THE SECTOR OF SMALL AND MEDIUM ENTERPRISES IN THE DEVELOPMENT OF POLISH PROVINCES

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Summary

The article presents the relation between the sector of small and medium enterprises and the development of Polish regions. The paper focuses specifically on the positive relation between the changes in the number of SME sector enterprises and the changes to the value of the regional development level, measured with Gross Domestic Product Per Capita, calculated in line with the methodology of Gross Domestic Product for particular provinces. This general, but unambiguous conclusion differs with reference to particular provinces of Poland and to different categories of SMEs.

Keywords: sector of small and medium enterprises, regional development, province, Gross Domestic Product, correlation, micro, small, medium enterprises

Introduction

Entrepreneurship is one of the most important properties defining the development of particular self-government units. Entrepreneurship is understood as a certain way of operating, an economic philosophy based on creating new ideas, implementing innovations, whose tangible effects are seen in the establishment of new economic entities, as well as initiatives of entrepreneurs and inhabitants aimed at improving the quality of their life. The most important manifestation of entrepreneurship is the operation of the Small and Medium Enterprises sector.

The above-presented definition scope of entrepreneurship refers to all – with no exceptions – units of local self-government. Regardless of external and internal conditions, that is resources, economic potential, area, landscape

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values, number of inhabitants, which determine the development position of a given unit, the phenomenon of entrepreneurship, especially manifested in the sector of Small and Medium Enterprises (SME), is an essential factor of its socio-economic development.

This article attempts at estimating the relation between the sector of Small and Medium Enterprises and the development of all sixteen Polish provinces.

The main research thesis put forward by the authors is an assumption that the sector of Small and Medium Enterprises is an essential factor in the regional development of Polish provinces, with varied intensity of this dependence in particular provinces.

There is a positive relation between the changes in the number of SME sector enterprises and the changes to the value of the regional development level, measured with Gross Domestic Product Per Capita, calculated in line with the methodology of Gross Domestic product for particular provinces.

The relations between GDP/Per Capita (PLN) and the number of enterprises in particular categories were analyzed by assessing Pearson's linear correlation coefficient.

In order to accomplish the goal of this article, we conducted a detailed analysis on the basis of secondary (published) data. It comes from the Central Statistical Office in Warsaw and from 16 Offices of Province Marshals from all Polish regions and from the Polish Agency for Enterprise Development. Most data was published on official websites of the above institutions.

The period covered with the analysis is 2005-2012.

1. The analysis of the correlation between the regional development level and the number of micro, small and medium enterprises

1.1.The presentation of diagnostic features and the descriptive statistics

Table 1 below presents the diagnostic features which will be used in analyses aimed at verifying our research hypotheses and accomplishing the dissertation objectives:

- the number of active enterprises in particular regions per 1000 inhabitants,
- the number of active small enterprises in particular regions per 100 inhabitants,
- the number of medium enterprises in particular regions per 1000 inhabitants
- Gross Domestic Product Per Capita for particular provinces. The above features refer to the 8-year research period of 2005-2012.

Table 1. The presentation of diagnostic features

Year	Province (NTS-2)	GDP/Per Capita	Micro	Small	Medium
			Size	Size	Size
		(PLN)	0–9	10–49	50–249
2005	Dolnośląskie	26560	58,39449	1,76052	0,53244
2005	Kujawsko-pomorskie	22445	39,05274	1,0812	0,40392
2005	Lubelskie	17637	36,58689	0,98277	0,27948
2005	Lubuskie	23199	21,05331	0,72267	0,19788
2005	Łódzkie	23743	58,88001	1,69065	0,5253
2005	Małopolskie	22102	68,68833	1,92678	0,58395
2005	Mazowieckie	40613	136,83708	3,15282	1,16892
2005	Opolskie	21297	17,88978	0,58344	0,16779
2005	Podkarpackie	17906	31,84695	1,07916	0,32436
2005	Podlaskie	19111	19,69926	0,5661	0,17442
2005	Pomorskie	25410	53,19657	1,42698	0,43809
2005	Śląskie	27879	104,82234	3,25023	0,94656
2005	Świętokrzyskie	19291	20,41683	0,62832	0,18258
2005	Warmińsko-mazurskie	19689	27,33855	0,80223	0,26214
2005	Wielkopolskie	27622	81,40722	2,12466	0,79866
2005	Zachodniopomorskie	23669	47,62278	0,92616	0,28305
2006	Dolnośląskie	29695	63,55824	1,73349	0,56355
2006	Kujawsko-pomorskie	24244	39,59232	1,08375	0,41157
2006	Lubelskie	18783	36,50427	0,98889	0,2856
2006	Lubuskie	24686	22,84647	0,7089	0,19635
2006	Łódzkie	25593	57,06492	1,73961	0,53754
2006	Małopolskie	24204	73,97703	1,91607	0,61812
2006	Mazowieckie	44383	137,49651	3,12324	1,20513
2006	Opolskie	22304	18,18354	0,58599	0,18309
2006	Podkarpackie	19078	32,69661	1,0506	0,32844
2006	Podlaskie	20378	20,82585	0,56457	0,17646
2006	Pomorskie	27438	54,47769	1,43514	0,46818
2006	Śląskie	29542	102,36108	3,12324	0,96237
2006	Świętokrzyskie	21093	22,67154	0,61761	0,19023
2006	Warmińsko-mazurskie	20892	28,63293	0,80274	0,27285
2006	Wielkopolskie	29269	83,3289	2,15526	0,81294

