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

TOMASZ PAWEŁ TYC

Warsaw University of Technology, Faculty of Administration and Social Science, POLAND
e-mail: t.tyc@ans.pw.edu.pl

Received 18 January 2018
Accepted 2 September 2018

JEL classification E65, H59, O52

Keywords European Funds, structural funds, enterprises, regions

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. Majors themes of theses 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; Blaszkiewicz, 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, Czemiel-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 their represents and their regional implantation.

**Method**

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

The merger of those two data source 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 have been conducted using traditional spread sheet 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 institution. 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 enterprise 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

| Type of legal forms of EU funds beneficiaries | Used in the analysis | Rejected |
|----------------------------------------------|----------------------|----------|
| Sole proprietor,                             | Schools, higher education entities, |          |
| Limited liability company,                   | NGO’s (faith-based included), |          |
| Joint stock company,                         | Trade unions, employers organisation, chambers |          |
| Partnerships,                                | of commerce           |          |
| Cooperative,                                 |                       |          |
| Funds,                                        |                       |          |
| Undefined legal forms                        |                       |          |

| Types of ownership                           | Privately owned (domestic and foreign), | Central, regional and local government |
|----------------------------------------------|----------------------------------------|----------------------------------------|
| State-owned companies                        |                                        |                                        |

| 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

| Voivodship         | 2007–2013 | 2014–2020 | Total | 2007–2013 | 2014–2020 | Total |
|--------------------|-----------|-----------|-------|-----------|-----------|-------|
|                    | number     | business  | share (%) | number     | business  | share (%) | number     | business  | share (%) | number     | business  | 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 0 (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  | micro NOP | micro ROP | small NOP | small ROP | medium NOP | medium ROP | large NOP | large ROP |
|------|---------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|
| I    | 2007–2013 | 22 | 43 | 6 | 42 | 2 | 6 | 6 | 2 |
|      | 2014–2020 | 9 | 10 | 10 | 3 | 2 | 1 |
| J    | 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 |
| K    | 2007–2013 | 59 | 95 | 14 | 23 | 24 | 18 | 206 | 130 |
|      | 2014–2020 | 3 | 19 | 5 | 6 | 6 | 5 | 49 | 36 |
| L    | 2007–2013 | 35 | 77 | 113 | 132 | 142 | 66 | 241 | 113 |
|      | 2014–2020 | 6 | 10 | 44 | 23 | 57 | 18 | 11 | 32 |
| M    | 2007–2013 | 197 | 736 | 177 | 655 | 150 | 341 | 30 | 34 |
|      | 2014–2020 | 13 | 53 | 34 | 81 | 34 | 36 | 5 | 3 |
| N    | 2007–2013 | 1,156 | 1,403 | 1,147 | 1,170 | 691 | 470 | 131 | 13 |
|      | 2014–2020 | 47 | 202 | 90 | 197 | 61 | 73 | 1 | 4 |
| O    | 2007–2013 | 57 | 106 | 77 | 75 | 55 | 57 | 268 | 181 |
|      | 2014–2020 | 4 | 10 | 1 | 10 | 5 | 14 | 52 | 34 |
| P    | 2007–2013 | 69 | 555 | 55 | 347 | 20 | 66 | 5 | 3 |
|      | 2014–2020 | 3 | 24 | 4 | 41 | 2 | 3 |
| Q    | 2007–2013 | 3,370 | 466 | 811 | 222 | 336 | 74 | 186 | 27 |
|      | 2014–2020 | 127 | 218 | 111 | 139 | 62 | 28 | 112 | 6 |
| R    | 2007–2013 | 238 | 47 | 178 | 41 | 68 | 18 | 125 | 37 |
|      | 2014–2020 | 20 | 51 | 6 | 12 | 6 | 3 | 31 |
| S    | 2007–2013 | 136 | 154 | 74 | 126 | 34 | 95 | 125 | 69 |
|      | 2014–2020 | 5 | 38 | 1 | 9 | 15 | 8 | 32 |
| T    | 2007–2013 | 2,511 | 1,177 | 893 | 311 | 346 | 110 | 446 | 57 |
|      | 2014–2020 | 208 | 464 | 108 | 181 | 35 | 40 | 35 | 75 |
| U    | 2007–2013 | 345 | 230 | 148 | 73 | 89 | 25 | 49 | 6 |
|      | 2014–2020 | 10 | 50 | 6 | 40 | 8 | 8 | 4 | 24 |
### 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 | NOP | ROP | NOP | ROP |
|------|--------------|------------|---------|-------|--------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      |              |            | 1 2     | 3 4   | 5 6    | 7 8   | 9   | 10  |
| O    | 2007–2013    | 2          | 1       | 1     | 1      | 1     | 3   | 3   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
|      | 2014–2020    |            |         |       |        |       |     |     |     |     |     |     |     |     |     |     |     |     |
| P    | 2007–2013    | 4,228      | 145     | 2,147 | 39     | 132   | 4   | 276 | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
|      | 2014–2020    | 191        | 1,096   | 119   | 572    | 3     | 21  | 3   | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  | 35  |
| Q    | 2007–2013    | 267        | 1,503   | 89    | 251    | 83    | 104 | 19  | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 | 118 |
|      | 2014–2020    | 24         | 235     | 21    | 119    | 30    | 46  | 12  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  | 59  |
| R    | 2007–2013    | 87         | 162     | 15    | 32     | 8     | 6   | 6   | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |
|      | 2014–2020    | 10         | 6        | 2     | 1      | 2     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|      | Total        | 14,533     | 11,858  | 8,534 | 9,173  | 9,173 | 4,858 | 3,244 | 1,344 |

NACE codes S and U were omitted.

