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## **The regional variation of foreign direct investment in Poland**

**Abstract.** In this paper, an analysis of foreign direct investment in terms of regional differences was conducted. The analysis covered the period 2005-2013. The analysis shows that the distribution of investors in Poland is varied regionally. Regions particularly attractive for foreign investors were Mazovia, Silesia, Lower Silesia and Greater Poland. In contrast, Lublin Province, Podlasie Province, Warmia-Masuria Province are regions where foreign investors are the least.

**Key words:** foreign direct investment, foreign investment in the food industry, foreign investment in the provinces

### **Introduction**

Since the early 90s we see a dynamic inflow of foreign direct investments in Poland. These investments were initially located in strategic industries and mostly in the largest cities in the country. Poland despite the passage of years, it is still an attractive place to do business by foreign entities. Estimated share of companies with foreign capital in the Polish economy in 2005-2012 was about 40% [Inwestycja 2013]. Every year, new investments come to Poland, and their location varies regionally. It is important to know the location of foreign direct investments, to determine the motives of their choice and to determine the impact of their activities on the changes in the region.

### **Research methodology**

The aim of the study was to present the inflow of foreign direct investments in Polish regions. The study contains the annual accounts and the cumulative data of foreign investments' inflow in terms of a Polish national, regional and sectoral (including the food industry). Effect of foreign investors in the region was examined by analysis of employment and volume of export and import.

Foreign direct investments (FDI), base on capital location by the company or individual of one country in the company of another country in order to achieve a permanent impact on its business and reap the profits. The company transferring kind or cash capital abroad can become the sole owner or co-owner of companies which operate in the deposit country [Bożyk, Misala & Puławski 2002].

Capital flows in the form of foreign direct investments have been the subject of many analyses and scientific researches as an important factor in economic growth. A number of theories to explain the motives of investments, types of investments, as well as the effects

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of investment for the host country and the investing entity has been created so far. Summary of the most important theories are presented in Table 1.

Table 1. Selected theories of foreign direct investment flows

Theory	Scientists	The essence of the theory
Eclectic theory of international production OLI paradigm	Dunning`a	Theory is based on 3 groups of KTN advantages: The first group production resulted from the ownership of assets, they are ownership specific advantages. They can include: the size of the company, technology and trademarks, management and organizational systems, access to spare capacity, better access to markets and knowledge about them, international opportunities, eg. risk diversification. The second group consists of KTN advantages due to the specific nature of their economic activity location (location specific advantages). These advantages include: the cost of labor, materials, and transportation costs between countries, language, culture and customs, legal structures and government policy and interventions. The third group belongs to the specific advantages associated with the internalization of KTN (internalization incentive advantages ) - ie: reducing the costs of exploration, negotiation and monitoring, cost avoidance
Technological gap theory	Posner	Theory assumes that there is a technological gap between countries. Innovative countries produce products that undergo the life cycle phase and investments move the products from innovative countries to imitating countries.
Theory of internationalization	Coase	According to the theory more profitable for the enterprise can be the use of its advantage alone than to make it available to other companies. Such company makes internationalization advantage through the extension of its own activity, which has been carried out through the market so far.
The theory of relative offsets of the capital and labor costs	Kojima	The essence of the theory is the use of the comparative advantages (cheaper labor) of less developed host country.

Source: own research.

Listed in Table 1 The theories suggest the positive effects on the transfer of capital, contributing to the socio-economic development of countries/regions. The basic elements of the regional development are economic and employment growth, prosperity, quality of life, attractiveness of regions for investments, innovation, human capital development, etc. [Woźniak-Miszewska 2012]. Foreign direct investments have an impact on regional development through the transfer of technics, technology, increased competition in the region, strengthening cooperation with subcontractors, creation of new companies, hiring employees, breaking monopolies, the creation of new standards contribute to improvement of the quality of life. However, be aware of the negative impact of FDI, i.e.: about the import of outdated technologies, acquired national entities liquidation, competition liquidation, overexploitation of natural resources, etc.

