90–105	105–120
Wrocław	54.8	7.6	4.1	8.3	8.7	5.2	9.8	1.6
Toruń	61.3	9.5	11.5	15.0	1.6	0.0	0.0	0.0
Lublin	53.8	3.2	3.8	4.4	9.2	8.3	12.2	4.7
Zielona Góra	41.2	11.8	27.9	16.2	2.8	0.0	0.0	0.0
Łódź	71.0	6.3	2.7	12.3	2.6	2.5	0.0	0.0
Kraków	81.7	5.0	4.4	1.8	5.8	0.9	0.4	0.0
Warsaw	83.5	11.6	1.6	0.6	1.4	1.1	0.1	0.0
Opole	44.7	17.1	21.2	14.9	2.1	0.0	0.0	0.0
Rzeszów	37.4	4.3	11.6	15.2	30.9	0.4	0.1	0.0
Białystok	62.1	2.4	5.8	3.3	8.1	4.7	0.1	12.2
Gdańsk	48.9	26.7	6.9	3.1	5.0	2.2	0.8	5.9
Katowice	40.3	21.7	7.3	16.3	14.2	0.3	0.0	0.0
Kielce	55.2	3.2	22.4	14.1	4.5	0.6	0.0	0.0
Olsztyn	32.3	3.5	12.9	26.4	9.1	5.3	6.7	2.2
Poznań	58.2	9.6	5.5	8.8	8.8	6.1	2.9	0.0
Szczecin	49.7	7.1	8.8	8.8	2.7	2.3	2.2	8.4

Source: Own elaboration.

among others, the capital city of a voivodeship, a Special Economic Zone, an airport, communication networks and the borders. The proximity of the borders and the capital city of a voivodeship ensures access to national and international markets, and especially in the case for the latter – they ensure access to well-educated employees. Nazarczuk and Krajewska highlighted one of the most significant locational determinants – the proximity of markets and the pro-export orientation of businesses with foreign capital, which affects their location decisions in the context of future sales. What is more, they also emphasised the role of the structural factors of local economies and the availability of skilled specialists.

However, territorial concentration, specialised economic activity, knowledge transfer and dissemination and use of advanced technologies contribute to increased competitiveness of local economies. The concentration of businesses allows them to share infrastructure and, by imitation, to implement new technical and organisational solutions applied by competitors.

CONCLUSIONS

This article was aimed at evaluating the inflow of FDIs to the capital cities of the Polish voivodeships in 1995–2016 and their closest agglomerations. Between 1995 and 2016, there was a larger absolute growth of FDIs observed in communes and municipalities which in the past hosted a great number of foreign investors, which resulted in greater differences in their number locally. Businesses with foreign capital most often located their headquarters in close proximity to the big capital cities of voivodeships which offered a wide

variety of specialists, well-developed technical infrastructure, and other businesses in vicinity. It is large agglomerations with R&D institutions that might attract investments. Currently, only big cities with diversified economies, connected to Europe thanks to well-developed transport infrastructure, with research and development institutions and inhabited by well-educated people, are able to attract foreign capital.

Local authorities should improve the economic base and infrastructure of cities, particularly in regions which are in a less favourable situation, in order to improve their attractiveness in the eyes of foreign investors. The selection of locations for FDI (as regards to markets), indicates that their potential impact is limited in that regard. Hence, local authorities should implement smart initiatives to determine the investment climate in their area, i.e. they should create and develop infrastructure that makes it easy to run and develop an economic activity (as part of a local specialisation), promote it and provide detailed information to possible investors, render reliable and professional administrative services, establish favourable circumstances for conducting and expanding business, e.g. through public aid.

Urban areas can also grow faster due to more favourable climate for innovation. Spatial differentiation of the inflow of FDI – when it comes to the new economic geography – is determined by the intensity of the impact of centripetal forces fostering concentration and of centrifugal forces causing dispersion. A more difficult situation of communes is an effect of worse access to production factors, remoteness from large urban centres, and the lack of basic economic and social infrastructure. The situation may be improved by investments in transport infrastructure which will improve connection to medium-sized and large cities and major transport corridors.

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PRZESTRZENNA KONCENTRACJA FIRM Z UDZIAŁEM KAPITAŁU ZAGRANICZNEGO W MIASTACH WOJEWÓDZKICH POLSKI I ICH AGLOMERACJACH W LATACH 1995–2016

STRESZCZENIE

Inwestycje zagraniczne odgrywają istotną rolę w dynamizowaniu rozwoju na poziomie lokalnym. Celem artykułu jest ocena skali napływu BIZ do miast wojewódzkich Polski i ich najbliższych aglomeracji w latach 1995–2016. W pracy wykorzystano dane na temat liczby firm z udziałem kapitału zagranicznego zaczerpnięte z Banku Danych Lokalnych GUS. W celu uchwycenia przestrzennej koncentracji podmiotów z kapitałem zagranicznym oraz jej zmian w latach 1995–2016, posłużono się m.in. podejściem stosowanym w analizie konwergencji regionalnej. Przeanalizowano przestrzenny rozkład liczby BIZ względem miast wojewódzkich z wykorzystaniem aplikacji Quantum GIS i obliczeń w STATA 14. Uzyskane wyniki wskazywały na dywergencję w liczbie BIZ na poziomie polskich gmin w latach 1995–2016, a także zróżnicowany przestrzenny wzorzec lokalizacji BIZ względem miasta wojewódzkiego.

Słowa kluczowe: bezpośrednie inwestycje zagraniczne, BIZ, determinanty lokalizacji, aglomeracja, metropolie, miasta wojewódzkie