2006	Zachodniopomorskie	25103	48,81159	0,92718	0,28866
2007	Dolnośląskie	33470	69,3447	1,77276	0,60129
2007	Kujawsko-pomorskie	26828	43,55859	1,1424	0,44319
2007	Lubelskie	20979	38,24541	1,01235	0,30957
2007	Lubuskie	27242	23,38554	0,73134	0,2244
2007	Łódzkie	28551	59,52669	1,76613	0,55386
2007	Małopolskie	26560	78,69657	1,9176	0,65484
2007	Mazowieckie	49350	148,65735	3,12885	1,25817
2007	Opolskie	25473	19,21476	0,58344	0,19074
2007	Podkarpackie	20895	34,08483	1,07457	0,33966
2007	Podlaskie	22872	22,43388	0,58803	0,17952
2007	Pomorskie	30346	56,57022	1,479	0,50643
2007	Śląskie	32831	93,76605	3,26859	1,0098
2007	Świętokrzyskie	23816	22,8786	0,64617	0,20043
2007	Warmińsko-mazurskie	22908	27,75012	0,81294	0,2703
2007	Wielkopolskie	32236	87,7812	2,16444	0,83946
2007	Zachodniopomorskie	27487	47,83494	0,95523	0,29886
2008	Dolnośląskie	35946	66,43056	2,11446	0,62781
2008	Kujawsko-pomorskie	28859	40,83315	1,49481	0,45492
2008	Lubelskie	23249	34,7463	1,16535	0,35343
2008	Lubuskie	28650	21,75915	0,83691	0,21675
2008	Łódzkie	31046	63,18441	2,07672	0,56865
2008	Małopolskie	28948	82,75617	2,38629	0,69003
2008	Mazowieckie	53002	144,27594	4,1616	1,39842
2008	Opolskie	28260	19,39632	0,69921	0,19278
2008	Podkarpackie	23079	36,59607	1,29744	0,37842
2008	Podlaskie	24380	23,42634	0,69564	0,19176
2008	Pomorskie	31756	63,74949	1,79163	0,5406
2008	Śląskie	36098	115,86027	3,68475	1,06794
2008	Świętokrzyskie	26733	24,29334	0,77571	0,20553
2008	Warmińsko-mazurskie	24707	29,13528	0,94044	0,27183
2008	Wielkopolskie	34938	92,73942	2,76063	0,8925
2008	Zachodniopomorskie	30165	52,65189	1,15515	0,30294
2009	Dolnośląskie	37913	63,92646	1,98696	0,59976
2009	Kujawsko-pomorskie	29457	39,8616	1,32192	0,45339
2009	Lubelskie	23393	34,62288	1,05672	0,31671

2009	Lubuskie	29752	21,32973	0,69717	0,19941
2009	Łódzkie	32091	53,28072	1,75134	0,53907
2009	Małopolskie	30013	72,55311	2,29092	0,69258
2009	Mazowieckie	56119	135,90378	3,91782	1,37751
2009	Opolskie	29103	18,08613	0,63801	0,18054
2009	Podkarpackie	23886	30,64692	1,19799	0,3672
2009	Podlaskie	25666	19,67631	0,62016	0,17952
2009	Pomorskie	33771	54,20892	1,60191	0,50082
2009	Śląskie	37789	96,75975	3,40629	1,02357
2009	Świętokrzyskie	27010	22,27374	0,66657	0,20247
2009	Warmińsko-mazurskie	25563	26,418	0,8262	0,25041
2009	Wielkopolskie	37164	84,01536	2,57907	0,8772
2009	Zachodniopomorskie	30440	44,68977	1,03734	0,30192
2010	Dolnośląskie	41194	66,4734	2,05173	0,59925
2010	Kujawsko-pomorskie	30683	41,70984	1,38771	0,43605
2010	Lubelskie	24778	35,87544	1,12863	0,3213
2010	Lubuskie	30980	21,75405	0,70278	0,204
2010	Łódzkie	34063	56,7171	1,82121	0,52224
2010	Małopolskie	31248	77,19258	2,47452	0,70482
2010	Mazowieckie	60075	139,75632	4,0392	1,37955
2010	Opolskie	29796	17,86683	0,66045	0,18411
2010	Podkarpackie	24691	33,35808	1,28163	0,38046
2010	Podlaskie	26653	20,42193	0,65586	0,17595
2010	Pomorskie	35057	54,58632	1,69728	0,50439
2010	Śląskie	39671	97,92612	3,54297	1,02663
2010	Świętokrzyskie	27779	23,17083	0,71094	0,20604
2010	Warmińsko-mazurskie	26747	27,1881	0,85833	0,24633
2010	Wielkopolskie	38321	85,5678	2,66883	0,89913
2010	Zachodniopomorskie	31709	44,51841	1,13934	0,28866
2011	Dolnośląskie	44961	67,77951	2,08284	0,60435
2011	Kujawsko-pomorskie	32596	41,74758	1,43667	0,43401
2011	Lubelskie	26919	37,46613	1,16586	0,31569
2011	Lubuskie	32795	22,53435	0,74205	0,19788
2011	Łódzkie	36750	58,42968	1,8309	0,51153
2011	Małopolskie	34107	80,81511	2,56581	0,70023
2011	Mazowieckie	64790	143,86182	4,32378	1,39332

