

POLISH ENTERPRISES AS BENEFICIARIES OF EU FUNDS FROM 2007 ONWARDS – AN ANALYSIS INCLUDING SECTORIAL AND REGIONAL DIFFERENTIATION

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ABSTRACT The article presents data concerning different statistical sections and populations of enterprises – beneficiaries of EU funds in Poland during the 2007–2013 and 2014–2020 programming periods. Information and data used were obtained from different databases maintained by the Polish Ministry of Economic Development and the Polish Central Statistical Office. Data analysed includes i.a. the size class of different entities, their regional implantation (seat of main business activity according to official registrars), the number of projects realized as well as their value, the NACE code of the beneficiary. The merger of two independent data sources allows for a more complex research as well as for a rudimentary data quality assessment. Results obtained point out several challenges concerning the data completeness. However further analysis is possible and deemed as needed. This is especially true in the case of the economic sectors receiving funding from different National and Regional Operational Programs.

Introduction

The following work presents an analysis of entrepreneurs and companies that have been beneficiaries of EU funds both from national and regional operating programs during two programming periods (2007–2013 and 2014–2020). The analysis does not include two funds: the European Maritime and Fisheries Fund as well as the European Agricultural Fund for Rural Development.

Data presented can be used to illustrate regional disparities between beneficiaries in terms of size class, NACE categories of EU funds beneficiaries.

Literature review

Polish enterprises as beneficiaries of European Union funds have been widely analysed and described by both academia as well as public institution – within the scope of the evaluation process. However authors do concentrate either on the regional dimension of beneficiaries or the effectiveness (or lack of thereof) of the different funds or schemes. Major themes of these analysis are included in the Table 1.

Table 1. Literature overview

Major theme (s)	Author (s)
Means and methods of interventions	Bentkowska, 2007; Mikołajczyk, Krawczyk, 2010; Błaszkiwicz, 2013; Geruzel-Dudzińska, 2016
Entrepreneurship	Czub, 2013; Krawiec, 2016
Regional dimension	Brodzińska, 2011; Sosińska-Wit, 2014; Hryniewicka, 2015; Jegorow, 2017
Effectiveness of beneficiaries	Wildowicz-Giegiel, Wyszowski, 2016
Innovation	Mosionek-Schweda, 2011; Buchwald, Czemieli-Grzybowska, 2012
Small and medium enterprises as beneficiaries	Owczarczyk, 2010; Gorczyńska, 2014; Kordela, 2016
Barriers to the system	Dubel, 2012; Spychała, 2017

Source: author's choice.

This further supports the hypothesis of a lack in analysis concerning beneficiaries, especially the segment of the economy they represent and their regional implantation.

Method

The analysis has been prepared using data available within the SL2014 database (SL2014, 2017), maintained by the Ministry of Economic Development. The database in question allows to identify individual beneficiaries of EU funds within the programming periods 2007–2013 and 2014–2020. Additional information on the individual beneficiaries has been imported from the REGON database, maintained by the Central Statistical Office of Poland.

The merger of those two data sources was needed to provide adequate information on the analysed entities' main area of business (according to NACE rev 2.2). Results were aggregated using SQL-based queries. Additional analysis has been conducted using traditional spreadsheet programs.

To allow for a better targeted analysis, only a finite number of business entities were used. A major measure of narrowing down the number of analysed entities was to choose those legal forms that show that the said entities are indeed business entities and not public bodies (governmental, regional or local bodies, agencies and the like), health-sector entities as well as teaching institutions. Please refer to Table 2 in order to assess the full list of exclusions within the studied population.

Additionally a large number of categories of expenditure or investment priorities that enterprises are direct beneficiaries of, are in fact, public policies enacted and implemented by entrepreneurs or non-governmental bodies. Examples of such actions include i.a. Title III (Energy) for the programming period 2007–2013 (European

Commission, 2006) or Title III (Social, health and education infrastructure and related investment) for the programming period 2014–2020 (European Commission, 2014).

Table 2. Types of entities analysed

	Used in the analysis	Rejected
Type of legal forms of EU funds beneficiaries	Sole proprietor, Limited liability company, Joint stock company, Partnerships, Cooperative, Funds, Undefined legal forms	Schools, higher education entities, NGO's (faith-based included), Trade unions, employers organisation, chambers of commerce
Types of ownership	Privately owned (domestic and foreign), State-owned companies	Central, regional and local government
Type of activity (according to NACE)	A–S	T, U

Source: author's choice.