An important element in determining the location of the investment is the attractiveness of the region and created investment climate. Investment attractiveness consists of many factors among others: technical and economic infrastructure, labor resources, market capacity, availability of transport, location, level of economic development, legislation, investment security or investment incentives.

This paper presents an analysis of foreign direct investments (FDI) invested in Poland in the years 2005-2013. The analysis was based on CSO data.

## Entities with foreign capital in Poland

Entities with foreign capital invest in Poland since the early 90s. In the years 2000-2013 the number of entities investing in Poland dynamically increased. In 2013. In Poland 26121 companies with foreign capital had been registered and invested capital amounted to 188 billion PLN (Figure 1, Table 2). In order to attract foreign investors Poland applied various incentives including tax breaks.

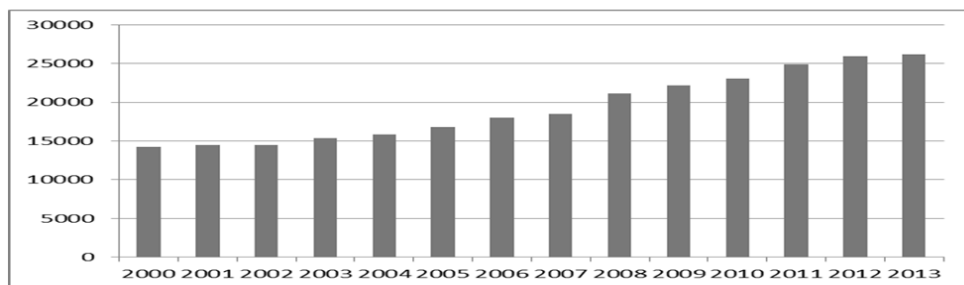


Figure 1. Number of companies with foreign capital in Poland in the years 2000-2013

Source: Own calculations based on data from The economic activities of entities with foreign capital in 2000 - 2013 Central Statistical Office, Warsaw 2001 -2014.

As can be seen from the graph 2 in the analyzed period, the value of foreign capital invested in Poland increased dynamically. Foreign capital was approximately 3-fold higher in 2013 in comparison to 2000. In relation to entities with foreign capital in the share capital, more than 90% of shares have foreign entities. Domestic capital accounted for more than 20% in 2000 and gradually decreased to 10 %/ in 2013.

By 2008, the number of employees in companies with foreign capital increased dynamically in 2009. As a result of the global crisis, there was a decrease of 71 thousand employees but in 2010 there was an increase in employment. In 2013 there were more than 1.62 million people who worked in companies with foreign capital (Table 2).

Entities with foreign capital invested in the country. Since 2005, expenditures on new assets were observed. In 2013,. the amount of expenditures amounted to more than 51 billion PLN.

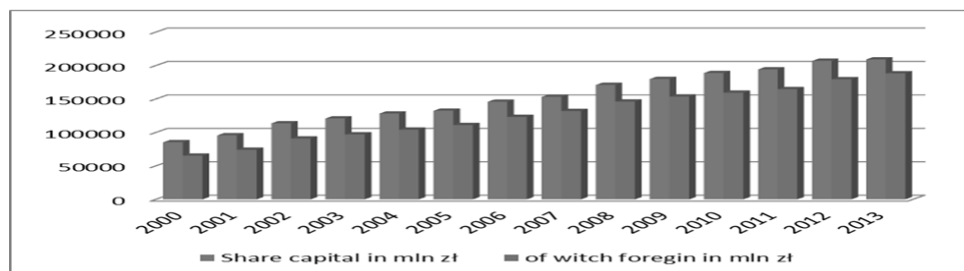


Figure 2. The value of capital, including foreign entities with foreign capital in the years 2000-2013

Source: Own calculations based on data from The economic activities of entities with foreign capital in 2000 - 2013 Central Statistical Office, Warsaw 2001 -2014.

