

FINANCIAL INSTRUMENTS OF THE COHESION POLICY IN THE DEVELOPMENT OF REGIONAL SPATIAL INFORMATION SYSTEMS IN POLAND – THE EXPERIENCES OF THE FIRST TEN YEARS OF POLAND’S MEMBERSHIP IN THE EU

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Summary

For 10 years Poland, as a member of the European Union, has been implementing the EU’s cohesion policy aimed at reducing the disparities in the social, economic and spatial development. The article is an analysis of the importance of cohesion policy instruments in the development of regional spatial information systems in Poland during the first 10 years of its membership in the EU. The identification of regions which capitalized on the opportunity given by the EU is provided and the level and structure of the EU funds used for that purpose are described. In conclusion, the effectiveness of activities related to the implementation of the cohesion policy, in the context of the development of Regional Information Systems in Poland, was confirmed.

Keywords

cohesion policy • spatial information infrastructure • financial instruments of cohesion policy • spatial information systems

1. Introduction

The goal of cohesion policy is to promote actions aimed at reducing the economic and social disparities within the European Union, especially decreasing the development gap between regions and eliminating the backwardness of regions and the least privileged islands, including rural areas. The EU cohesion policy has three goals: improving the convergence (cohesion) of regions, enhancing their competitiveness and increasing employment, and developing European Territorial Cooperation (encouraging, promoting and implementing joint international projects throughout the EU). The member states, including Poland, have been pursuing cohesion policy by means of Structural Funds and Cohesion Fund. Proper use of the cohesion policy instruments that Poland was given, thanks to joining the EU, is an opportunity to reduce the disparities between the levels of development of the regions.

2. The essence of the EU Cohesion Policy

The accession of Poland to the European Union on 1 May 2004 offered an unprecedented opportunity for participation in one of the most important the Community policies, namely in cohesion policy. Its main goal is a systematic reduction of disparities of economic, social and spatial development of the various EU regions. The aim and the scale of expenditures related to this policy mean that the quality of its implementation in Poland is one of the most significant factors determining national developmental processes.

When judging the role of financial instruments used in the transfer of European funds, the economists and politicians have worked out a set of macroeconomic models for evaluation the cohesion policy, such as: HERIM, QUEST II, E3ME, REMI, a general equilibrium model MaMoR2 or a dynamic general equilibrium model EUImpactMod [Bradley et al. 1995, Grosse 2000, Bradley and Zaleski 2003, Murzyn 2010].

On the basis of the literature study [Bradley et al. 1995, Grosse 2000, Bradley and Zaleski 2003, Murzyn 2010, Kurach and Słodowa-Hełpa 2011] it is possible to conclude that, regardless of the authors' adopted evaluation methodology of the EU cohesion policy, the EU funds are quite an effective tool of creating socio-economic cohesion in Europe. The researchers point out, however, that there are a number of actual barriers preventing the comprehensive, multifaceted assessment of absorption of the EU resources by the regions. These barrier include, among other things, continuous inflow of financial resources and impossibility of separating financial periods from the current financial perspective [Kurach and Słodowa-Hełpa 2011], impaired efficiency of the operational programmes monitoring and evaluation system. All these shortcomings make the effective assessment of the absorption of structural funds impossible [Rokicki 2011].

Despite the positive evaluation of the EU cohesion policy, the way it is implemented and its measurable effects in the form of progressive real convergence of the EU regions, increasing number of authors argue for the need to modify the European coherence policy [Szlachta and Zaleski 2008, Zientara 2008, Bartoszewicz 2011, Rokicki 2011].

Undoubtedly, Poland's effective use of the three EU funds: European Regional Development Fund (ERDF), European Social Fund (ESF) and Cohesion Fund (CF) helped it in meeting the long-term objectives of the Community's strategies and directives and in realizing the national programmes. The objectives and directions specified in the Act on National Development Plan 2004–2006 (NDP) and National Cohesion Strategy (NCS) are reached through national and regional operational programmes.