Source: author's calculations based on the SL2014 database.
Polish enterprises as beneficiaries of EU funds from 2007 onwards – an analysis including sectorial and regional differentiation

|   | 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.

References
Bentkowska, K. (2007). Porównanie unijnych programów pomocowych dla przedsiębiorstw w latach 2004–2006 oraz 2007–2013. In: H. Brdulak, E. Duliniec, T. Gołębiowski, Wspólna Europa. Tworzenie wartości przedsiębiorstwa na rynku Unii Europejskiej. Warszawa: Szkoła Główna Handlowa.

Błaszkiewicz, P. (2013). Formy wsparcia MMSP w ramach Programu Operacyjnego Kapital Ludzki. Zarządzanie i Finanse, 1 (1), 21–36.

Brodzińska, K. (2011). Fundusze unijne jako instrument pobudzania przedsiębiorczości w regionach. Zeszyty Naukowe Wyższej Szkoły Bankowej w Poznaniu, 38, 43–53.

Buchwald, T., Czemiel-Grzybowska, W. (2012). Finansowanie innowacji w przedsiębiorstwach z funduszy unijnych – aspekt porównawczy. Ekonomia i Zarządzanie, 5, 5.

Czub, J.F. (2013). Fundusze Unii Europejskiej dla przedsiębiorców w ramach europejskiej polityki spójności. Przegląd Europejski, 2, 57–71.
Dubel, P. (2012). Bariery współfinansowania rozwoju przedsiębiorczości z funduszy unijnych. *Problemy Zarządzania*, 10/1 (36), 48–62.

European Commission. (2006). Council Regulation (EC) No. 1083/2006 of 11 July 2006 laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund and repealing Regulation (EC) No. 1260/1999.

European Commission. (2014). Commission Implementing Regulation (EU) No. 184/2014 of 25 February 2014 laying down pursuant to Regulation (EU) No. 1303/2013 of the European Parliament and of the Council laying down common provisions on the European Regional Development Fund, the Europea.

Geruzel-Dudzińska, B. (2016). Finansowanie inwestycji w środki trwałe w sektorze małych i średnich przedsiębiorstw w Polsce. *Współczesna Gospodarka*, 7 (1), 71-80.

Gorczyńska, A. (2014). Wykorzystanie funduszy unijnych w finansowaniu działalności małych i średnich przedsiębiorstw. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Usług*, 111, 335–345.

GUS (2016). *Działalność przedsiębiorstw niefinansowych w 2015 r. Warszawa*.

Hryniewicka, M. (2015). Unia dla przedsiębiorstw - wyniki badań empirycznych. *Kwartalnik Nauk o Przedsiębiorstwie*, 1, 77–90.

Jegorow, D. (2017). Odmienność regionalna alokacji funduszy europejskich w Polsce w ramach polityki spójności w perspektywie 2007–2013. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 466, 119–127.

Kordela, D. (2016). Wsparcie na rzecz wzrostu konkurencyjności i innowacyjności mikro, małych i średnich przedsiębiorstw w perspektywie finansowej 2014–2020. *Marketing i Zarządzanie*, 2 (43), 299–311.

Krawiec, W.M. (2016). Europejskie fundusze na rzecz przedsiębiorczości społecznej instrumentem finansowania przedsiębiorczości społecznej. *Annales Universitatis Mariae Curie-Skłodowska. Sectio H. Oeconomia*, 50 (4), 269–277.

Mikołajczyk, B., Krawczyk, M. (2010). JEREMIE innowacyjnym programem w ramach funduszy strukturalnych dla MSP. *Acta Universitatis Lodzienis. Folia Oeconomica*, 233, 143–152.

Mosinek-Schweda, M. (2011). Finansowanie działalności badawczo-rozwojowej przedsiębiorstw w Polsce. *Oeconomia Copernicana*, 2 (2), 75–102.

Owczarczyk, A. (2010). Małe i średnie przedsiębiorstwa jako beneficjenci programów finansowanych z funduszy pomocowych Unii Europejskiej. *Prace Naukowe/Akademia Ekonomiczna w Katowicach. Pięciolecie członkostwa Polski w Unii Europejskiej*, 375–389.

SL2014 (2017). Retrieved from: https://sl2014.gov.pl.

Sosińska-Wit, M. (2014). Ocena wykorzystania funduszy unijnych w małych i średnich przedsiębiorstwach województwa lubelskiego. *Ekonomia i Zarządzanie*, 3, 157–172.

Spychała, M. (2017). Zróżnicowanie przestrzenne absorpcji funduszy unijnych perspektywy finansowej 2007–2013 a zmiany poziomu wzrostu gospodarczego województw w Polsce. *Nierówności Społeczne a Wzrost Gospodarczy*, 49, 348–358.

Wildowicz-Giegiel, A., Wyszkowski, A. (2016). Absorption of EU Funds in the Context of Polish Enterprises Competitiveness Measured by Profitability Ratios. *Oeconomia Copernicana*, 6 (1), 113–123.

Cite this article as: Tyc, T.P. (2018). Polish enterprises as beneficiaries of EU funds from 2007 onwards – an analysis including sectorial and regional differentiation. *European Journal of Service Management*, 3 (27/2), 505–512. DOI: 10.18276/ejsm.2018.27/2-62.