

**REGIONAL DIMENSION  
OF THE EU ECONOMIC POLICIES  
IN POLAND**



Edited by  
Adam A. Ambroziak

**REGIONAL DIMENSION  
OF THE EU ECONOMIC POLICIES  
IN POLAND**



WARSAW SCHOOL OF ECONOMICS PRESS  
WARSAW 2015

**This book is a result of statutory research of the Collegium of World Economy, Warsaw School of Economics, conducted by the Jean Monnet Chair of European Integration and co-financed with funds provided by the Ministry of Science and Higher Education.**

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First Edition

**ISBN 978-83-8030-021-7**

**Warsaw School of Economics Press**

162 Niepodległości Ave., 02-554 Warsaw, Poland  
tel. +48 22 564 94 77, 22 564 95 46  
www.wydawnictwo.sgh.waw.pl, e-mail: wydawnictwo@sgh.waw.pl

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Order 146/IX/15

# Contents

<b>Preface</b> .....	7
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*Adam A. Ambroziak*

<b>Theoretical Aspects of Regional Intervention</b> .....	13
1. Introduction .....	13
2. Regional Policy Goals .....	15
3. Instruments of Regional Policy .....	20
4. Decentralisation of Regional Policy .....	26
5. Effects of Regional Policy .....	27
6. A New Regional Policy Paradigm .....	34
7. Arguments Against Regional Policy .....	39
8. Conclusions .....	44
References .....	45

*Elżbieta Kawecka-Wyrzykowska*

<b>Alignment of the Cohesion Policy in Poland to Objectives and Principles of the EU Economic Strategies (the Lisbon and Europe 2020 Strategies)</b> .....	49
1. Introduction: Objectives of the Analysis and Methodological Remarks .....	49
2. Cohesion Policy and the Lisbon Strategy .....	51
3. Cohesion Policy and Its Alignment with the Europe 2020 Strategy .....	58
4. Conclusions .....	69
References .....	72

*Marzenna Anna Weresa*

<b>Instruments of Regional Innovation Policy Supporting Improvements in the Competitive Position of Polish Enterprises in 2007–2013</b> .....	75
1. Introduction .....	75
2. Achieving Competitiveness Through Innovations: A Literature Review .....	76
3. Regional Innovation Strategies (RIS) in Poland: How Do They Address Innovation and Competitiveness at the Enterprise Level? .....	79
4. Policy Instruments Supporting Regional Innovation and Competitiveness in Poland in 2007–2013 .....	81
5. Conclusions .....	84
References .....	85
Annex .....	89

*Michał Schwabe*

<b>Effectiveness of Support Instruments for Polish Entrepreneurs Within the EU Human Capital Development Policy in the Years 2007–2013</b> .....	105
1. Introduction .....	105
2. Human Capital Operational Programme 2007–2013 .....	106
3. HCOP: Outcomes After Implementation .....	109
4. Support for Enterprises and Competitiveness of the Polish Economy .....	113
5. Problems Associated with Interventionism in Human Resources Development ..	116
6. Conclusions .....	118
References .....	119

*Grażyna Wojtkowska-Łodej*

<b>Aid Instruments for Entrepreneurs in Regions in Poland Under the EU Environmental Policy in the Years 2007–2013</b> .....	121
1. Introduction .....	121
2. Objectives and Tools of the EU Environmental Policy .....	123
3. Environmental Protection in Poland and the EU Financial Support .....	126
4. Territorial Scope of Support for Environmental Protection .....	129
5. Conclusions .....	136
References .....	137

*Adam A. Ambroziak*

<b>Regional Dimension of State Aid to Entrepreneurs After Poland's Accession to the European Union</b> .....	139
1. Introduction .....	139
2. Classification of Regions .....	142
3. Main Trends in State Aid to Enterprises .....	144
4. Conclusions .....	164
References .....	165

## Preface

This book, entitled ‘Regional Dimension of the EU Economic Policy in Poland’, has been prepared within the framework of a research project coordinated by the Jean Monnet Chair of European Integration in the Collegium of World Economy at the Warsaw School of Economics. The main objective of the research was to assess the consequences and compatibility of state interventions in regions in Poland with the EU economic policy during the period 2007–2013. These interventions at the regional level were examined in terms of both theoretical considerations and empirical experiences. Support schemes targeting entrepreneurs have become one of the major pillars of the EU economic policy in almost all of its areas, including improving the human capital base, encouraging innovation, and assistance in meeting the increasingly restrictive environmental requirements. The study focused on the support provided, analysed in terms of programme-related, legislative, administrative and financial aspects.

The key issue was to verify the compatibility of interventions made available in Poland at the regional level with the objectives and assumptions of the EU economic policy as defined in the EU strategies of development, taking into account primarily the priorities and measures delivered under the national and regional operational programmes in the period 2007–2013. The aim was to identify the degree of compatibility of regional interventions addressed to entrepreneurs and funded from the EU resources with the objectives of the EU economic policy in different fields.

When it comes to the financial component it should be noted that in response to the economic crisis support for entrepreneurs, i.e. the EU State aid policy, has become one of the fundamental constituent elements of the EU economic policy. In addition to resources allocated directly from central budgets, the governments of the EU Member States could also make use of the European funds established primarily for Union-level interventions, i.e. considering the interest of the Union as a single economic structure. At the same time, in accordance with the principle of subsidiarity, these funds were allocated at the regional level (and less often at the central level) of the EU Member States. Thus the use of public funds in selected areas of the Polish economy was analysed and assessed from the point of view of its compatibility with the EU strategic goals and expectations.

Stress was placed on the regional dimension due to the fact that most of the EU interventions were addressed to concrete problems at the regional (not national) level, i.e. based in the regions. Up until now, this aspect has not been reflected in the objectives and tools of a widely-interpreted EU economic policy. One may conclude that the two enlargement waves of 2004 and 2007, which encompassed economically less viable countries with much bigger differences in regional development, apparently led to the inclusion of the regional dimension into the EU policy ideas. In order to achieve the objective of the survey, the book consists of six research chapters written by experts in the respective fields.

Chapter 1, *Theoretical Aspects of Regional Intervention* (Adam A. Ambroziak), is an introduction and review of a discussion between many researchers concerning the various aims, tools, opinions and concepts of regional policy. It presents different political, social and economic postulates on the need for a regional policy. This is followed by a description of a wide range of regional policy instruments, conditions of their use, consequences for stakeholders (entrepreneurs, potential investors, employees), and an overview of economic and social development at the regional level. It includes presentation of a new approach and a new paradigm of regional policy, as well as arguments against any governmental interventions in the market, including ones at the regional level. In order to ensure the clarity, thematic unity, precision and correct presentation of the various approaches to regional policy, the chapter cites original statements, phrases and words from distinguished researchers' articles.

Regional and territorial aspects became more important in the EU economic policy when cohesion was recognised as a key tool of the European integration. Cohesion policy, covering many actions and instruments applied at both the national and regional levels in the Member States, launched a new era of governmental interventions under umbrella of the EU strategies. Therefore Chapter 2, *Alignment of the Cohesion Policy in Poland to the Objectives and Principles of the EU Economic Strategies (the Lisbon and Europe 2020 Strategies)* (Elżbieta Kawecka-Wyrzykowska) investigates whether the declared objectives of the EU's Lisbon and Europe 2020 strategies relating to the Cohesion Policy are reflected in the strategic documents in Poland. As regards the Lisbon Strategy, the analysis concentrates on dedicating Cohesion Policy funds to the goals of the Strategy, while in the case of the Europe 2020 Strategy, it outlines how the Cohesion Policy has implemented the objectives of this Strategy. The author's analysis reveals a high degree of alignment of Cohesion Policy funds with the goals of both strategies in Poland; however the process of governing (planning, programming and reporting on the implementation of national strategies within the framework of the EU strategies) was found to be extremely complex, time consuming and bureaucratic.



Innovation was one of the most important elements of the EU economic strategy and the related Polish documents. Therefore Chapter 3, *Instruments of Regional Innovation Policy Supporting Improvements in the Competitive Position of Polish Enterprises in 2007–2013* (Marzenna Anna Weresa), outlines the tools of innovation policy aimed at supporting improvements in the competitive positions of enterprises which were implemented by the regions in Poland in 2007–2013. The article offers a clear presentation of the wide range of actions taken under national and regional operational programmes elaborated within the framework of the EU funds. The author's analysis shows that from the theoretical viewpoint, there was one element missing in the design of regional policy instruments supporting innovation and competitiveness: a tool for coordinating the different sets of policy instruments which would allow for maintenance of the right balance between support for competitiveness and support for cohesion.

Chapter 4, *Effectiveness of Support Instruments for Polish Entrepreneurs Within the EU Human Capital Development Policy in the Years 2007–2013* (Michał Schwabe), presents the forms and effects of support granted to entrepreneurs in this field. It includes an analysis of the main goals and instruments provided by the Human Capital Operational Programme and the main financial sources for selected regions in Poland. Moreover, the chapter outlines the problems associated with governmental interventions in human resources development and identifies the economic and administrative barriers which appeared during the period of research. According to the author's study, during the implementation of the Programme the measured innovativeness of the Polish economy decreased from the moderate category to the modest (in 2013 the SII index, which refers to human resources, was for the first time below the EU average). Moreover, the above analysis showed that training for employees has had little leverage on innovativeness and, consequently, on the global competitiveness of the Polish economy.

The main aim of Chapter 5, *Aid Instruments for Entrepreneurs in Regions in Poland Under the EU Environmental Policy in the Years 2007–2013* (Grażyna Wojtkowska-Łodej), was to analyse state support in the implementation of goals relating to environmental changes, especially those actions financed from the EU funds. The author presents the main objectives and tools of the EU environmental policy, as well as the instruments applied in Poland within the framework of the EU funds. She also includes an evaluation of the territorial scope of support for environmental protection in Polish regions. Her analysis demonstrates that the environmental investments and projects undertaken and implemented in the period of 2007–2013 in Polish regions – much with the support of the EU funds – were in line with the goals and assumptions of both Polish and EU policies. Moreover,

the projects' implementation had a positive impact on the condition of water and water management, air protection and environmental protection, hence the new and modernised investment increased the quality of life in Polish regions.

Chapter 6, *Regional Dimension of State Aid to Entrepreneurs After Poland's Accession to the European Union* (Adam A. Ambroziak), analyses the financial support granted in Polish regions. It includes a presentation of the various forms and goals of state aid granted to companies in all Polish regions and an evaluation of the main types of public support aimed at improving the competitiveness, innovation and development of companies: aid to SMEs, aid for research, development and innovation, aid to improve the quality of human resources, and regional investment aid to enterprises. The author's study reveals that in the period covered by the research only ca. 30% of public aid could be considered as designed to directly improve the competitiveness of companies. The research does not allow for a conclusion that aid granted for SMEs' development, R&D&I, training, or regional aid had a positive impact on the examined social and economic indicators.

To summarise, the regional and territorial dimension of the EU economic policy is widely recognised in various areas of the EU economic activities. While regional policy was launched in the EU many years ago, in recent years a new interest in it (a new approach to regions' role in economic development and to ways of offering support to regions) can be observed. There are many arguments supporting governmental interventions in regions; however due to the doubtful outcomes achieved thus far we can also find many critical opinions. A new paradigm of regional policy, based on the assumption that each region has some comparative advantages over other regions and its own particular potential for growth is aimed at mobilising endogenous factors of development and focusing more on improving regional capabilities in areas such as entrepreneurship, productivity and innovation. Some examples of this approach can be observed in the new cohesion policy of the EU and in the major strategic documents issued by the EU institutions: Lisbon Strategy and Europe 2020. Poland, as the EU member state and a main net beneficiary of the EU budget, has widely adjusted its programming documents to the EU strategies. It's worth underlining that cohesion policy and its related instruments applied in Poland have assisted in achieving proper programming for the distribution of the EU funds. Innovation and human capital are the most important elements of a new economic strategy for both Poland and for the entire EU. Although many financial sources aimed at those goals have been granted to entrepreneurs, nevertheless there are many doubts with respect to the consequences of governmental interventions in Polish regions. It seems that it has been much easier to meet environmental aims in comparison to increasing the innovation and competitiveness of Polish regions. The conclusions drawn

from the use of the EU funds in the past should be used to modify the objectives and instrument of the regional policy for the period 2014–2020.

In conclusion, there is no question that the sources of Poland's growth and development should be sought at the regional level. Adequate conditions developed at this level should, when combined with skilfully designed support schemes for entrepreneurs, result in the development of existing businesses and in the inflow of new investments capable of offering new jobs, bringing new technologies, forcing adjustment and improvement of the competitiveness of the entire Polish economy.

Finally, as an editor I wish to thank the referees, Professor Krystyna Gawlikowska-Hueckel, University of Gdańsk and Professor Jacek Szlachta, Warsaw School of Economics, for their helpful comments, constructive criticisms and suggestions, which have improved the volume overall. I also wish to express my gratitude to Professor Elżbieta Kawecka-Wyrzykowska, Jean Monnet Chair of European Integration, Collegium of World Economy, Warsaw School of Economics, for her invaluable assistance in bringing the book to fruition.

Warsaw, Poland

May 1, 2015

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# **Theoretical Aspects of Regional Intervention**

## **Abstract**

The aim of this chapter is a review of the literature concerning regional interventions conducted within regional policy. The first part of the chapter presents different political, social and economic arguments opting for the introduction of regional policy. This is followed by a presentation of a wide range of instruments used within regional policy or other economic and social policies at the regional level. Various classifications proposed by researchers are presented, as well as the reasons, causes, and potential effects of their implementation. The next part deals with the concept of decentralisation of power within regional policy. Then the potential positive and negative effects of regional policy are studied in the field of labour and capital, market, infrastructure, and innovation. This is followed by a presentation of a new approach and new paradigm of regional policy put forth in recent years. In order to present a balanced and wide overview of the theoretical aspects of regional policy, the final part of the chapter consists of a description of arguments against regional policy. The text is a review of the literature of distinguished researchers, supplemented by some of the author's own critical remarks and opinions. In order to ensure the clarity, thematic unity, precision and correct presentation of the various approaches to regional policy, the chapter has been prepared using original statements, phrases and words from 60 original publications (articles in journals and chapters in books).

## **1. Introduction**

Regional policy was pioneered in the United Kingdom to address the high level of unemployment in several coal mining areas in the 1930s, which was a result of declining major industries and an absence of new opportunities in expanding trades (Armstrong and Taylor, 1999, p. xiii). It was developed and implemented for both economic (efficiency) and social (equity) reasons (van Dijk et al., 2009, p. 461). But regional policy began in most OECD countries in the 1950s and 1960s, which was

a period of relatively strong economic growth, fiscal expansion and low unemployment (OECD, 2010, p. 11). As Barca et al. noted, with few and relatively minor exceptions traditional development policies continued to rely on 1950s growth and development theories and, across the world, remained cut from the same cloth: supply-side strategies – or, conversely, excessive demand-side strategies – based on a sectoral rather than a territorial dimension (Barca et al., 2012, p. 137). The principal objectives of the measures introduced were greater equity and balanced growth in a period of rapid industrialisation. The main instruments used were based on wealth redistribution through financial transfers by the national government, accompanied by large-scale public interventions. When unemployment problems appeared, regional policy, evaluated in the context of public policy, focused on job creation by changing production cost factors through subsidies and incentives, thereby influencing industrial relocation (OECD, 2009b, p. 50). During the 1970s and early 1980s successive economic shocks and changes in the global economy led to geographical concentrations of unemployment in many OECD countries, and regional policy evolved rapidly to address this new challenge. The focus was extended beyond reducing disparities in income and infrastructure to include reduction of disparities in employment as well. The theoretical assumption that guided policy at that time was that public policy could alter supply conditions, thereby influencing industrial location decisions with respect to existing firms and new investments. This increased the focus on direct support to firms, either by supporting ongoing activities or by attracting new jobs and investments to poor regions (OECD, 2010, pp. 11–12). Nowadays researchers develop a place-based approach to regional policy due to the presence of place-specific market imperfections or externalities. Essential features of the new paradigm of regional policy include tailoring interventions to specific territorial contexts and to their spatial linkages, and eliciting and aggregating the knowledge and preferences of local actors. Moreover, the recent debate on regional policy focuses also on whether policies should be pro-equity or pro-efficiency.

The aim of this paper is a review of literature on regional policy, its main goal, traditional and new instruments, as well as a discussion on a new concept of regional policy and analysis of arguments against governmental interventions at the regional level. The paper has been prepared based on over 60 original journal articles, and in order to ensure clarity and thematic unity the text consists of distinguished researchers' original phrases, statements or even short paragraphs with precise references to original works, supplemented where necessary, by the author's own critical remarks and opinions.

## 2. Regional Policy Goals

There are various classifications of the arguments for conducting regional policy. However the first question concerning the need for regional policy is linked to the concept of governmental intervention in the market. Some authors have noted that although there can be a consensus on accepting an active governmental role to influence the aggregate level of economic activity, the question remains as to whether in fact there is any need for regional policies (Norman, 1979, p. 294).

Some other authors distinguished social, political and economic dimensions (Thirwall, 1974), while others add the environmental one (Commission of the European Communities, 1973; Marelli, 1985, p. 131). According to Norman the alternative argument is that the above-mentioned regional imbalances are merely indications of the need for adjustment, and that such adjustment will follow more or less automatically from the operation of market forces. He found that the only justification for regional policy then rests on either: a) a desire to speed up the process of adjustment; or (b) social, political and environmental judgments based on concepts of equity and justice (Norman, 1979, p. 294).

### 2.1. Political Arguments

The political arguments are linked with the European economic integration, especially with the enlargement of the Community. Some authors argue that it is difficult to see how economic integration and policy harmonisation is to be accomplished without political solidarity. Already in 1970s a need for solidarity and unity of purpose of the European Community was noticed, given the presence of wide divergences in the economic and social conditions between people in Europe (Thirwall, 1974, p. 2). As Martin noted, in as much as neither policy makers nor economists are ready to give up the gains from trade, a natural implication is to employ public policies to counteract any increased inequalities which are deemed as unacceptable on distributional and political grounds (Martin, 2003, p. 757). Camagni and Capello explained that the lack of regional intervention can bring huge social and political costs, allowing for the explosion of regional crises and the cultural and environmental costs of regional desertification (Camagni and Capello, 2010, p. 6).

## 2.2. Social-Moral Arguments

The social-moral arguments relate to the provision of equality of opportunity and the maintenance of social cohesion due to, *inter alia*, the fact that inequalities and lack of cohesion impair the functioning of the economy. Social conflicts can interfere with the smooth functioning of economic systems, especially when regional economic and social disparities coincide the cultural and religious boundaries (Thirwall, 1974, p. 2). Martin also noted that if economic theory cannot support public intervention on pure efficiency grounds, to counter forces that may generate a core-periphery pattern, then it can be defended on equity grounds. He explained that although people with the highest skills will benefit from agglomeration forces by moving to regions which offer them the highest rewards, there are many people who will have to stay in the declining regions (Martin, 2003 p. 765). Moreover, Camagni and Capello noted that existing basic locational disadvantages, e.g. poor infrastructure and services, can lead to a lower exploitation of the creativity potential of all regional communities (Camagni and Capello, 2010, p. 6). It is worth noting van Dijk's observation that social capital as such can be added as an extra production factor in the framework of the neoclassical growth theory. However, in the regional policy debate social capital theory is mainly used to motivate policy measures that develop social capital in lagging regions as a goal itself, whereas the ultimate goal is of course to stimulate economic growth (van Dijk et al., 2009, p. 463). It is also worth noting that regional policy can be treated as a mean to achieve a more balanced geographical distribution of the population. The existence of cumulative causation mechanisms leads to very powerful centripetal forces (Armstrong and Taylor, 1999, p. xv). However, Parr's observation that regional policy intervention in the form of direct assistance to problem regions provides a logical reinforcement of the objective of greater equality, has been dismissed by some researchers as lacking an economic rationale and therefore being in the nature of purely social policy (Parr, 2014, p. 6).

## 2.3. Economic Arguments

There are many economic arguments for regional policies. One of the main ones, according to Parr, is that regional policy undertaken by a nation should assist areas (and thus the populations therein) that are deemed to be in need of assistance by virtue of their poor levels of economic performance, as manifested in below-average levels of per capita income and/or above-average unemployment rates. An inappro-



priate spatial structure within a particular region may adversely affect its economic performance and reduce its ability to adjust to change (Parr, 2014, pp. 2–5).

But there is no question that regional policy can have a various effects on general economic performance. After the Second World War one of the main goals of regional policy was that it would not only increase welfare levels in the problem regions but would also lead to efficiency gains within the national economy through the utilisation of unused resources in lagging areas and reduction of congestion and other negative externalities in the relatively prosperous regions. As regards the latter objective, there are essentially two complementary courses of actions available to public policy makers to prevent the further expansion of congested regions far beyond an optimal level: direct and indirect controls on the expansion of direct productive actions within such regions, and encouragement of economic growth in alternative regions. However, as Hanson noted, governments have rarely carried out such joint measures in any systemic fashion (Hansen, 1965, pp. 7–8).

Needleman and Scott noted that it can be argued that in order to justify state intervention in lagging regions it is necessary to establish that national output would be raised if regional differences were diminished, and those market mechanisms on their own are ineffective means of reducing these differences. They argued that in less prosperous regions of the country there are considerable pools of unused resources – mainly labour – which, if employed, could raise national output substantially (Needleman and Scott, 1964, p. 153). On the other hand, regional imbalances in the labour market may exacerbate the conflict between price stability, full employment, and capacity growth. Thus, according to Thirwall's research regional policy aimed at achieving a greater degree of sectoral balance could lead to an improvement in the general welfare by allowing the economy to operate at a higher level of employment and output consistent with its simultaneous desire for price stability and a balance in the overseas trading account (Thirwall, 1974, pp. 2–3). Moreover, Martin noted that the fact that regional inequalities might hurt immobile agents in declining regions provides a further justification for those measures meant to diminish them (Martin, 1999, p. 86).

It should be underlined that, at least in the long run, there is no conflict between the objectives of aggregate efficiency and of higher spatial equity (Marelli, 1985, pp. 129–130). Markusen argued that a well-designed regional policy could moderate regional growth rate differentials and ameliorate regional differences in per capita income, integrate stalled regions into the national economy, and spread urbanisation from a single metropolis to multiple sites (Markusen, 1996, p. 49). An OECD report also stated that fostering growth, even in lagging regions, is in the interest of national governments as it contributes to national output without hindering growth

opportunities elsewhere. Moreover, growth is often occurring even in lagging regions, while successful regions should also be nurtured (OECD, 2009a, p. 17). Thus one can state that lagging regions generate an important part of national economic growth – when they underperform, national output suffers. So there are clear arguments in support of regional development, but these should be evaluated against other uses of public funds (OECD, 2009b, p. 53). However, the conventional wisdom that there are inevitable trade-offs between national economic efficiency and interregional equity should also be noted (Parr, 2014, p. 5).

According to various researchers, a high rate of divergence between regions, in terms of social and private costs of production and inefficiencies in resource allocation, leads to the movement of factors from peripheral to central regions, where entrepreneurs prefer to locate their investments. Thus, as Thirwall claimed, private decision-making left to itself cannot lead to the most efficient allocation of resources when the price mechanism makes no allowance for external diseconomies in production and consumption (Thirwall, 1974, p. 3). If it is true that market forces are not always able to guarantee a self-equilibrating process of development, regional policy should at least aim at the correction of market imperfections in order to aid the functioning of the market. Marelli noted that the problem of regional disparities, which is an economic argument for carrying out a regional policy, depends upon the interregional differences (and their dynamic) in the following variables: a) relative prices or ‘terms of trade’; b) level of utilisation of local resources (particularly labour); c) productivity of the regional economic systems; and d) the social, political and historical environment (Marelli, 1985, p. 130).

Thirwall developed some research on regional imbalances deriving from regional disparities, which can be considered between predominantly agricultural and industrial regions as well as between industrial regions themselves. According to his studies, a regional policy to contend with agricultural-industrial dualism has two choices: it either accepts the gradual rundown of agricultural regions on the grounds that industrial development there will never be economically viable, or it takes active steps to promote industrial development to absorb the resources released by declining agriculture in order to curb the flow of resources to areas already industrialised. A regional policy for depressed industrial regions should tackle problems of labour market’s bottlenecks, with their stocks of social capital, human capital and technical expertise which could be employed in new industry (Thirwall, 1974, pp. 5–6).

As Melvin noted, the formulation of an appropriate economic policy must be based on a clear understanding of why interregional differences exist and where they arose from, because if the policy does not address the underlying causes, then more harm than good may result (Melvin, 1987, p. 305). If neoclassical growth theory can

lead to the view that regional disparities are the result of the failure of convergence processes to function properly, then regional policy could therefore be seen as an attempt to correct or mitigate the consequences of this failure (Armstrong and Taylor, 1999, p. xvi). Some authors claimed that the main aim of a regional aid policy should be, in order to foster industrial convergence between a rich and a poor region, based on facilitating domestic rather than international trade (Martin and Rogers, 1995, pp. 336–337). Camagni and Capello argued that unlike countries, regions are not subject to the principle of ‘comparative advantage’ governing international specialisation and trade, attributing to each partner country some specialisation sectors and a condition of full employment. Two equilibrating forces that in principle allow for passing from an ‘absolute advantage’ to a ‘comparative advantage’ regime are price flexibility and currency devaluation. While these are fully active in the case of countries, they do not work or cannot exist at the inter-regional level. Thus it should be underlined that regions compete on the basis of an ‘absolute’ advantage principle, and when they are non-competitive they cannot rely on any automatic mechanism in order to maintain some export specialisation. Their fate is mass unemployment and, in case of insufficient public income transfers, emigration and possibly desertification (Camagni and Capello, 2010, pp. 2–3).

Moreover, some researchers explain that the concept of regional policy is based on the assumption that market mechanisms not only cannot induce economic convergence but they can rather exacerbate existing inequalities. If equality of regional per capita income is the prime policy objective, this supports the spending of considerable human and financial resources in less advanced regions. This means that there are inequality and divergence of growth rates unless public policy intervenes (Boldrin and Canova, 2001, pp. 208–209, 212). Camagni and Capello observed that an excessive concentration of economic growth in a few areas is likely to lead to tensions on the local labour and real estate markets, pushing wages and land rents upwards in an unsustainable way. All this, coupled with the usual indirect effects of congestion, social costs and environmental decay, can generate a decline in the competitiveness and attractiveness of these areas. Thus according to Camagni and Capello a wise strategy in these cases would be to widen the potentially eligible areas for both foreign and domestic investments, strengthening second rank cities and city-regions in the national urban hierarchy and linking them with the present agglomerations (Camagni and Capello, 2010, p. 6). Also Barca observed that economic theory shows that a place might require an intervention from outside in response to two sets of market and government failures. Firstly, a place can be trapped in a vicious circle of inefficiency or social exclusion because the appropriate economic institutions are either intentionally not chosen by local elites, and/or because the less place has

effective institutions, the less likely it is to have them in the future. Secondly, agglomerations – one of the driving forces of development – are always the result of public as well as private decisions, the former consisting of the design of institutions which are tailored to places. And as Barca observed, what is crucial is that neither agglomerations nor network of regions are ever the result of purely market forces. Thus public action, which invariably has explicit or implicit and direct or indirect spatial effects, is a factor too. Moreover, he notes that in ongoing agglomerations, the ‘hand of the State’ is generally hidden behind seemingly ‘national’ policies and what are claimed to be ‘natural trends’ (Barca, 2009, pp. XI, 18–19).