2011	Opolskie	31771	18,25035	0,68442	0,17901
2011	Podkarpackie	26801	36,00753	1,35558	0,39066
2011	Podlaskie	28485	21,82953	0,6936	0,17901
2011	Pomorskie	37822	58,52301	1,76103	0,50388
2011	Śląskie	42830	101,06262	3,75768	1,01796
2011	Świętokrzyskie	29552	24,57027	0,7446	0,19788
2011	Warmińsko-mazurskie	28635	26,32467	0,86547	0,25449
2011	Wielkopolskie	41285	88,57068	2,89476	0,88689
2011	Zachodniopomorskie	33485	44,63214	1,14444	0,29988
2012	Dolnośląskie	47056	71,13174	2,12772	0,59364
2012	Kujawsko-pomorskie	33803	42,44067	1,45452	0,41718
2012	Lubelskie	28211	37,30701	1,21074	0,3009
2012	Lubuskie	34227	22,05342	0,73644	0,19941
2012	Łódzkie	38418	59,35992	1,9329	0,49827
2012	Małopolskie	35271	79,68189	2,73666	0,6783
2012	Mazowieckie	68299	149,8329	4,46607	1,36884
2012	Opolskie	32813	17,76228	0,6732	0,17391
2012	Podkarpackie	27719	34,06596	1,40607	0,3774
2012	Podlaskie	29356	21,13389	0,69003	0,17544
2012	Pomorskie	39917	56,85684	1,8105	0,49572
2012	Śląskie	43864	102,21216	3,97698	1,01847
2012	Świętokrzyskie	30552	23,18868	0,80121	0,1938
2012	Warmińsko-mazurskie	29677	25,79682	0,87822	0,24021
2012	Wielkopolskie	43466	89,59527	3,03399	0,87363
2012	Zachodniopomorskie	35066	44,36592	1,17096	0,29172

Source: own elaboration on the basis of data from Central Statistical Office

The further stages of statistical analyses were completed based on the panel data, namely the so-called object-periods. Object-periods are a method of presenting statistical data in form of a cube, where the axis of abscissa, (X-axis) presents the size of the objects, while the axis of ordinates (Y-axis) shows the size variables, while the T-axis expresses time. Any value in the cube is defined as

t – moment of observation
i – objects (for provinces: i=1,2, …, 16).
j – variables (j=1,2, …, k),

Therefore it is the j^{th} value in i^{th} object at t^{th} moment[3]. The observation matrix is a block matrix $X = [X^{(1)} X^{(2)} X^{(3)} X^{(4)} X^{(5)} X^{(7)} X^{(8)}]$, where:
$X^{(1)}$ – observation matrix from 2005,
$X^{(2)}$ – observation matrix from 2006,
$X^{(3)}$ – observation matrix from 2007,
$X^{(4)}$ – observation matrix from 2008,
$X^{(5)}$ – observation matrix from 2009,
$X^{(6)}$ – observation matrix from 2010,
$X^{(7)}$ – observation matrix from 2011,
$X^{(8)}$ – observation matrix from 2012.

Table 2. Descriptive statistics

	PKB/Per Capita (PLN)	Micro (0-9)	Small (10-49)	Medium (50-249)
Arithmetic mean	30784,31	53,6239	1,6087	0,4930
Median	29186,00	43,9623	1,2895	0,3973
Standard deviation	8938,14	33,6028	0,9852	0,3228
Coefficient of variation	0,2903	0,6266	0,6124	0,6548
Range	50662,00	132,0706	3,9015	1,2306
Minimum	17637,00	17,7623	0,5646	0,1678
Maximum	68299,00	149,8329	4,4661	1,3984
Lower quartile	24760,25	25,4902	0,8026	0,2363
Upper quartile	34074,00	69,7915	2,0783	0,6078

Source: own elaboration on the basis of data from Central Statistical Office

Table 2 presents descriptive statistics characterizing the variables used in the research. Based on the values calculated and presented in the above table, we must conclude that in case of GDP/Per Capita the arithmetic mean is 30784.31, with standard deviation of 8938.14, and coefficient of variation around 29%.

In case of micro enterprises, the mean value is 53.6239, with standard deviation of 33.6028, whereas for small enterprises it is 1.6087, with standard deviation of 0.9852. Medium enterprises are characterized by the mean of 0.4930 and standard deviation of 0.3228.

The sizes of all three groups have quite similar coefficients of variation, amounting to around 63% for micro enterprises, around 61% for small

[3] Zeliaś A.(ed.), *Taksonomiczna analiza przestrzennego zróżnicowania poziomu życia w Polsce w ujęciu terytorialnym*, Akademia Ekonomiczna w Krakowie, Kraków 2000, p. 98.

ones and around 65% for medium enterprises. Therefore all three groups demonstrate modest variability.