In the context of the development of regional spatial information systems, the essential financial instruments in 2004–2014 were: Integrated Operational Programme for Regional Development (IOPRD) and 16 Regional Operational Programmes. The strategic goal of IOPRD was to create conditions for the growth of regions' competitiveness and counteracting the marginalisation of some areas to stimulate the country's long-term economic development. Among four priorities and separate measures the one devoted to development of IT infrastructure, giving the access to Internet and other forms of communication and improving the quality of e-administration, e-health,

e-safety and e-learning, is especially noteworthy. The goal of the National Cohesion Strategy (NCS) is to provide conditions that would stimulate the competitiveness of the economy, knowledge-based entrepreneurship, ensuring growth of employment and improvement of social, economic and spatial cohesion. The goal no. 5 of the NCS: Increasing the competitiveness of Polish regions and preventing their social, economic and territorial marginalisation – covered specific problems and development opportunities for urban areas and investment in cities. It was assumed that the cohesion of the system of Polish cities is weakened because of the considerable economic and social imbalances between them. Regional Operational Programmes, addressing the needs and specificity of regions, have become a platform for promoting investments in innovation, information society, employment, infrastructure and environmental protection on the voivodeship level.

3. Transfer of the EU funds to Poland

During the first ten year of its membership in the European Union, Poland received 92.4 bn euro from the Community. The transfers from the EU budget to Poland in 2004–2013 are presented in table 1. Data published by the Ministry of Finance show the dynamic increase of money inflow in the last five years. The value of transfers in that period, amounting to 65 bn euro (71.2% of the ten years period transfers), was 2.5 times larger than the total sum of money received by Poland during the first five years of Poland's membership in the EU. The main components of the transfers were as follows:

- structural funds (including ERDF, ESE, CF),
- pre-accession funds (PHARE, SAPARD, ISPA),
- resources for financing Common Agricultural Policy,
- other transfers.

The major part of resources transferred to Poland in the studied period included structural funds. The gradual increase of this kind of resources is a noticeable trend. One of the reason for this are account settlement procedures in both financial perspectives (2004–2006 and 2007–2013).

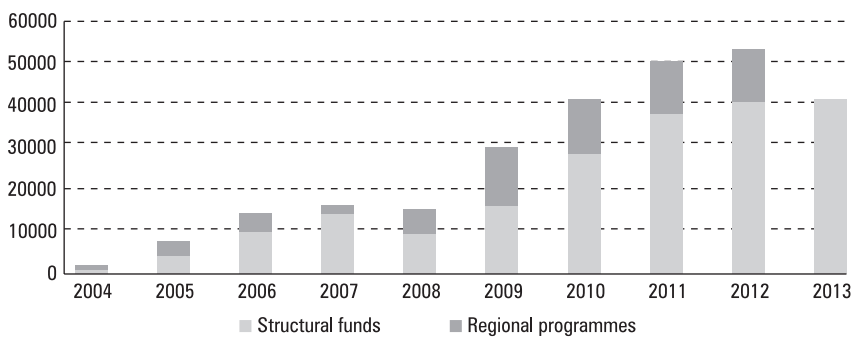
The analysis of data of Central Statistical Office (GUS) and Ministry of Infrastructure and Development demonstrated that structural funds were used mostly for infrastructure and regional programmes. The proportions of funds for regional programmes in relation to structural funds are presented in Figure 1.

The noticeable drop in the amount of structural expenditures in 2008 is due to specific functioning of the EU financial programmes: on the one hand in that time financial settlements of the funds received by Poland for 2004–2006 (with the exception of programmes financed with Cohesion Fund to be settled by the end of 2010) were coming to an end, on the other, the expenditures for projects launched in the new financial perspectives 2007–2013 were relatively small.

Table 1. The financial transfers from the EU budget to Poland in 2004–2013 [EUR bn]

Source	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Transfers from the EU budget	2.478	4.018	5.269	7.406	7.396	9.258	11.229	14.271	15.439	15.635	92.399
Structural funds	0.84	0.78	1.881	4.388	4.779	5.996	7.542	9.725	10.469	10.531	56.926
Pre-accession resources	0.692	0.901	0.487	0.353	0.374	0.153	0.108	0.08	0.024	0.078	3.250
Common Agricultural Policy	0.297	1.542	2.154	2.554	2.083	2.965	3.516	4.326	4.931	4.800	29.168

Source: Data of the Polish Ministry of Finance (www.mf.gov.pl)



Source: author's study based on data from the Central Statistical Office (GUS) and the Ministry of Infrastructure and Development

Fig. 1. Expenditures financed from the EU budget in 2004–2013 [PLN bn]

Structural funds received by Poland were distributed to regional programmes, which meant that the funds were transferred through these programmes directly to voivodeships. The voivodeships expenditures financed from the EU funds are presented in Table 2.