The next sphere in the debate on economic arguments for regional policy is the dilemma of proper goal selection between ‘place prosperity versus people prosperity’. On the one hand social security programmes may contribute to interregional equity, as their recipients tend to be over-represented in the lagging regions. On the other hand, ‘place prosperity’ may still be needed as an independent goal alongside ‘people prosperity’, as pursuing only the latter may yield unwanted indirect effects (negative effects of cumulative outmigration). Policy measures that enhance the place characteristics of a region by building new infrastructure will be mainly beneficial for the individuals that stay in the region, however using regional policy for social purposes works in the same direction as non-spatial social security policy (van Dijk et al., 2009, p. 461).

### 3. Instruments of Regional Policy

The definition and classification of regional policy instruments depends mainly on their positions within the public policy of a given government. Thus one of the crucial issues concerning their effectiveness is to design and accommodate them within the landscape of all other policies conducted by government. Markusen noted that conflicting goals can appear, for example, in the implementation of industrial and regional policy. It seems that she discovered a key issue, although she misnamed it. She argued that industrial policy can influence the location of economic activities, either directly through government siting or indirectly through incentives to entrepreneurs, and that government can use industrial investment to promote development of the poorest regions (Markusen, 1996, p. 49). Hosper and Beugelsdijk also took the view that public initiatives in the field of clustering can be found under the headings of not only industrial policy or science and technology policy, but regional development policy as well. Therefore, despite all the subsidies and other public support programmes, it is difficult to assess how many governmental resources are actually

invested in regional clustering (Hosper and Beugelsdijk, 2002, p. 383). But it is worth underlining that all these kinds of interventions are focused on the development of given areas, thus they should be recognised and treated as elements of regional policy.

Barca also distinguished two kinds of policies: those which have an overt spatial dimension – which he terms ‘spatially aware’ – and those which do not – sometimes termed ‘spatially blind’ (Barca, 2009, p. 19). The first one is a spatially focused policy, which concerns spatially targeted measures to stimulate economic growth in lagging areas (investment subsidies, tax rebates, location regulations, local infrastructure development, and targeted investment climate reforms). The World Bank suggested to add to this policy also activities taken within the framework of spatially connective policy, which covers all investments that connect places and provide basic business services (public transportation and utilities, interregional highways and railways, information and telecommunication technologies). While ‘spatially blind’ policy (the income tax system, inter-governmental fiscal relations, governance of land and housing markets, education, health care, basic water and sanitation) is not explicitly designed with spatial considerations in mind, it nevertheless has effects and outcomes that may vary across locations (World Bank, 2009, p. 231). Thus all sorts of non-regional policies can have ‘regional side-effects’, i.e. a potentially large impact on the location of economic activities and thus on the geographical distribution of wealth (Ottaviano, 2003, p. 669).

As regards ‘pure’ regional policy, there are various classifications of its instruments. Taking into consideration the aforementioned arguments for regional policy, one can state that its objective is the increase in gross regional product per capita at some time in the future through the development of a given region. It is worth noting Quah’s observation that in the case of lagging regions regional instruments can take two possible forms. One is that of changing the structure of a particular region and that region alone (the stock of public capital, the quality of the environment, and other infrastructural characteristics of that region). The other form is that of changing how a selected region is related to other regions (interregional transportation, factor mobility, and merchandise trade) (Quah, 1997, p. 2).

Another approach to classification of instruments was taken by Camagni and Capello, who said that the possible strategies for the development of the lagging territories are threefold: 1) complete autarchy (almost impossible); 2) public income transfers; or 3) improving the competitiveness of some export sectors and attracting investors from other places (regions and countries) (Camagni and Capello, 2010, pp. 2–3). Gray and Duning suggested to divide the third solution into two dimensions which are the basis for the development of regional policy instruments: a) the enhancement of competitiveness and profitability of spatially mobile and

spatially immobile activities already located within the regions, and b) to actively try to attract (or retain) mobile investments which, together with the spatially fixed assets within the region, will promote the long-term comparative advantage of the region in association with a high knowledge-intensive content (Gray and Duning, 2002, p. 412).

On the basis of the aforementioned arguments, one can state that, apart from complete autarchy (which was evaluated as almost impossible), one of groups of regional policy instruments concerns the use of fiscal transfers to reduce regional disparities. Armstrong and Taylor listed the following tools: 1) automatic stabilisers which automatically hit richer regions harder than poorer ones. According to their research, welfare systems can be tailored to ensure that poorer regions are favoured during economic downturns. This is typically the effect where generous unemployment benefits and welfare payments are triggered by rising unemployment; 2) block and specific grants used by federal and unitary governments to channel resources from taxpayers in richer regions to citizens and governments in poorer regions; and 3) discretionary spending policies which favour poorer regions (Armstrong and Taylor, 1999, p. xxv).

The next group of instruments is based on a market approach, which argues that persistently high unemployment rates in particular geographical areas are due to factors inhibiting the functioning of local labour markets. Job creation can be achieved by removing all factors which interfere with wage flexibility, i.e. national wage bargaining, the gap between unemployment benefits and the wage rate for unskilled workers, and the high costs of hiring and firing workers (Armstrong and Taylor, 1999, p. xxiv).

The another group of instruments is developed on the assumption that substantial government intervention is required if unemployment is to be reduced in high unemployment areas in order to increase the demand for labour or improve the supply of labour. This interventionist approach attributes an area's high unemployment to inadequacies either in the physical capital stock or in human capital (Taylor and Wren, 1997, p. 840). As regards the labour market, Storper and Scott noted that there is a specifically regional role to play in the training of many kind of workers, particularly in the case where needed skills are not specific to an occupation or industry, but take on additional characteristics reflecting the regional production complex in general (Storper and Scott, 1995, p. 514).

Some authors have argued that *a priori* regional policy can be expected to stimulate manufacturing investment by special incentives and increase output and employment in assisted regions (Yamano and Ohkawara, 2000, p. 205). Others claimed that the regional policy appropriate to areas of slow growth due to its relatively

unfavourable industry mix involves general improvement in infrastructure, while areas equipped with disadvantageous factors which cause growth to be slower than the initial industrial composition would have suggested simply need injections of growth industries to compensate for their above-average share of static and declining industries (Stilwell, 1969, p. 170).

Markusen found that large and powerful oligopolistic industries, especially in mature or declining sectors, discourage entrepreneurship and restrict the supply of land, labour and capital to other industries within the region (Markusen 1996, p. 51). On that basis Alonso explained the Markusen's concept that one of the most common regional policy strategies is to focus on how to encourage the dispersal of mature industries to less-developed regions, the accelerating market tendencies for mature industries to move to trade agglomeration economies – particularly useful in the early stages of their development – by offering lower costs at other locations (Alonso, 1996, p. 81). Other researchers claim that regional policy consists of the provision of conditions that may act as incubators for new economic initiatives in a given region (Folmer and Nijkamp, 1986, p. 1). Storper and Scott argued that public institutions can help overcome specific problems at the regional level by the development of technologies in existing industries (to maintain the commitment of firms to the improvement of technologies that are particularly important to existing regional production ensembles, or that may involve learning-based extension of the local productive apparatus), the training of labour, efficient matching of workers and jobs, and the acquisition of a place-specific culture and order (Storper and Scott, 1995, pp. 509, 514). Johansson and Karlsson identified four areas for regional policies that relate to a region's knowledge resources: 1) knowledge policies, focusing on education and training of the labour force, development of innovation systems that support R&D, patenting, product and commercial innovations, and improving the capacity to absorb externally diffused knowledge; 2) household milieu policies, influencing life conditions by forming human and social capital; 3) facility policies, comprising the building of infrastructure for urban life, transport, Internet and telecommunications; and 4) firm milieu policies, stimulating technology diffusion, facilitating supply of venture capital, supporting start-ups, attracting direct investments by external firms, orchestrating cluster formation and improving the conditions for labour market adjustments (Johansson and Karlsson, 2009, p. 252).

Hosper and Beugelsdijk noted that although firms should be highly motivated to exploit the positive externalities of cooperation, 'market failure' may prevent companies from decoding as many resources to clustering as would be socially optimal. Apart from uncertainty and a lack of economies of scale to which its knowledge will leak out ('spill over'), is seen as a barrier to cooperation. In the light of their research

they concluded that corrective public intervention may be needed to correct some of the market failures (Hosper and Beugelsdijk, 2002, p. 386).

It is also worth noting other classifications of regional policy tools. Taylor and Wren formulated some supply-side policy concepts: a) encourage indigenous development through new firm formation and the growth of small companies through the provision of business support, industrial sites and premises, loan guarantees and financial support; b) encourage an inflow of investment through the provision of incentives (mainly financial); c) change the industrial mix of the less developed regions to make them less vulnerable to economic change; d) improve the physical infrastructure and environment of the lagging regions to make them more attractive to investors; e) improve the skill level of the local workforce; f) bring the long-term unemployed back into the effective labour force by offering temporary employment subsidies; g) reduce the job search and relocation costs of the unemployed; h) make well-developed regions less attractive for development imposing controls and taxes (Taylor and Wren, 1997, p. 840).

Parr proposed another approach to regional policy tools by splitting them into two groups: direct and indirect instruments. Direct measures of regional policy include: subsidies to existing or new firms as an incentive to locate their proposed activity or expansion of existing activities; relocation of activities of government departments, agencies and state-owned enterprises in assisted areas; technical education and manpower retraining; and infrastructure investment. It should be also noted that because of the sectoral interrelatedness of a regional economy, such a spatially selective emphasis typically has the effect of assisting the region in general, and not simply those for whom the policy is primarily intended. Indirect instruments are applied within the framework of policies which have a functional rather than a spatial focus (collection of taxes and expenditures on automatic stabilisers; taxing regions on the ability to pay and receive payments on the basis of need or the necessity of meeting standards) (Parr, 2014, pp. 6–8).

Another classification of regional policy instruments is focused and based on their specific mechanisms for influencing competitiveness of companies and attractiveness of investment locations, including quality of production factors and infrastructure, which can be applied to entrepreneurs both already located in lagging regions as well as those amenable to moving assisted territories. Folmer and Nijkamp enumerated these mechanisms as follows (Folmer and Nijkamp, 1986, p. 7):

- relocation or establishment of government activities or state-owned companies;
- regionally-based direct financial aid to companies in trouble, in the form of subsidies and loans;
- participation in privately owned companies by, e.g. regional development companies;



- creation of jobs, especially in times of recession, by regionally differentiated employment programmes;
- state-financed housing construction;
- investments in economic and social infrastructure in order to influence the location profile of a region in the form of, e.g. the construction of industrial sites, harbours, roads, other communication systems, and socio-cultural and recreational facilities;
- subsidies for capital, e.g. premiums on gross investments, fiscal-accelerated depreciations, fiscal investment deductions and subsidies on land use;
- subsidies for labour which, according to some researchers, can also take the form of industrial training centres, which have the advantage of being capable of forwarding planning (Storper and Scott, 1995, p. 515);
- mobility-stimulating measures, e.g. migration subsidies for migrants and enterprises;
- government expenditure policy;
- allowances of several types, which were divided by Dupont and Martin into three groups: a subsidy to profits of firms (tax breaks), a lump-sum subsidy to firms (subsidy for fixed costs), and a subsidy for production in firms (Dupont and Martin, 2003, pp. 3–4).

It is worth noting Melvin's observation that the issues of which is the more appropriate policy option: (a) direct subsidies to factors (which reduce mobility); (b) subsidies to encourage mobility; or (c) subsidies to the provision of information, depends both on the nature of the underlying production structure and on the source and nature of the exogenous fluctuations (Melvin, 1987, p. 310). As regards regional labour subsidies, they can be welfare measures aimed at improving the national economy, particularly given the cocktail of market failures that is typically associated with regional imbalances. Harrigan et al. found that automatic labour subsidies would increase employment and activity within the recipient region, but care needs to be taken concerning the overall desirability of such a subsidy (Harrigan et al., 1996, pp. 105–106, 128).

Another interesting instrument of regional policy was presented by Storper and Scott. They observed that those regions need institutions whose role is specifically to look forward and begin to make things happen so as to overcome tendencies towards institutional sclerosis in the existing economic system. They argued that regional development funds are one way to accomplish this, because they are pools of capital that can be invested in seed projects before there is a significant private-sector participation. It is also worth noting the concept of industry service centres, which could be treated as one of instrument of regional policy. In the case of sectors where the participation of small and medium-sized enterprises is great, firms may lack the financial resources to carry out a variety of functions internally in an efficient

manner. Thus there may be in some cases a need for service centres that give firms access to technology and marketing information they cannot afford to provide for themselves (Storper and Scott, 1995, p. 516).

#### **4. Decentralisation of Regional Policy**

Regional policy used to be often centrally planned and implemented through agencies devoted to regional matters. Markusen argued that due to political difficulties in the implementation of regional policy and the mixed results, the regional policy had become decentralised, even though this shift may result in uneven and costly consequences without achieving regional policy goals (Markusen, 1996, p. 52). One of the main drawbacks traditionally attributed to decentralisation is an unbalanced distribution of resources across regions, which can generate increasing economic differences between them, while the objective of regional policy conducted at a central level is to ensure cohesion between regions (Canaleta et al., 2004, p. 74). These arguments support Storper and Scott's findings that inter-regional coordination will be needed to ensure that each region's actions and plans are harmonised with the wider interests of the national economy as a whole. They noted that competitive and uncontrolled subsidies, or a competitive reduction of wages, may be undertaken by one region and have dramatic effects on the efforts of another to develop technology or to upgrade skills and productivity. Thus they stated that a prerequisite of successful regional economic mobilisation and inter-regional coordination is that there must be ground rules for what regions may and may not do in competing with each other (Storper and Scott, 1995, pp. 518–519).

On the other hand Porter argued that, as regards the level of institutions involved in the policy making process, pushing many economic policy choices down to the regional level aligns policy with the competitive reality, fosters accountability to citizens and creates competition among governments (Porter, 1996, p. 89). According to the research of Canaleta et al., a centralised public sector may attempt to produce a more balanced distribution by channelling resources from richer areas to poorer ones. Therefore decentralisation can provide sub-national officials with the power to actively pursue economic development policies better suited to local needs or capabilities, although it can lead to a competition among local authorities which may include incentives for investments. On the basis of the public choice theory, fewer regional disparities might be expected in decentralised states, mainly due to designing regional policies tailored to local needs. However, since there are effects that spread beyond regional borders, totally isolated development policies are likely

to produce inefficient levels of regional policy (Canaleta et al., 2004, pp. 74–75). It is worth noting Hudson's observations that the proposition that regional devolution in and of itself will lead to economic success has become deeply embedded in many beliefs and policy discourses about the determinants of regional prosperity, which in turn has led to political demands for such a devolution (Hudson, 2006, p. 159).

It is also worth noting Castell's views on the decentralisation of state power. He found that the state has become, in the information age, a network state made up of a complex web of power-sharing and negotiated decision-making between international, multinational, national, regional, local, and non-governmental and political institutions (Castells, 2000, p. 14). This concept was called 'the emerging network state', which is characterised by, *inter alia*, shared sovereignty and responsibility between different states and levels of government and flexibility of governance procedures. It should improve a nation-state's efficiency, however its crisis of legitimacy worsens, although overall political legitimacy may improve if local and regional institutions play their part. Castell observed that the growing autonomy of the local and regional state may bring the different levels of the state into conflict and turn one against the others, which introduces new types of problems (Castell, 2013, p. 40).

## 5. Effects of Regional Policy

The effects of regional policy depend on the degree to which the firms' original choices and those of the government coincide, and partly on the nature and scale of the public inducements (Needleman and Scott, 1964, p. 159). From the competition point of view, it is worth noting Meade's research outcomes, which distinguish between two types of external economies deriving from the government's actions towards industry located in a given region. The first type is called 'unpaid factors of production', which generate constant returns to scale for society as a whole, though not for the individual industry, while the second type maintains constant returns to scale for each individual industry but not for society as a whole (what can disturb competition) (Meade, 1952, p. 56). As regards the latter situation, Gray and Duning noted that regional policy will not affect the outcome when the project depends heavily on the availability of the attributes of a particular industrial cluster. On that basis they concluded that the more specific the requirements of the project, the less is the scope for regional policy. But policy measures will come into play when the project has no dominant specific features and its requirements depend primarily upon the indigenous resources and capabilities of the region and the costs of both generic and some specific factors of production (Grey and Duning, 2002, p. 417).

According to van Dijk et al., endogenous growth theory allows for basing regional policy on endogenous factors: human capital, scale effects, spillovers from investment in physical capital and R&D (van Dijk et al., 2009, p. 463).

On the basis of aforementioned discussion on the definition, scope, goals and instruments of regional policy, many effects can be distinguished based on the following indicators, factors, and social-economic phenomena: labour market and migration, regional accessibility, connectivity and infrastructure, overall level of development, research and development levels and links with innovation.

## 5.1. Labour Capital

One of the main goals of regional policy is the reduction of unemployment and elimination of regional imbalances in the labour market, which should foster economic growth. Needleman and Scott noted that if the case for state intervention in regional unemployment problems is accepted, there are two main policies that can be followed: either work can be brought to the workers, or the workers can be encouraged to migrate to areas of expanding employment (Needleman and Scott, 1964, p. 154). In the latter case, the main idea underlying the policy is the acceleration of migration through, *inter alia*, publication of the places for work through employment exchanges, and discontinuation of grants of assistance to distressed areas at the expense of the prosperous areas which offer employment. Pitfield took the view that this 'workers-to-the-work' policy was appropriate when other sectors of a national economy, either sectorally or geographically differentiated, are in a position of excess demand for labour (Pitfield, 1978, pp. 429–432), which leads to endogenous or generative growth (van Dijk et al., 2009, p. 467). Moreover, this kind of regional policy can reduce unemployment in areas of high unemployment without resulting in job losses elsewhere in the economy. This could be achieved by diverting the demand for labour from areas of excess labour demand to areas of excess labour supply. Armstrong and Taylor noted that reducing unemployment will generate social as well as economic benefits, since the concentration of pockets of high unemployment can lead to the creation of social problems. Moreover, the diversion of labour demand from areas of high unemployment to areas of low unemployment will reduce inflationary pressures at each level (including national level) of unemployment (Armstrong and Taylor, 1999, p. xv). But there are at least two objections to applying a pro-migration policy: the regional problem is often not entirely a problem of unemployment (and emigration from a region will not raise economic activity rates within the region; if anything it will reduce them) and a substitution increase in migration would be more

likely to increase than to reduce the excess demand for labour and the inflationary pressure in a receiving region (Needleman and Scott, 1964, p. 155).

However from a national viewpoint, outmigration from lagging regions should be viewed as a social gain rather than a cause for concern, at least insofar as regional policy aims at increasing welfare rather than maintaining or expanding the number of persons residing in a given area (Hansen, 1965, p. 12). But it is also worth noting that, according to Herzog et al., states and cities have little control over their present high-technology work-force (*vis-à-vis* other workers) and the decisions of its technicians, engineers, and scientists to relocate to other regions (Herzog et al., 1986, p. 458).

Storper and Scott present industry service centres as a mechanism which enhances information flow between firms and workers in specific regional clusters of activities, thus reducing the transaction costs and frictions of flexible labour markets and sustaining more efficient production and the realisation of full labour productivity potential (Storper and Scott, 1995, p. 516). It is worth noting that regional policy may also indirectly affect employment in non-manufacturing sectors: increased factory building in assisted regions and any regionally differentiated government expenditure on infrastructure would increase employment in the construction industry. However this could be partially offset by the particularly rapid decline of traditional sectors (Yamano and Ohkawara, 2000, p. 205). On the other hand, Camagni and Capello noted that a strategy of non-intervention presents the risk of a super-concentration of population in the big urban areas of lagging regions as a consequence of the crisis of the surrounding areas, not the attractiveness of these urban areas, i.e. of a push and not a pull factor. This is linked to the channelling of a wide share of national savings towards the building and construction industry and real estate speculation in advanced regions as a consequence of the migration process (Camagni and Capello, 2010, p. 6).

## 5.2. Capital Investment

Pro-migration regional policy can be replaced by a policy encouraging the movement of mobile production factors to lagging regions, via the provision of loans and contributions towards rent, rates and taxes as inducements to firms to locate in the assisted areas. A policy of moving 'work-to-the-workers' attempts to bridge the gap between demand and supply by raising the demand for regional labour services through inducing the movement of industrial establishments to an area (Pitfield, 1978, pp. 429–432), which leads to exogenous or redistributive growth (van Dijk

et al., 2009, p. 467). It is worth noting that the revival of declining areas may have beneficial effects on the utilisation of the socio-economic infrastructure of both the depressed areas as well as the rapidly expanding ones. A reduction of out-migration from policy-assisted areas will mean that existing infrastructure will not become under-utilised (Armstrong and Taylor, 1999, p. xv).

Job creation through investment can be generated by capital subsidies, however Buck and Atkins observed that these direct effects are actually only intermediate in relation to the ultimate objectives, e.g. the reduction of unemployment and out-migration in the underdeveloped areas, and even political gains in the form of electoral swings towards the party in government. From economic point of view they agreed that inter-regional industrial movement is important in the appraisal of regional policy and its contribution to total job creation in underdeveloped regions (Buck and Atkins, 1983, p. 182). According to Harris's research, capital subsidies succeed in stimulating investment in peripheral regions as well. Survey evidence has shown that firms take capital grants into account when computing the present value of future capital projects and thus invest more than they otherwise would. But it should be noted that the location of expanded operations is heavily influenced by the availability of automatic capital grants that do not require a firm to create new employment (Harris, 1991, p. 49).

Martin also observed that regional policy can have an unambiguously positive impact on convergence between regions, both because of the direct income transfer effect and because of the indirect impact through industrial location. The decline in the expenditure gap should lead to a relocation of firms towards those regions with increasing expenditures. However he argued that if a circular causation mechanism is at work and if the concentration of firms in the core is self-sustaining, then improving the attractiveness of the periphery by increasing local demand through transfers may not have any impact on the location choice of firms. Thus only a very large change in the attractiveness of the periphery would give it a chance to attract economic activities of those sectors showing increasing returns (Martin, 2003, p. 766).

### **5.3. Infrastructure**

Infrastructure is, apart from human capital and investment, a key element of regional development. Thus regional policy is often focused on improvement of quality, accessibility and maintenance of various kinds of infrastructure (telecommunication, transport, energy, etc.). An increase in public investments directly and indirectly stimulates economic activity. Regional policy, as it mainly finances public

infrastructure with a heavy stress on transportation infrastructure, affects the cost of trade between and within regions (Martin, 2003, p. 766). This kind of public investment creating public capital (e.g. highways, airports, railroads, sewage and water systems) has a strong influence on the productivity of the private sector over time (Yamano and Ohkawara, 2000, p. 205). It has long-term consequences for enhancement of a region's productivity, and thus improves its competitive advantage. Thus the positive effect of public capital on a region's economy comes from more than simply a surge in construction activity. Therefore a well-maintained public infrastructure should be an important component of any policy package designed to promote regional economic development (Duffy-Deno and Eberts, 1989, p. 21).

Firms from the increasing returns' sectors tend to locate in countries with the best domestic infrastructure when trade is integrated, in order to take advantage of economies of scale. Thus differentials in domestic infrastructure determine the direction of relocation based on trade integration. Moreover a higher level of international infrastructure will magnify the concentration effects of differentials in domestic infrastructure (Martin and Rogers, 1995, p. 336). At the regional level, public infrastructure affects agglomeration primarily through the influence of the scale and spatial arrangement of public investment on both firms' and households' location decisions. The addition of new firms and households into a region may, in turn, increase the region's agglomeration economies, which contributes to even greater growth potential. This can directly influence output and productivity by entering a firm's production process as an unpaid factor (Eberts, 1986, pp. 2, 4). However the results of Helms's research unambiguously showed that when revenue is used instead to finance improved public services (such as education, highways, and public health and safety), the favourable impact on location and production decisions provided by the enhanced services may more than counterbalance the disincentive effects of the associated taxes (Helms, 1985, pp. 574–575).

Moreover, the effects of regional policy depend crucially on the type of infrastructure financed. According to Martin and Roger a regional aid programme that improves international infrastructure in a poor country brings more rather than less industrial concentration, and may therefore contribute to regional divergences. They also noted that a country with poor infrastructure may want to restrict the industrial location that follows trade integration (Martin and Rogers, 1995, pp. 336–337). On that basis, Martin argued, if a transfer finances public infrastructure that facilitates transactions inside a region (intra-regional trade), then such a transfer attracts firms and contributes to convergence. The improvement in this kind of infrastructure increases trade inside the region and the overall level of expenditure inside it. But if the infrastructure financed by regional policy facilities interregional (rather than

intra-regional) trade, then the regional policy can have a detrimental effect on the poor regions. He underlined that if regional policy finances inter-regional infrastructure then such a policy may have the contrary effect of attracting firms from the poorer to the richer regions, and therefore have the exact opposite effect to the one sought. Companies tend to locate near the largest market in the rich regions because this enables them to reap the benefits of increasing returns on scale in the large market, while at the same time facilitating sales to the poorer regions. Martin argued that facilitating inter-regional trade between regions is like removing the barriers that give a relatively monopolistic power to firms located in the poor regions and which protect them from external competition. Once these barriers disappear there is less reason to locate in the poor region (Martin, 2003, p. 767).

It is worth observing that other authors have analysed the effects of investment into public infrastructure within regional policy by taking into consideration different types of regions: congested, intermediate, and lagging areas. As regards congested regions, expansion of private investments increases the need for capital-intensive public investments in the form of transportation facilities, water, housing and power. The public investment in overhead capital in turn makes possible further growth of industry and trade in the favoured areas, and this growth requires further large allocations of public investments in them. According to Hansen's research, it is not economically rational to attempt to induce economic growth in lagging regions via excess economic overhead capital capacity so long as better alternatives exist in intermediate regions. However, the social overhead capital needs of lagging regions are relatively greater and their situation in this regard is the least well-developed (Hansen, 1965, pp. 5–8, 12). Barca also took the view that investment in infrastructure is not only a condition for development, but something demanded by society, highly visible and extremely attractive for decision-makers. Roads and other types of physical infrastructure can be built relatively quickly before the elections (Barca et al., 2012, p. 137). It is worth noting that Martin suggested, on the basis of the tools of the new economic geography and new growth theories, that the huge sums that finance infrastructure in poor regions may have a quite complex impact because of self-reinforcing agglomeration effects, and they may even have perverse effects at the local level (Martin, 2003, p. 773). However, the availability of social overhead capital will not necessarily itself induce growth in lagging regions in the absence of supplementary policy measures (Hansen, 1965, p. 12).