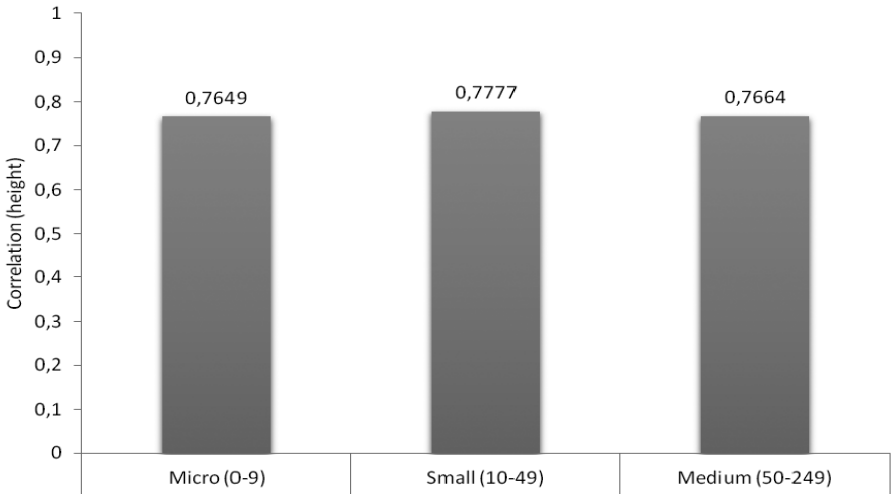
Table 3. The correlations between GDP/Per Capita (PLN) and the number of enterprises in particular categories

	Micro (0-9)	Small (10-49)	Medium (50-249)
r	0,7649	0,7777	0,7664
r2	0,5850	0,6048	0,5873
Error for r	0,0574	0,0560	0,0572
-95% CI for r coefficient	0,6818	0,6984	0,6838
+95% CI for r coefficient	0,8284	0,8381	0,8296
t-statistics for r	13,3275	13,8869	13,3911
Degrees of freedom	126	126	126
p value	<0,0001	<0,0001	<0,0001

Source: own elaboration on the basis of data from Central Statistical Office

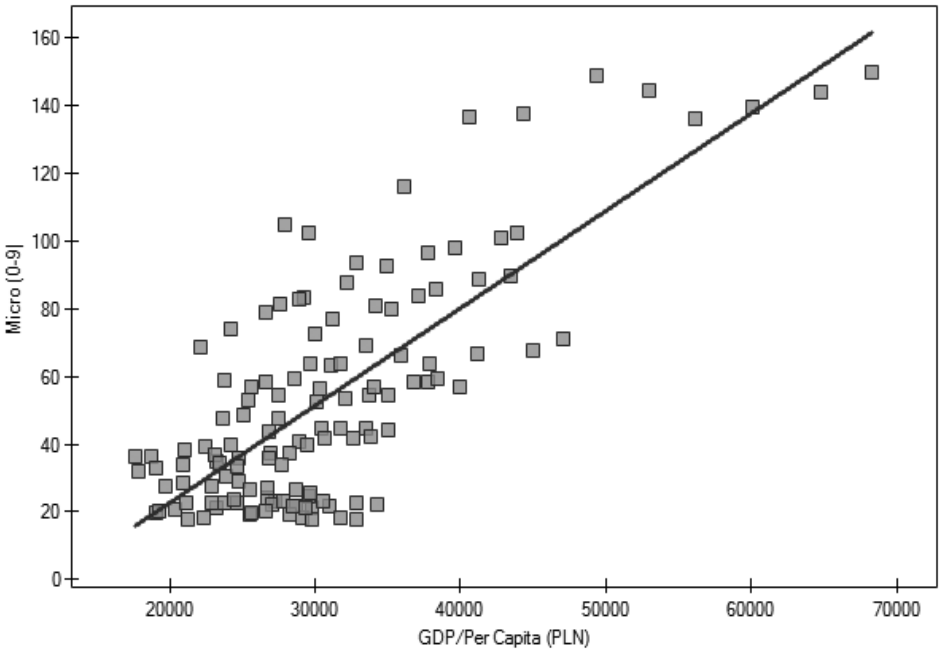
Table 3 (figures 1, 2, 3 and 4) presents the values of correlation parameters between GDP/Per Capita (PLN) and the number of enterprises in particular categories. The presented data proves that these correlations are highly significant ($p<0,0001$) and similar, with correlation of 0.7649 for micro enterprises, 0.7777 for small ones, whereas medium enterprises achieve a correlation figure of 0.7664. This proves a close link between the GDP/Per Capita results and the number of enterprises in all three categories.

Figure 1. Correlations between GDP/Per Capita (PLN) and the number of enterprises in particular categories