Results

A total of 32,343 unique beneficiaries have been identified by the author as being entrepreneurs and beneficiaries of EU funds during the period 2007–2020 (up to June 2017). However for the programming period 2007–2013 a total number of 29,431 unique beneficiaries have been identified and for the latter 2014–2020 a total number of 5,862. Additionally in the case of almost 500 entities the author was not able to fully identify their voivodship of registration (a majority of those entities where beneficiaries of funds within the programming period 2007–2013).

One must also take into consideration the fact that almost 3,5 thousand entrepreneurs were beneficiaries of both national and regional operational programs within the years 2007–2020 (up to June 2017). For the programming period 2007–2013 this number amounted to almost 2,376 entities and for the years 2014–2020 to 438. Please note that those numbers do not sum up, as 2,733 business entities were beneficiaries within both programming periods.

A closer look at the results obtained shows that highest number of unique beneficiaries can be identify in the Mazowieckie voivodship (more than 15% in the first period and more than 13% in the second). A high number of beneficiaries can also be identified in four other voivodships (Małopolskie, Śląskie, Lubelskie and Wielkopolskie). However those result should not be seen as a novelty, since those regions (apart from Lubelskie) are characterised by a large number of active enterprises (GUS, 2016). An interesting result is the difference between the median and average result of unique beneficiaries within the business sector is within 1 ppt. For additional information please refer to Table 3.

Table 3. Number of unique beneficiaries by programming period and voivodship

Programming period	2007–2013	2014–2020	Total	2007–2013	2014–2020	Total
Voivodship	number of unique business entities			share (%)		
Dolnośląskie	1,505	533	2,038	5.11	9.09	5.77
Kujawsko-pomorskie	1,430	138	1,568	4.86	2.35	4.44
Lubelskie	2,001	400	2,401	6.80	6.82	6.80
Lubuskie	661	117	778	2.25	2.00	2.20
Łódzkie	1,846	337	2,183	6.27	5.75	6.19
Małopolskie	2,682	531	3,213	9.11	9.06	9.10
Mazowieckie	4,594	766	5,360	15.61	13.07	15.19
Opolskie	874	188	1,062	2.97	3.21	3.01
Podkarpackie	1,580	396	1,976	5.37	6.76	5.60
Podlaskie	835	142	977	2.84	2.42	2.77
Pomorskie	1,483	315	1,798	5.04	5.37	5.09
Śląskie	3,312	558	3,870	11.25	9.52	10.97
Świętokrzyskie	792	218	1,010	2.69	3.72	2.86
Warmińsko-mazurskie	1,233	259	1,492	4.19	4.42	4.23
Wielkopolskie	2,994	765	3,759	10.17	13.05	10.65
Zachodniopomorskie	1,135	195	1,330	3.86	3.33	3.77
NULL	474	4	478	1.61	0.07	1.35
Total	29,431	5,862	35,293	100.00	100.00	100.00
Median result	1,483	315	1,798	5.04	5.37	5.09
Average result	1,731	345	2,076	5.88	5.88	5.88

Source: author's calculations based on the SL2014 database.

Taking into account the size of the business entities, a large majority of all beneficiaries of EU funds were micro enterprises (45.85%), followed by small (29.62%) and medium (16.55%) entities. Large enterprises constituted less than 8% of all beneficiaries. However there are visible difference between the share of each group in national and regional operational programs. The share of micro and small-sized enterprises in regional operational programs is lower than in the national ones. Additionally the share of medium and large-sized enterprise is higher in national programs. There are some discrepancies between the two periods concerning micro entities. However their impact on the overall result could be describe as minimal. For full details – please consult Table 4.

Table 4. Unique beneficiaries by size class, programming period and type of programs (%)

Size class	2007–2013			2014–2020			Total
	national operational program	regional operational program	total	national operational program	regional operational program	total	
Micro	49.64	43.75	47.15	27.43	45.98	39.95	46.07
Small	26.24	33.19	29.18	30.97	34.07	33.06	29.76
Medium	14.47	18.77	16.29	27.03	13.36	17.81	16.52
Large	9.65	4.29	7.38	14.57	6.59	9.18	7.65
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: author's calculations based on the SL2014 database.