Table 2. The voivodeships expenditures financed from the EU funds [PLN mln]

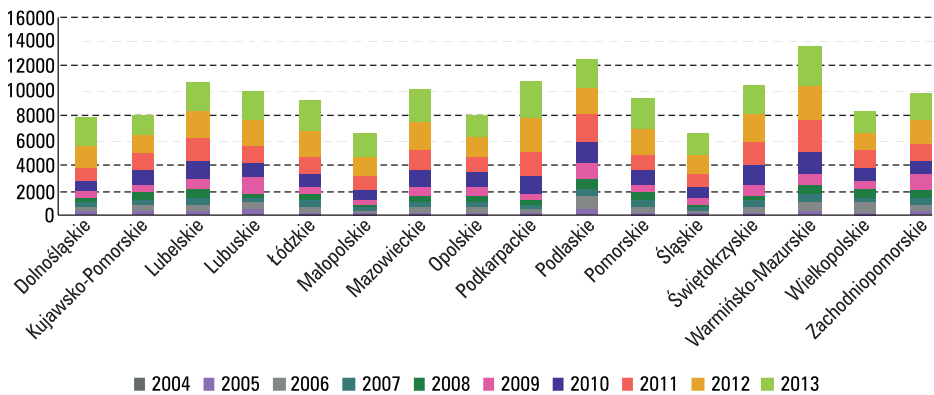
Voivodeship	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Dolnośląskie	414.80	755.40	1057.10	1127.50	1042.40	1556.00	2148.80	3965.963	4886.443	6392.556	23346.96
Kujawsko-Pomorskie	158.30	673.10	1148.80	934.70	1097.20	1387.80	2418.00	3602.284	3853.251	4555.26	19828.69
Lubelskie	184.20	763.00	1127.10	1179.20	1531.00	1813.00	3141.40	5165.834	6074.065	6589.929	27568.73
Lubuskie	199.40	365.30	539.30	346.00	414.00	1338.50	1134.20	4153.495	5940.771	6506.093	20937.06
Łódzkie	186.90	615.90	1201.70	1218.60	1412.60	1486.60	2389.90	3822.034	6188.313	7149.621	25672.17
Małopolskie	189.70	572.20	872.50	769.60	687.70	1226.60	2647.50	4694.442	4792.162	5427.669	21880.07
Mazowieckie	427.10	1130.40	2209.80	2154.00	2397.10	4061.80	6955.60	5736.733	6446.78	7493.775	39013.09
Opolskie	63.40	263.60	460.20	467.90	503.40	776.50	1177.10	3620.243	4293.662	5232.722	16858.73
Podkarpackie	181.80	475.60	753.60	642.10	706.40	1276.10	2727.60	5766.581	7768.259	8530.019	28828.06
Podlaskie	156.10	671.50	1085.30	698.00	985.30	1421.80	2176.30	4872.624	5917.175	6220.257	24204.36
Pomorskie	172.10	567.50	1053.30	1285.20	1229.70	1386.70	2469.20	4520.95	6234.253	7086.996	26005.90
Śląskie	342.30	618.00	999.80	1571.40	1206.80	1844.30	4084.60	4067.097	4664.682	5187.731	24586.71
Świętokrzyskie	85.00	377.30	652.30	482.30	588.20	954.90	2098.10	5486.77	6330.901	6683.766	23739.54
Warmińsko-Mazurskie	151.10	590.90	1012.50	802.10	961.50	1309.40	2633.20	6255.56	7928.784	8901.442	30546.49
Wielkopolskie	172.50	1051.40	2562.00	1512.80	1855.20	2502.00	3651.60	3471.622	4012.811	4840.718	25632.65
Zachodniopomorskie	114.50	560.90	914.10	1030.80	1082.10	2056.20	1735.80	4383.602	5273.263	6100.704	23251.97

Source: author's study base on data from the Central Statistical Office (GUS) and the Ministry of Infrastructure and Development

In Table 2 considerable disproportions in distribution of resources among voivodeships can be noticed. The following voivodeships are the leaders in the level of spending from the EU funds: Mazowieckie, Warmińsko-Mazurskie and Lubelskie. At the bottom of this list are: Opolskie and Kujawsko-Pomorskie. However to properly assess the effectiveness of acquisition and spending of the EU funds it is better to consider the level of spending *per capita*. There are three main reasons for that:

- Polish voivodeships are highly diverse in terms of their population,
- the size of the voivodeship's population was the main criterion of the funds allocations,
- the large number of indicators to measure the extent to which the programme objectives with the EU funds have been met are based on numbers *per capita*.