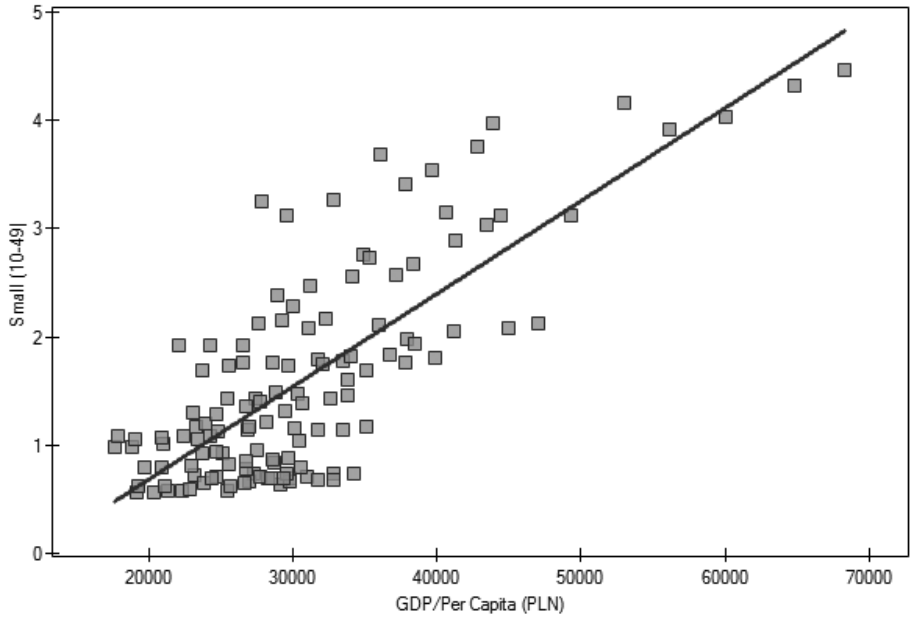
Source: own elaboration on the basis of data from Central Statistical Office

Figure 2. Range of GDP/Per Capita results (PLN) and the number of micro enterprises



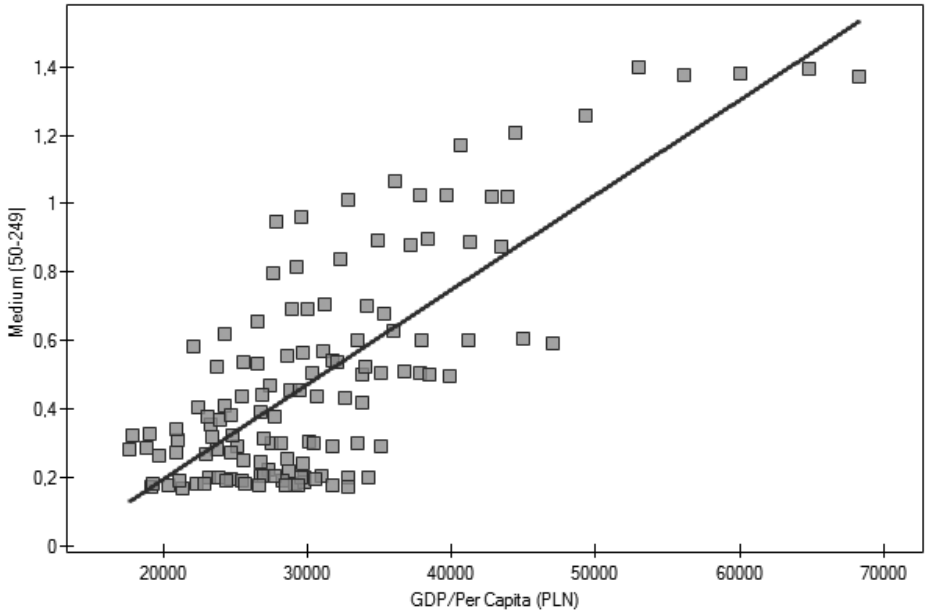
Source: own elaboration on the basis of data from Central Statistical Office

Figure 3. The range of GDP/Per Capita results (PLN) and the number of small enterprises



Source: own elaboration on the basis of data from Central Statistical Office

Figure 4. The range of GDP/Per Capita results (PLN) and the number of medium enterprises



Source: own elaboration on the basis of data from Central Statistical Office

1.2. The analysis the correlation between the regional development level in particular provinces and the number of micro, small and medium enterprises

This section presents the analysis of the correlations between the regional development measured with Gross Domestic Product in particular provinces of Poland and the number of micro, small and medium enterprisers in these provinces in the analyzed period. The content of this analysis provides a sort of specification of the analysis presented in the preceding section.

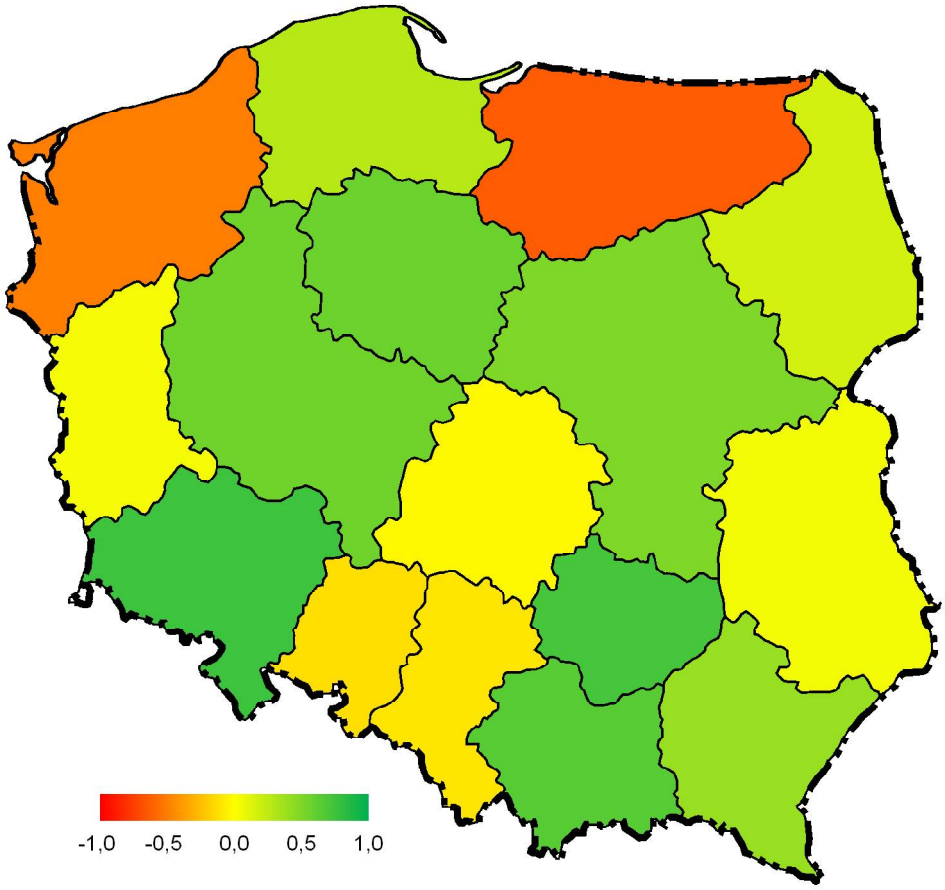
Table 4. The correlations between GDP/Per Capita (PLN) and the number of micro enterprises in particular provinces