Taking into account the number of project being co-financed through different EU programs, that are were implemented by enterprises of different size class, the highest number of projects concerned entities belonging to NACE code P (Education) – 23.131 (amounting to 26.46% of all projects). They largely overtook entities belonging to NACE code C (Manufacturing) as well as to NACE code M (Professional, scientific and technical activities). Interesting results can be further seen in the NACE code H (Transporting and storage), which is dominated by beneficiaries identified as large enterprises. The same result can be seen in the case of NACE code D (Electricity, gas, steam and air conditioning supply) and NACE Code O (Public administration and defense; compulsory social security). However the latter two codes are naturally dominated by rather large entities due to the nature of the service and product they provide to the general populace. Additional discrepancies can be also seen between beneficiaries of National (NOP) and Regional (ROP) Operational Programs. For full details – please consult Table 5. Additional data concerning the co-financing level of the projects in question can be consulted in Table 6.

Table 5. Number of projects by size class, programming period and NACE code (number)

NACE	Period	Size class							
		micro		small		medium		large	
		NOP	ROP	NOP	ROP	NOP	ROP	NOP	ROP
1	2	3	4	5	6	7	8	9	10
A	2007–2013	22	43	6	42	2	6	6	2
	2014–2020		9		10	1	3	2	1
B	2007–2013	5	49	5	47	10	32	10	3
	2014–2020		4	8	10	10	10	2	
C	2007–2013	934	2,077	1,661	3,477	2,030	2,537	678	123
	2014–2020	156	338	365	651	493	502	137	33
D	2007–2013	59	95	14	23	24	18	206	130
	2014–2020	3	19	5	8	6	5	49	36
E	2007–2013	35	77	113	132	142	66	241	113
	2014–2020	6	10	44	23	57	18	11	32
F	2007–2013	197	736	177	655	150	341	30	34
	2014–2020	13	53	34	81	34	36	5	3
G	2007–2013	1,156	1,403	1,147	1,170	691	470	131	13
	2014–2020	47	202	90	197	61	73	1	4
H	2007–2013	57	106	77	75	55	57	268	181
	2014–2020	4	10	1	10	5	14	52	34
I	2007–2013	69	555	55	347	20	66	5	3
	2014–2020	3	24	4	41	2	3		
J	2007–2013	3,370	466	811	222	336	74	186	27
	2014–2020	127	218	111	139	62	28	112	6
K	2007–2013	238	47	178	41	68	18	125	37
	2014–2020	20	51	6	12		6	3	31
L	2007–2013	136	154	74	126	34	95	125	69
	2014–2020	5	38	1	9		15	8	32
M	2007–2013	2,511	1,177	893	311	346	110	446	57
	2014–2020	208	464	108	181	35	40	35	75
N	2007–2013	345	230	148	73	89	25	49	6
	2014–2020	10	50	6	40	8	8	4	24

1	2	3	4	5	6	7	8	9	10
O	2007–2013		2	1	1			1	3
	2014–2020								2
P	2007–2013	4,228	145	2,147	39	132	4	276	
	2014–2020	191	1,096	119	572	3	21	3	35
Q	2007–2013	267	1,503	89	251	83	104	19	118
	2014–2020	24	235	21	119	30	46	12	59
R	2007–2013	87	162	15	32	8	6	6	16
	2014–2020		10		6	2	1		2
Total		14,533	11,858	8,534	9,173	5,029	4,858	3,244	1,344

NACE codes S and U were omitted.

Source: author's calculations based on the SL2014 database.

Table 6. Value of EU co-financing of projects by size class, programming period and NACE code (mln pln)