It is also worth observing that OECD research suggests that the construction or upgrading of transportation infrastructure can have a positive influence on a region's economic development, but that economic growth is not automatic. Growth effects are likely to appear only when the positive externalities that exist in various



markets – typically unexhausted economies of scale, scope, agglomeration, density or network – are more effectively used and consequently improve labour productivity, enhance output, reduce production costs and promote more efficient use of resources. Moreover, if regional policy concentrates only on providing capital in the form of infrastructure, a lagging region may end up losing economic resources ('the leaking by linking' phenomenon) (OECD, 2009b, p. 57).

## 5.4. Innovation

If the regional business environment is not dynamic and innovative, the economic benefits from investment in infrastructure and human capital are unlikely to accrue to the target region. In such a case improved infrastructure will promote 'leaking' and trained individuals will move to where the more dynamic businesses are located. Thus, according to OECD report, innovation should be the third crucial element of regional policy (OECD, 2009b, p. 63). Martin also noted that regional policies that improve regional equity, improving infrastructures in the poor regions in order to attract firms, may not generate the geography most favourable to growth. He demonstrated that in contrast to financial transfers and traditional regional policies, a public policy that reduces the costs of innovation or other impediments to growth attains both the objectives of higher growth and regional equity (Martin, 1999, p. 87). Storper and Scott observed that the costs to support the technological improvement of existing industries may be relatively small – just enough to compensate for the gap between existing firms' activities and socially targeted levels. They also argued that relatively small public investments can have large effects on regional technology development to the extent that they are made in a strategically competent fashion (Storper and Scott, 1995, p. 514). Gray and Duning also observed that more advanced spatially mobile knowledge-intensive activities, when combined with the location-bound resources of the region, are capable of generating quasi-rents for that region (Gray and Duning, 2002, p. 412).

Moreover, Martin noted that if subsidies to research and development (R&D) increase competition on the goods labour markets, an improved education infrastructure can decrease the cost of innovation for firms, hence this type of policy may yield more desirable outcomes than traditional transfers or regional policies (Martin, 1999, p. 101). It is also worth noting that many countries are seeking to achieve a so-called 'double dividend', both restoring short-term growth and reforming economic structures through, *inter alia*, strengthening the innovation capacity of firms and increasing investment in R&D and technology development (OECD, 2009b, p. 64).

According to Johansson and Karlsson's research, location advantages evolve slowly in a path-dependent way. To be successful, regional policy therefore has to focus on structural adjustment of both the tangible and non-tangible infrastructure. They noted that universities and university colleges are agents of human capital formation and may support the enhancement of local knowledge assets, while various non-profit organisations and similar institutions may catalyse the formation of social capital (Johansson and Karlsson, 2009, p. 252). One key example of this approach is exemplified in the regional technology centres, whose mission is to advance technology in a sector or in a cluster of technologically related sectors in particular regional complexes. They may stimulate technology by (a) identifying priorities and encouraging private-sector collaboration, or by providing technology research and advice to firms; and (b) mobilising and coordinating the application of public funds to complement or bootstrap private-sector R&D collaboration (Storper and Scott, 1995, p. 514). The aforementioned concept evolved into the idea of clusters, which are aimed at collaborative research and development needed for the realisation of innovations. The technology-based aim of clustering involves a complex interplay of different local actors (firms, universities and business associations) that provide each other with complementary knowledge. This kind of pro-innovative policy (conducted at both the regional and national level) treats clustering as a mean to dynamise firms and guarantee a high-technology economic future. Thus policy initiatives include performing cluster studies, setting up platforms for dialogue, providing subsidies for cooperation, and establishing, brokering, and networking schemes (Hosper and Beugelsdijk, 2002, pp. 382–383).

## 6. A New Regional Policy Paradigm

Although many countries have carried out regional policies and tried to reduce regional disparities by offering significant public investment and finance, according to OECD findings the overall results have been disappointing. At the regional level there was only limited success in restructuring the economic base of the target areas. Moreover, despite many governmental activities aimed at attracting foreign direct investment into targeted regions in order to create employment and allow local entrepreneurs to benefit from spillovers to increase their technological and organisational capacity, few productivity gains in regions have been generated (OECD, 2009b, p. 50).

Nevertheless it is worth underlining that this same OECD report presents an opinion that regional policies may have a strong contribution to sustainable growth

at the regional and national level. But in order to maximise this contribution, public policy needs to embrace reform and continue a transition away from market-distorting subsidies (mentioned earlier in this paper) to policies that unlock the potential of regions and that support long-term economic, social and environmental objectives (OECD, 2009b, p. 3).

Already the Sapir Report showed that cohesion (as an effect of traditional regional policy) may be pursued by instruments that reduce efficiency more than would be necessary to achieve a given level of cohesion. This may occur when regional policies work against (rather than in favour of) structural adjustments based on comparative advantage. Thus according to Sapir Report, the EU convergence policy should concentrate on low-income countries rather than low-income regions (Sapir et al., 2004, pp. 8, 10). The aforementioned concept can be treated as an example of spatially neutral regional policy. It was developed in the World Bank Report, where three development dimensions of regional policy were presented – density, distance and division – and three types of solutions: institutions, infrastructure and interventions. According to this report the bedrock of integration policies should be spatially-blind institutions. When the integration challenges span more than one geographic dimension, institutions must be augmented by public investments in spatially connective infrastructure. But where the problem is low economic density, long distances, and high divisions, the response should be comprehensive, involving spatially-blind, connective, and targeted policies (World Bank, 2009, pp. 23–24). In this regard the World Bank Report argued that policy discussions about how to improve welfare in lagging areas often begin with a focus on lagging areas and an emphasis on targeted interventions or policy ‘incentives’ to move production to these places, as was presented in earlier parts of this paper. But according to the World Bank’s findings, territorial development policies should integrate the lagging with the leading areas, and any discussion of spatially-targeted incentives should come last – after considering spatially blind policies such as national revenue-sharing, social expenditure arrangements, and spatial connecting initiatives, such as transport and communication systems. Thus the authors of the report argue that regional policy should assist in investing in activities that produce the highest economic and social returns nationally: in leading areas focusing on durable investments in places that increase national economic growth, and in lagging areas – on investment into people that stimulate mobility and accelerate poverty reduction (World Bank, 2009, p. 231).

However according to Barca et al., the presence of place-specific market imperfections or externalities is likely to seriously weaken the efficiency of spatially-blind policies and to contribute to the reproduction of ‘one size-fits-all’ approaches

to development, in which top-down development interventions predominate (Barca et al., 2012, p. 147). Parr also noted that space-neutral policies are directed at the overall welfare of the nation and are less concerned with spatial outcomes, whereas space-based strategies are usually concerned with the economies of particular regions within a nation (Parr, 2014, p. 13). Thus there is an open discussion on the place-based approach to regional policy, which assumes that geographical context (in terms of its social, cultural and institutional characteristics) really matters (Barca et al., 2012, p. 139). The new paradigm of regional policy gives a new objective of regional policy, which is a reduction of persistent inefficiency and social exclusion in specific places (Barca, 2009, p. XI). The essential features of the new paradigm of regional policy are the tailoring of interventions to specific territorial contexts and to their spatial linkages, and eliciting and aggregating the knowledge and preferences of local actors. This new regional policy differs from the 'old approach', the objective of which was to compensate for regional differences in unit capital costs (due to productivity gaps) and rebalance labour and capital flows (Barca, 2009, p. 9). Barca argued that a place-based regional development policy should cover the production of bundles of integrated, place-tailored public-goods and services, designed and implemented by eliciting and aggregating local preferences and knowledge through participatory political institutions, and by establishing linkages with other places (Barca, 2009, p. 5). Thus this approach assumes that the interactions between institutions and geography are crucial for development, and many of the clues for development policy lie in these interactions (Barca et al., 2012, p. 140).

As regards the aforementioned territorial dimension, it is worth noting the meaning of territorial cohesion varies slightly. It can be understood as: (a) a measure for enforcing territorial aspects in general, and in the economy, social planning and decision-making in particular; (b) a method of planning and development which considers the territorial capital of places, settlements and regions and their interrelations; and (c) as an addition to economic and social cohesion, taking into consideration also areas with geographic disadvantages. Thus it seems that the territorial cohesion of a country or region would appear as a network of mutually-linked functional areas of varied spatial ranges, rendering to citizens an access to workplaces and public services indispensable for development and for the preservation of social and human capital (Szlachta and Zaucha, 2010, p. 9). However, it is worth noting that Szlachta and Zaucha concluded that territorial cohesion should be seen as a chance and not a turning point of a regional policy (or the cohesion policy of the EU). Thus its success depends on (a) complementarity and the adequacy of spatial and socio-economic visions and strategies at various regional levels; (b) evaluation of the influence of regional policy on a country's economic development and of

national policies on regional development; (c) the reliability of taking into account place-based approach (Szlachta and Zaucha, 2014, p. 284).

It is also worth mentioning that the traditional focus on interregional disparities has been complemented with more detailed focus on intraregional disparities, an urban-rural divide and concern about the decline of distress areas (OECD, 2010, p. 14). The probable tendency towards increased interregional welfare differentials is either regarded as acceptable or is viewed as unlikely to materialise by virtue of the existence of adequate spread effects or trickle-down mechanisms (Parr, 2014, p. 13).

OECD grouped the factors with the highest influence on regional development into three broad policy areas: a) the capital stock dimension (the level of past and present investment in a region's infrastructure); b) the labour market dimension (labour mobility and human capital development); and c) the business environment dimension (support for firms in clusters, promotion of links between research and promotion of industrial innovation in regions). The assumption of the new regional policy paradigm is that the implementation of regional development policies involves the integration of these core policy areas (OECD, 2009b, pp. 54–55). Moreover Camagni and Capello listed new targets for a renewed and modern regional policy: a) intangible factors, relational factors, creating synergies, promoting cooperation and partnership, as well as exploiting the richness of local relationships; b) advanced communication network and services (Camagni and Capello, 2010, p. 12).

The recent debate on regional policy also focuses on whether policies should be pro-equity or pro-efficiency (this dilemma concerns the issue of 'interregional equity versus national efficiency', which was already referred to the earlier part of this paper) (van Dijk et al., 2009, p. 461). According to OECD researchers, opportunities for growth exist in all regions, thus national governments should promote growth in all regions. At the same time, regions should promote their own growth by mobilising local assets and resources so as to capitalise on their specific competitive advantages, rather than depending on national transfer subsidies to help them grow. The OECD findings allow one to state that greater growth occurs when regions are able to mobilise their own local assets and resources rather than depending on support from the national government (OECD, 2009a, pp. 13, 17).

Moreover, it should be stressed that the aim of new regional policy should be to maximise national output by assisting and encouraging each individual region to reach their growth potential endogenously, thereby departing from the old view of regional policies (OECD, 2009b, p. 51). The OECD Report stressed that a greater focus should be put on endogenous assets rather than exogenous investments and transfers (OECD, 2009b, p. 50). However, Barca noted that the new paradigm of regional policy still provides for the possibility of exogenous public, spatially-aware

intervention aimed at increasing efficiency in a given region, which can be achieved by fuller utilisation of resources than otherwise would have occurred. He further argued that this type of intervention by means of conditional grants cannot be justified with the simple argument that some places are unable to raise enough revenue locally to promote development. They must be motivated by three distinct types of market or government failures: a) the economic institutions which a place needs are not put in place because they are contrary to the self-interest of the local elite; b) the formal and informal economic institutions do not develop because of strong path-dependency; and c) there are many potential agglomerations linked with exogenous public actions (Barca, 2009, pp. 19–20).

On the other hand, it is worth noting that there are also arguments in favour of supporting only the better developed regions. According to Capello et al., regional policy should first and foremost support regions in opening their local economies so that they can exploit the advantages deriving from an integrated world economy. Thus policies should be addressed to those regions already endowed with activities belonging to open sectors, but which lack international attractiveness (Capello et al., 2009, p. 18). It is argued that if competitiveness is the main issue, and if champion firms and territories act as driving forces for the entire territorial system, a proper spatial policy should care more about the strong than the weak territories, about winners rather than losers, and should therefore concentrate investments and innovations on core regions and big global cities. Camagni and Capello explained that when intervening through public development policies on limited territories like regions or sub-regions, an important policy rule should be to select places with a maximum development potential in order to maximise the probability of success and save public money (Camagni and Capello, 2010, p. 6). This approach is close to Yamano and Ohkawara's research, on the basis of which they argued that if the government were to allocate investments to highly productive regions the national economy would grow faster, however regional disparities would increase. This means, on one hand, that the regional allocation of public investment has a strong influence on the regional economy and income equality, while on the other hand it raises the question which regions should be supported by regional policy – the poorest to reduce disparities or the better developed or well prepared for growth, which can make a substantial contribution to the whole country's growth (Yamano and Ohkawara, 2000, pp. 224–225). Cappelo et al. partially responded to these doubts by asserting that regional policies should seek to reinforce the winning strategies of local economies by avoiding generic assistance policies in support of employment, and by developing job-creating policies only in those sectors and activities that show a capacity to increase productivity growth (Capello et al., 2009, p. 19).

In order to ensure the best results, the new regional policy should be developed in a collective/negotiated approach to governance involving national, regional and local governments along with other stakeholders, with the central government taking less dominant role (OECD, 2009b, p. 51). Barca termed this an 'outside place system of multilevel governance', where grants are subject to conditionalities and institutions are transferred from higher to lower levels of government (Barca, 2009, p. 5). Moreover Barca observed that place-based policies tend to involve higher management costs than other policies. These can be justified only if they deliver better results, which may not occur if interventions are not accompanied by effective means for mobilising local actors, eliciting knowledge and preferences, and obtaining more complete information (Barca, 2009, p. 27).

It is also worthwhile to present some of the projected outcomes for regional policy of the New Economic Geography Theory. The agglomeration of several firms (within the meaning of the New Economic Geography Theory) in a single location offers a pooled market for workers with industry-specific skills, ensuring both a lower probability of unemployment and a lower probability of labour shortage. Moreover, localised industries can support the production of non-tradable specialised input, while information spillovers can give clustered firms a better production function than an isolated producer (Krugman, 1991, pp. 484–485). Thus there are no strong evidences and arguments for regional policy and this theory is seen as pessimistic about the effects of such policy, and in addition it offers no recommendations for regional policy measures (van Dijk et al., 2009, pp. 463–464). However, despite the positive effects the negative effects of large concentration, especially in urban areas, can appear and raise the question whether the costs borne by society as a whole may not become unsustainable. The externalities include high transportation costs, loss of productivity from long commuting times, higher health costs and the increased impact on global warming. According to OECD findings, public intervention could help augment economies of agglomeration and prevent or delay their decline, and simple concentration of resources in one place does not necessarily translate into agglomeration benefits (OECD, 2009b, pp. 31, 46).

## **7. Arguments Against Regional Policy**

As it was stated at the beginning of this paper, the first governmental intervention instruments in the context of regional policy were designed and applied in 1930s, when the Keynesian approach to economic policy was widely implemented. It allowed for tackling regional development problems deriving from market failures, but completely

ignored governmental failures. Thus the main arguments against regional policy are based on the neoclassical theory assumption that, at least in terms of economic efficiency, regional policy is unnecessary, or at best a mean of aiding automatic adjustment. Porter unambiguously stated that a regional policy that includes broad incentives for firms to locate in less-developed regions is flawed and doomed to failure, because these areas lack supporting infrastructure and face competitive disadvantages. As a consequence, this kind of regional policy exacts a high cost in terms of subsidies (Porter, 1996, pp. 88–89). Moreover, Gray and Duning argued that the recognition that governments may need to offer financial and other inducements to attract new activities or retain existing activities in a region opens up the very real possibility of competition among governments, both at the national and subnational levels (Gray and Duning, 2002, p. 412).

As regards economic imbalance, one can say that politicians generally view this phenomenon disapprovingly. And because governments care so much about domestic disparities, they jeopardise competitiveness and risk collapse. Policies to reduce interstate or provincial disparities in production and living standards are commonplace, but largely ineffective (World Bank, 2009, p. 5). Norman observed that the emergence of disequilibrium in a particular region can be associated with a reduction in wages in that region. Hence, according to his research regional imbalances can be removed automatically by the migration of labour from low- to high-wage regions and the migration of capital in the opposite direction (Norman, 1979, p. 294). Moreover van Dijk noted that convergence occurs because leading regions accumulate capital faster until they run into a situation of diminishing returns, which makes investment in lagging regions more attractive and productive. This process is reinforced by four other convergence mechanisms: inter-regional trade, labour migration, capital mobility, and technology transfer (van Dijk et al., 2009, p. 461). Boldrin and Canova also claimed that given free trade and reasonable competition, technological improvements promote economic convergence, thus there is no need for regional policy. They found no direct evidence that regions supported by regional policy (of the European Community) behaved any differently from the remaining ones. In fact, their research showed that much more convergence took place in the pre-regional-policies period than during the times of regional policy (Boldrin and Canova, 2001, pp. 211–212, 241).

The need for a regional convergence is often cited as the main argument for regional policy. But Sala-i-Martin argued that the effect of government action in the process of convergence is minor, observing that the speed of convergence is surprisingly similar across regions and countries. Since the degree to which national governments use regional cohesion policies is very different, the fact that the speeds



of convergence are very similar across countries suggests that public policy plays a very small role in the overall process of regional convergence (Sala-i-Martin, 1996, pp. 1341–1342). It is worth noting that Midelfart-Knarvik and Overman found that structural changes were occurring in the regions covered by regional policy (in the EU), but that this change was slow and the process was not uniform across different economies. They suggested that public actions may even be hampering the process of industrial restructuring, which could be more clearly observed at the regional level. Moreover, according to their research the direct impact of regional policy expenditures is counter to economic determinants, thereby possibly impeding the efficient allocation of resources (Midelfart-Knarvik and Overman, 2002, p. 324). Also other researchers observed that despite devoting considerable resources to regional policy, the evidence would suggest that neither efficiency gains nor reduced regional inequalities have resulted. Ulltveit-Moe argues that if they had any impact at all, regional initiatives would be purely redistributive, impeding moves towards enhanced inequality or maintaining the status quo (Ulltveit-Moe, 2007, p. 1444).

The next element of regional policy with negative effects to the economy consists of a group of incentives applied to improve regional attractiveness and convince entrepreneurs to relocate their economic activities or locate new ones in a given region. Needleman and Scott noted that in the development of most firms it is unusual for them to move into a new site, because they tend to expand at their established location and in general it is only when this becomes impossible or too expensive that the question of relocation is considered. Moreover, the degree of labour or infrastructure scarcity necessary to induce firms to move to the outlying regions would lead to an increased rate of general price increases. This is because firstly, businessmen know better than any civil servant how to choose the most efficient, lowest-cost location; and secondly, if they have to set up plant at another location, the loss in efficiency may be substantial (Needleman and Scott, 1964, pp. 157–158, 160). Also according to Ulltveit-Moe policy intervention causing relocation has a negative impact on the real earnings of both skilled and unskilled labour in the core area. As for unskilled workers in the periphery they would typically gain from relocation if trade costs were high and inter-industry spillovers significantly related to intra-industry spillovers. However, with low trade costs and relatively high intra-industry spillovers they may actually lose as a result of regional policy intervention (Ulltveit-Moe, 2007, pp. 1455–1456). In this context it is important to mention the situation of the better developed regions (hosts of better investments). It was observed that agglomeration economies may be lost by locating new industrial activities away from major industrial cities, while opting for more rather than fewer new centres risks missing out on economies of scale. However, Markusen also noted that congestion

and high input costs encourage firms to accept government directives and incentives to relocate. Industrial complexes in assisted regions can become new growth poles and the existence of many medium-sized cities (instead of a few big industrial agglomerations) may maintain growth of the whole country by offering lower-cost sites for cost-sensitive firms (Markusen, 1996, pp. 49–51).

There are also other arguments used to oppose the introduction of that kind of the policy (termed an industrial relocation policy). For one, taxpayer's money should not be used to subsidise private firms, and companies themselves should decide on the most efficient location for their business. Moreover, controls on the location of industry is regarded as unnecessary and undesirable since this could lead to higher production costs and lower levels of national investment (Armstrong and Taylor, 1999, pp. xiii–xiv). It is worth noting that Dupont and Martin found that, in a situation where capital is mobile and workers are not, regional policies actions can increase spatial inequalities. A subsidy given to firm that locates in a poor region can actually worsen nominal income inequality between the poor and the rich regions, because the subsidy to the poor region actually leads to a transfer from the poor to capital owners coming from the rich regions. Dupont and Martin concluded that even though there is an official net transfer from the rich to the poor region, the net effective transfer of income is from the poor to the rich region. Moreover, when the subsidy is financed by the region itself, the local tax that satisfies the budget constraint decreases local demand, and so reduces the initial impact of the subsidy on relocation (Dupont and Martin, 2003, pp. 3–4).

There are also some arguments concerning the negative consequences of regional policy on the labour market. Those industries which are everywhere releasing employees, many of which are heavily represented in given areas, may have released relatively more employees during the period of active regional policy. This would obscure any beneficial effect of regional policy on the unemployment position. Moreover, regional policy may increase the demand for labour, as well as labourers' demands (Moore and Rhodes, 1973, p. 90). Needleman and Scott noted that unless the controls on expansion are extended to cover most of the country outside the richer areas, the effect of the restrictions is more likely to spread jobs more evenly within the prosperous regions rather than to channel employment into the areas where unemployment is the highest (Needleman and Scott, 1964, p. 168). Groenewold and Hagger found, contrary to their expectations, that many policies which have traditionally been recommended to alleviate unemployment are found, in fact, to exacerbate the unemployment problem. They noted that most of the regional government policies' instruments (reduction in the payroll-tax rate, a reduction in unemployment benefits, a reduction in the labour force, a reduction in union power and an increase

in productivity in the high-unemployment region) were effective in reducing the unemployment rate disparity, at least in the short run. In the long run most continued to be effective, although the beneficial effects of the reduction in the labour force and the productivity boost were largely eroded when inter-regional migration was allowed in the long run. But it is of extreme importance to underline their findings that an increased expenditure by the regional government actually exacerbates the unemployment rate disparity, both in the short and long term. They also took the view that a national government policy of reallocating expenditure from the low unemployment to the high unemployment region is ineffective in the short run as well as in the long run (Groenewold and Hagger, 2008, pp. 355, 371).

The next threat engendered by regional policy is that assistance which completely substitutes for private funds generates no increase in the scale of investment and implies an arbitrary transfer of resources from taxpayer to producer, which is inefficient insofar as taxation carries an excess burden. Moreover, while this kind of instrument generates some increase in investment and directly subsidises some output, only when the substitution of public for private funds has been completely eliminated, can the private sector contribution to investment be increased above the without-subsidy level, and can assistance act as an incentive to private funds (Wren, 1996, p. 535). Thus differences in factor incomes could be the result of policies pursued either by the federal or provincial government (Melvin, 1987, p. 308).

Regional subsidies are likely to have sectoral effects even if sectoral support is not an explicit goal. Firstly, regional industrial development programmes often support manufacturing rather than services. Secondly, in some countries regional problems have stemmed from the decline of geographically-concentrated industries, which leads to supporting the declining industries rather than encouraging geographical labour mobility or attempting to attract new industries into the affected regions (Ford and Snyker, 1990, p. 62). Harris also noted that while capital subsidies clearly encouraged higher levels of output and investment, they had a serious side-effect on employment. He found that the substitution effect of capital subsidies on the demand for labour outweighs the output effect (Harris, 1991, p. 61).

Moreover, as Alonso noted regional policy can be ineffective due to the various velocities and rhythms of different policies. The rhythm of industrial policy may be quarterly, with some slower rhythms (capital investment) of a year or more, while the rhythms of regional change are much slower – measured in decades or more (Alonso, 1996, p. 82). As a result of this long period of regional instruments' results (infrastructure investment, education and qualification changes), they may not meet entrepreneurs' present requirements and expectations even though they were tailored to the regions' needs.

Summing up, one can mention the outcomes of Alonso's research that possible failures of regional policy, which make it ineffective, derive from vague, romantic, and metaphorical concepts, based on fuzzy notions of balanced growth, anti-urban (or pro-urban) bias, utopian cities, and unrealistic attitudes toward the environment (Alonso, 1996, p. 82).

## 8. Conclusions

Concluding this review of the literature one can recall the outcomes of Alonso's research that regional policy should be understood as the territorial dimension of overall policy – the projection on the map of a multidimensional socioeconomic system. He underlined that this territorial dimension matters, both for its own sake and for the functioning of the other dimensions of the system (Alonso, 1996, p. 82).

Ulltveit-Moe found that the optimal design of regional policy depends on the level of trade costs and the degree of pecuniary externalities, the magnitude of localised inter- and intra-industry knowledge spillover, and the elasticity of substitutions. It is also a function of the government's underlying societal values (Ulltveit-Moe, 2007, p. 1464). But it is worth mentioning, with regard to regional policy, that when states use tax incentives and subsidies to bid against each other for every new plant, the competition is indeed zero-sum. It seems that only by investing in specialised training, building cluster-specific infrastructures, and improving the business climate with streamlined regulations, can states attract investment and upgrade the national economy (Porter, 1996, p. 89). Thus, according to Porter's research regional policy should promote specialisation, upgrading, and trade among regions because cluster formation can be encouraged by locating specialised infrastructure and institutions in areas where factor endowments, past industrial activities, or even historical accidents have resulted in a concentration of economic activities (Porter, 1996, p. 88).

It is worth noting that the OECD reports the key policy message that regional policy has been evolving from short-term subsidies into a much broader family of longer-term development policies designed to enhance regional competitiveness. Moreover, it should address equity and efficiency as objectives which are not exclusive. Thus regional policy should evolve away from top-down, subsidy-based interventions designed to reduce regional disparities into a much broader 'family' of policies designed to improve regional competitiveness (OECD, 2009b, pp. 49–50).

It seems that a very good conclusion would be a statement of Sala-i-Martin, who assumed that if the regions that are relatively poor now are the same ones that were relatively poor a hundred years ago, i.e. if poverty tends to persist over time, then we

may want to enact public aid programmes to allow the poor regions to escape this predicament. But if their economies are not, relatively speaking, poor today as in the past, then there may be no need to worry about the country-wide distribution of income (Sala-i-Martin, 1996, p. 1326).