When the voivodeships' spending of EU funds *per capita* are taken into account it turns out that the voivodeships of eastern Poland are the leaders: Warmińsko-Mazurskie, Podlaskie, Podkarpackie. At the bottom of the list were strongly urbanized voivodeships: Małopolskie and Śląskie (Fig. 2).



Source: author's study based on data from the Central Statistical Office (GUS) and the Ministry of Infrastructure and Development

Fig. 2. Voivodeships' expenditures financed by the EU funds per capita [PLN]

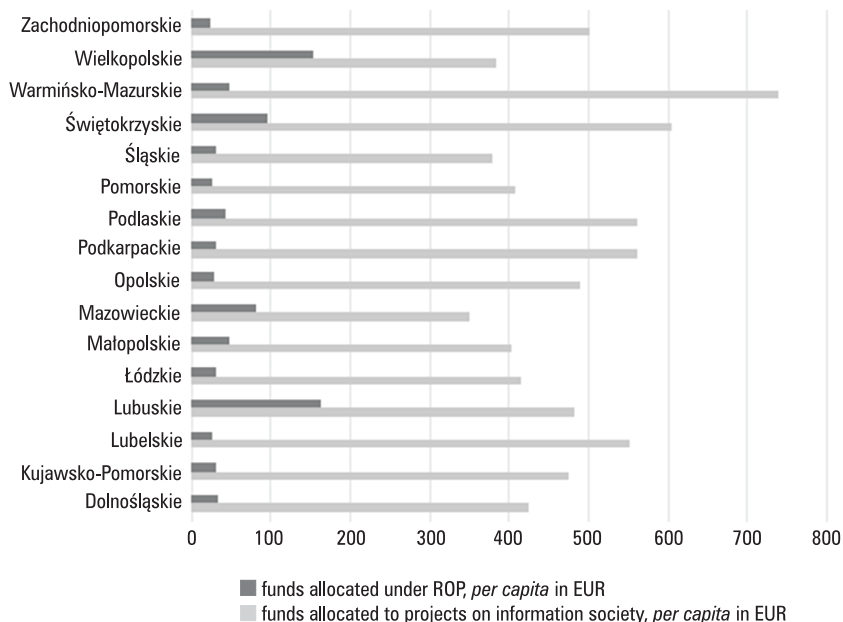
Detail examination of the annual data confirms the dominant role of eastern voivodeships, especially after 2006. The gradual reduction of imbalances between voivodeships and distinct increase of funds for them are also noteworthy.

4. The instruments of cohesion policy and regional spatial information systems

The main instruments of cohesion policy directed to voivodeships in the studied period were regional programmes: Integrated Operational Programme for Regional

Development (IOPRD) and 16 Regional Operational Programmes. It was assumed that various electronic public services provided by local government authorities and integrated management system of government administration would be supported at the regional level. Thus the cohesion policy instruments ensured the implementation of development strategy for creating information society and promoted the use of information society services. The goal of all these actions was to reduce the administrative barriers and to facilitate the access to information. As exemplary projects promoting the information society development, regional projects were designated, such as the ones related to construction of “backbone” broadband networks, public e-services of regional and local scope, IT management systems at regional and local level. Thanks to resources from Regional Operational Programmes (ROP) projects aimed at creating or improving the regional spatial information systems (RSIS) were among the key investments enhancing the development of voivodeships.

Figure 3 illustrates the differences between funds *per capita* allocated to voivodeships under ROP and the ones granted to information society development. The regions in which the share of funds allocated to digitalization is high deserve special attention. They include: Wielkopolskie, Lubuskie, Świętokrzyskie and Mazowieckie. The lowest places in that list are held by Zachodniopomorskie, Lubelskie and Pomorskie voivodeships.



Source: author's study based on data from the Ministry of Infrastructure and Development

Fig. 3. The funds allocated to projects on information society and funds under ROP in 2004–2014 [EUR *per capita*]

It does not mean, however, that the opportunities offered by ROP have been taken advantage of in the same degree by each voivodeship. The Wielkopolskie Voivodeship, the one leading in the comparison, have not attempted to take the opportunity given by the EU. The reason for this is undoubtedly the fact of using up the funds of the Wielkopolskie Regional Operational Programme under 2.7 measure: Infrastructure of information society was aimed at building in 2007–2013 the Wielkopolskie Broadband Network. The project was regarded as priority for subsequent measures related to voivodeship digitalization. It is also possible that the decision-makers were not sufficiently aware of the need to create regional spatial information systems as an efficient tool to implement cohesion policy.