Table 2. Entities with foreign capital in Poland in the years 2005-2013

Year								
2005	2006	2007	2008	2009	2010	2011	2012	2013
The number of companies with foreign capital in Poland								
16837	18015	18515	21092	22176	23078	24910	25914	26128
Share capital million PLN								
132398.0	145852.0	153243.8	170997.1	179877.8	188812.4	194160.6	206992.3	209130.0
including foreign millon PLN								
111028.3	123196.6	131856.9	145996.9	153577.8	159267.2	164559.4	179372.3	188243.1
Number of employees								
1186148	1313359	1453733	1531668	1460650	1518398	1566533	1571235	1628516
Expenditure on new assets in Poland million PLN								
37105.6	46783.9	54944.4	65198.3	50938.4	46868.8	54996.0	53062.7	51303.6

Source: Own calculations based on data from The economic activities of entities with foreign capital in 2000 - 2013 Central Statistical Office, Warsaw 2001 -2014.

Table 3. Entities with foreign capital by shareholders and NACE sections in 2013

NACE Sections	Number of entities		Total number of shareholders of which		Foreign capital	
	Total	Share (in %)	Total	Legal persons located abroad	Total in mln zł	Share (in %)
Total	26128	100	36395	18494	188243.1	100
Agriculture, forestry and fishing	719	2.8	1051	287	1080.2	0.6
Mining and quarrying	153	0.6	198	137	1661.4	0.9
Manufacturing	5103	19.5	6828	3994	67609.7	35.9
Electricity, gas, steam and air conditioning supply	697	2.7	929	640	8567.6	4.6
Water supply; sewerage, waste management and remediation activities	169	0.6	216	131	888.1	0.5
Construction	2250	8.6	3199	1825	9030.3	4.8
Trade; repair of motor vehicles	7409	28.4	10588	4184	40045.0	21.3
Transportation and storage	1030	3.9	1419	682	2766.7	1.5
Accommodation and catering	551	2.1	838	191	1831.9	1.0
Information and communication	1297	5.0	1695	1081	23580.3	12.5
Financial and insurance activities	561	2.1	722	522	8466.7	4.5
Real estate activities	2342	9.0	3619	2006	12931.4	6.9
Professional, scientific and technical activities	2371	9.1	3075	1886	6136.0	3.3
Administrative and support service activities	942	3.6	1253	609	2444.2	1.3
Education	118	0.5	175	60	62.6	0.0
Human health and social work activities	163	0.6	231	96	871.3	0.5
Arts, entertainment and recreation	144	0.6	210	92	165.0	0.1
Other service activities	109	0.4	149	71	104.7	0.1

Source: Economic activity of entities with foreign capital in 2013. [2014] Statistical information and reports. GUS, Warsaw and own calculations.

## Structure of foreign direct investors' activities in Poland

In 2013, the most entities - 28.4% worked in the trade and vehicles repair. On the second place was the industrial processing, where there were 19.5% of companies with foreign capital, including 9.6 entities engaged in the production of food and beverages (Table 3). On another place was real estate services, construction and professional, scientific and technical activity- for these sections accounted for about 9% of the subjects (Table 3). An analysis of the structure of foreign investors' activities for the years 2005-2013 shows that the largest share in total had industrial activity.

Table 4. Foreign capital and the production of food and beverages in 2013

Years	Number of entities	Number of employees	Share capital in million PLN	Foreign Capital in million PLN
2005	510	88879	9913.3	9235.8
2006	518	88616	10151.9	9447.8
2007	495	88846	10303.0	9573.1
2008	480	89240	10161.3	9493.8
2009	438	89006	10530.9	9945.1
2010	461	88042	8904.9	8322.5
2011	500	95403	9819.7	9182.2
2012	505	93502	11189.4	10594.8
2013	491	91064	10519.2	9964.4

Source: as in Table 2.

In the structure of the activities of foreign entities the smallest share in 2013 showed: educational activities, activities related to the entertainment, culture and health care.

In the years 2005 - 2013 there was an increase of invested capital in agriculture, forestry, hunting and fishing (Table 3). In the structure of industrial production the most foreign investment in this period was in the production of industrial goods and beverages. In this sector, more than 10.5 billion PLN was invested, including foreign capital accounted for 95%. In the period 2005-2013 the value of foreign invested capital increased more than 7-fold. In 2013 there were 491 entities that employed more than 91 thousand workers (Table 4).