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# **Alignment of the Cohesion Policy in Poland to Objectives and Principles of the EU Economic Strategies (the Lisbon and Europe 2020 Strategies)**

## **Abstract**

The paper investigates whether the declared objectives of the EU's Lisbon and Europe 2020 Strategies relating to the Cohesion Policy are reflected in the strategic documents in Poland (we have not verified, however, the amounts of money allocated in practice). As regards the Lisbon Strategy, the analysis concentrated on 'earmarking', i.e. dedicating Cohesion Policy funds to the goals of the Strategy. In the case of the Europe 2020 Strategy, the entire budget of the Cohesion Policy should serve implementation of the objectives of this Strategy. The new policy framework for 2014–2020 established a close link between Cohesion Policy funds and the European Semesters, which have been serving as guidance for Member States to implement the funds and use them more efficiently.

Our analysis revealed a high alignment rate of Cohesion Policy funds with the goals of both strategies in Poland. Moreover, the earmarking instrument has provided a useful tool to support concentration of spending of Cohesion Policy funds in the country. We concluded also that the whole process of planning, and later reporting, on the implementation of national strategies to guide implementation of the EU's strategic objectives has been extremely complex, time consuming and bureaucratic.

## **1. Introduction: Objectives of the Analysis and Methodological Remarks**

The Cohesion Policy became a cornerstone of the European Community (now the European Union) with the adoption of the Single European Act (which entered into force on 1 July 1987). The Cohesion Policy was aimed at reducing the economic

and social disparities between the richest and poorest regions in the Community. The Treaty of Lisbon, apart from economic and social dimension of the Cohesion Policy, added its territorial dimension (Art. 174 of TFEU).

Since the beginning of the 21<sup>st</sup> century the EU has been implementing two broad economic strategies: the Lisbon Strategy of 2000 (later modified in 2005) and the Europe 2020 Strategy of 2010. The most general objective of both strategies is the same: to make the EU more competitive in the world economy, based on the development of knowledge, creation of new jobs, and ensuring sustainable economic growth.

The implementation of both strategies has been based on national funds and on the use of the EU funds. As Poland has been the biggest beneficiary of the EU funds since 2007, it is highly relevant to examine to what extent the EU strategies have been reflected in the Polish documents on the use of the EU funds and in practical actions (programmes). This paper addresses the first part of this question only. Thus, the research objective is to verify the alignment of the objectives and rules of the Cohesion Policy in Poland with the objectives and rules of both strategies and the resulting EU documents. We examine the declared objectives of the EU strategies and how they have been implemented in the programming documents in Poland. We do not verify how the funds dedicated to both strategies have been allocated in practice nor to what extent. This is the objective of other papers prepared in the framework of this project.

As regards the Lisbon Strategy, we concentrate on the so-called 'earmarking', which meant dedicating Cohesion Policy funds to the goals of the Lisbon Strategy. In case of the Europe 2020 Strategy, the entire budget of the Cohesion Policy should serve implementation of the objectives of this strategy.

We start with a general description of the position of the Cohesion Policy in the Lisbon Strategy, and against this background we try to identify references to this strategy in the Polish documents. Next, we adopt the same approach to the links between the Cohesion Policy and the Europe 2020 Strategy.

There is a methodological problem involved in trying to achieve this objective: the periods of implementation of both strategies do not correspond with the periods of the EU multiannual budgets and their execution. Therefore, whenever possible we identify shorter periods of implementation of the Cohesion Policy in order to identify better its compliance with both Strategies.

## 2. Cohesion Policy and the Lisbon Strategy

### 2.1. Cohesion Policy and the Lisbon Strategy in the EU (2000–2006)

The challenges of globalisation (in particular the rapidly increasing role of China) and the decreasing competitiveness of the EU economy (especially vis-à-vis the USA) resulted in the adoption, in March 2000, of the new EU action plan known as the Lisbon Strategy. The goal of the EU was very ambitious: ‘to become by 2010 the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social Cohesion’ (European Council, 2000). Thus, the Strategy highlighted the central role of knowledge and innovation in the EU’s development. In 2001 the Strategy was supplemented by the Gothenburg European Council conclusions, which emphasised the role of the three dimensions of sustainability (economic, social and environmental) by stating that ‘the economic, social and environmental effects of all policies should be examined in a coordinated way and taken into account in decision-making’ (European Council, 2001).

Since the adoption of the Lisbon Strategy in 2000, the EU has tried to integrate instruments of Cohesion Policy (the biggest portion of the EU budget) into the priorities of this Strategy. In this context some experts have written about the ‘Lisbonisation’ of the Cohesion Policy (Mendez et al., 2011). Nevertheless, no explicit link between the 2000–2006 regional policy and the Lisbon and Gothenburg goals was made (Cotella, 2011). The main reason was that the rationale behind the priorities and instruments of the Cohesion Policy for the financial programming period 2000–2006 was developed in the latter 1990s, i.e. just before the adoption of both documents.<sup>1</sup>

In the face of its weak results, the Lisbon Strategy was modified in 2005 on the basis of the critical mid-term report prepared by W. Kok (Kok, 2004). The W. Kok report stressed that the Lisbon Strategy objectives could not be achieved, partly because measures for strengthening growth and employment at the EU level were not put in place effectively. The document noted also that the Member States did not prepare the necessary national action plans to implement the Lisbon Strategy. As a result, the original Lisbon Strategy was reviewed by the European Council in spring 2005 on the basis of the Commission’s document (European Commission,

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<sup>1</sup> The main regulation laying down general provisions for the structural funds for 2000–2006 (No. 1260/1999) was adopted on 21 June 1999.

2005). The Renewed Strategy focused on actions for growth and employment, more and better jobs in the EU, and improved governance procedures. The documents of the next programming period 2007–2013 thus reflected the recommendations of the spring 2005 European Council, stressing the need for a better linkage between the Lisbon and Gothenburg strategies and the Cohesion Policy. Cohesion Policy instruments (structural funds) were to serve as tools to implement the strategies. The Cohesion Policy was proclaimed in the EU Policy documents to be ‘at the heart of the Lisbon process’ (European Commission, 2007b). The goals of the Renewed Lisbon Strategy were to be achieved through earmarking, which meant dedicating a certain percentage of Cohesion Policy funds to finance achievement of those goals (in particular to strengthen competitiveness, research and development activities, human capital and energy efficiency). Thus the goals of the Renewed Lisbon Strategy were reflected in the modified approach to the Cohesion Policy under the new financial programming period 2007–2013.

## **2.2. Cohesion Policy’s Contribution to the Lisbon Strategy in the EU in 2007–2013<sup>2</sup>**

As already mentioned, the approach to the Cohesion Policy to be implemented in 2007–2013 was modified in comparison to the previous concept. Central to this approach was the clear dedication of the Cohesion Policy to implementation of the renewed Lisbon agenda. A number of procedural changes were established in line with this approach, including a modified planning approach (as reflected in the Community Strategic Guidelines) and reporting system (first of all reporting to the Council of the EU on the achievement of objectives) (Mendez et al., 2010). A crucial element of the new approach was, however, the above-mentioned earmarking. In this way, individual objectives of the Lisbon Strategy were to be supported by financial means.

Earmarking was introduced under Article 9(3) of Regulation 1083/2006 providing for general rules on the EU funds for the period 2007–2013 (Council Regulation (EC) No. 1083/2006 and European Commission, 2007a). It should be noted that for the new EU Member States earmarking was voluntary. The other (‘old’) Member States and their regions were asked to allocate a certain percentage to finance actions

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<sup>2</sup> It seems appropriate to include the whole period 2007–2013 into the assessment of the Lisbon Strategy, because the new Strategy Europe 2020 was adopted in 2010, when the majority of the Cohesion Policy programmes prepared in the framework of principles and rules of the Renewed Lisbon Strategy were in full swing. The Europe 2020 Strategy is fully reflected only in the next programming period 2014–2020.

which were considered as Lisbon Strategy-oriented. Member States were to receive co-financing from the EU funds for projects associated with the Lisbon earmarking of up to 60% in Convergence, and at least 75% for Regional Competitiveness and Employment programmes [as stated in Art. 9(3)].

Altogether, 86 categories of Lisbon-earmarked types of expenditures were provided in the implementing Commission Regulation No. 1828/2006 (in Annex II). Earmarking categories determined the construction of the expenditure structure under the operational programmes implemented in the EU Member States during the financial programming period 2007–2013. Thus, earmarking became the main tool for achieving concentration on the Lisbon agenda and introduced the criteria of evaluating the pro – Lisbon expenditures within the operational programmes financed from EU funds (Zaleska et al., 2013). Earmarking was thus applied in practice in the financial programming period 2007–2013.

The *ex ante* alignment of the Cohesion Policy for 2007–2013 with the objectives of the Lisbon agenda was assessed by the European Commission in 2007. According to the respective Communication of 2007: ‘The strategies drawn up by the Member States for the 2007–2013 programming period suggest that a clear change of emphasis is underway, in favour of the key Lisbon priorities. (...) For the less developed regions under the Convergence objective in the EU-27, which together account for over 80% of cohesion policy resources, 65% of the funds are to be invested in the Lisbon-related objectives. (...) Regions with programmes falling under the Regional Competitiveness and Employment Objective, which account for 16% of cohesion policy resources, and which traditionally have had to concentrate their more limited allocations on the more productive investments, plan to continue to invest a high proportion of the funds, 82% of the total for 2007–2013, on Lisbon-related priorities.’ (European Commission, 2007b, p. 4).

For the EU-12 (‘new’) Member States (for which the earmarking provisions were not compulsory), the Lisbon Strategy earmarking indicator amounted to 59% under the Convergence Objective. The value of the indicator was the same in the very limited number of programmes in these Member States that were supported by the Regional Competitiveness and Employment Objective (European Commission, 2007b, p. 5).

The alignment of the Cohesion Policy for 2007–2013 with the objectives of the Lisbon and Gothenburg objectives for growth, jobs and sustainable development was also examined by Nordregio (in 2009). This assessment was based on the examination of 246 Operational Programmes (OPs) funded by the European Regional Development Fund (ERDF) and the Cohesion Fund, as well as national regional policy documents (Van Well and Sterling, 2009). The authors analysed

the compatibility of OPs with LisGo (Lisbon-Gothenburg) agendas, separately for both the Regional Competitiveness and Employment objective and the Convergence objective<sup>3</sup> programmes of the Multiannual Financial Framework 2007–2013. For each of those objectives three different ‘roads’ to the Lisbon and Gothenburg agendas were identified through examination of the strategic priorities and budgets of regional policy programmes, as well as socio-economic indicators. These ‘roads’ characterised the broad approaches taken by Member States to align their Cohesion Policy programmes to the Lisbon and Gothenburg agendas.

The study found that ‘The Cohesion Policy strategies of all the EU Member States did lead to Lisbon and Gothenburg, although each country embarked from a very different starting point depending on their stage of development, the challenges they faced; their future potential and the scale of the EU programmes relative to national action.’ (Van Well and Sterling, 2009). The ‘roads’ adopted by individual Member States were not mutually exclusive, but reflected different approaches taken by various countries (Table 1).

It is not a surprise that the study identified two general overall approaches adopted by Member States:

- (a) The ‘old’ Member States, in which the Regional Competitiveness and Employment regions dominated, were characterised by a strong focus on innovation, knowledge, R&D, Information and Communication Technologies (ICT) and entrepreneurship through Cohesion Policy.
- (b) The ‘new’ Member States and the former cohesion countries (Greece and Portugal), which had a large number of Convergence programmes, also focused on innovation, knowledge, R&D, ICT and entrepreneurship. In addition however, they put much greater emphasis on infrastructure development and accessibility as the route to jobs, growth and sustainable development.

Poland was classified as a country concentrating its use of the EU funds on the construction of infrastructure to boost growth and jobs, recognising environmental trade-offs – links to innovation and entrepreneurship.

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<sup>3</sup> The eligibility criterion for convergence regions was a regional GDP per capita in PPS of less than 75% of the EU average.

**Table 1. Road (s) to Lisbon and Gothenburg strategies**

	'Road'	Country	GDP/head (EU=100)
1	Innovation	Luxembourg	278
		Ireland	146
		Denmark	126
2	Territorial potential	Netherlands	131
		Belgium	120
		Sweden	125
		Finland	117
		Germany	114
		Austria	128
3	Environmental synergy	UK	118
		France	111
		Italy	103
		Spain	105
4	Growth/jobs infrastructure	Portugal	75
		Greece	98
		Malta	77
		Cyprus	92
		Czech Rep.	79
		Slovenia	88
		Hungary	65
5	Human capacity	Estonia	69
		Lithuania	56
		Latvia	54
6	Cohesion infrastructure	Poland	52
		Slovakia	64
		Bulgaria	38
		Romania	39
<b>Competitiveness and employment objective</b>		<b>Convergence objective</b>	
1	Focus on innovation and entrepreneurship to address globalisation challenges – economic priorities – large national projects	4	Using infrastructure to boost growth and jobs, recognising environmental trade-offs – links to innovation and entrepreneurship
2	Addressing regional challenges and potential in relation to globalisation – often with a focus on innovation and entrepreneurship	5	Building and realising human and institutional capacity (often linked to innovation and entrepreneurship) to improve job quality
3	Focus on growth, but looking for environmental synergies – often with an innovation component, e.g. renewable energy	6	Using infrastructure to bridge urban/rural gaps (links to innovation and entrepreneurship), economic development priority

Source: Van Well and Sterling (2009).

### **2.3. Cohesion Policy and the Lisbon Strategy in Poland. Financial Programming Period 2004–2006**

Poland joined the EU in 2004, when the Financial Perspective 2000–2006 was in the process of implementation. As already mentioned, the Lisbon Strategy of 2000 was not truly implemented at that time even in the old EU countries. Poland prepared a National Development Plan 2004–2006 (Poland, 2003) aimed at improving the competitiveness of the Polish economy, focused on knowledge and entrepreneurship. The Plan was based first of all on the guidelines contained in the Council Regulation No. 1260 of 21 June 1999 (1260/99/EC), which was adopted before the adoption of the Lisbon Strategy. The Plan referred in a general way to the Lisbon Strategy but without details or any quantitative measures.

The National Development Plan 2004–2006 provided five partial objectives (Poland, 2003, p. 67):

- assistance in achieving and maintaining high, long-term GDP growth,
- increase in employment and education levels,
- incorporation of Poland into the European transport and information infrastructure networks,
- intensification of the process of increasing the share of high-value-added sectors in the structure of the economy, development of the technology of information society,
- assistance in the participation of all regions and social groups in Poland in the development and modernisation processes.

Changes in the priority objectives appeared as a result of the modification of the Lisbon Strategy in 2005. They involved greater stress on innovations and were reflected in the documents underlying the new financial period in the EU for 2007–2013.

### **2.4. Financial Programming Period 2007–2013 in Poland. Lisbon Strategy Earmarking**

Lisbon Strategy earmarking was adopted by Poland despite the fact that it was not obligatory in the countries that joined the EU on or after the 1st of May 2004. In this way Poland expressed its adherence to the objectives of the Lisbon agenda. It should be noted that the 'new' Members were encouraged to introduce earmarking, as the EU expanded the catalogue of earmarking expenditures for them to include



expenditures on transport infrastructure (related to expressways and motorways) as well as on power and telecommunications infrastructure (Zaleska et al., 2013).

Earmarking indicators were introduced in Poland under the National Strategic Reference Framework (NSRF) 2007–2013 (Ministry of Regional Development, 2007, pp. 153–159) for both, concrete thematic priorities and individual operational programmes. The NSRF included a table of allocations for Poland under particular earmarking categories (Zaleska et al., 2013). It showed that the 16 Regional Operational Programmes (ROPs) implemented in Poland provided for the EU funding contributions in 37 out of the 48 earmarking categories for the Convergence Objective (it should be stressed that in each of the regions only a part of the above-mentioned categories were to be covered). Thematic operational programmes were also Lisbon-oriented.

As a result of this approach, Poland aimed to designate 63.9% of the funding made available within the Convergence objective of the Cohesion Policy for implementation of the Lisbon Strategy categories (Ministry of Regional Development, 2007, p. 121).<sup>4</sup> In order to achieve this aim, average target expenditure thresholds were set up for particular instruments of NSRF execution. Those indicators were defined on the basis of relevant objectives of the National Development Plan and the pro-Lisbon objectives of the NSRF, which were to be implemented by the particular operational programmes (Ministry of Regional Development, 2007, p. 120).

Another issue that should be taken into account when assessing the alignment of the EU funds with earmarking categories is that some categories of projects which were excluded in the EU documents from earmarking were, in practice, extremely valuable to Poland as they contributed to growth and jobs. These included, for example, projects associated with national roads, railways, the provision of adequate energy sources and the environment. They made the transition from underdevelopment to development easier, and tried to achieve a more equitable distribution of resources within the national territory. In other words, it would undoubtedly be an over-simplification to consider projects not included in the earmarking categories as those that didn't contribute to the achievement of the Lisbon Strategy objectives<sup>5</sup>. For this reason, the authors of the earmarking in Wielkopolskie region concluded that: 'Earmarking, which as a general rule is an appropriate attempt to increase the effectiveness of the EU development action plan at the Member State level (and at

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<sup>4</sup> The document itself noted that the data was of an indicative nature only, as the funding priorities could be modified later once negotiations on particular operational programmes with the European Commission were completed.

<sup>5</sup> Such a conclusion was drawn by authors of the report on earmarking in the Wielkopolska region in Poland. See: Zaleska et al. (2013).

the regional level), is at the same time too formalised expenditure criterion and does not take into account the specificity (and needs) of individual states and regions.’ (Zaleska et al., 2013).

### **3. Cohesion Policy and Its Alignment with the Europe 2020 Strategy<sup>6</sup>**

#### **3.1. Europe 2020 Strategy Assumptions and Priorities**

The Lisbon Strategy is continued nowadays in the superseding Europe 2020 Strategy, which was adopted in 2010. Its objective is to improve the EU’s position in the world economy and make it competitive. The Europe 2020 Strategy is, to a great extent, a continuation of objectives of the previous strategy. However, the financial and economic crisis of 2008–2009 resulted in significant restructuring of the management of this strategy in order to make it more operational and more effective.

The three objectives outlined by the Commission for the Europe 2020 Strategy substantially repeated and reformulated the long-term objectives developed by the original Lisbon Agenda. They are as follows:

- (a) ‘smart growth’ – developing an economy based on knowledge and innovation;
- (b) ‘sustainable growth’ – promoting a more resource efficient, greener and more competitive economy;
- (c) ‘inclusive growth’ – fostering a high-employment economy delivering social and territorial cohesion.

In addition, seven flagship initiatives were adopted ‘to catalyse progress’ under each priority theme. The Europe 2020 Strategy objectives have been important for defining what national governments need to do in response to the crisis in terms of their structural economic reforms.

#### **Relations Between the Europe 2020 Strategy and Cohesion<sup>7</sup>**

From the point of view of this study it is important to note that the Europe 2020 Strategy contains an explicit acknowledgement that economic, social and territorial cohesion remains at the centre of the new strategy: ‘Cohesion Policy should become

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<sup>6</sup> The abbreviation ‘Europe 2020 Strategy’ means ‘Union strategy for smart, sustainable and inclusive growth’. It includes the targets and shared objectives guiding the actions of Member States and the Union set out in the Conclusions adopted by the European Council of 17 June 2010.

<sup>7</sup> This subchapter draws on the author’s text: Kawecka-Wyrzykowska (2014, pp. 45–54).

a standard bearer for the objectives of smart, inclusive, and sustainable growth of the Europe 2020 Strategy in all EU regions.<sup>8</sup> This statement conveys two fundamental messages of the Cohesion Policy implemented under the Multiannual Financial Framework (MFF) 2014–2020. Firstly, it signals that the Cohesion Policy should be formulated in such a way as to contribute to the objectives of the Europe 2020 Strategy. Following this assumption, the Regulation No. 1303/2013 relating to all European funds clearly states that ‘each ESI [European Structural and Investment – E.K.-W.] Fund shall support the (...) thematic objectives as specified in Article 9 of this Regulation.’<sup>9</sup> In other words, all the EU funds should support implementation of the Europe 2020 Strategy. Secondly, by emphasising ‘all’ regions, the Commission rejected the notion of confining the Cohesion Policy exclusively to the least developed parts of the EU. In this way, the Commission proposed a number of important changes to the way the Cohesion Policy was designed and implemented, in line with the so called new paradigm of this Policy (Kawecka-Wyrzykowska, 2014, pp. 57–60).

**Box 1. Pattern of funds provided for Cohesion Policy in 2014–2020**

The majority of funds for the Cohesion Policy (51%) are provided for the poorest regions, and almost 10% will go to the newly-defined ‘transition regions’. They replaced the previous concept of phasing-in and phasing-out regions. A new element is that transition regions have been offered the same amount of support throughout the whole period 2014–2020, while the support in 2007–2013 decreased in successive years. More money than previously will go to more developed regions (15.4%).

Cohesion Policy spending is channelled through several funds: two structural funds – the European Regional Development Fund (ERDF) and European Social Fund (ESF); the Cohesion Fund, and investment funds (the latter include repayable loans offered by the European Investment Bank and other instruments). Moreover, two other funds support structural development of agriculture and fisheries [European Agricultural Fund for Rural Development (EAFRD) and European Maritime and Fisheries Fund (EMFF)], although they are not areas of the Cohesion Policy.

It should be added that all these funds are regulated in 2014–2020 by common rules relating to programming, thematic concentration, conditionality, and territorial development. This is a new element of the funds’ management, aimed at their easier and better coordination.

Source: Own calculations based on: European Council (2013); Regulation No. 1303/2013.

<sup>8</sup> More precisely, these objectives include raising the employment rate, tackling poverty, improving access to education, investing more money in research and technology, using energy more efficiently and promoting clean technologies to reduce carbon dioxide emissions, see: European Commission (2010). Also, President Barroso confirmed the role of the Cohesion Policy in one of his interviews: ‘Cohesion Policy is one of the key instruments to realize the Europe 2020 Strategy goals. It is the largest EU investment in the real economy and a key pillar of the EU economic policy triangle of fiscal consolidation, structural reforms and investment in growth’ (Inforegio, 2013, p. 5).

<sup>9</sup> The same approach has been confirmed in Annex I to this Regulation: ‘In order to determine the way in which the ESI Funds can most effectively contribute to the Union strategy for smart, sustainable and inclusive growth, and to take account of the Treaty objectives, including economic, social and territorial Cohesion, Member States shall select the thematic objectives for the planned use of the ESI Funds within the appropriate national, regional and local contexts’ (point 4). ESI Funds are all funds available under the Cohesion Policy in the period 2014–2020.

As already mentioned, the Cohesion Policy is the main investment instrument for supporting the key priorities of the Union as enshrined in the Europe 2020 Strategy for smart, sustainable and inclusive growth. It does so by focusing on priorities and thematic objectives. In the period 2014–2020 two priority objectives have been established: (a) ‘Investment for growth and jobs’ in Member States and regions, to be supported by all the funds; (b) ‘European territorial cooperation’, to be supported by the ERDF.<sup>10</sup> The Cohesion Fund supports projects in the field of environment and trans-European transportation networks. The necessary support to human capital development is ensured through an adequate minimum share of the ESF for each category of regions. The general goals to be achieved through the Cohesion Policy have been divided into 11 thematic objectives (see box 2).

Box 2. A menu of thematic objectives

1. Research & innovation
2. Information and communication technologies (ICT)
3. Competitiveness of Small and Medium-Sized Enterprises (SMEs)
4. Shift towards a low-carbon economy
5. Climate change adaptation & risk prevention and management
6. Environmental protection & resource efficiency
7. Sustainable transport & removing bottlenecks in key network infrastructures
8. Employment & supporting labour mobility
9. Social inclusion & combating poverty
10. Education, skills & lifelong learning
11. Institutional capacity building & efficient public administration.

Source: Art. 9 of Regulation No. 1303/2013.

According to the Commission, the above mentioned thematic objectives should not be only general guidelines for the construction of a common strategic framework and use of funds in Member States, but should also allow for establishing the concentrations of all expenditures from the funds (adherence to the minimal limits of allocation for selected thematic objectives – the so-called ‘ringfencing’), (Ministry of Regional Development, 2013, p. 15). Therefore, specific laws for individual funds provide the percentage allocation of funds for concrete thematic objectives. For example, at least 80% of ERDF should be assigned (in more developed regions) to thematic objectives 1, 2, 3 and 4 – box 1 (Regulation (EU) No. 1301/2013), while the Regulation on the European Social Fund provides that countries should spend at least 20% of this Fund for the implementation of the thematic objective number 9 – box 2 (Regulation (EU) No. 1304/2013).

<sup>10</sup> In the previous financial period 2007–2013, three priorities were pursued: Convergence, Regional Competitiveness and Employment, and European Territorial Cooperation.

**Box 3. Targeting resources at key areas of growth**

Investment financed by the ERDF has to be concentrated on four key priorities: R&D and innovation, the digital agenda, support for SMEs, and the low-carbon economy. The minimum level of funding to be allocated to these is differentiated according to the level of development of the region concerned. In more developed regions, it is at least 80%, in transition regions 60%, and in less developed regions 50%. In addition, within these amounts, at least 20% has to be allocated to a low carbon economy in the more developed regions, 15% in the transition regions, and 12% in the less developed regions. In the case of the ESF, allocations have to be concentrated on up to five investment priorities under the relevant thematic objectives relating to employment, social inclusion, education and institutional capacity building.

Source: European Commission (2014b, p. 239).

The Regulation on ERDF determines the scope of intervention of this Fund, and also includes a ‘negative list’ of activities which are not eligible for support (e.g. undertakings in difficulty, as defined under the EU state aid rules). It defines investment priorities for each of the thematic objectives. Transition regions and more developed regions are required to focus the largest part of their allocation (except for the ESF) on energy efficiency and renewable energy, competitiveness of SMEs, and innovation. In more developed regions, the ERDF supports investments in infrastructure. Less developed regions are able to devote their allocation to a wider range of objectives reflecting the broader range of development needs.

The Regulation provides for an increased focus on sustainable urban development. This increased focus is to be achieved through the earmarking of a minimum of 5% of ERDF resources for sustainable urban development, the establishment of an urban development platform to promote capacity building and exchange of experience, and the adoption of a list of cities where integrated actions for sustainable urban development will be implemented (Regulation (EU) No. 1301/2013).

Like under the previous Multilateral Financial Framework, capping is also provided. This is the maximum level of the EU funds in relation to the national GDP that an EU Member State can receive under the Cohesion Policy. In the years 2014–2020 this ceiling is 2.35%. It does, however, contain an exception: ‘For Member States which acceded to the Union before 2013 and whose average real GDP growth 2008–2010 was lower than minus 1%, the maximum level of transfer shall be increased by 10%, producing a capping of 2.59%.’ (European Council, 2013, point 45).