In 2004–2014 thirteen voivodeships have used the EU funds to create or develop regional spatial information systems. Undoubtedly, the adoption in 2007 by the European Parliament and the Council of the Directive INSPIRE no 2007/2/EC establishing an Infrastructure for Spatial information in the European Community. INSPIRE enabled exchange of and access to interoperable geographical and environmental data and related services. It ensured the coordination between users and providers of information, allowing for combining and sharing information from different sectors. This Directive was also an inspiration for voivodeships' governments to invest in projects related to development of spatial information systems. For Poland it meant the obligation to establish, within a specified time, the Polish Spatial Information Infrastructure, the first element of which was the implementation of the EU regulations to the Polish law. The Act on spatial information infrastructure adopted in 2010 was aimed at optimizing costs of acquiring spatial data by public administration units and facilitating access to spatial information gathered by various levels of public authority and sectors of economy to all interested parties. The assumption was that the costs of creating the infrastructure of spatial information in Poland would be financed mainly by the EU co-funded projects.

The Mazowieckie Voivodeship is a region that began to build the regional spatial information system in 2004–2006 and it keeps working on within the current financial perspective 2007–2013. The voivodeship's government completed a pilot project within IOPRD measure 1.5: Infrastructure of information society "Mazovia Spatial Information System of Communes and Districts cooperating with the voivodeship", and it uses the results and experience in a project carried out in the programming period. Aside from the Mazowieckie Voivodeship the projects related to regional spatial information systems co-financed by the EU have been completed or are implemented by the following voivodeships: Dolnośląskie, Kujawsko-Pomorskie, Lubelskie, Lubuskie, Łódzkie, Opolskie, Podlaskie, Śląskie, Świętokrzyskie, Warmińsko-Mazurskie, Małopolskie, Zachodniopomorskie.

Table 3 presents the list of projects completed in 2004–2013, related to regional spatial information systems. The projects were co-financed under Integrated Operational Programme for Regional Development (IOPRD) and Regional Operational Programmes (ROP). Moreover 13 out of 16 voivodeships received funding from the EU resources to finance their own projects.

Table 3. The list of projects completed in 2004–2013 with the EU funds

No.	The programme name	The title of the project	Measure within ROP
1	ROP DV ¹	Developing a Topographic Database System as a platform of Spatial Information System in the Dolnośląskie Voivodeship – II stage of implementation	Measure 2. Development of e-services
2	ROP K-PV ²	The information superhighway (Infostrada) of Kujawy and Pomorze – e-administration and spatial information related services	Measure 4.2. Development of services and applications for the general public
3	ROP LV ³	Implementation and maintaining of The Regional Spatial Information Infrastructure of the Lubelskie Voivodeship	Measure 4.1. Information society
4	ROP LV ⁴	The Regional Spatial Information System of the Lubuskie Voivodeship	Measure 1.3. Development of information society
5	ROP ŁV ⁵	The Regional Spatial Information Infrastructure the Łódzkie Voivodeship	Measure IV.2. Public e-services
6	ROP MV ⁶	Creating Spatial Information Infrastructure related to services of discovery, viewing, downloading and sharing data, and expansion of existing application and hardware infrastructure (The Małopolska Spatial Information Infrastructure)	Measure 1.2. Development of information society
7	IOPRD	The Mazowiecki Spatial Information System of communes and districts cooperating within the Voivodeship	Measure 1.5. Infrastructure of information society
	ROP MV ⁷	Increasing competitiveness of the Mazowieckie Voivodeship by establishing integrated base of knowledge about the Mazovia region with the aim of creating information society and knowledge-based economy	Measure 1.7. Promotion of economic activity

¹ Regional Operational Programme of the Dolnośląskie Voivodeship for 2007–2013

² Regional Operational Programme of the Kujawsko-Pomorskie Voivodeship for 2007–2013