## The regional variation of foreign direct investment in Poland

Poland is a country with regional diversity in terms of economic development. Developed regions include Mazovia and the southwestern Poland. Eastern regions are less developed. By analyzing the distribution of entities with foreign capital in Poland, most of them exist in large conurbations, i.e.: Warsaw, Poznan, Katowice, as well as in the most developed regions – Mazovia (38.6% of all companies with foreign capital in 2013.), Silesia (9.1%), Lower Silesia (9.1%) and Greater Poland (8.8%). In these provinces more than 55% of the total operating foreign investors were operating. The lowest percentage of registered entities was in Podlasie Province (0.7%), Świętokrzyskie Province (0.7%) and Lublin Province (1.5%) (Table 5). Since foreign investments contribute to economic

growth, capital resources and complement the national capital resources and modernize production technologies, local authorities seek their influx, creating the right conditions.

The Institute's Research (IBnGR) showed that the most attractive regions are Silesia, Mazovia, Lower Silesia and Greater Poland. The least attractive regions are Świętokrzyskie Province, Lublin Province and Podlasie Province which confirms the above analyses [Nowicki 2010].

Table 5. Basic data on entities with foreign capital in the regional in 2013

Voivodships	Number of entities		Persons employed		Share capital in mln zł			
	Total	Share (in %)	Total	Share (in %)	Total	Share (in %)	Including foreign	Share (in %)
Total	26128	100	1628516	100	209130.0	100	188243.1	100
Dolnośląskie	2370	9.1	155514	9.5	17365.2	8.3	16136.3	8.6
Kujawsko-pomorskie	589	2.3	37289	2.3	3100.9	1.5	2989.7	1.6
Lubelskie	400	1.5	22813	1.4	1547.3	0.7	1310.5	0.7
Lubuskie	731	2.8	34601	2.1	1957.0	0.9	1898.5	1.0
Łódzkie	1086	4.2	81907	5.0	5115.6	2.4	4892.3	2.6
Małopolskie	1651	6.3	104006	6.4	13592.3	6.5	12471.7	6.6
Mazowieckie	10098	38.6	548107	33.7	102572.7	49.0	93014.6	49.4
Opolskie	488	1.9	26170	1.6	2234.5	1.1	2092.9	1.1
Podkarpackie	461	1.8	41533	2.6	5981.7	2.9	5422.0	2.9
Podlaskie	183	0.7	10251	0.6	771.8	0.4	636.2	0.3
Pomorskie	1430	5.5	61821	3.8	8957.3	4.3	6734.9	3.6
Śląskie	2388	9.1	181177	11.1	19067.4	9.1	15634.8	8.3
Świętokrzyskie	184	0.7	20667	1.3	2984.7	1.4	2801.8	1.5
Warmińsko-mazurskie	302	1.2	13890	0.9	1580.4	0.8	1479.6	0.8
Wielkopolskie	2302	8.8	233591	14.3	16889.1	8.1	15648.0	8.3
Zachodniopomorskie	1465	5.6	55179	3.4	5412.2	2.6	5079.3	2.7

Source: as in Table 2.

One of the criteria for assessing the impact of foreign investment on the economy of the host country and in the region, is the number of employees in companies with foreign capital. In 2013 in companies with foreign capital were employed over 1.6 million workers. The largest share of employed persons was in Mazovia - 33%, Greater Poland - 14.3% and the Silesia - 11.1% - the trend still remained located in the last few years. The lowest employment was in the Podlasie and Warmia and Mazuria (Table 5).

Analyzing the regions in terms of invested capital again emerges Mazovia Province - 49.4% of total invested capital, Lower Silesia, Silesia and Greater Poland. Particularly noteworthy is the Mazovia province, where almost half of the capital invested in Poland - 93 billion PLN was located (Table 5).

Capital expenditures in entities with foreign capital since 2005 until 2008 were characterized by a growing trend. In 2009 there has been a decline in investments. In 2013 the capital expenditures amounted to 75 billion PLN including new investments amounted to over 51 billion zł. The largest share in the structure of expenditures showed Mazovia, Greater Poland and Silesia (Table 6).