In order to achieve higher efficiency of the funds spent, the Regulation aims at increased orientation on the results of funding, by defining common indicators related to physical outputs as well as results relating to the final objective of the funding. As regards common indicators for ERDF support under the ‘Investment for growth and jobs’ goal, the respective Regulation provides, for example, for such indicators as: the number of enterprises receiving grants, the number of enterprises receiving non-financial support, the number of new enterprises supported, the number of jobs

created in assisted SMEs, and in the case of infrastructure – increase of passenger trips using supported urban transport services, increase of cargo transported on improved inland waterways (Regulation (EU) No. 1301/2013, Annex I).<sup>11</sup> The problem with such indicators is that some of them can be rough estimates only and cannot precisely assess the effects of support (e.g. number of jobs created in assisted SMEs). Also, in some cases major results can be expected to appear only later, for example several years after the implementation of projects, e.g. – increase of passenger trips using supported urban transport services.

The Cohesion Policy is based on an integrated approach which emphasises that promoting development requires close coordination of public policies. This means, for example, that transport systems must not only cover passenger services but also take into account environmental factors such as energy efficiency, noise levels and air pollution. This integrated approach to policy in 2014–2020 is reflected in the documents in a number of ways. First of all, it is reflected in a common approach (set forth in a Regulation) to all funds of the Cohesion Policy, as well as agricultural and fisheries policies, which replaced the previous separate strategic guidelines for policies funded from the EU funds. Such an approach should strengthen the integration of the EU policies and ensure greater effects on the economy.

Investment priorities in Member States and their regions for the financial planning period 2014–2020 are contained in the Common Strategic Framework (CSF), which Member States were obliged to follow when drafting their investment strategies.<sup>12</sup> On the basis of the CSF each Member State prepared a Partnership Contract for 2014–2020. The Contracts ‘translated’ the provisions of the CSF into the specific national conditions and contain concrete commitments of national and regional partners to implement Strategy Europe 2020, Country Reform Programmes, and other documents. Thus, Partnership Contracts have to ensure alignment of the EU Cohesion Policy’s investment priorities and Europe 2020 targets at the national and regional levels. Operational Programmes prepared by each country (for regions and thematic objectives) set out priority axes corresponding to thematic objectives and must ensure a consistent intervention logic to tackle the identified development needs. Also, they set out the framework for performance assessment.

In order to improve the quality and effectiveness of the Cohesion Policy, a ‘performance framework’ was adopted, which includes a ‘performance reserve’, and *ex ante*, *ex-post*, and macroeconomic conditionalities. The performance reserve is a sort

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<sup>11</sup> Annex I to the Regulation (EU) No. 1301/2013.

<sup>12</sup> [http://ec.europa.eu/regional\\_Policy/sources/docoffic/working/strategic\\_framework/csf\\_part1\\_en.pdf](http://ec.europa.eu/regional_Policy/sources/docoffic/working/strategic_framework/csf_part1_en.pdf), last accessed on 30.11.2014.

of reward that will be allocated by Member States to the best programmes in terms of their financial effectiveness, management, and implementation. It applies to all funds subject to the CSF and amounts to between 5 and 7% of the allocation to each priority within a programme (Art. 22 of the Regulation No. 1303/2013).<sup>13</sup> The reserve will be distributed among the best programmes in 2017 on the basis of the earlier assessment of the implementation of those programmes.

Conditionalities make the use of funds conditional upon fulfilling different criteria. *Ex ante* conditionality includes some preliminary conditions that have to be met by beneficiaries in order to be eligible for the EU funds and which are defined in each Partnership Contract. They are linked to the transposition of a specific EU legislation, institutional capacity of a country etc. *Ex post* evaluations will examine the effectiveness and efficiency<sup>14</sup> of the European Structural and Investment (ESI) Funds and their contribution to the Europe 2020 Strategy for smart, sustainable and inclusive growth taking account of the targets established in that strategy and in accordance with specific requirements established in the funds-specific rules. The macroeconomic conditionality is linked to the coordination of Member States' economic policies and its objective is to ensure sound economic governance (observation of the rules set forth in the Stability and Growth Pact, as modified by Six-Pack). It can be applied in particular when a Member State does not implement the recommendations aimed at avoiding excessive deficit procedures (EDP) or enters the EDP. In the case of a failure to fulfil those conditionalities the Commission may suspend all or part of interim payments to the relevant priority of the programme (Art. 19, 23, 57 and Annex XI of the Regulation No. 1303/2013).

Macroeconomic conditionality has been criticised by many countries, in particular by the large beneficiaries of the EU funds, who postulate that it may penalise concrete beneficiaries because of the failures of their governments' policies, e.g. entrepreneurs or regions will be deprived of money because of actions of the Minister of Finance of a given country.

From the point of view of this study it seems important to add that the new legislative and policy framework of the Financial Framework 2014–2020 encourages further expansion of investments through financial instruments of the repayable character, such as loans, guarantees, equity and other risk-bearing mechanisms,

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<sup>13</sup> Performance reserve will be calculated on the basis of all European Investment and Structural Funds, except for the European Territorial Cooperation goal. See: European Council (2013, point 85).

<sup>14</sup> These evaluations will take into account the meeting of the so called milestones, it is financial and output indicators and key implementation steps, set out in the performance framework. Programmes and priorities which have achieved their milestones will be able to benefit from the allocation of the performance reserve.

possibly combined with technical support, etc. These instruments will increase the size of available funds (partly because of their revolving nature) and in a number of areas may be a more efficient and sustainable alternative to traditional grant-based financing (as they have to be returned, the applicants will be more cautious in applying for them).

The new policy framework establishes a close link between ESI Funds and the European Semester. Relevant country-specific recommendations (CSRs) are prepared each year by Member States within the framework of the European Semester and include recommendations on fiscal stability, structural changes countries should implement and on ESI funding support. CSRs had to be taken into account by Member States and regions in the preparation of their 2014–2020 programmes. Of course, many recommendations did not directly concern ESI Funds (such as those relating to taxation, fiscal frameworks, public governance etc.), but they did contain a significant number of proposals which are relevant for the ESI Funds. These included, for example, measures aimed at improving research and innovation, increasing SMEs' and business startups' access to finance, raising energy efficiency and modernising energy networks, etc. On one hand, CSRs add another layer to the other numerous documents that have to be taken into account in process of creation and implementation of Cohesion Policy, but on the other hand they are an element of more rational use of ESI Funds.

### **3.2. Changing Paradigm of the Cohesion Policy**

The EU Cohesion Policy for 2014–2020 has undergone a fundamental paradigm shift as compared to previous years (Kawecka-Wyrzykowska, 2014). This shift can be described as moving away from a focus on financial support for lagging regions in order to address their structural weaknesses, and towards support for all regions with a view toward mobilising their endogenous factors and enhancing growth investments (Bachtler and Raines, 2008). Previously, instruments to reduce disparities were targeted – on a selective basis – mainly on the poorer regions in order to address concrete attributes of such problem regions, such as low density of roads, lack of money for investments, low number of jobs, lack of educated persons in the region, etc. Such a policy was mostly of a redistributive character and re-channelled money from the EU budget to poorer regions and countries.

The new concept of regional development gives primacy to human capital, 'soft' production factors, and behavioural issues. The assumption is that each region has some comparative advantages over other regions and a potential for growth. Cohe-



sion Policy should help mobilise endogenous factors of development. Consequently, regional policy is becoming more concerned with improving regional capabilities in areas such as entrepreneurship, productivity, and innovation. The goal is to mobilise a more effective use of public and private resources rather than to offer a direct intervention. The main focus is thus on regional growth and not on convergence of poorer regions.

This paradigm shift has resulted from the interplay of a number of external and internal factors (Fésüs and Roller, 2011, pp. 95–102). As a result of the rapid changes in the international economy – globalisation, improved communications and reduced transportation costs, and changing trade patterns for commodities – regions are confronted with both obvious threats as well as significant opportunities. The increasing pressures of globalisation mean that the competitive position of the EU as a whole has come under growing scrutiny, creating a requirement that economic development policies focus not just on promoting the convergence of lagging or restructuring regions, but also feed into the EU-wide advances (Begg, 2011, p. 86). The increasing pace of integration has also resulted in intensified domestic competitive pressures which have arisen from the deepening of the process of integration, the creation and extension of monetary union, successive enlargements, etc.

The works and studies done by the OCED and World Bank have also made an important contribution to the discussion on the changing role of regions in overall growth, and correspondingly on the changes necessary in the approach to regional policies.<sup>15</sup> The theoretical foundations of the new paradigm draw on the theory of new economic geography by P. Krugman, for which he was awarded the Nobel Prize in 2008. An important contribution to the discussions was also made by the so-called Barca Report of 2009 (Barca, 2009).

In the EU, the paradigm shift was first reflected in the alignment of the Cohesion Policy for the 2007–2013 period with the Lisbon Strategy, and especially with the Renewed Lisbon Strategy of 2005. Stronger attention was given at that time to the role of the Cohesion Policy in increasing growth and employment and improving the competitiveness of the EU economy. It was for this purpose that the earlier mentioned 'Lisbon earmarking' approach was adopted. This approach has been continued and enhanced in the Europe 2020 Strategy which replaced the Lisbon Strategy in 2010. It has also been reflected in all the works and documents underlying the Cohesion Policy for 2014–2020.

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<sup>15</sup> It should be added that the World Bank opts rather for space-neutral approaches, while the OECD supports a place-based policy. See: OECD (2006; 2011; 2012); World Bank (2009).

### 3.3. Cohesion Policy and Its Alignment with the Europe 2020 Strategy in Poland (2014–2020)

Poland's Partnership Agreement for the period 2014–2020 repeats the objectives of the Europe 2020 Strategy (in Section A.1. A entitled: Solutions ensuring alignment with the EU strategy of smart, inclusive and sustainable development). It reflects the National Development Strategy 2020 (Ministry of Regional Development, 2012) which was adopted by Poland in September 2012 as a response to Europe 2020 Strategy (European Commission, 2014a).

#### Box 4. Strategic documents relating to the use of the EU money in Poland in 2014–2020

The National Development Strategy 2020 was correlated with the adoption of other strategic documents, such as:

The Long-Term National Development Strategy (LTNDS) – 'Poland 2030 – Third Wave of Modernity', which defines major trends and challenges as well as the concept of the development of the country in the long-term;

Medium-Term National Development Strategy (MTNDS) – National Development Strategy 2020, which is the most important document in the medium term, setting out strategic objectives for the development of the country until 2020, and is the key to determining the development activities, including those that can potentially be funded under the EU financial perspective 2014–2020;

Nine Integrated Strategies, whose aim is to assist in achieving the development objectives. They include: Strategy for Innovation and Efficiency of the Economy; Human Capital Development Strategy; Transport Development Strategy; Energy Security and the Environment; Efficient State; Social Capital Development Strategy; National Strategy of Regional Development 2010–2020. Regions, Cities, Rural Areas; Strategy for Development of the National Security System; and Strategy for Sustainable Development of Rural Areas, Agriculture and Fisheries.

LTNDS, MTNDS and the nine Integrated Strategies are tied by a coherent hierarchy of objectives and directions for intervention. The Integrated Strategies depart from a narrow sectoral approach and focus instead on the integration of areas and on the permeability of various phenomena and processes.

Source: Ministry of Regional Development (2012, p. 4) and Ministry of Regional Development (2013, p. 6).

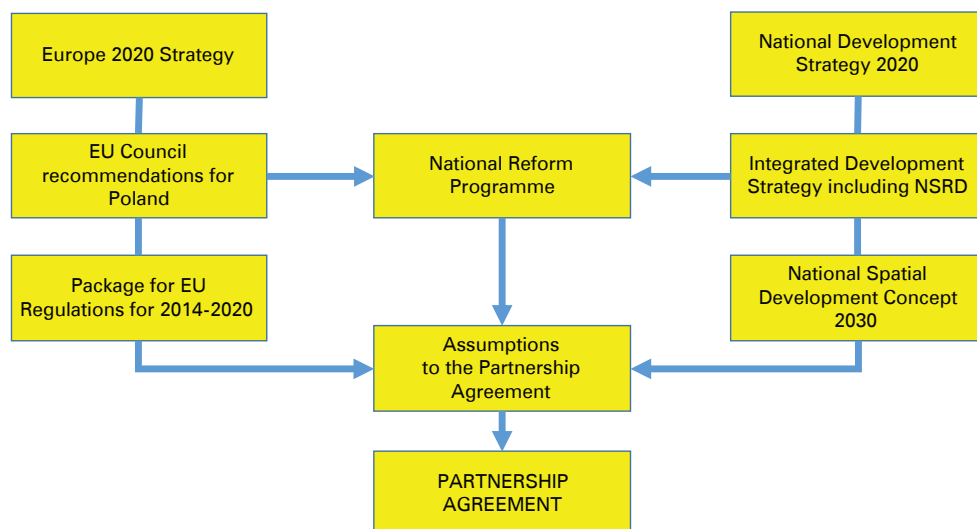
According to The National Development Strategy 2020, a key development objective for Poland in the upcoming years is to enhance and exploit economic, social and institutional capacities in order to ensure rapid and sustainable development of the country, and to improve the quality of life. This strategic objective will be achieved in the following areas:

- Competitive economy;
- Social and territorial cohesion;
- Effective and efficient state.

Specific development priorities correspond to the objectives defined in the Europe 2020 Strategy and to initiatives implementing the Strategy. The interventions set out in The National Development Strategy 2020 are reflected in The National Reform Programme (NRP), which determines the manner of implementation of the actions

set out in more detailed policy documents so that they fit into the priorities of the common actions across the EU. The annual update of the NRP, provided under the European Semester, makes it possible to flexibly respond to the changing conditions in the implementation of the priorities set out in the National Development Strategy and to implement country-specific recommendations of the Council (Ministry of Regional Development, 2013) (Diagram 1.).

**Diagram 1. The relationship between the national and the EU documents**



Source: Ministry of Regional Development (2013, p. 7).

Following the suggestions of the European Commission, as expressed in a Position Paper, four priority areas will be financed from the European Structural and Investment Funds (Ministry of Infrastructure and Development, 2014, p. 9):

- Entrepreneurship and an innovation-friendly business environment;
- Social Cohesion and labour market participation;
- Network infrastructure for growth and jobs;
- Environment and effective resource management.

In Poland, in the years 2014–2020 the programmes to be implemented at the national level include: European Territorial Cooperation (ETC) financed under EFRD, and eight operational programmes, financed under European Fund of Regional Development (EFRD), European Social Fund (ESF), Cohesion Fund (CF), European Agricultural Fund for Rural Development (EAFRD), and European Maritime and Fisheries Fund (EMFF). Moreover, sixteen dual-funded (EFRD,

ESF) regional operational programmes – fifteen for the voivodships classified as ‘less developed’ and one for the Mazowieckie Voivodship, classified as ‘more developed’ or ‘in transition’ – will be implemented at the regional level (Ministry of Regional Development, 2013).

As already said, all projects receiving funding will contribute to delivering on the agreed-upon Europe 2020 growth goals (European Commission, 2014b, p. 10; Ministry of Infrastructure and Development, 2014). Poland decided to pursue all eleven thematic objectives set out in the Regulation No. 1303/2013. The majority of resources will be allocated for the activities supporting the increase in the competitiveness of the economy. The least funds will be allocated to activities targeted at state efficiency and effectiveness. However, these activities will be indirectly supported under the programmes implementing the objectives relating to competitiveness and social and territorial cohesion (Ministry of Regional Development, 2013).

**Table 2. Levels of indicators for Poland monitored under the Europe 2020 Strategy**

Indicator	Level in 2010	Level in 2013	Target in 2020	Target in 2023
Employment rate of people aged 20–64 (%)	64.6	64.9	71.0	71.59
Reduction of population at risk of poverty or social exclusion* (% of population)	27.8	26.7 (2012)	23.0	-
Tertiary education** (%)	35.3	40.5	45.7	47.9
Early school leavers*** (ESL, young people who are not in education) %	5.4	5.6	4.5	4.3
R&D (GERD) % of GDP	0.74	-	1.7	-
Share of public sector in R&D expenditure (%)	60.4	-	53.0	-
Renewable energy in the final consumption of energy (%)	9.5	-	15.0	-
Energy efficiency – reduction of energy consumption (Mtoe)	363.7		96.0	
CO <sub>2</sub> emission reduction target (%)	87.9% of the 1990 level			

\* Reduction of population at risk of poverty or social exclusion – aggregate indicator which covers three sub-indicators: (1) monetary poverty, (2) material deprivation, and (3) low work intensity.

\*\* Tertiary education – provided by universities and other higher education institutions, is the level of education following secondary schooling (people aged 30–34).

\*\*\* ESL – individuals aged 18–24 who have finished no more than a lower secondary education, and who are not involved in further education or training.

Source: Ministry of Infrastructure and Development (2014a, pp. 9–10; 2014b, p. 19).

According to *ex-ante* evaluations, Poland managed to achieve a far-reaching compliance between the objectives defined at the level of the Europe 2020 Strategy

and the objectives indicated in the National Development Strategy 2020 and the integrated strategies related with it. This was possible mainly due to the synchronisation of timing of strategic works at the national and the EU level (Ministry of Infrastructure and Development, 2014a).

The progress in implementing the National Development Strategy objectives will be measured using a set of indicators. In certain areas they serve also as monitoring indicators for Poland under the Europe 2020 Strategy (Table 2).

Progress in reaching the target levels of the Europe 2020 Strategy will be monitored at both the national and regional levels. To this end the Central Statistical Office created STRATEG – a strategic monitoring system which gathers monitoring indicators from all national and regional strategies and operational programmes, based on data derived from Eurostat, the Central Statistical Office, and other sources since 2003. Implementation of the objectives will depend on many factors, both internal and external. Therefore, the assessment of the impact of the Partnership Agreement and of the national and regional programmes on the Europe 2020 Strategy objectives will be performed using interim evaluations (Ministry of Infrastructure and Development, 2014a, pp. 8–9).

## 4. Conclusions

In the first years after the adoption of the Lisbon Strategy, when the Financial Perspective 2000–2006 was being implemented, there was no close link between the Cohesion Policy and the Lisbon and Gothenburg goals. The main reason was that the Cohesion Policy documents had been worked out and adopted before the Lisbon Strategy was adopted in 2000.

The analysis of the Cohesion Policy strategies and programmes for the period 2007–2013 suggests that most of the resources available were devoted to the Union's top policy priority: the Lisbon Strategy for growth and jobs. This was possible mainly due to the major reform of Cohesion Policy 2007–2013, which created the basis for closer alignment of this policy with the EU strategic development objectives as reflected in the Lisbon Strategy. An important instrument of implementation of this approach was the Lisbon Strategy earmarking, which dedicated a certain percentage of Cohesion Policy funds to financing achievement of the goals of the Lisbon Strategy.

In the period 2014–2020 this approach has been continued and Cohesion Policy funds have been devoted to the achievement of objectives of the new Europe 2020 Strategy for smart, sustainable and inclusive growth. The Cohesion Policy has been

directing and guiding the investment of a third of the EU budget to help achieve the EU-wide goals of growth and jobs and reduce economic and social disparities.

The EU documents have revealed the high alignment rate of the Cohesion Policy with the Lisbon Strategy goals in all EU Member States in the period 2007–2013. According to the European Commission's data, in the less developed regions, which together account for over 80% of Cohesion Policy resources, 65% of the funds under the Convergence objective were invested in the Lisbon-related objectives. For the EU-12 (new) Member States, for whom the earmarking provisions were not compulsory, the Lisbon Strategy earmarking indicator amounted to 59% under the Convergence objective.

In Poland, earmarking indicators were introduced under the National Strategic Reference Framework 2007–2013. Despite not being obliged to do so, Poland designated 64% of funding available within the Convergence objective of the Cohesion Policy for implementing the Lisbon Strategy categories. Also, some categories of projects which were excluded in the EU documents from earmarking, were in practice very valuable to Poland in terms of contributing to growth and jobs. These included, for example, projects associated with national roads, railways, and the provision of adequate energy sources. These projects made the transition from underdevelopment to development easier. In other words, it would be an over-simplification to consider projects not included in the earmarking categories as those that did not contribute to the achievement of the Lisbon Strategy objectives.

In the 2014–2020 financial programming period, when all Cohesion Policy funds are dedicated to the objectives of the Europe 2020 Strategy, Poland is pursuing all eleven thematic objectives set out in the legal acts underlying this Policy. A hierarchy of documents was worked out to ensure more efficient implementation of the EU's ambitious goals. According to *ex-ante* evaluations, Poland managed to achieve a far-reaching compliance between the objectives defined at the level of the Europe 2020 Strategy and objectives indicated in the National Development Strategy 2020 and the integrated strategies related with it.

One general conclusion resulting from the analysis of the alignment of the Cohesion Policy with the successive EU economic strategies is that the earmarking instrument provides a useful tool to support concentration efforts relating to spending funds for the Cohesion Policy. This seems to be a very important observation taking into account that the majority of the Cohesion Policy funds (since 2014 – all funds for this policy) are dedicated to the EU strategies promoting the improvement of competitiveness, broadly understood, of the EU economy and the creation of new jobs.

At the same time, one cannot refrain from making the observation that the whole process of planning the national strategies to guide implementation of the

EU strategic objectives, and later reporting on the progress of implementation of national strategies and their alignment with the EU strategies, is extremely complex, time consuming and bureaucratic. It encompasses large numbers of documents that have to be prepared by Member States, and detailed rules that have to be followed at each stage of the programming, implementation, monitoring, evaluation and reporting on the Cohesion Policy. It also requires massive administrative capacity.

In the 2014–2020 period, Member States and regions have to concentrate the EU financial support on a limited number of policy areas which contribute to the pursuit of Europe 2020 Strategy in order to maximise the impact of the EU investment. This is a response to the experience of earlier periods which showed that the impact of the EU funding was more limited than expected due to resources being too widely spread out. However, such an approach does not take into account the specific development needs of particular regions (Mendez et al., 2010, p. 63). So it seems, there should be the possibility for a more flexible approach to the strategy's priorities, allowing the Member States and the European Commission to negotiate their modification.

New conditionality provisions have also been introduced in the EU. They aim at ensuring that the necessary framework conditions for effective investment are in place before investment starts (*ex-ante* conditionality) and that the impact of cohesion funding is not undermined by an unsound fiscal and macroeconomic framework (macroeconomic conditionality). Some aspects of the conditionality have been criticised by both Member States and experts as being too strict and restrictive for beneficiaries. In particular, fears have been expressed that the macroeconomic conditionality may punish regions for the failures and mistakes of their central governments.

In the years 2014–2020, implementation of the Cohesion Policy is taking place in a situation in which budgetary consolidation is required in almost all EU Member States. This imposes challenges on the Member States and their regions to find the funds required for the co-financing of the Cohesion Policy.

The new policy framework establishes a close link between European Structural and Investment (ESI) Funds and the European Semester. Relevant country-specific recommendations (CSRs), prepared in the framework of the European Semester, i.e. recommendations on structural changes countries should implement and on ESI Funds' support, had to be taken into account by Member States and regions in their preparation of the 2014–2020 programmes. Annual CSRs are a kind of guidance for Member States to implement Cohesion Policy programmes in line with the agreed-upon priorities of the Europe 2020 Strategy.

At the same time, the present programming period requires strong governance and coordination at the national and regional levels to ensure consistency between the

programmes supporting the Europe 2020 Strategy and the country-specific recommendations, as well as to avoid both overlaps and gaps in expenditures (European Commission, 2014c, p. 265).

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# **Instruments of Regional Innovation Policy Supporting Improvements in the Competitive Position of Polish Enterprises in 2007–2013**

## **Abstract**

The objective of this paper is to identify the instruments of innovation policy supporting improvements in the competitive positions of enterprises which were implemented by the regions in Poland in 2007–2013. There was a wide spectrum of such instruments implemented in Polish regions under the Regional Operational Programmes. Their design was to a large extent the result of the Regional Innovation Strategies developed by Polish regions in the first decade of 21<sup>st</sup> century. Nearly all instruments were designed as non-refundable grants.

This analysis shows that, from the theoretical viewpoint, there is one element missing in the design of regional policy instruments supporting innovation and competitiveness. This is a tool for coordinating the different sets of policy instruments, allowing for maintenance of the right balance between support for competitiveness and support for cohesion.

## **1. Introduction**

Innovation policy as a factor that shapes competitiveness at the national, regional and corporate levels has been analysed in many studies in the economic and management literature (see, for instance: Asheim et al., 2003; Töttdling and Trippel 2005; Castellacci, 2008; Buesa et al., 2010; OECD, 2011; Di Bello and Andreta, 2012; Weresa, 2014). However, there are many different policy instruments addressing the competitiveness of enterprises, and the instruments constitute a policy mix that is both country-specific and region-specific. The choice of policy instruments is determined by many different contextual factors, such as the level of a country's or region's development, current innovation capacity, availability of human resources,

etc. Therefore, in order to better understand the way support schemes can boost the competitiveness of local businesses, they should be studied on a case by case basis, including the broader perspective of the entire business environment.

The objective of this paper is to identify the instruments of innovation policy supporting improvements in the competitive position of enterprises that were implemented by regions in Poland in 2007–2013. This analysis will contribute to the current academic discussion concerning the creation of synergies between innovation strategies at the regional level and policy instruments that have been used to achieve the goals set in these strategies. Furthermore, it allows for drawing some tentative conclusions regarding ways of overcoming the structural weaknesses of regional innovation systems in Poland.

The paper is structured as follows. The second section, which follows this introduction, is aimed at examining the interface between innovation and competitiveness of enterprises. These theoretical considerations constitute the basis for policy implications. In the third section policy framework for regional innovation and competitiveness in Poland is discussed. The fourth section is devoted to a comparative analysis of various policy instruments that were designed and used in the period of 2007–2013 to enhance the competitiveness of enterprises in selected regions in Poland. The last section summarises the main findings and offers conclusions.

## **2. Achieving Competitiveness Through Innovations: A Literature Review**

Why and how is it possible to develop and use innovation policy to support enterprises' competitiveness? These questions can be answered using the theoretical approaches to the relationship between innovation and competitiveness of industries and enterprises. A literature review allows for the formulation of some policy implications.

How do economic theories explain the impact of innovation on competitiveness? At the beginning it should be pointed out that the concept of competitiveness is very complex (Cantwell, 2005; Misala, 2014), but the definition of competitiveness usually underlines productivity and its changes over time as the most important feature of competitiveness at the national, regional and corporate levels. The relationship between innovation and competitiveness has been studied from many different perspectives, and one can distinguish two main strands in the economic literature. The first is focused on the research and development (R&D) spillovers approach, and the second is grounded in evolutionary economics (Castellacci, 2008, p. 984).