Province (NTS-2)	r	r2	Error for r	-95% CI for r coefficient	+95% CI for r coefficient	t-statistics for r	Degrees of freedom	P value
Dolnośląskie	0,7630	0,5821	0,2639	0,1260	0,9545	2,8909	6	0,0277
Kujawsko-pomorskie	0,5767	0,3326	0,3335	-0,2155	0,9111	1,7293	6	0,1345
Lubelskie	0,0506	0,0026	0,4077	-0,6783	0,7293	0,1241	6	0,9053
Lubuskie	0,0404	0,0016	0,4079	-0,6837	0,7244	0,0990	6	0,9244
Mazowieckie	0,5056	0,2556	0,3522	-0,3093	0,8923	1,4353	6	0,2012
Małopolskie	0,6574	0,4322	0,3076	-0,0881	0,9309	2,1369	6	0,0765
Opolskie	-0,1248	0,0156	0,4051	-0,7624	0,6358	-0,3081	6	0,7684
Podkarpackie	0,4085	0,1669	0,3726	-0,4159	0,8644	1,0962	6	0,3150
Podlaskie	0,1803	0,0325	0,4016	-0,6007	0,7852	0,4490	6	0,6692
Pomorskie	0,2857	0,0816	0,3912	-0,5246	0,8244	0,7303	6	0,4927
Warmińsko-mazurskie	-0,6422	0,4125	0,3129	-0,9273	0,1140	-2,0524	6	0,0860
Wielkopolskie	0,5611	0,3149	0,3379	-0,2374	0,9071	1,6606	6	0,1479
Zachodniopo-morskie	-0,5047	0,2548	0,3524	-0,8921	0,3103	-1,4322	6	0,2021
Łódzkie	-0,0200	0,0004	0,4082	-0,7146	0,6945	-0,0489	6	0,9626
Śląskie	-0,0962	0,0093	0,4064	-0,7500	0,6527	-0,2368	6	0,8207
Świętokrzyskie	0,7274	0,5291	0,2801	0,0467	0,9468	2,5966	6	0,0408

Source: own elaboration on the basis of data from Central Statistical Office

As we can see from the data included in Table 4 (figure 5), correlations between GDP/Per Capita (PLN) and the number of micro enterprises in particular provinces are positive, except for Opolskie, Warmińsko-Mazurskie, Zachodniopomorskie, Łódzkie and Śląskie provinces.

Figure 5. The correlations between GDP/Per Capita (PLN) and the number of micro enterprises in particular provinces