NACE	Period	Size class							
		micro		small		medium		large	
		NOP	ROP	NOP	ROP	NOP	ROP	NOP	ROP
1	2	3	4	5	6	7	8	9	10
A	2007–2013	13.3	27.8	3.2	26.0	0.4	4.4	16.5	3.6
	2014–2020	0.0	17.7	0.0	14.5	0.1	1.7	18.3	0.4
B	2007–2013	4.2	27.3	22.9	43.8	49.8	34.9	62.1	2.5
	2014–2020	0.0	2.7	19.6	18.1	48.3	12.2	23.0	0.0
C	2007–2013	1,046.7	718.8	2,267.7	1,840.2	3,808.2	1,688.6	4,108.5	149.3
	2014–2020	340.5	263.4	975.6	750.8	1,907.9	617.8	1,167.2	64.3
D	2007–2013	609.8	207.4	145.9	48.2	330.4	49.8	5,003.8	214.7
	2014–2020	3.3	50.6	24.1	29.9	114.0	26.7	441.2	114.8
E	2007–2013	246.1	94.4	1,400.1	111.7	2,617.5	112.1	6,757.6	378.1
	2014–2020	26.9	15.3	606.5	59.3	1,351.1	103.0	879.1	73.0
F	2007–2013	164.4	241.8	234.2	366.1	170.2	271.5	280.7	99.1
	2014–2020	24.7	47.3	234.5	66.8	94.6	28.7	32.3	5.0
G	2007–2013	385.2	362.3	570.1	499.6	458.4	234.5	245.9	7.1
	2014–2020	78.9	125.0	300.7	207.5	167.5	58.3	3.6	4.9
H	2007–2013	65.5	52.5	786.7	172.5	522.7	190.8	24,307.4	2,580.4
	2014–2020	1.5	8.6	0.3	8.3	94.6	209.6	8,780.3	1,913.1
I	2007–2013	22.9	426.1	35.6	357.3	26.4	96.8	21.2	5.3
	2014–2020	5.8	20.0	2.1	29.5	5.0	1.7	0.0	0.0
J	2007–2013	1,739.0	142.1	1,416.8	136.7	361.2	61.6	506.0	444.4
	2014–2020	244.1	193.9	433.3	152.3	227.0	28.5	1,511.0	11.8
K	2007–2013	165.7	114.1	132.2	98.9	104.0	70.2	594.4	846.2
	2014–2020	843.0	34.4	42.5	9.7	0.0	8.1	704.1	1,325.7
L	2007–2013	75.6	143.9	42.7	149.4	99.4	123.2	967.8	274.7
	2014–2020	13.9	29.2	6.7	3.0	0.0	6.9	12.8	80.6
M	2007–2013	1,769.6	307.1	973.1	160.3	483.3	75.1	2,199.0	155.7
	2014–2020	614.4	346.2	360.5	258.7	170.0	29.5	270.3	427.0
N	2007–2013	159.4	82.2	178.5	56.3	87.8	18.0	262.6	31.6
	2014–2020	7.9	39.0	21.2	23.8	19.8	6.7	6.7	28.8

1	2	3	4	5	6	7	8	9	10
O	2007–2013	0.0	0.0	1.7	0.1	0.0	0.0	24.1	27.3
	2014–2020	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.7
P	2007–2013	2,152.1	32.3	1,566.5	23.3	131.5	1.9	254.3	0.0
	2014–2020	205.0	732.3	146.5	524.6	5.9	22.5	4.1	28.6
Q	2007–2013	159.1	367.6	77.0	157.8	146.0	103.0	30.2	358.7
	2014–2020	38.4	160.7	27.0	103.1	68.7	54.3	24.1	229.3
R	2007–2013	75.8	68.9	68.8	21.2	13.5	4.5	21.1	81.9
	2014–2020	0.0	6.6	0.0	4.7	40.0	3.6	0.0	1.2
Total		11,302.5	5,509.8	13,124.7	6,533.9	13,725.2	4,360.3	59,541.4	10,036.7

NACE codes S and U were omitted.

Source: author's calculations based on the SL2014 database.

Limitations

The method used by the author have numerous limitations directly linked with the quality of data provided by the beneficiaries themselves and their further processing by different managing authorities of National and Regional Operational Programs. Further study should be conducted using more complex (and automated) data mining technique.

Conclusions

Results obtained from the merging of two data sources (the official registers of beneficiaries of different EU co-financed projects and the REGON database) show important differences within the beneficiaries population. Enterprises that realised EU co-financed projects differ in terms of size class, NACE classification of their main business activity as well as value of executed projects. Differences between the different polish regions can be seen in all analysed dimensions.

However the author is unable to create a valid hypothesis to what extent those discrepancies are linked with the structure of the different regional economies and to what extent are they the product of policy choices made by the managing authorities. Further cross-study concerning the structure of active entities is needed to provide a valid explanation to those disparities. It is especially startling in the case of micro and small enterprises, since the majority of Polish regions share the same high amount of those entities.

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