Table 6. Investments' cost and total revenues in companies with foreign capital in the regions in 2013

Voivodships	Investment outlays		Fixed assets outlays in Poland		Revenues from total activity	
	Total	Share (in %)	Total	Share (in %)	Total	Share (in %)
Total	75105	100	51303,6	100	1241930	100
Dolnośląskie	5295,6	7,1	4445,1	8,7	98427,9	7,9
Kujawsko-pomorskie	1372,3	1,8	886,4	1,7	31178,7	2,5
Lubelskie	1602,1	2,1	595,4	1,2	14132,9	1,1
Lubuskie	914,6	1,2	863,5	1,7	19516,1	1,6
Łódzkie	2509,6	3,3	2330,9	4,5	45476,7	3,7
Małopolskie	2873,6	3,8	2209,4	4,3	69022,5	5,6
Mazowieckie	34491,1	45,9	21129,7	41,2	481519,6	38,8
Opolskie	834,8	1,1	673,9	1,3	16612,9	1,3
Podkarpackie	1390,3	1,9	1166,5	2,3	23137,9	1,9
Podlaskie	270,8	0,4	218,5	0,4	7050,5	0,6
Pomorskie	3004,8	4,0	2499,5	4,9	48724,1	3,9
Śląskie	7906,5	10,5	5056,4	9,9	138326,6	11,1
Świętokrzyskie	1120,6	1,5	983,6	1,9	15913,4	1,3
Warmińsko-mazurskie	354,7	0,5	303,8	0,6	8848	0,7
Wielkopolskie	8633	11,5	5720,5	11,2	190703,8	15,4
Zachodniopomorskie	2530,7	3,4	2220,6	4,3	33337,9	2,7

Source: as in Table 2.

In the period 2005-2013 the entities with foreign investment were engaged in export and import. In 2013 the balance was negative, amounted to 3.7 billion zł. Analyzing the particular regions it can be concluded that the negative balance occurred in Mazovia and Greater Poland. In other provinces balance was positive (Table 7). The largest share in the import side (33.8%) and exports (21.6) showed entities from Mazovia. On the second place was Silesia and Greater Poland and Lower Silesia occupied the next places. The smallest share in imports and exports showed entities of Podlasie Świętokrzyskie and Lublin Province (Table 7).

Table 7. The value of export and import by region in 2013

Voivodships	Imports total		Exports total	
	Total	Share (in %)	Total	Share (in %)
Total	379296.8	100	375612,1	100
Dolnośląskie	39735.2	10.5	46197.5	12.3
Kujawsko-pomorskie	8560.4	2.3	12062.7	3.2
Lubelskie	2717.0	0.7	4218.0	1.1
Lubuskie	8526.2	2.2	10733.6	2.9
Łódzkie	16757.0	4.4	16487.2	4.4
Małopolskie	20221.5	5.3	20730.9	5.5
Mazowieckie	128091.5	33.8	81120.3	21.6
Opolskie	5639.3	1.5	6153.8	1.6
Podkarpackie	9630.3	2.5	13903.9	3.7
Podlaskie	2279.4	0.6	2722.7	0.7
Pomorskie	15134.2	4.0	17534.6	4.7
Śląskie	49972.1	13.2	67047.5	17.9
Świętokrzyskie	2188.0	0.6	4033.5	1.1
Warmińsko-mazurskie	4011.2	1.1	5859.2	1.6
Wielkopolskie	54152.1	14.3	51058.2	13.6
Zachodniopomorskie	11681.3	3.1	15748.5	4.2

Source: as in Table 2.