Source: own elaboration on the basis of data from Central Statistical Office

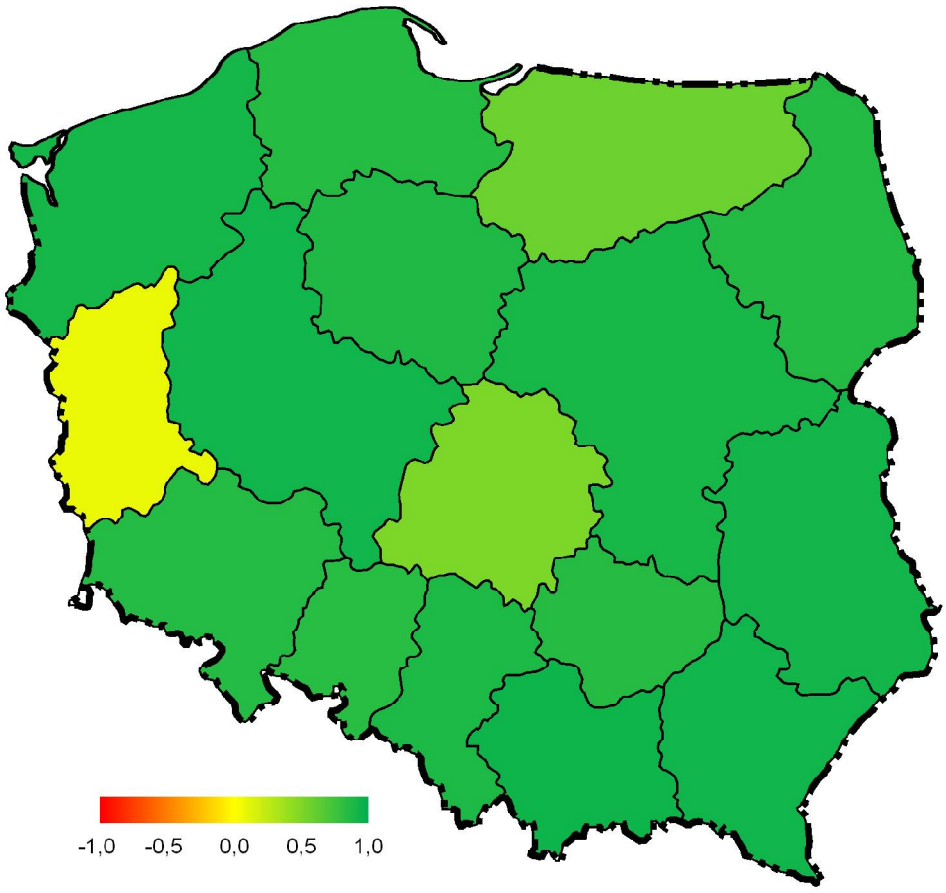
Table 5. The correlations between GDP/Per Capita (PLN) and the number of small enterprises in particular provinces

Province (NTS-2)	r	r2	Error for r	-95% CI for r coefficient	+95% CI for r coefficient	t-statistics for r	Degrees of freedom	P value
Dolnośląskie	0,8590	0,7379	0,2090	0,3911	0,9741	4,1101	6	0,0063
Kujawsko-pomorskie	0,8788	0,7722	0,1948	0,4572	0,9779	4,5103	6	0,0041
Lubelskie	0,9258	0,8571	0,1543	0,6362	0,9867	5,9998	6	0,0010
Lubuskie	0,0819	0,0067	0,4069	-0,6609	0,7436	0,2013	6	0,8471
Mazowieckie	0,9096	0,8274	0,1696	0,5708	0,9837	5,3627	6	0,0017
Małopolskie	0,9474	0,8976	0,1306	0,7303	0,9907	7,2517	6	0,0003
Opolskie	0,8443	0,7128	0,2188	0,3446	0,9712	3,8588	6	0,0084
Podkarpackie	0,9375	0,8790	0,1420	0,6862	0,9889	6,6015	6	0,0006
Podlaskie	0,8621	0,7433	0,2068	0,4012	0,9747	4,1681	6	0,0059
Pomorskie	0,8566	0,7338	0,2106	0,3834	0,9736	4,0671	6	0,0066
Warmińsko – mazurskie	0,5841	0,3412	0,3314	-0,2049	0,9130	1,7627	6	0,1284
Wielkopolskie	0,9392	0,8822	0,1401	0,6936	0,9892	6,7016	6	0,0005
Zachodniopo-morskie	0,9158	0,8387	0,1640	0,5952	0,9849	5,5845	6	0,0014
Łódzkie	0,5174	0,2677	0,3494	-0,2947	0,8956	1,4810	6	0,1891
Śląskie	0,8913	0,7943	0,1851	0,5016	0,9803	4,8140	6	0,0030
Świętokrzyskie	0,8534	0,7282	0,2128	0,3730	0,9730	4,0098	6	0,0070

Source: own elaboration on the basis of data from Central Statistical Office

The correlations between GDP/Per Capita (PLN) and the number of small enterprises in particular provinces are positive and high, with the exception of the Lubuskie province, where the correlation is low, though positive. Table 5 and graph 6 present the above correlations.

Figure 6. The correlations between GDP/Per Capita (PLN) and the number of small enterprises in particular provinces