The assumption that R&D and knowledge spillovers can be regarded as competitiveness drivers originates from innovation-based growth models, the so-called 'new' growth theory (see, for instance: Romer, 1990; Agnion and Howitt, 1992, 2009). These models assume that knowledge, having the characteristics of a public good, creates externalities, which arise from learning, observations and interactions. These spillovers increase returns and contribute to endogenous growth (Griliches, 1992). Such effects mean real benefits, with corresponding productivity increase in individual countries, industries or enterprises (Meister and Verspagen, 2006, p. 3). Therefore, the 'new' growth theory provides a conceptual framework for empirical explorations regarding the relationships between R&D, innovation, competitiveness and growth. The focus on R&D activities, which characterises this approach to innovation and competitiveness relationships, also has implications regarding policy rationale. This approach implies that innovation policy should correct failures in the knowledge market by introducing incentives that stimulate an increase of private R&D. As a result of such policy rationale the following policy objectives can be formulated (Castellacci, 2008, p. 996):

- Focusing on increases in the size of the R&D sector,
- Upgrading comparative advantages in trade,
- Supporting regional specialisation and the development of clusters.

Another strand of economic literature, i.e. evolutionary economics, regards innovation as a phenomenon dependent on technological paradigms, which are industry-specific and shaped by many different contextual factors (Castellacci, 2008, p. 989) (Figure 1). As Castellacci (2008) noted, they are based on a variety of theoretical concepts, such as the technology-gap hypothesis (Posner, 1961), home market hypothesis, vertical linkages and inter-sectoral knowledge diffusion (see, for instance, Lundvall, 1992; Fagerberg, 1995) and the co-evolution of national, regional and sectoral systems of innovations (see, for instance: Nelson and Rosenberg, 1993; Breschi and Malerba, 1997; Cooke, 2001; Weresa, 2012).<sup>1</sup>

These theoretical concepts also have some implications for designing innovation policy. As the focus is on innovation systems and their functioning at different levels (national, regional, technological), policies supporting innovation and competitiveness address the learning capabilities of all elements of innovation systems, as well as interactions among them. As far as knowledge creation is concerned, economic policy tools are designed to strengthen sectoral innovative activity, develop vertical linkages, and facilitate intersectoral knowledge diffusion. Moreover, some coordination is required of the policies introduced at different levels. Therefore, the main policy

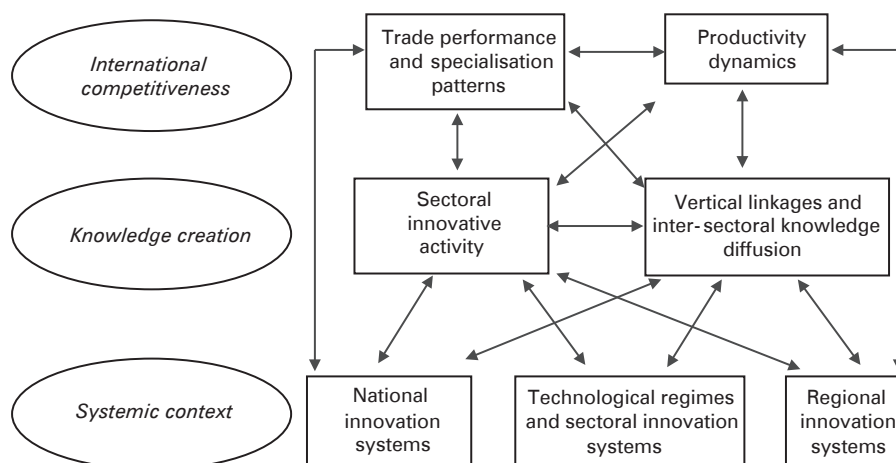
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<sup>1</sup> For an overview of these concepts, see Castellacci (2008, pp. 989–995).

objectives based on evolutionary approaches to innovation are concentrated around three main areas (Castellacci, 2008, pp. 999–1001):

- increasing innovative activities at the sectoral level, thus enhancing the technological and absorptive capacities of industries and supporting trade performance;
- supporting linkages within sectors and interactions and cooperation among producers of new technologies, suppliers and users;
- coordinating different sets of policies implemented at different levels (national, regional etc.), keeping the proper balance between support for competitiveness and support for cohesion.

**Figure 1. Innovation and competitiveness seen from the perspective of evolutionary economics**



Source: Castellacci (2008, p. 990).

Summing up the discussion about the relationship between innovation and competitiveness, it should be pointed out that competitiveness, meaning sustainable productivity growth, requires continuous progress, which can be achieved mainly through introducing innovations. Productivity growth at the firm level can be connected with quality improvements, modernisation of products and processes, and the introduction of new technologies (Cantwell, 2005). Entrepreneurs introduce new ideas to the market, which enable them to gain competitive advantages on both the national as well as the international markets. Therefore, in the long run creating and implementing innovation to the market is regarded as the key factor that contributes to improvements of the competitive position of enterprises (Atzei et al., 1999, p. 745; Cooke, 2003, p. 17; Porter, 2006, pp. 219–220; Swann, 2009, pp. 248–249).

Hence policy interventions that support the innovation of enterprises at the same time address competitiveness. However, there are two approaches to explaining the interrelationship between innovation and competitiveness, each of which has different policy implications. As a result, the task for empirical research is to identify and compare how these two approaches are applied in practice. This issue, concerning Poland and its innovation policy, is examined in the following sections of this paper.

### **3. Regional Innovation Strategies (RIS) in Poland: How Do They Address Innovation and Competitiveness at the Enterprise Level?**

Poland's accession to the European Union in 2004 opened the door for significant support of innovation and competitiveness through the structural funds, aimed at achieving social and economic cohesion among the regions in the EU. In order to enhance innovation and thus improve the competitiveness of Polish regions, the process of drafting and implementing regional innovation strategies was initiated. A strong impetus to work on regional innovation strategies was given by the EU Framework Programmes, which provided funds to design such strategies, and by the end of 2004 the first phase was completed (Boeckhout, 2004, p. 9). The EU regional policy for the period of 2007–2013 established a common framework for the Member States to shape their regional strategies, with a strong focus on introducing innovation, the development of human capital, and improvements in competitiveness (European Commission, 2008, pp. 14–15).

The programmes and instruments of the EU regional policy allowed regions to choose the priority objectives that obtained financing from the EU funds. For the 2007–2013 period, all Member States and their regions prepared 'National Strategic Reference Frameworks' and worked out national and regional 'Operational Programmes'. Operational programmes that were designed at the regional level corresponded with countries' regional innovation strategies (RIS). Therefore, as a starting point of the analysis of regional policy instruments, it is worth shedding some light on the main ideas lying behind the regional innovation strategies designed and implemented in Polish regions (Table 1). Innovation strategies in Poland have a relatively large diversity in terms of both the suitability of the diagnosis and the objectives designed in response to the requirements related to innovation in the region.

On the basis of the assessments of regional innovation strategies, the regions in Poland can be divided into three groups with regard to the quality of design in their strategies and accuracy of selected priorities. The strategies of Dolnośląskie,

Łódzkie, Pomorskie, Śląskie, Wielkopolskie, Zachodniopomorskie and to some extent Małopolskie are characterised by the highest intellectual discipline, strong focus on innovation, and consistency between the diagnosis and targets (Gorzelał et al., 2006, p. 161). It seems that the same can be said about the region of Mazowieckie. In this region the strategy was prepared and approved with some delay compared to other Polish regions, i.e. in 2008, but this delay allowed the region to learn from the experiences of other regions and better adjust the strategy to local needs.

**Table 1. Areas addressed by the regional innovation strategies (RIS) in Poland – an overview**

Region/Areas addressed by RIS	Leading industries	Leading fields of science	Science's Offer for businesses	Enterprises' demand for technologies	Intraregional disparities	Social capital, education	Public administration and innovation policy	Qualitative assessments
Dolnośląskie	+	+/-	-	-	-	-	-	+/-
Kujawsko-Pomorskie	+/-	+/-	+/-	-	-	+	-	+/-
Lubelskie	-	+/-	+/-	+/-	-	+/-	-	+/-
Lubuskie	+/-	-	-	+/-	-	+	-	+/-
Łódzkie	+	+/-	+	+/-	-	-	+	+/-
Małopolskie	+	-	-	-	-	+	-	-
Mazowieckie	+/-	+/-	+	+/-	-	+	+	+/-
Opolskie	-	-	-	+/-	-	+	-	-
Podkarpackie	+/-	-	+	-	-	-	+	-
Podlaskie	+/-	-	-	+/-	+/-	+	+	-
Pomorskie	+/-	+/-	-	-	+/-	-	-	+/-
Śląskie	+	+	+	+/-	-	+/-	-	+
Świętokrzyskie	+	-	+/-	-	+/-	+/-	-	-
Warmińsko-Mazurskie	+/-	-	+/-	+/-	-	-	-	-
Wielkopolskie	-	+	+/-	+	+/-	+	-	+
Zachodniopomorskie	+	+	+	+	+/-	-	+	+

Source: Gorzelał et al. (2006, p. 160), and own additions regarding the Mazowieckie region based on [http://www.come.uw.edu.pl/stypendia/files/Mazowieckie\\_RSI.pdf](http://www.come.uw.edu.pl/stypendia/files/Mazowieckie_RSI.pdf), last accessed on 30.10.14.

In some other Polish regions, such as Kujawsko-Pomorskie, Lubuskie, Opolskie, Podkarpackie, and to some extent also Podlaskie, Świętokrzyskie and Warmińsko-Mazurskie the diagnostic parts of their innovation strategies were of lower quality, but the priorities were defined adequately to the region's strengths and weaknesses.



Two regions, namely Lubelskie and Świętokrzyskie, extended their innovation strategies too far, going beyond innovation (Gorzelał et al., 2006, p. 161).

Therefore, with regard to the accuracy of the RIS priorities in Poland it may be said that in eight out of sixteen regions the RIS provided a good basis for further actions and programmes aimed at enhancing innovation and the competitiveness of enterprises, but in the other half of Polish regions there were some gaps between the needs reflected in the diagnosis and the objectives of the strategies. However, in all regions innovation of enterprises was included among the objectives of their strategies. The next section of this paper shows how this objective has been addressed by regional policy instruments.

#### **4. Policy Instruments Supporting Regional Innovation and Competitiveness in Poland in 2007–2013**

Regional innovation policy instruments designed and implemented in support of the competitiveness of enterprises in Polish regions in 2007–2013 can be divided into three broad groups:

1. Direct support schemes aimed at enterprises;
2. Indirect support schemes aimed at R&D organisations;
3. Indirect support schemes aimed at institutions in the business environment;

It should be pointed out that nearly all instruments were provided as non-repayable grants, however some contribution from beneficiaries was almost always required. This contribution varied from 5% to more than half of the project's value, depending on the type of policy instrument and region.

The first group of measures included in particular the following instruments (for a detailed description see the Table in the annex):

- investment grants for the development of new or improved products and services;
- grants offered to enterprises for implementing all types of innovations (product, process, marketing innovations);
- grants for ICT implementation;
- investment grants related to modernisation of enterprises;
- grants for SMEs for conducting R&D (or buying R&D results) and implementing them;
- investment grants for the purchase of the equipment necessary to carry out research and development;
- investment grants in fixed and intangible assets related to creating new companies, diversification of production in existing enterprises by introducing additional

new products, or a fundamental change in the overall production process of an existing enterprise;

- grants supporting the implementation and commercialisation of innovative products and services as well as product and technology platforms;
- grants for startups to introduce innovations;
- grants for expansion to foreign markets;
- grants to SMEs' technology transfer, creating networks for collaboration.

The second group of instruments was aimed at building the capacity of universities and research organisations for collaboration with enterprises. This group of measures includes in particular (for a detailed description see the Table in the annex):

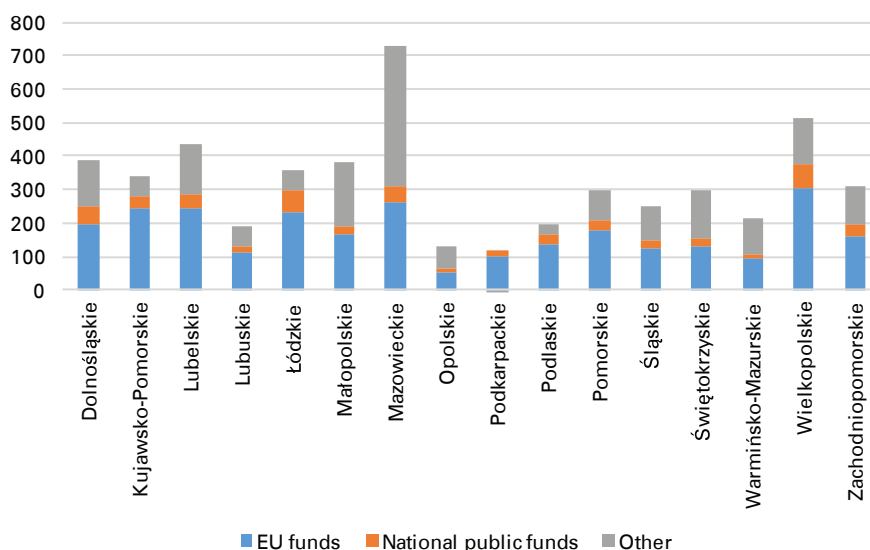
- investment grants related to construction and modernisation of scientific laboratories at universities and other R&D organisations;
- grants related to the establishment and development of research laboratories and R&D centres;
- grants for the adjustment of laboratories to the requirements of the EU Directives, especially the harmonised standards and legislation on health and safety and environmental protection;
- grants provided to universities for establishing spinoff companies;
- grants for the development of entrepreneurship initiatives at universities.

The third group of instruments was designed to support the business environment. In particular these instruments were aimed at institutions providing advice, consulting services and funds to enterprises for their innovation activity. The measures that were offered were, for instance (for a detailed description see the Table in the annex):

- grants for creating platforms for technology transfer;
- grants to business incubators and science parks, etc. for consulting services regarding the implementation of new strategies, finding new markets, etc.;
- grants related to the development of technology parks, business incubators, technology transfer offices and innovation centres;
- grants related to the development of consulting agencies and their services for SMEs;
- grants related to improvements in the quality of services offered to enterprises by local and regional institutions in the business environment;
- grants related to the establishment of innovation and knowledge transfer networks;
- co-financing the establishment and expansion of regional clusters;
- grants supporting the development of regional clusters and networks;
- grants related to creating trust funds for financing new ventures;
- providing capital for loan funds and loan guarantees operating on local and regional markets (loans, provision of guarantees).

The total budget allocated in 2007–2013 under Regional Operational Programmes for the support of innovation and competitiveness of enterprises amounted to 5.1 billion euro, of which 53% came from the EU funds, over 10% from national public funds, and the remaining 37% was supposed to come from private funds<sup>2</sup> (Figure 2). With regard to the absolute amount of money allocated to innovation and the competitiveness of enterprises in 2007–2013, the leading Polish regions were: Mazowieckie, Wielkopolskie and Lubelskie. At the other extreme, with the lowest amount of money received, were Podkarpackie, Opolskie and Lubuskie (Figure 2).

**Figure 2. Budget allocations under Regional Operational Programmes to support the innovation and competitiveness of enterprises in Polish regions in 2007–2013 (in million euro)**



Source: Author's elaboration based on 16 Regional Operational Programmes of Polish regions.

However, it is too early to assess the impact of the money spent on supporting innovation and competitiveness of enterprises in Polish regions. Why? Firstly, the available data (Figure 2) shows the allocation of funds, not the money spent in regions. Therefore, it is an approximate, not a real value, as the Regional Operational Programmes are still being implemented and many projects will not end until the

<sup>2</sup> This is the author's estimation based on the analysis of Regional Operational Programmes. It should not be treated as an exact figure as it is based on Author's subjective judgment concerning the extent to which individual policy instruments supported innovation.

end of 2015. Secondly, as has been discussed in the theoretical part of this paper, the impact of the money spent on innovation will appear with some time lag, therefore the results will be observed probably not earlier than by 2020.

## 5. Conclusions

This paper was aimed at identifying the regional instruments of innovation policy in support of the competitiveness of enterprises in Poland in 2007–2013. There was a wide spectrum of such instruments implemented in Polish regions under the Regional Operational Programmes. Their design was to a large extent a result of the Regional Innovation Strategies that were developed by Polish regions in the first decade of 21<sup>st</sup> century. It should be noted however, that nearly all instruments were designed as non-refundable grants.

The analysis of different policy instruments allows for dividing them into three broad groups. This classification is based on the target group of beneficiaries to whom the specific instruments have been addressed.

The first and the most complex group of instruments was addressed directly to enterprises, in most cases to SMEs and microenterprises. It includes direct support of R&D conducted by enterprises, grants for the development and commercialisation of new goods and services, grants for the introduction of new technologies (including ICT), and grants for the expansion to foreign markets as well as development of networks and clusters for collaboration.

The second group of instruments was addressed to universities and R&D organisations. These measures included, in particular, grants for establishing new laboratories or modernising existing ones, grants provided to universities for establishing spinoff companies, as well as grants for the development of entrepreneurship initiatives at universities.

These two groups of policy measures seem to correspond closely with the theoretical concept that implies that innovation policy should correct failures in the knowledge market by introducing incentives that stimulate an increase of private R&D, mixing it however with some elements of policy based on evolutionary approaches to innovation.

The evolutionary approach to innovation is reflected, however, in the third group of policy instruments introduced at the regional level in Poland in 2007–2013. This group of measures was addressed to intermediaries and other institutions in the business environment. The most important instruments were grants for establishing collaboration between science and business, grants for the development of advisory

services and related innovative activities of enterprises, grants supporting the development of regional clusters and networks as well as support for the development of financial instruments (e.g. trust funds) that can be later offered to enterprises for building the absorptive capacities of industries.

This analysis shows that from the theoretical viewpoint there is one element missing in the design of regional policy instruments supporting innovation and competitiveness. This is a tool coordinating the different sets of policy instruments, allowing to keep the proper balance between support for competitiveness and support for cohesion.

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## **Annex**

**Table A. Regional policy instruments enhancing innovation and competitiveness of enterprises within the framework of regional operational programmes in Poland in the period of 2007–2013 – an overview**

Region	Priority axis of the regional operational program	Action (number and title)	Examples of instruments (support schemes)	Allocated budget (million euro)		
				Total funding of which:	The EU funds	National public funds
Dolnośląskie	Improvement of the competitiveness of enterprises in Dolnośląskie	1.1. Investment in enterprises	- Grants for product and process innovations	343.54	177.86	31.60
			- Grants for the implementation of ICT			
			- Grants for creating networks for collaboration			
		1.2. Consultancy for companies and support for business environment institutions	- Grants for advisory services for SMEs to enhance usage of information technology, new products or services, as well as the expansion to the EU markets	1.77	0.75	0.13
			- Grants for consultancy service to companies in the field of R&D and innovation, Grants to SMEs to establish economic relations (trade fairs, missions)			
			- Grants and investment advisory services for intermediary organisation, including investment in infrastructure, preparation and implementation of new services for SMEs, technology transfer, etc.			
		1.4. Infrastructure to support innovation and entrepreneurship in the region	- Grants for building or modernizing innovation infrastructure, such as technology parks, business and technology incubators, technology transfer offices	43.40	19.95	19.89
			- Grants for interregional and international cooperation (seminars, conferences) for knowledge dissemination, exchange of best practices etc.			

Kujawsko-Pomorskie	Increase of competitiveness of companies	5.1. The development of organisations supporting businesses	<ul style="list-style-type: none"> <li>- Grants for the development of business support institutions, such as business incubators, fairs and exhibitions, establishing collaboration networks</li> <li>- Creation of a special fund for collaboration</li> </ul>	63.27	53.78	9.49
		5.2. Support to investment of local enterprises	<ul style="list-style-type: none"> <li>- Investment grants for new enterprises</li> <li>- Investment grants for the development of new or improved products and services (including tourism)</li> <li>- Grants for the diversification of product range and /or improvements in production process leading to the introduction of new products and services</li> </ul>	186.37	127.92	18.69
		5.3. Supporting businesses in adaptation to the requirements of environmental protection	<ul style="list-style-type: none"> <li>- Grants for implementation of technological and organisational innovations that bring improvements in observing environmental standards</li> </ul>	8.99	5.14	0.86
		5.4. Strengthening regional capacity for research and technology development	<ul style="list-style-type: none"> <li>- Grants for technology transfer</li> <li>- Grants for commercialisation of new products</li> <li>- Grants for spinoff companies</li> </ul>	51.44	34.26	6.87
		5.5. Promotion and development of branded products	<ul style="list-style-type: none"> <li>- Grants for marketing innovations</li> <li>- Grants for the expansion to foreign markets</li> </ul>	28.94	21.09	3.26
Lubelskie	Entrepreneurship and innovation	1.1. Grants for new microenterprises	<ul style="list-style-type: none"> <li>- Grants for startups to introduce innovations</li> <li>- Grants for product diversification or the modernisations of production processes</li> </ul>	43.93	21.93	3.87
		1.2. Investment grants for microenterprises	<ul style="list-style-type: none"> <li>- Grants for the development of new products, services and processes (machinery and equipment usage of ICT, undertaking new activities etc.)</li> </ul>	135.78	69.18	12.21

Region	Priority axis of the regional operational program	Action (number and title)	Examples of instruments (support schemes)	Allocated budget (million euro)		
				Total funding of which:	The EU funds	National public funds
		1.3. Investment grants for SMEs	- Grants to SMEs for the development of new products, services and processes (machinery and equipment usage of ICT, undertaking new activities etc.)	175.68	103.10	18.19
		1.6. Research and new technologies in strategic areas	- Grants to SMEs technology transfer, creating networks for collaboration - Grants for implementation of innovations, including development of spinoffs	8.57	3.43	0.61
		1.7. Increasing the competitiveness of enterprises through consultancy	- Grants to SMEs enabling an access to external expertise regarding innovatory activity, creating networks for collaboration, expansion to new markets, etc.	6.30	1.50	0.27
	Economic infrastructure	2.1. Loan and guarantee instruments for enterprises	- Preferential loans provided by the special fund created under this policy action - Providing financial guarantees for SMEs developing innovations or modernizing production processes	43.12	34.05	1.87
		2.2. Regional R&D infrastructure	- Grants for commercialisation of research results	2.23	0.12	0.02
		2.3. Support for business environment institutions and knowledge transfer	- Grants for technology transfer carried out through technology transfer offices, - Grants for the development of networks and clusters, - Grants for the development of business incubators, technology parks etc.	18.44	11.99	2.12
Lubuskie	Stimulating investment in enterprises and strengthening innovation potential	2.1. Microenterprises	- Grants for startups to introduce innovations - Grants for product diversification or the modernisations of production processes	35.77	18.51	4.38

				73.26	44.98	6.62
	2.2. Improving the competitiveness of small and medium-sized enterprises through investments	<ul style="list-style-type: none"> <li>- Investment grants for the development of new or improved products and services (including tourism)</li> <li>- Grants for the diversification of product range and /or improvements in production process leading to the introduction of new products and services</li> <li>- Grants for buying and implementing new technology, including ICT</li> </ul>	<ul style="list-style-type: none"> <li>- Grants to SMEs enabling an access to external expertise regarding innovative activity, creating networks for collaboration, expansion to new markets, etc.</li> <li>- Grants for participation of SMEs in trade missions, exhibitions etc.</li> </ul>	1.23	0.99	0.65
	2.3. Improving the competitiveness of enterprises through advice and support to marketing activities					
	2.4. Transfer of research results, technology and innovation from science to businesses			58.23	37.40	3.27
	2.5. Development of regional and local business environment institutions					
	III.2. Improving innovation and competitiveness of enterprises					
				21.68	10.86	4.97
				226.76	149.56	24.23
Łódzkie	Economy, innovation, entrepreneurship					

Region	Priority axis of the regional operational program	Action (number and title)	Examples of instruments (support schemes)	Allocated budget (million euro)		
				Total funding of which:	The EU funds	National public funds
Małopolskie	Economy of Regional Opportunities	III.3. Development of R&D in enterprises	- Grants related to the purchase and implementation of results of R&D,	27.45	17.62	8.76
			- Grants related to the purchase of fixed assets necessary to conduct R&D in enterprises or to implement new products and processes			
		III.4. Development of business support organisations	- Grants for creating platforms for technology transfer,	76.58	51.31	18.35
			- Grants to business incubators and science parks, etc. for consulting services regarding implementation of new strategies, finding new markets, etc.			
III.6. Development of microenterprises and SMEs	- Grants related to creating trust funds financing new ventures	29.08	15.41	11.33		
	- Grants related to modernizing production processes and /or introducing new products,					
2.1. Developing and enhancing competitiveness of enterprises	- Grants related to promotion of new products and services (fairs, exhibitions etc.)	359.27	153.14	27.02		
	- Investment grants related to modernizing of enterprises,					
2.2. Support to commercialisation of scientific research	- Grants related to development of collaboration, clusters, networks	24.88	10.57	1.87		
	- Grants related to the development of business environment organisations					
			- Investment grants related to R&D infrastructure			
			- Grants related to the purchase of the results of experimental research			
			- Grants related to the implementation of R&D results			

Mazowieckie	Creating conditions for the development of innovation potential and entrepreneurship in Mazovia	1.2. Building a network between science and business	- Grants related to conducting R&D (or buying R&D results) and implementing them	22.64	6.52	1.12
		1.4. Strengthening the institutions of the business environment	- Grants related to the development of technology parks - Grants related to the development consulting agencies and their services for SMEs - Providing capital for loan funds and loan guarantees operating on local and regional markets (loans, providing guarantees)	161.28	52.43	11.81
		1.5. Development of entrepreneurship	- Grants related to investment in tangible and intangible assets related to creation of new enterprises, development and diversification of existing enterprises, implementation of key changes in the enterprises	478.40	170.19	29.21
		1.6. Support regional collaboration	- Grants related to creation and development of regional industry clusters - Grants for establishment and management of the Trust Fund, providing loans, interest subsidies, guarantees for the implementation and commercialisation of innovative technologies and products in industry clusters (under Initiative JESSICA)	21.60	17.91	2.94
	Accelerating the e-Development in Mazovia region	1.8. Support for enterprises in the implementation of best available techniques	- Grants for SMEs related to the introduction of environmental friendly technologies (including machinery and equipment) - adjustment to environmental standards	21.33	5.88	1.45
		2.3. Information and Communication Technologies for SMEs	- Grants supporting SMEs in the implementation and effective use of ICT and the creation of new solutions and e-services	23.64	8.31	1.39