Table 8. Foreign capital by the shareholder origin in the regional calculation

Voivodship	Country						
	Netherlands	France	Germany	Luxembourg	Sweden	USA	Cyprus
Total	32207.3	31295.2	30881.4	21718.2	8845.8	7727.5	7085.8
Dolnośląskie	2348.4	1191.3	6111.5	419.5	136.4	146.3	180.7
Kujawsko-pomorskie	709.1	264.4	749.3	96.7	10.8	8.8	#
Lubelskie	412.4	101.3	61.3	168.7	#	148.4	34.3
Lubuskie	67.8	81.0	345.8	93.9	#	#	27.5
Łódzkie	1187.6	277.7	733.0	415.0	#	62.1	58.9
Małopolskie	1314.4	470.3	781.7	#	28.6	128.1	148.9
Mazowieckie	17478.1	24955.5	11003.5	8642.7	5061.3	2314.7	3455.7
Opolskie	670.8	#	783.2	#	#	#	106.7
Podkarpackie	288.8	472.1	602.6	169.4	25.0	3111.0	#
Podlaskie	230.4	#	#	#	6.4	#	17.5
Pomorskie	940.0	274.9	1019.2	498.2	#	50.8	344.4
Śląskie	1646.4	768.1	3407.7	3372.1	329.0	115.3	709.6
Świętokrzyskie	#	#	#	68.4	#	0.1	351.7
Warmińsko-mazurskie	#	108.6	117.4	5.7	#	#	5.8
Wielkopolskie	3848.7	1293.5	4072.6	307.2	502.8	#	310.0
Zachodniopomorskie	177.7	7.0	916.7	74.0	312.1	17.7	#
Voivodship	Country						
	Spain	Belgium	Italy	United Kingdom	Denmark	Austria	Switzerland
Total	5969.0	5905.8	5360.6	5343.1	4979.0	3268.7	3219.3
Dolnośląskie	342.3	1401.7	404.8	490.7	50.5	180.2	422.4
Kujawsko-pomorskie	35.5	14.0	9.1	9.7	152.2	73.1	#
Lubelskie	#	13.8	111.3	#	2.9	#	#
Lubuskie	#	89.6	165.4	#	240.0	#	98.9
Łódzkie	141.2	30.2	786.0	111.2	177.6	165.0	110.0
Małopolskie	95.6	138.2	145.8	323.8	19.7	306.8	225.6
Mazowieckie	3833.4	1891.4	933.1	2570.6	2141.2	1468.2	730.6
Opolskie	-	#	160.1	31.2	#	54.0	0.2
Podkarpackie	7.3	#	#	185.4	#	#	5.4
Podlaskie	-	#	#	#	35.0	#	#
Pomorskie	59.4	87.9	48.4	225.4	465.7	351.3	82.9
Śląskie	865.8	613.1	2375.2	77.3	168.9	232.3	229.8
Świętokrzyskie	#	0.7	23.2	252.2	8.7	#	#
Warmińsko-mazurskie	0.2	24.3	19.3	4.0	7.2	20.2	#
Wielkopolskie	376.5	936.1	74.1	678.5	584.0	243.9	126.6
Zachodniopomorskie	87.1	#	21.3	230.7	906.0	76.7	6.3

Symbols # - data may not be published due to the necessity of maintaining statistical confidentiality in accordance with the Law on Official Statistics.

Symbols (-) - Magnitude zero.

Source: as in Table 2.

The geographical structure of foreign investors is dominated by the Dutch before French and Germans. Investors from Holland locate their investments in all regions, but the dominant advantage attributes to Mazovia Province and then to the Greater Poland, Lower Silesia and Silesia. The same trend is observed for investors from France and Germany (Table 8).

## Summary

In the years 2005-2013 a significant role in the dynamic development of the Polish economy had inflow of foreign direct investments. However, not all regions could use the dynamic growth stimulated by foreign investments. Investments in Poland are unevenly spread. Most investments and the capital are located in the Mazovia Province. It prevails over the other regions, nearly 50% of total investments are located here. This region develops the fastest. Investments in this region stimulate economic growth, create jobs, new technologies, followed by the modernization of regional structures. These investments through competition stimulate domestic companies to introduce a number of positive changes. Similar situation occurs in Lower Silesia, Silesia and Greater Poland. Least developed are Podlasie, Warmia and Mazuria, Lublin and Świętokrzyskie Province - there is a lack of investment stimulating economic development.

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