³ Regional Operational Programme of the Lubelskie Voivodeship for 2007–2013

⁴ Regional Operational Programme of the Lubuskie Voivodeship for 2007–2013

⁵ Regional Operational Programme of the Łódzkie Voivodeship for 2007–2013

⁶ Regional Operational Programme of the Małopolskie Voivodeship for 2007–2013

⁷ Regional Operational Programme of the Mazowieckie Voivodeship for 2007–2013

8	ROP OV ⁸	The Opolskie Voivodeship in Internet – Spatial Information System and information and promotion portal of the Opolskie Voivodeship	Measure 2.2. Information modules, platforms of e-services and databases
9	ROP PV ⁹	Implementation of electronic services to the Podlaskie Voivodeship population – part II, the local authority – The Podlaski Spatial Information System “GIS Podlasia”	IV. Priority axis: Information society
10	ROP ŚV ¹⁰	Creating the Open Regional Spatial Information System (ORSIS)	Measure 2.2. Development of public e-services
11	ROP ŚV ¹¹	E-świętokrzyskie – building Spatial Information System of the Świętokrzyskie Voivodeship	Measure 2.2. Construction of information society infrastructure
12	ROP WMV ¹²	Creation of the Warmińsko-Mazurska platform of GIS for enterprises	Measure 7.2. Promotion and facilitation of access to telecommunication services. Sub-measure 7.2.2. Services and applications for SMEs.
13	ROP ZV ¹³	„e-Administration i e-Tourism in the Zachodniopomorskie Voivodeship” – sub-project e-Tourism together with Spatial Information System SIS	Measure 3.2 Development of IT systems and e-services

Source: author's study based on data from the Ministry of Infrastructure and Development and Marshall Offices

Figure 4 shows the value *per capita* of the RSIS projects. An unquestionable leader of the ranking is the Świętokrzyskie Voivodeship which has been implementing the project in partnership with all communes and districts of the region. This cooperation results not only in high risk of the project's failure but also influences the value of investment. On the other hand the following voivodeships have the lowest places in the ranking: Lubuskie, Śląskie and Warmińsko-Mazurskie, where external partners did not take part. The disproportion of values *per capita* reflects significant differences in projects, which is the result of their material, financial, organizational and legal scope.

In order to determine the causes of these large differences of effectiveness in raising and spending the EU funds each project should be analysed more closely. Such an assessment would be possible only after material and financial completion of all implemented programmes.

⁸ Regional Operational Programme of the Opolskie Voivodeship for 2007–2013

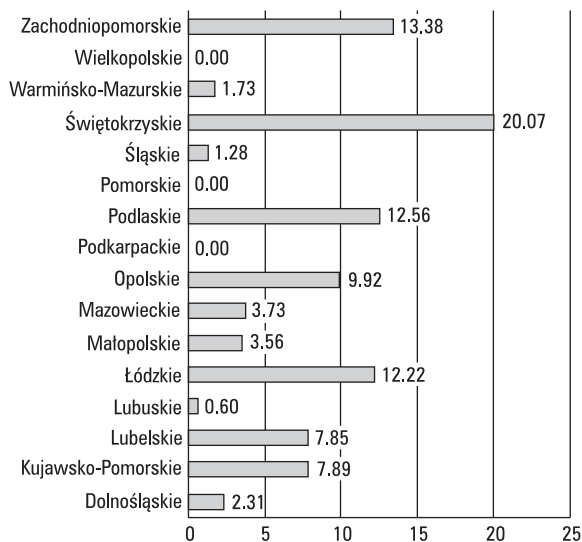
⁹ Regional Operational Programme of the Podlaskie Voivodeship for 2007–2013

¹⁰ Regional Operational Programme of the Śląskie Voivodeship for 2007–2013

¹¹ Regional Operational Programme of the Świętokrzyskie Voivodeship for 2007–2013

¹² Regional Operational Programme of the Warmińsko-Mazurskie Voivodeship for 2007–2013

¹³ Regional Operational Programme of the Zachodniopomorskie Voivodeship for 2007–2013



Source: author's study based on data from the Ministry of Infrastructure and Development and Marshall Offices

Fig. 4. The value of Regional Spatial Information System projects *per capita* [PLN]

5. Case studies of the chosen voivodeships

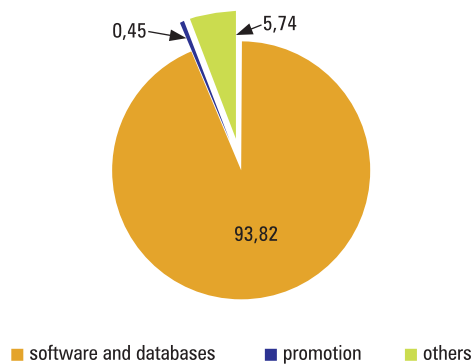
In the years 2004–2014 few voivodeships have been successful in completing the implementation of the RSIS EU-financed projects. Among these were the Dolnośląskie and Łódzkie voivodeships. For the purpose of this study all information available on the Internet sites of Marshall Offices and obtained directly from a beneficiary was used. The results of projects' implementation are regional spatial information databases commonly available and used by public bodies, private units and other entities.