Region	Priority axis of the regional operational program	Action (number and title)	Examples of instruments (support schemes)	Allocated budget (million euro)		
				Total funding of which:	The EU funds	National public funds
Opolskie	Strengthening economic attractiveness of the region	1.3. Innovation, research, technological development	<ul style="list-style-type: none"> <li>- Grants related to investment in tangible and intangible assets related to creation of new enterprises, development and diversifications of existing enterprises, implementation of key changes in the enterprises</li> </ul>	127.87	54.35	9.59
Podkarpackie	Competitive and Innovative economy	1.2. Institutions of business environment	<ul style="list-style-type: none"> <li>- Grants supporting the improvement of the quality of existing services for SMEs and development of new services,</li> <li>- Grants supporting participation in local and regional networks of cooperation,</li> <li>- Investment grants supporting functioning of the business environment institutions, or the network of institutions providing specialized services to businesses,</li> <li>- Grants related to innovation for SMEs</li> <li>- Grants related to promotion of business environment institutions and business support institutions, promotion campaigns and information activities</li> </ul>	6.07	4.51	1.62
		1.3. Regional Innovation System	<ul style="list-style-type: none"> <li>- Grants supporting the creation or development of scientific and technological, industrial parks, technology incubators, university incubators, innovation centres, centres for the transfer of knowledge transfer centres of modern manufacturing technology, innovative industrial clusters, laboratories providing innovative services for enterprises, etc.</li> <li>- Investment grants supporting the expansion or creation of research and development facilities for projects consistent with the RS</li> </ul>	114.66	97.27	17.39



				<ul style="list-style-type: none"> <li>- Grants to conduct research and development by scientific institutions and companies for the development and commercialisation of product innovation, service or organisation</li> <li>- Grants for the development of networks between businesses and science in the region</li> </ul>				
Podlaskie	Increasing innovation and supporting entrepreneurship in the region	1.1. Creating conditions for the development of innovation		<ul style="list-style-type: none"> <li>- Grants for the development of technology parks, incubators, etc. including purchase and installation of specialized equipment</li> <li>- Grants related to establishing and developing of research laboratories, research and development centres</li> </ul>	25.41	10.99	10.35	
		1.3. Support for business environment institutions		<ul style="list-style-type: none"> <li>- Grants related to the creation and support to new loan funds, guarantee and guarantee funds</li> </ul>	40.62	40.00	0	
		1.4. Support for business investment		<ul style="list-style-type: none"> <li>- Investment grants in fixed assets and intangible assets related to: a) creating a new company b) diversification of production of existing enterprises by introducing additional new products or a fundamental change in the overall production process of an existing enterprise</li> </ul>	130.43	82.98	21.08	
Pomorskie	Development and innovation in SMEs	Microenterprises and SMEs		<ul style="list-style-type: none"> <li>- Grants related to the implementation of fundamental changes to the manufacturing process or a change in the way delivering services</li> <li>- Grants allowing enterprises to adapt to national and European standards (certification of products and services)</li> <li>- Grants for the implementation ICT</li> </ul>	104.32	48.78	1.97	
		1.2. Innovative solutions in SMEs		<ul style="list-style-type: none"> <li>- Grants related to R&amp;D activity of SMEs</li> <li>- Grants supporting the implementation and commercialisation of innovative products and services as well as product and technology platforms</li> </ul>	50.15	21.42	0.17	

Region	Priority axis of the regional operational program	Action (number and title)	Examples of instruments (support schemes)	Allocated budget (million euro)			
				Total funding of which:	The EU funds	National public funds	
		1.3. Non grant financial instruments for SMEs	- Grants for the establishment and management of Trust Fund that introduces loans, guarantees etc. supporting SMEs (implemented in the form of the JEREMIE Initiative)	68.76	51.60	17.20	
			1.4. Entrepreneurship support system	- Grants related to creation / improvement and pilot implementation of new financial services for SMEs and their implementation	9.90	7.43	2.48
				- Grants for delivering to SMEs specialized advisory services and information services			
Śląskie	Research and technological development, innovation and entrepreneurship	1.5. Regional network for transfer of innovative solutions	- Grants for the development of technology parks, incubators, etc. including preparation of necessary documentation and purchase and installation of specialized equipment	61.60	46.20	12.44	
			- Grants related to the establishment of innovation and knowledge transfer networks				
			- Grants for the development of entrepreneurship initiatives at universities				
		1.2. Microenterprises and SMEs	- Grants for the expansion of existing businesses, leading to the introduction of new or improved products / services	209.52	91.79	16.20	
			- Grants for the modernisation activities in enterprises leading to the introduction of new or improved products / services				
			- Grants for the application and use of ICT and the development of e-business				
			- Grants for process innovation				
			- Grants for commercialisation of innovations				
			- Grants for consulting services related to implementation of innovation				



Region	Priority axis of the regional operational program	Action (number and title)	Examples of instruments (support schemes)	Allocated budget (million euro)		
				Total funding of which:	The EU funds	National public funds
Warmińsko-Mazurskie	Entrepreneurship	1.1. Increasing competitiveness of enterprises	<ul style="list-style-type: none"> <li>- Grants supporting R&amp;D infrastructure</li> <li>- Grants supporting the development of technology parks and incubators</li> <li>- Grants supporting science- business cooperation</li> <li>- Grants for the development of regional clusters</li> <li>- Grants supporting the development and implementation of environment-friendly products and processes</li> <li>- Grants supporting innovations in large enterprises</li> <li>- Investment grants supporting innovations and introduction of new technologies in microenterprises and SMEs</li> <li>- Grants supporting joint activities of science organisations and businesses</li> </ul>	209.98	89.66	15.85
			<ul style="list-style-type: none"> <li>- Investment grants supporting the development and modernisation of regional infrastructure of institutions and their networks that provide advisory and information services for companies (adaptation of premises and purchase of equipment necessary to improve the standard of services for entrepreneurs)</li> </ul>	2.66	2.07	0.37
Wielkopolskie	Competitiveness of enterprises	1.1. Development of microenterprises	<ul style="list-style-type: none"> <li>- Investment grants supporting setting up new microenterprises or diversification of existing ones</li> <li>- Grants supporting the purchase of intellectual property (patents, licensees, know-how etc.) by microenterprises</li> <li>- Grants for introducing innovations (product, process) by microenterprises</li> <li>- Grants supporting expansion to new markets by microenterprises</li> </ul>	16.10	8.21	1.45

				239.63	122.21	21.57
	1.2. Support to the development of SMEs	<ul style="list-style-type: none"> <li>- Investment grants supporting setting up new small and medium-size enterprises or diversification of existing ones</li> <li>- Grants supporting the purchase of intellectual property (patents, licensees, know-how etc.) by SMEs</li> <li>- Grants for introducing innovations (product, process) by SMEs</li> <li>- Grants supporting expansion to new markets by SMEs</li> </ul>	<ul style="list-style-type: none"> <li>- Grants for the establishment and management of Trust Fund that introduces loans, guarantees etc. supporting SMEs (implemented in the form of the JEREMIE Initiative)</li> </ul>	120.00	90.00	30.00
	1.3. Development of financial schemes supporting entrepreneurship					
	1.4. Support for projects related to the Regional Innovation Strategy		<ul style="list-style-type: none"> <li>- Grants supporting the creation of new and development of existing business environment institutions and intermediaries between science and business (science parks, business incubators technology transfer centres, etc.)</li> <li>- Investment grants for the purchase of the equipment necessary to carry out research and development</li> </ul>	139.99	85.43	17.60
	1.6. Development of networks and collaboration		<ul style="list-style-type: none"> <li>- Grants supporting the development of regional clusters and networks</li> </ul>	6.70	4.02	0
Zachodniopomorskie	Economy-innovation-technology	1.1. Increasing the competitiveness of enterprises through innovative investments	<ul style="list-style-type: none"> <li>- Investment grants supporting setting up new enterprises or diversification of existing ones</li> <li>- Grants for introducing product or process innovations</li> <li>- Investment grants for innovative projects</li> </ul>	215.45	119.74	9.52

Region	Priority axis of the regional operational program	Action (number and title)	Examples of instruments (support schemes)	Allocated budget (million euro)		
				Total funding of which:	The EU funds	National public funds
		1.2. Innovations and technology transfer	<ul style="list-style-type: none"> <li>Grants supporting the creation of new and development of existing business environment institutions and intermediaries between science and business</li> <li>Investment grants for the development of research and development infrastructure</li> </ul>	82.81	32.83	30.14
		1.3. Advanced services supporting enterprises	<ul style="list-style-type: none"> <li>Grants for advisory services offered to enterprises related to the use of advanced information technology in the enterprise; enterprise development strategy; obtaining external funding for business development; investment planning and activity</li> </ul>	2.09	1.00	0.43
<b>TOTAL funds allocated in 16 Polish regions (million Euro)</b>				<b>5,148.37</b>	<b>2,733.8</b>	<b>555.62</b>

Source: Author's elaboration based on 16 Regional Operational Programs of Polish regions, i.e.:

- Szczegółowy opis osi priorytetowej „Przedsiębiorczość Regionalnego Programu Operacyjnego Warmia i Mazury na lata 2007–2013, Olsztyn, wrzesień 2014, [http://rpo.warmia.mazury.pl/index.php?page=dzial&dzial\\_id=98](http://rpo.warmia.mazury.pl/index.php?page=dzial&dzial_id=98), last accessed on 21.11.2014.
- Szczegółowy opis osi priorytetowych Regionalnego Programu Operacyjnego Województwa Opolskiego na lata 2007–2013, wersja nr 64, Zarząd Województwa Opolskiego, Instytucja Zarządzająca RPO WO 2007–2013, Opole, listopad 2014, <http://rpo.opolskie.pl/rpo/index.php?id=2374>, last accessed on 20.11.2014.
- Szczegółowy opis osi priorytetowych regionalnego programu operacyjnego województwa łódzkiego na lata 2007–2013, Łódź wrzesień 2014, [www.rpo.lodzkie.pl](http://www.rpo.lodzkie.pl), last accessed on 10.11.2014.
- Szczegółowy opis priorytetów Regionalnego Programu Operacyjnego Województwa Świętokrzyskiego na lata 2007–2013, Zarząd Województwa Świętokrzyskiego, Kielce, wrzesień 2011, [http://www.rpo-swietokrzyskie.pl/data/Pliki/1214\\_Uszczegolowienie\\_RPO\\_wrzesien\\_2011.pdf](http://www.rpo-swietokrzyskie.pl/data/Pliki/1214_Uszczegolowienie_RPO_wrzesien_2011.pdf), last accessed on 10.11.2014.
- Szczegółowy opis priorytetów Regionalnego Programu Operacyjnego Województwa Śląskiego na lata 2007–2013, Zarząd Województwa Śląskiego, <http://rpo.slaskie.pl/zalaczniki/2014/10/31/1414759078.pdf>, Katowice, październik 2014, last accessed on 19.11.2014.
- Szczegółowy opis priorytetów Regionalnego Programu Operacyjnego Województwa Pomorskiego na lata 2007–2013, Zarząd Województwa Pomorskiego, Gdańsk, październik 2014, [http://dpr.pomorskie.eu/res/dpr/dokumenty/urpo/urpo\\_16\\_10\\_2014/urpo\\_16\\_10\\_14.pdf](http://dpr.pomorskie.eu/res/dpr/dokumenty/urpo/urpo_16_10_2014/urpo_16_10_14.pdf), last accessed on 19.11.2014
- Szczegółowy opis priorytetów Regionalnego Programu Operacyjnego Województwa Podlaskiego na lata 2007–2013, Zarząd Województwa Podlaskiego, Białystok, marzec 2012, [http://www.rpomp.wrotaopodlasia.pl/private/upload/tinyMCE/file/szop13\\_03\\_2012.pdf](http://www.rpomp.wrotaopodlasia.pl/private/upload/tinyMCE/file/szop13_03_2012.pdf), last accessed on 20.11.2014.

- Szczegółowy opis priorytetów Regionalnego Programu Operacyjnego Województwa Podkarpackiego na lata 2007–2013, Zarząd Województwa Podkarpackiego, kwiecień 2014. [http://www.rpo.podkarpackie.pl/pliki/file/Dokumenty%20Programowe/szczegolowe\\_opisy\\_umieszczane\\_od\\_sierpnia\\_2011/2014\\_04\\_15\\_tj\\_zak-tual\\_urpo\\_wp.pdf](http://www.rpo.podkarpackie.pl/pliki/file/Dokumenty%20Programowe/szczegolowe_opisy_umieszczane_od_sierpnia_2011/2014_04_15_tj_zak-tual_urpo_wp.pdf), last accessed on 19.11.2014.
- Szczegółowy opis priorytetów Regionalnego Programu Operacyjnego Województwa Mazowieckiego 2007–2013 (uszczegółowienie RPO WM), Zarząd Województwa Mazowieckiego Warszawa, sierpień 2014, <http://rpo.mazowia.eu/szczegolowy-opis-priorytetow-rpo-wm-2007-2013/aktualny-szczegolowy-opis-priorytetow-rpo-wm-2007-2013.html>, last accessed on 15.11.2014.
- Uszczegółowienie Lubuskiego Regionalnego Programu Operacyjnego na lata 2007–2013. Szczegółowy opis osi priorytetowych, Departament Regionalnego Programu Operacyjnego Urząd Marszałkowski Województwa Lubuskiego, *Zielona Góra, październik 2014*, <http://www.lpbo.lubuskie.pl>, last accessed on 12.11.2014.
- Uszczegółowienie Małopolskiego Regionalnego Programu Operacyjnego na lata 2007–2013, Zarząd Województwa Małopolskiego, Kraków, październik 2014, <http://www.fundusze.malopolska.pl/mrpo/Documents/dokumenty-programowe/uszczegolowienie/UMRPO-16102014.pdf>, last accessed on 10.11.2014.
- Uszczegółowienie Regionalnego Programu Operacyjnego Województwa Zachodniopomorskiego na lata 2007–2013. Szczecin, wrzesień 2014, [http://www.rpo.wzp.pl/rpo/uszczegolowienie\\_rpo/p-r-m-a-24029/uszczegolowienie\\_rpo.htm](http://www.rpo.wzp.pl/rpo/uszczegolowienie_rpo/p-r-m-a-24029/uszczegolowienie_rpo.htm), last accessed on 20.11.2014.
- Wielkopolski Regionalny Program Operacyjny. Szczegółowy opis priorytetów programu operacyjnego, Zarząd Województwa Wielkopolskiego, Poznań grudzień 2009, <http://www.wrpo.wielkopolskie.pl/index.php/wrpo-informacje/uszczegolowienie-wrpo>, last accessed on 20.10.2014.





# **Effectiveness of Support Instruments for Polish Entrepreneurs Within the EU Human Capital Development Policy in the Years 2007–2013**

## **Abstract**

This paper presents the forms and effects of support granted to entrepreneurs at the regional level as part of the Human Capital Operational Programme (HCOP) in the years 2007–2013. Despite the large financial investment and support granted to many institutional and individual beneficiaries, the competitiveness of Polish companies did not increase significantly in the period of time under study. The analysis examines the results of the implementation of the Programme and compares them against competitiveness and innovativeness data concerning Polish enterprises for the same period of time. Moreover, the study indicates a number of causes that may have led to the fact that HCOP activities did not translate into improved labour market flexibility and increased competitiveness of Polish companies in the years 2007–2013.

## **1. Introduction**

Official data from the European Commission indicates that nearly 244,000 enterprises and over 1.3 million employees (280,000 of whom were workers with low qualifications) benefited from the financial support from the EU's Human Capital Operational Programme (HCOP, further referred to also as the Programme).<sup>1</sup> A comprehensive and thorough evaluation of the programme cannot, however, focus only on the nominal result indicators that refer to the number of implemented training courses, signed agreements or expended funds. It must also pose the question about

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<sup>1</sup> [http://www.efs.gov.pl/efekty/Strony/Adaptacyjnosc\\_przedsiębiorstw\\_i\\_ich\\_pracowników.aspx](http://www.efs.gov.pl/efekty/Strony/Adaptacyjnosc_przedsiębiorstw_i_ich_pracowników.aspx), last accessed on 14.10.2014.

the effects of the endeavours for the Polish economy (particularly in the context of the programme's goal, i.e. strengthening social and economic cohesion of the Community achieved through levelling the disproportions between the regions (Council Regulation (EC), 2006). The cohesion goal outlined by the EC goes beyond the multiplier effect (Allard et al., 2008), associated with an intensive development of the training and consulting industry and the transfer of over PLN 50 billion to Poland.

The aim of this article is to present the instruments, forms and effects of support granted to beneficiaries within the framework of the HCOP and to compare these against the body of data that pertain to the competitiveness of the Polish economy. The comparison is performed in order to evaluate the effectiveness of the forms of intervention described above.

This study focuses on an analysis of the character and effects of support granted to employers and their employees, whereas support for the unemployed is beyond the scope of the study.

## 2. Human Capital Operational Programme 2007–2013

The Human Capital Operational Programme was one of six operational programmes (including Technical Assistance Operational Programme) implemented in Poland during the programming period 2007–2013. Two of these six programmes directly addressed the problems of the innovation and competitiveness of the Polish economy. First and foremost this was the Operational Programme Innovative Economy, which was entirely dedicated to enhancing the innovation level and competitiveness of the Polish economy. The other Programme which was aimed to make the Polish economy more innovative and competitive, was the HCOP, as it was aimed at raising the competitiveness and the innovation level of the Polish workforce.

The idea behind the HCOP 2007–2013 was to transform the Polish human capital according to the conclusions included in the Lisbon Strategy which, among others, put a strong emphasis on the information society and acknowledged the *significant role played by research and development in generating economic growth, employment and social cohesion*.<sup>2</sup>

The Programme was accepted in its final version by the European Commission at the end of September 2007. This one year delay (the Programme was intended

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<sup>2</sup> In order to find out more about the Lisbon Strategy, please refer to the chapter 2 of this book: Alignment of the Cohesion Policy in Poland to Objectives and Principles of the EU Economic Strategies (the Lisbon and Europe 2020 Strategies), by E. Kawecka-Wyrzykowska.

to be implemented from the very beginning of 2007) did not cause any serious disturbances in the European funds' distribution in Poland as, according to the N+2 rule, Poland was still able to spend money allocated for the previous programming period, i.e. 2004–2006.

The Programme's main goal was defined as growth in employment and social cohesion through achieving the following six strategic goals (Program Operacyjny Kapitał Ludzki, Narodowe Strategiczne Ramy Odniesienia 2007–2013):

- a) Improving the level of professional activity and the ability to find employment by persons who are unemployed or professionally passive;
- b) Reducing areas of social exclusion;
- c) Enhancing the adaptability of employees and enterprises to changes in the economy;
- d) Promotion of education in the society at all education levels, combined with improving the quality of education services and ensuring that they more effectively address the needs of the knowledge-based economy;
- e) Enhancing the potential of public administration to develop policies and deliver high quality services, as well as strengthening partnership mechanisms;
- f) Increasing territorial cohesion.

In order to ensure meeting the abovementioned objectives, the Programme was divided into ten Priorities, which denoted ten areas of intervention supported by the Programme:

Priority 1 – Employment and social integration;

Priority 2 – Development of human resources and business adaptation potential and improvement of workers' health;

Priority 3 – High quality of the education system;

Priority 4 – Higher education and science;

Priority 5 – Good governance;

Priority 6 – Labour market for all;

Priority 7 – Promotion of social integration;

Priority 8 – Regional human resources for the economy;

Priority 9 – Improvement of education and skills in the regions;

Priority 10 – Technical Assistance.

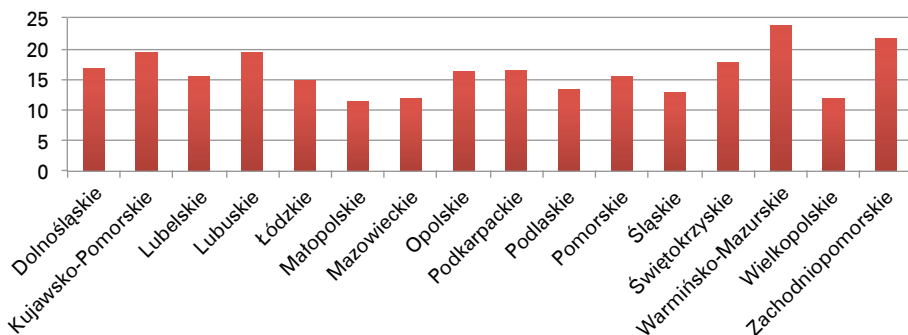
The initial assumption was that Priorities 1–5 would be implemented on the regional level, while Priorities 6–9 on the central level. The tenth Priority, Technical Assistance, was created in order to ensure funding for the operational coordination of the Programme itself – its promotion, management and efficient implementation. As far as the financing of the HCOP was concerned, it was unequally divided between Poland and the European Commission, as the major funding source was

the European Social Fund (85%) while the state and regional budgets were supposed to cover only 15% of the overall financial allocation, which was initially estimated at 11.4 billion euro.

At the end of 2006 one of the most visible problems in Polish economy, which was supposed to be solved by the Programme, was the high unemployment rate, reaching on average up to 16%. Moreover, a substantial differentiation in this level across the Polish regions could have been observed. According to the research outcomes included in the Programme's preamble (Program Operacyjny Kapitał Ludzki. Narodowe Strategiczne Ramy Odniesienia 2007–2013, pp. 10–12), at the end of 2006 the Polish region with the highest unemployment rate was Warmińsko-Mazurskie, where the unemployment rate value reached nearly 24%. This was the result of numerous factors, e.g. its specific location within the Polish borders (North-East, with a common border with the Kaliningrad Oblast), the characteristics of the region's economy before the transformation (based on state – owned farms), and the lack of a large major city with a strong economy and job-creating businesses as regional capital.

Notably, only three Polish regions at that time registered an unemployment rate lower than 12%. These were Małopolskie (11.4%), Mazowieckie (11.9%) and Wielkopolskie (11.8%) (Figure 1). The relatively low unemployment rate in these regions was to a large extent a result of their major capital cities (respectively Cracow, Warsaw, and Poznan), which offered numerous employment opportunities. What is interesting, none of the Polish regions at that time had an unemployment rate lower than 10%. Although the regions' capital cities had in many cases substantially lower unemployment rates than the regions in their entirety, they were not able to compensate for the overall high unemployment rate of their voivodships.

**Figure 1. Unemployment rate in Polish regions as of December 2006**



Source: GUS and Program Operacyjny Kapitał Ludzki. Narodowe Strategiczne Ramy Odniesienia 2007–2013.

Another problem pointed out in the HCOP's Preamble was the very low professional activity of two groups on the Polish labour market, i.e. people aged over 45 years old as well as those younger than 24 years old, who seemed to have major difficulties in entering the labour market.

However, one of the most important issues, which was supposed to be dealt with by the European funds, in particular by the actions taken under the HCOP scheme, was the very low level of competitiveness of the Polish economy. The diagnosis included in the Programme indicated that in 2005 only 0.6% of the Polish employees working in the industrial sector were employed in a high-tech sector. The corresponding value for the services sector was 2.15%, which was also way below the EU average. Another problem mentioned in the Programme's preamble was the relatively low level of spending on research and development (R&D) in the Polish economy, especially in the private sector. It was emphasised that only 30% of the R&D expenditures in Poland originated in the private sector, as the vast majority of them were allocated to public institutions. In 2005 the percentage of R&D expenditures in the Polish GDP was as low as 0.56%, whereas in the European Union this value on average reached 1.92%. This, however, positioned the European Union far behind the United States, where the corresponding value at that time was 2.66%.

The Polish share of R&D outlays in GDP remained unchanged despite implementation of the governmental programme 'Increasing innovation capacity in the Polish economy until 2006' (Ministry of Economy, 2000). This programme was launched in 2000 with a clear assumption that by 2006 the outlays for R&D in the Polish economy would reach 1.5% of GDP, which was set as the Programme's goal (Program Operacyjny Kapitał Ludzki. Narodowe Strategiczne Ramy Odniesienia 2007–2013, pp. 33–34).

### 3. HCOP: Outcomes After Implementation

In the years 2007–2013 47,000 projects worth PLN 50.5 billion, with 7.5 million beneficiaries (approximately 20 per cent of Poland's population), were implemented as part of HCOP.<sup>3</sup> Although the financial indicators showing the number of signed agreements and the value of approved and covered expenditures, which amounted to PLN 40.3 billion (based on applications for payment filed by the beneficiaries)<sup>4</sup>

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<sup>3</sup> <http://www.efs.gov.pl/efekty/Strony/default.aspx>. This analysis takes into account data status as of end of August 2014.

<sup>4</sup> [http://www.efs.gov.pl/efekty/Strony/Wskazniki\\_finansowe.aspx](http://www.efs.gov.pl/efekty/Strony/Wskazniki_finansowe.aspx), last accessed on 14.10.2014.

may paint a positive picture, the analysis of general data from the Polish labour market and the level of competitiveness of Polish enterprises in the same period of time points out the necessity to perform a closer evaluation of the instruments of support and their outcomes.

The key forms of support from HCOP included training courses, vocational advisory services, individual action plans (IAP), psychological support, apprenticeships, job intermediary services, grants for new businesses, advisory services for new business owners, and subsidised employment. However, entrepreneurs and their employees used a narrower range of instruments than the entire range targeted at all HCOP beneficiaries.

According to the study entitled 'Evaluation of effectiveness of support provided from the regional component of HCOP in the years 2007–2013' (Zub et al., 2013), the fundamental form of support granted from HCOP to employees of enterprises was training (attended by 86 per cent of the Programme's beneficiaries.) The largest proportion of the employees who benefited from the training were persons with university degrees. The share of employees who had completed tertiary education in the overall number of Programme's beneficiaries exceeded nearly fourfold the proportion of people who had completed tertiary education in Poland's total population. This shows that the employees with the highest education level realised that life-long learning could be beneficial for their future professional life. Moreover, according to the study's results they appreciated the chance of participation in the Programme, as they believed it could help them acquire skills which would prove useful at the present stage of their careers.

Persons with lower levels of completed education relatively more often used the programme's vocational advisory and psychological support. Nearly half of the implemented training courses for the employees were vocational training courses, where the participants acquired the competencies of a nurse/carer, welder, construction equipment operator, accountant/HR specialist, and fork lift truck driver (Zub et al., 2013). Such courses were predominantly attended by persons with lower education levels.

An interesting finding was also that over 50% of the HCOP's beneficiaries were recruited to the Programme without an *ex-ante* analysis of their training needs. This might have caused a mismatch between the participants' expectations and the support which was offered to them. The share of Programme's beneficiaries who were not subject to an *ex-ante* training needs analysis showed substantial differentiation across Polish regions. Such an analysis was most frequently conducted in Mazowieckie (62% of beneficiaries), and the least often in Podkarpackie (only 32%).

However, the Programme's *ex-post* evaluation results revealed that 94% of participants of projects financed under the HCOP scheme claimed that the support,

which they received, was relevant to their needs. Moreover, 98% of the beneficiaries indicated a generally high level of satisfaction with the support that was offered to them. These high percentages of satisfied beneficiaries might have resulted from the high degree of universality of the trainings offered under HCOP. Another possible reason was the initial low expectations of beneficiaries with respect to the support offered, as they did not have to bear any costs of participation, which made it difficult for them to assess the expected quality of support with reference to its price.