Source: own elaboration on the basis of data from Central Statistical Office

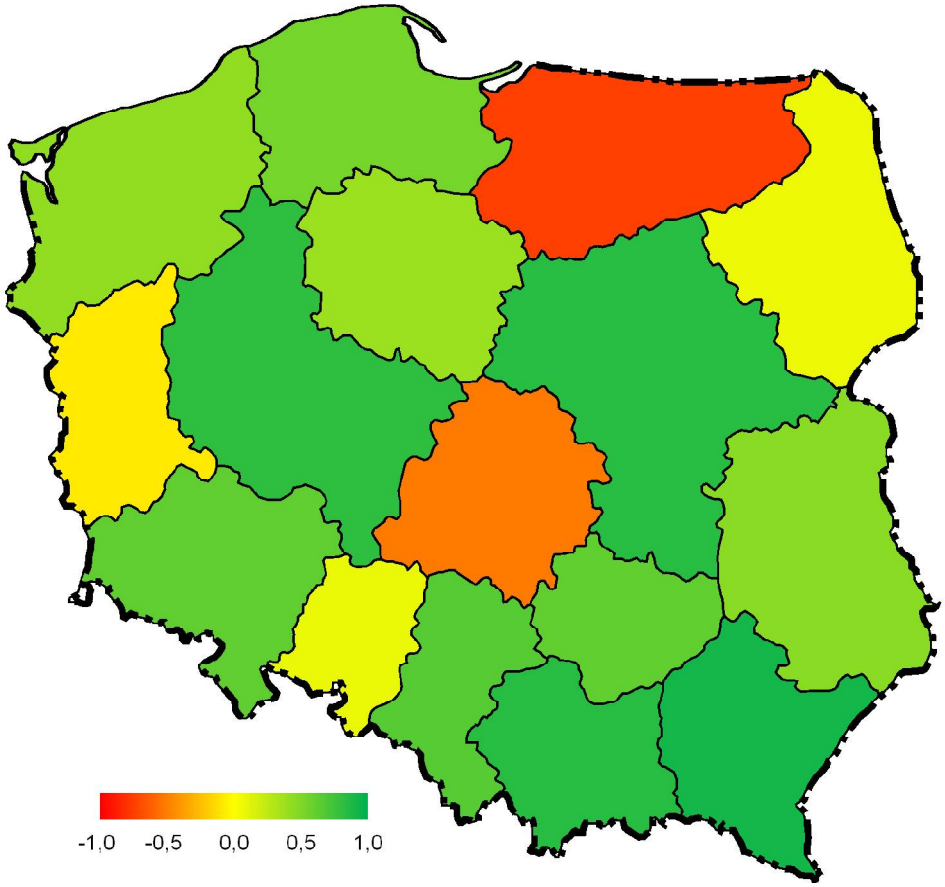
Table 6. The correlations between GDP/Per Capita and the number of medium enterprises in particular provinces

Province (NTS-2)	r	r2	Error for r	-95% CI for r coefficient	+95% CI for r coefficient	t-statistics for r	Degrees of freedom	P value
Dolnośląskie	0,6237	0,3890	0,3191	-0,1444	0,9228	1,9546	6	0,0984
Kujawsko-pomorskie	0,3913	0,1531	0,3757	-0,4327	0,8591	1,0415	6	0,3378
Lubelskie	0,4616	0,2131	0,3621	-0,3602	0,8800	1,2747	6	0,2495
Lubuskie	-0,0805	0,0065	0,4069	-0,7430	0,6617	-0,1977	6	0,8498
Mazowieckie	0,8444	0,7131	0,2187	0,3451	0,9712	3,8613	6	0,0084
Małopolskie	0,8481	0,7192	0,2163	0,3563	0,9719	3,9201	6	0,0078
Opolskie	0,0828	0,0069	0,4068	-0,6604	0,7441	0,2035	6	0,8454
Podkarpackie	0,9234	0,8526	0,1567	0,6261	0,9863	5,8917	6	0,0011
Podlaskie	0,0676	0,0046	0,4073	-0,6690	0,7371	0,1659	6	0,8737
Pomorskie	0,5394	0,2910	0,3438	-0,2666	0,9014	1,5693	6	0,1676
Warmińsko-mazurskie	-0,7487	0,5605	0,2706	-0,9514	-0,0931	-2,7662	6	0,0326
Wielkopolskie	0,8213	0,6745	0,2329	0,2769	0,9666	3,5264	6	0,0124
Zachodniopo-morskie	0,4358	0,1899	0,3674	-0,3881	0,8725	1,1860	6	0,2805
Łódzkie	-0,5176	0,2679	0,3493	-0,8956	0,2944	-1,4819	6	0,1889
Śląskie	0,6589	0,4342	0,3071	-0,0854	0,9312	2,1457	6	0,0756
Świętokrzyskie	0,6174	0,3812	0,3211	-0,1545	0,9213	1,9225	6	0,1029

Source: own elaboration on the basis of data from Central Statistical Office

Table 6 (figure 7) presents the values of correlation between Gross Domestic Product Per Capita and the number of medium-sized enterprises. The presented calculations demonstrate that the correlations between GDP/Per Capita (PLN) and the number of medium enterprises in particular provinces are positive, except for Lubuskie, Warmińsko-Mazurskie and Łódzkie provinces.

Figure 7. The correlations between GDP/Per Capita (PLN) and the number of medium enterprises in particular provinces



Source: own elaboration on the basis of data from Central Statistical Office

Conclusions:

The correlations between the value of the level of regional development measured with Gross Domestic Product Per Capita and the number of micro, small and medium enterprises are highly significant and similar to each other, thus for micro enterprises this correlation is 0.7649, for small ones – 0.7777, whereas for medium-sized enterprises it is 0.7664. This proves there is a close relationship between GDP/Per Capita (PLN) results and the number of all three categories of enterprises. Therefore the mutual relation between the number of SME sector companies and the level

of regional development has been proven. This general, but unambiguous conclusion differs with reference to particular provinces of Poland and to different categories of SMEs.

And so:

The correlations between DP/Per Capita (PLN) and the number of micro enterprises in particular provinces are positive, except for Opolskie, Warmińsko-Mazurskie, Zachodniopomorskie, Lódzkie and Śląskie provinces.

The correlations between GDP/Per Capita (PLN) and the number of small enterprises in particular provinces of Poland are positive and high, with the exception of Lubuskie province, where the correlation is positive but low.

The calculations presented in the last chapter of the dissertation show that the correlations between GDP/Per Capita (PLN) and the number of medium enterprises in particular provinces are positive, except for Lubuskie, Warmińsko-Mazurskie and Lódzkie provinces.

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