5.1. The Dolnośląskie Voivodeship

The project called “Dolnośląski Spatial Information System” was completed under the project “Building the Topographic Database System as a platform of Dolnośląski Spatial Information System – II stage of implementation”. The overall objective of creating this system was the implementation of the INSPIRE Directive on the voivodeship level, establishing and managing spatial databases, cooperation with organisational units of the Marshall Office of the Dolnośląskie Voivodeship and intraregional cooperation. The project is supralocal and the Topographic Database would be integrated with the Dolnośląski Spatial Information System and with the so-called Gates of the Dolnośląskie, under the E-Dolny Śląsk project. At the national level the Topographic Database will be included in National Infrastructure of Spatial Data. The project will be carried out solely by the Dolnośląskie Voivodeship. The legal and financial scope of the project did not provide for the participation of external partners. The material and

financial scope of the project, affecting the composition of the expenditures (Figure 5), included mainly:

- creating an application that would make the data available,
- establishing Topographic Database for a part of the Dolnośląskie Voivodeship that cover the areas where the investment activity is especially high and areas of special significance for environment and protection from the effects of natural and environmental disasters and conversion of databases to Oracle,
- promotion and preparation of technical documentation.



Source: author's study based on data from the Marshall Office of the Dolnośląskie Voivodeship

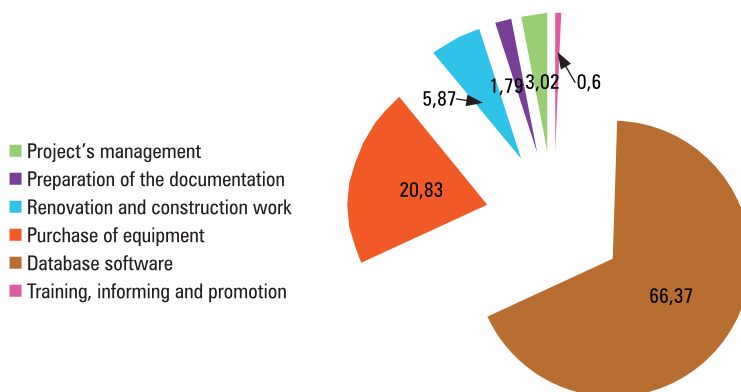
Fig. 5. Structure of expenditure on creation of the Dolnośląski Spatial Information System in 2007–2013

5.2. The Łódzkie Voivodeship

The main goal of the project “The Regional System of Spatial Information of the Łódzkie Voivodeship” is to improve the availability of information and reduce the disparities in access to spatial information by making information and communication technology accessible to inhabitants and offices of the Łódzkie Voivodeship. The products of the project until 2014 are, among other things: the number of created applications and ICT services made available (5 items), the number of purchased servers (25 items), the number of computer sets (55 items), the number of created systems of spatial information GIS (1 item), the number of portals allowing online contact of the citizen with the local authorities (3 items). The project implementation in 2007–2013 covered: creation, improvement and maintenance of software, purchase and installation of ICT equipment and building passive ICT infrastructure. Investment expenditures included also the process of preparation and promotion of the project, and training of employees.

The project is implemented by the Łódzkie Voivodeship and 12 external partners (districts: Łaski, Łowicki, Łódzki Wchodni, Opoczyński, Opoczyński, Piotrkowski,

Rawski, Skierniewicki, Tomaszowski, Zduńskowolski, Zgierski, the city of Piotrków Trybunalski and the city of Łódź).



Source: author's study based on data from the Marshall Office of the Łódzkie Voivodeship

Fig. 6. The structure of expenditure on creation of the Regional Spatial Information System of the Łódzkie Voivodeship in 2007–2013

The analysis shows that the EU funds for Poland were mostly used for purchase of hardware, software and databases. Moreover in each project, in accordance with the requirements of the EU, little money was spent on information and promotion. The share of resources for renovation and construction work and preparing of the documentation was low, too.

6. Conclusions

On the basis of the presented discussion one can conclude that the instruments of coherence policy made available to Poland in 2004–2014 led to creation and development of regional spatial information systems. Undoubtedly, it was possible thanks to the EU funds. All the operational programmes consisted of priorities and actions favouring the development of digitalization, computerisation and standardisation of data and thus contributed to shaping information society. The key element of intensifying the works was also the legal framework. The INSPIRE Directive and – its consequence – the Act on spatial information infrastructure helped to organize the principles of making and using the spatial information available and led to standardization of data. The were number of factors responsible for the significant differences in RSIS projects, such as: the material scope, the organisation of the project and financial capacity of a beneficiary. The created regional spatial information systems are specific, which is a consequence of diversity of needs and capabilities of the regions. The increase of effectiveness of the regional policy implementation on voivodeship level is undeniable and it can contribute to establishing the so-called good practices which could serve

as a guidance in subsequent projects related to the creation and development of the EU-funded regional spatial information systems.

References

- Bartoszewicz A.** 2011. Planowanie i programowanie wieloletnim narzędziem implementacji polityki spójności UE – analiza porównawcza metodyki kolejnych perspektyw programowych i wyzwania nalata 2014–2020. [In:] B. Józwick, M. Sagan, T. Stepniewski (eds.), *Polityka spójności i sąsiedztwa Unii Europejskiej*. Rocz. Inst. Europy Środk.-Wschod., 4, 36–37.
- Bradley J., Herce J.A., Modesto L.** 1995. The macroeconomic effects of the CSF 1994-99 in the EU periphery. An analysis based on the HERMIN model, *Economic Modelling*, 12, special issue, 323–334.
- Bradley J., Zaleski J.** 2003. Ocena wpływu Narodowego Planu Rozwoju Polski na lata 2004–2006 na gospodarkę przy zastosowaniu modelu HERIM. *Gospod. Narod.*, 7–8, 17–46.
- Grosse T.G.** 2000. *Polityka regionalne Unii Europejskiej i jej wpływ na rozwój gospodarczy: przykład Grecji, Włoch, Irlandii i wnioski dla Polski*, Instytut Spraw Publicznych.
- Kurach J., Słodowa-Hełpa M.** 2011. Fundusze Unii Europejskiej jako instrumenty spójności społeczno-gospodarczej, *Zesz. Nauk. UE w Poznaniu*, 185, 180–206.
- Murzyn D.** 2010. *Polityka spójności Unii Europejskiej a proces zmniejszania dysproporcji w rozwoju gospodarczym Polski*. Wydawnictwo C.H. Beck, Warszawa.
- Narodowe Strategiczne Ramy Odniesienia 2007–2013 wspierające wzrost gospodarczy i zatrudnienie. *Narodowa Strategia Spójności. Dokument przyjęty przez Radę Ministrów w dniu 29 listopada 2006 r.* Ministerstwo Rozwoju Regionalnego, Warszawa.
- Ocena efektywności wykorzystania pomocy finansowej Unii Europejskiej jako instrumentu polityki spójności społeczno-gospodarczej oraz poprawy warunków życia. 2013, Rzeszów.
- Regionalny Program Operacyjny Województwa Dolnośląskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Lubelskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Lubuskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Łódzkiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Małopolskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Mazowieckiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Opolskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Podkarpackiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Podlaskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Pomorskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Śląskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Świętokrzyskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Wielkopolskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Zachodniopomorskie na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Warmińsko-Mazurskiego na lata 2007–2013.
- Regionalny Program Operacyjny Województwa Kujawsko-Pomorskiego na lata 2007–2013.
- Rozporządzenie Rady Ministrów z dnia 22 czerwca 2004 r. w sprawie przyjęcia Narodowego Planu Rozwoju 2004–2006.
- Rozporządzenie Ministra Gospodarki i Pracy z dnia 1 lipca 2004 r. w sprawie przyjęcia Zintegrowanego Programu Operacyjnego Rozwoju Regionalnego 2004–2006.
- Rokicki B.** 2011. System monitorowania i ewaluacji polityki spójności w Polsce, *Gospodarka Narodowa*, nr 3, 87–103.

- Szlachta J., Zaleski J.** 2008, Dylematy polityki strukturalnej Unii Europejskiej po roku 2013, *Gospodarka Narodowa*, 3, 87–103.
- Ustawa z dnia 4 marca 2010 r. o infrastrukturze informacji przestrzennej. Dz. U. Nr 76, poz. 489.
- Uzupełnienie Zintegrowanego Programu Operacyjnego Rozwoju Regionalnego 2004–2006.
- Website of the Ministry of Infrastructure and Development, <http://www.mir.gov.pl>
- Website of the Ministry of Finance, <http://www.mf.gov.pl>
- The Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE).
- Zientara P.** 2008, Europejska polityka spójności: kontrowersje i wątpliwości. *Wspóln. Eur.*, 4, 191.

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