With respect to how the different forms of support offered under the HCOP were perceived and evaluated by the beneficiaries, a clear dependence can be seen between the practical benefits offered to a beneficiary by a given support form and its assessment. The highest rank in the *ex-post* evaluation was granted to those forms of support, which included material benefits for course attendees, such as, e.g., funding for new businesses or internships. According to participants, the second best form of support offered under HCOP consisted of trainings, which were thought to have raised the participants' qualifications and skills. The lowest evaluation score was granted to those instruments, which did not include any funding. These were the psychological support and the advisory services offered to beneficiaries willing to set up their own businesses.

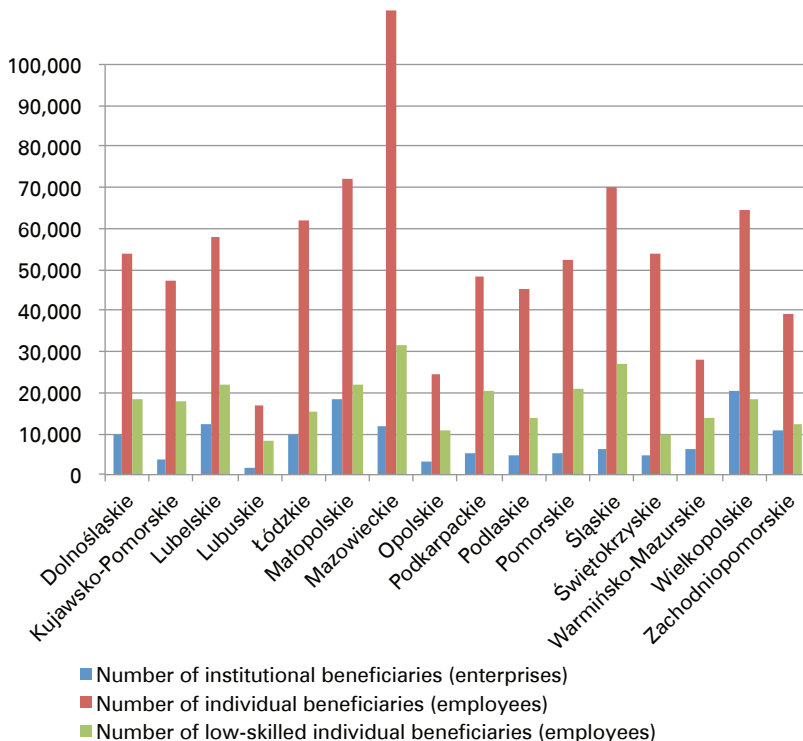
According to half of the respondents, no changes were necessary in the training projects in which they participated. Those who suggested a need to introduce changes claimed there was a need for a more practical approach in the training programmes. There were also complaints about the duration of training programmes, which – according to trainees – were too short.

In a survey conducted six months after participation in the projects financed under HCOP, most of their beneficiaries revealed that they had noticed the influence of the support received in their attitude towards work. They claimed they were more willing to continue their education and learn new skills. Moreover, they felt more self-confident and aware of their competences. They also felt more competent in their present jobs and declared an increased willingness to solve problems, which they encountered in their workplaces.

Interestingly, the survey results show that the projects implemented under HCOP did not have any significant influence on the stability of employment of their beneficiaries. Most of participants declared they did not see any benefits such as, e.g., changes in their contracts from the part-time into permanent assignment, ability to work more hours, or a promotion (upward mobility) in their place of work. However, 33% of participants said they noticed changes in their work, as after participating in the training project (s) they began to tackle more complex problems and were exposed to more demanding tasks.

At the regional level, the indicators concerning support for enterprises from HCOP significantly varied. The three key outcomes that refer to this support are *the number of supported enterprises, the number of supported employees, and the number of supported employees with the lowest professional qualifications*. Taking into account the nominal values, the largest number of beneficiaries were supported in the Wielkopolskie and Małopolskie provinces (20,441 and 18,308 respectively), while the lowest number were supported in Lubuskie, Opolskie and Kujawsko-Pomorskie provinces (1,758, 3,078, 3,879 respectively). The largest number of employees who availed themselves of the programme's support worked in the Mazowieckie and Małopolskie provinces (113,189 and 72,327 respectively), while the smallest number worked in Lubuskie, Opolskie and Warmińsko-Mazurskie (16,845, 24,695 and 27,958, respectively). The statistical data looks different in the case of employees with low qualifications: the largest number of such employees used HCOP support in the Mazowieckie and Śląskie provinces (31,633 and 26,851 respectively) while the smallest number – in the Lubuskie and Świętokrzyskie provinces (Figure 2).

**Figure 2. Nominal HCOP support results for enterprises in the years 2007–2013 (regional breakdown, data as of end of August 2014)**





## 4. Support for Enterprises and Competitiveness of the Polish Economy

According to the theory of endogenous growth, the *sine qua non* condition for an economy's competitiveness is its capacity to create innovation (Romer, 1986, pp. 1002–1037; Weresa, 2012). This is due to the possibility to translate innovation into measurable profit. In the context of international trade, the simplest justification of the role of competitive advantage that results from an economy's innovative edge can be found in the product life cycle theory (Vernon, 1966, pp. 190–207). According to this theory innovators exclusively reap the rewards from a developed solution over a certain period of time. This is why it is crucially important to educate and train human resources which are able to create innovations. This claim is confirmed by the results of studies in the fastest growing economies (Simon and Cao, 2009). A further confirmation comes from the research into expenditures on university education in the European Union: higher expenditure translates into higher concentration levels and, what's crucial, a higher rate of creation of innovative enterprises from the ICT sector (Izushi and Huggins, 2004).

For this reason, when we evaluate investments in human capital from HCOP we must focus on the effect of increased innovative capacity brought about by access to HCOP funds. The results of the European Commission's iterative study do not, however, provide any evidence that the goal of boosting innovation in the Polish economy was attained. In 2007, when implementation of HCOP began in Poland,<sup>5</sup> the Summary Innovation Index (SII), calculated on the basis of the change in a number of indicators over time (European Innovation Scoreboard 2007, 2008; European Innovation Scoreboard (EIS) 2009, 2010; European Commission, 2014), amounted to 0.275<sup>6</sup> for Polish economy, a slight increase (by 4.56 per cent) compared with the previous year. This result positioned Poland among Moderate Innovators (the second lowest category of economic innovation), as the second country from the bottom.<sup>7</sup> Paradoxically enough, in the subsequent years (also reported on), the innovation capacity of the Polish economy did not increase significantly despite investment in human resources (Figure 3). The average increase in the SII in the years 2006–2013 amounted to only 0.88 per cent, and in the report's 2013

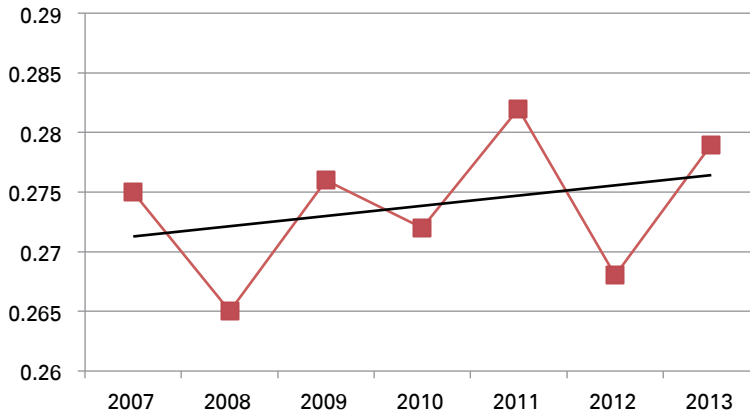
<sup>5</sup> In reality the first HCOP calls for proposals were announced in Poland at the beginning of 2008.

<sup>6</sup> This study cites data calculated in accordance with the 2014 methodology, and the data may vary from the data quoted in reports from particular annual editions.

<sup>7</sup> The categories are: 1. innovation leaders, 2. innovation followers, 3. moderate innovators, and 4. catching-up countries, later changed into the current version, i.e. modest innovators.

edition Poland was classified for the first time in the lowest category of economic innovation, i.e. the category of Modest Innovators, and was classified in the same group as the worst performers in terms of innovation in the EU: Latvia, Romania and Bulgaria (European Commission, 2013).

**Figure 3. Innovativeness of the Polish economy in the years 2007–2013 based on the SII index**



Source: Own analysis based on European Commission (2013).

The evaluation of the quality of human resources in each EU country is one of the SII's components. In the first years of the period in question it took into account the number of science and engineering graduates, the number of people with university degrees, access to broadband Internet, the number of people taking part in life-long learning programmes, and youth educational activity index (European Innovation Scoreboard 2007, 2008). Over time the evaluation component has changed and now only contains three elements that pertain to: the proportion of graduates of PhD studies per 1,000 persons aged 25–34, the proportion of persons holding university degrees in the population of persons aged 30–34, and the proportion of youth with a minimum of secondary level education in the age group 20–24.

In case of Poland it was the HR component, whose value was the only figure above the EU average in the first years of Programme's implementation (2007–2012). However, in 2013 Poland was classified for the first time below the EU average also in the described study component. The deteriorating position of the Polish economy's innovativeness in 2014 is the evidence that the poorer rating was not a coincidence. If we analyse the particular indicators of the human resources dimension for Poland in 2014, we note that in two out of three Poland exceeds the EU average. These are: a) percentage of population aged 30 to 34 with a university degree (index value at 136,

while the EU average is at 100), and the percentage of persons aged 20 to 24 with secondary education (index value at 111). The proportion of graduates of PhD studies in the population of persons aged 25 to 34 is significantly below the average (index value at 58). Such a low index value (compared to the rest of the EU) contributes to the general evaluation of the HR dimension and partially results from the quality of university education in Poland. University graduates, despite their relatively high number, are unable to continue education at the PhD level due to the low quality of education at the BA and MA levels. This may imply that the relatively high position of the HR dimension in Poland (relative to the economies of the other EU countries), particularly in the years 2007–2012, resulted predominantly from the quantitative criterion applied by the authors, instead of with reference to the quality of education.

However, the effects of the poor quality of university education in Poland are also reflected in the results showing other components of the SII index. This is clearly visible in the ‘business expenditures’ dimension. This dimension consists of two parts: a) R&D expenditures; and b) innovation expenditures excluding R&D spending. With regard to the Polish economy, innovation expenditure excluding R&D is the third and final element of all 25 evaluated elements, with a score exceeding the EU average (index value at 182). One may wonder why this is so, particularly if we consider the low value of the R&D expenditure index (at 25). However, after a more detailed analysis it can be concluded that the value of both indicators seems cohesive. Polish enterprises spend very low amounts on research and development, so they need to purchase equipment (machines) or patents from foreign enterprises. With its very low number of graduates of PhD studies, the Polish economy suffers from a lack of persons who are capable of developing innovative solutions, and experiences a lack of synergism resulting from the lack of collaboration between academia and business.

This is confirmed by the results of the Global Competitiveness Report 2014–2015 (The Global Competitiveness Report 2014–2015, 2014), where the innovative capacity of Poland’s economy was evaluated at 3.3 on a scale from 1 to 7, positioning Poland in 72<sup>nd</sup> place among the 144 analysed economies. Poland’s result in this category is the worst from among the twelve pillars of competitiveness analysed in the report with reference to the Polish economy. The index includes, among others, assessment of Polish scientific institutions (3.9 on a scale from 1 to 7, 63<sup>rd</sup> position among 144 respondents); scientist/engineer availability (4.2, 62<sup>nd</sup> position); collaboration between academia and industry in R&D (3.5, 73<sup>rd</sup> position); and R&D expenditures of Polish companies (2.8; 98<sup>th</sup> position, in between Uganda (97<sup>th</sup>) and Mali (99<sup>th</sup>)).

In the same report, Poland ranks better in terms of the competitiveness index for tertiary education and training. Poland’s economy was classified higher in the

evaluation of the number of university students (23<sup>rd</sup> position), while the least favourable evaluation was given to the system of education (index value at 3.6, 79<sup>th</sup> position) and the quality of schools of management (4.0, 84<sup>th</sup> position).

## **5. Problems Associated with Interventionism in Human Resources Development**

Despite the overall positive evaluation of HCOP support measures by the beneficiaries, we should highlight a number of factors that may explain why the allocated resources have not translated into an increased competitiveness of the Polish economy.

First of all, the positive evaluation of HCOP projects often resulted from the fact that HCOP training courses were available free of charge to employees of enterprises. From the employer's perspective, sending an employee to a training co-financed within HCOP was financially attractive as it was not associated with costs to be covered by the employer. In fact, the only costs incurred were usually the costs associated with the employee's absence from work. On the day of the training the employees benefited from the so-called non-cash contribution required from employers, which in fact was a standard remuneration paid to the employee for that day.

Additionally, in HCOP projects, where it was required to attain specific results, a high level of effectiveness could be easily ensured through establishing clever project evaluation criteria, (basing on results which would be relatively easy to reach) or, if these had already been defined, through biased design of training evaluation forms for the beneficiaries.

Another factor, that we can assume was a source of the inefficiency of the supporting instruments, is non-compliance, identified during the audits of the projects. Examples of such non-compliance included: discrepancies between the number of persons participating in training courses and the number of people indicated on the evaluation form, inconsistency between the service provided and the co-financing agreement, lack of updates as regards training confirmation and cancellation.<sup>8</sup> All the examples of misconduct presented above may have resulted from mere oversight on the part of the implementing entity and may have been of a purely formal nature, or they may have indicated real discrepancies between the data included in the reports and the actual actions taken.

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<sup>8</sup> The most frequent cases of misconduct or non-compliance as stated in training audit reports from Priority 2, Human Capital Operational Programme (Subactivities 2.1.1 and 2.1.2), <http://pokl.parp.gov.pl/index/more/39561>, last accessed on 14.10.2014.

A serious problem with the co-financing system of the European Social Fund under HCOP within the period covered by this study was the set of selection criteria for awarding support, which was determined in the procedure surrounding the call for proposals. The fact that only specific groups of beneficiaries were preferred during the assessment of the projects led to the situation advantageous for projects targeting two groups of beneficiaries (employees aged 50 and over, and persons with secondary education or lower levels of education), or a combination of the two, which could count on financial support, particularly in the second phase of the programme. However, the beneficiaries aged 50+ with secondary education or lower levels of education constituted a group with a relatively low degree of motivation as regards life-long learning and on-going education. As a result, training companies encountered problems in recruiting the required number of participants for their projects, despite the fact they had already acquired HCOP funding. The above conclusion is consistent with the results of the study conducted by the Polish Agency for Enterprise Development (PARP), which showed that the willingness to enhance one's qualifications decreases with age. Among persons aged 50 to 64 only 9% of the study's respondents participated in courses and other forms of training (Human Capital in Poland, 2012). Thus, the question arises: what is the motivation and the ability of the beneficiaries meeting these criteria to create and introduce innovation?

Another and perhaps the most significant problem when analysing the effects of support for entrepreneurs carried out under HCOP is the relatively poor quality of training courses carried out within the projects. There are a few premises that may explain this problem. First of all, one of the criteria for the evaluation of HCOP projects is the cost efficiency. In order to be evaluated as efficient, training companies started hiring contractors with moderate financial requirements, which usually had a negative impact on the quality of the courses. Secondly, the majority of training instructors working on the education market had not been true business practitioners, i.e. they were not engaged in any actual business activities in recent years, apart from the business of providing trainings. Consequently, the substantive content of the training courses delivered through HCOP was often of limited practical application potential for employees who, on a daily basis, dealt with narrow and specialist fields of activity within their companies. The programme's beneficiaries often attributed a great value to the certificates of completion of training, and were predominantly interested in courses certified by an external entity (third party) as such certification increased their employability within the industry of their interest.

However, numerous evaluation indicators applied in the projects, even those relating to the quality of support, focused on the satisfaction level of the beneficiaries, as well as their personal feelings towards the acquired knowledge, without any

real evaluation of how and if the knowledge would contribute to the development of the employer's business. Even in cases where the training was reported on by both *ex-ante* and *ex-post* evaluations (i.e. pre-tests and post-tests) – which were supposed to demonstrate the increased competency and qualifications of the beneficiary – it was not possible to check whether the acquired knowledge actually contributed to the development and increased competitiveness of the company that the beneficiary worked for. Employees were very keen on participating in numerous training courses organised with financial support from HCOP, as they treated the courses as an investment in their individual qualifications.

## 6. Conclusions

After taking into account all the factors mentioned above one can doubt whether the support granted to enterprises from HCOP in the years 2007–2013 in Poland has in fact contributed to improving the competitiveness of Polish companies. According to official sources, the programme's expenditure, amounting to over PLN 50 billion, facilitated an improvement in the qualifications of over 1.3 million employees from 244,000 supported enterprises.

It can be confirmed that the expended amount contributed to economic growth, but this happened mainly thanks to the multiplier effect. The scale of the funds transfer was one of the reasons why in 2009 Poland was the only EU country to enjoy an increase in GDP compared to the previous year.

However, during the implementation of the Programme the measured innovativeness of the Polish economy decreased from the moderate to the modest (lowest) category. Moreover, in 2013 the SII index that refers to human resources was for the first time below the EU average. The forms of support for enterprises applied in the programme also raise some doubts. The support predominantly consisted in the provision of training courses implemented thanks to the programme's funding or co-funding. The courses have not translated into an increased innovativeness of Polish companies in any way. The reasons for this fact can be manifold: starting from training curricula that did not match the true needs of enterprises through insufficient qualifications of instructors; employees striving to maximise their benefits and improve individual skills not strictly associated with the strategies of their companies; and the application of support funds only to expand training budgets without an in-depth analysis of the training needs required to assist a company to maximise efficiency.

The question that arises is therefore whether such interventionist practices make sense and if they should be continued in the programming period 2014–2020. And if so, does the Polish Government have a clear strategy for shaping Poland's competitive advantage, based on the human resources' development, which would reach beyond reducing the unemployment rate in the short term?

Unfortunately, the above analysis shows that training for employees has had little leverage on innovativeness and, consequently, on the global competitiveness of the Polish economy.

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# **Aid Instruments for Entrepreneurs in Regions in Poland Under the EU Environmental Policy in the Years 2007–2013**

## **Abstract**

The paper concerns aid to the private sector granted under environmental policy in Polish regions. The aim of the research is to evaluate the impact of the EU environmental policy on Polish regions in the period 2007–2013. We analysed state aid instruments used in the implementation of goals relating to environmental changes, especially those linked to the EU funds.

The analysis proves that environmental investments undertaken and implemented in the period of 2007–2013 in Polish regions – much with the support of the EU funds – were in line with goals and assumptions of both Polish and community policies. Environmental investments undertaken in regions were consistent with conditions and local needs. Projects which received aid were aimed at the elimination of development discrepancies, limiting the scope of environmental challenges, as well as optimal implementation of local resources for innovative development of gminas (communes) and regions. Projects' implementation had a positive impact on the condition of water and water management, air protection and environmental protection. Projects were also beneficial for regional development in Poland. New and modernised investment increased the quality of life in Polish regions. Analysed projects can serve as the basis for further actions in environmental protection, the use of local resources and economic activity of gminas and regions.

## **1. Introduction**

Pursuant to the provisions of the Treaty of Lisbon (TL) the European Union (EU) consisting of 28 Member States promotes, inter alia, peace through its values and the well-being of its people. At the same time it works for sustainable develop-

ment of Europe based on balanced economic growth and price stability, a highly competitive social market economy aiming at full employment and social progress, a high level of protection and improvement of the quality of the environment (Art. 3 of the Treaty on European Union – TEU). The European Union is also based on economic, social and territorial cohesion and solidarity among the Member States.

The above wording means the idea of sustainable development, which laid the foundations of the EU development, encompasses three developmental aspects, such as the economy, society and the environment and assumes coherent and harmonious relationships among them. The principle of sustainable development consists in creating conditions for economic growth, which takes account of rational management of natural resources and is environmentally friendly or, at least, neutral. As a result, environmental effects have been mainstreamed in all the EU policies.

Regional policy, in accordance with the EU Treaty objectives, occupies a special place among many EU policies. Its activities are designed to eliminate or reduce disparities in economic, social and territorial development and promote harmonious development of the Union (Art. 174 of the Treaty on the Functioning of the European Union – TFEU). The objective is to increase the cohesion among the EU regions by facing difficulties and obstacles they experience. The policy, *inter alia*, supports rural development, areas affected by industrial transition or areas suffering from adverse developmental conditions. To accomplish the objectives of the cohesion policy, financial resources were earmarked in the EU budget for 2007–2013 under two structural funds: European Regional Development Fund (ERDF), European Social Fund (ESF), and the Cohesion Fund (CF).<sup>1</sup> Financial resources from these funds used for mobilising local resources and linked with regional specificity were expected to impact the competitiveness and sustainable development and improve economic performance of the regions. Hence, mobilising endogenous factors in each region and considering environmental conditions in each case were to lay stable grounds for sustainable development (Barcz et al., 2012, p. 280; European Commission, 2014, pp. 201–207). That is why gminas and regions play a prominent role here. Institutions in gminas and regions should be actively working on coherent and long-term development strategies, including coherent policies. The strategies should take special care for the environment (and protect water, air and biodiversity), promote environmentally-friendly technologies and products, projects in sustainable transport, energy and infrastructure and also take care of economic

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<sup>1</sup> In the period 2007–2013 other financial instruments, such as the European Fisheries Fund (EFF) and European Agricultural Fund for Rural Development (EAFRD) were available in the EU outside of the cohesion policy.

and social development aspects, in other words, of the so called sustainable local and regional management (LIFE Focus, 2011, p. 3). Natural conditions and resources may become important development factors in each region and the inclusion of desirable environmental objectives in business activities may be conducive to their sustainable development.

This paper makes an attempt to assess the importance of the EU environmental policy for the development of regions in Poland in the years 2007–2013. We will analyse selected aid instruments that support changes desirable from environmental point of view in the regions in Poland. Our main focus will be on the use of the EU funds by beneficiaries. The analysis draws attention to the fact that measures undertaken in regions and co-financed under the EU structural funds may be directly linked with expected, positive environmental effects (within the framework of the EU targeted funds earmarked for the improvement of the environment) or with other objectives of projects, which may not adversely affect the environment. Due to the horizontal nature of environmental regulations, all activities undertaken in regions should consider environmental requirements and comply with them. For the beneficiaries of the EU resources, including businesses, territorial self-government units and public institutions, it implies, on the one hand, new, often difficult challenges which may, however, lead to long-term sustainable development of a region.

## 2. Objectives and Tools of the EU Environmental Policy

Matters within the scope of environmental policy were first mentioned in the European Atomic Energy Community Treaty (EURATOM). However, with the progress in economic integration in Europe, people started to realise issues connected with negative effects of the economic activity for the environment. Activities initially undertaken by the EU institutions targeted quick solutions to emerging problems. Soon it turned out that there is a need for actions integrated at the Community level. They were reflected in regulations introduced by the Single European Act and then amended by virtue of the Maastricht Treaty and the Treaty of Amsterdam.<sup>2</sup> In the Lisbon Treaty (TFEU) environmental issues are regulated in Title XX 'Environment'. Pursuant to its wording (Art. 3, para. 1 TFEU) '(...) Union policy on the environment shall contribute to pursuit of the following objectives:

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<sup>2</sup> For more on the evolution in the approach to the EU environmental policy see Wojtkowska-Łodej (1996, pp. 227–239; 2004, pp. 263–280).

- preserving, protecting and improving the quality of the environment,
- protecting human health,
- prudent and rational utilisation of natural resources,
- promoting measures at international level to deal with regional or worldwide environmental problems and in particular combating climate change’.

Striving to achieve its main objective, which is a high level of environmental protection and taking care of regional diversity, the Union follows some principles, which identify the way the policy is shaped and implemented. The principles include the precautionary principle, the principle of preventive actions, the principle of rectifying environmental damage at source and the ‘polluter pays’ principle (Art. 191, para. 2 of the TFEU). At the same time attention is drawn to the need to mainstream environmental issues in other policies. The EU energy policy may serve as example. TITLE XXI Energy identifies economic and environmental priorities and then detailed goals and states that: (...) In the context of establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim in a spirit of solidarity between Member States to:

- ensure the functioning of the energy market,
- ensure security of energy supply in the Union,
- promote energy efficiency and energy saving and the development of new and renewable forms of energy, and
- promote the interconnection of energy networks. (Art. 194, para. 1 TFEU).

Activities connected with efficient management of natural resources, including the use of renewable energy sources and contributing to desirable actions of the Union in combating climate change are common and coherent aims of both policies.<sup>3</sup>

Because of horizontal nature of the EU regulations in the environmental law, as well as in smaller specific areas, its enforcement and application by the Union and by the Member States is regulated by the Treaty provisions. The remits of the EU competence are subject to the principles of subsidiarity and proportionality (Art. 5 para. 1 TFEU). Issues pertaining to sustainable development remain within the EU’s exclusive competence (conservation of marine biological resources under the common fisheries policy – Art. 3, para. 1 TFEU), and/or competences shared with the Member States, i.e. internal market, environment, social policy, economic, social and territorial cohesion, agriculture and fisheries without the conservation of marine biological resources, consumer protection, trans-European networks, transport, and

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<sup>3</sup> Long-term activities in this field can be seen in the Europe 2020 Strategy or in the programme of building low-emission economy by 2050.

energy (Art. 4, para. 2 TFEU). On top of that, the EU institutions have competence to carry out actions to support, coordinate or supplement the actions of the Member States in areas such as: industry, protection of human health, culture, tourism, education, civil protection, and administrative cooperation. (Art. 6 TFEU). Thus actions in the area of environment form a part of shared competences meaning the Member States pursue their own environmental policies conditioned by internal circumstances and based on the Treaty provisions but the EU institutions, in line with the principles of subsidiarity and proportionality, may join them.

Apart from the above mentioned Treaty regulations, instruments that implement environmental policy include:

- acts of secondary law, complementary and addressed to specific areas, i.e. air, water, nature, noise, waste, chemicals, civil protection, industrial emissions, and protection against radiation (Barcz et al., 2012, p. 372),
- economic and fiscal instruments,
- financial support instruments.

Moreover, the EU environmental policy and cohesion policy are implemented and conducted based on multi-annual programming documents. In the field of environment subsequent action programmes are the continuation of their predecessors but with new aims and priorities resulting from the long-term EU development strategies (Wojtkowska-Łodej, 2004, pp. 268–272). For the Member States they are sources of knowledge on the EU initiatives in the area of environment and may become inspiration for new undertakings under national or regional action programmes.

Financial support instruments include horizontal financial support targeting systems that monitor the quality of the environment, environmental data collection schemes, etc. as well as financial support mechanisms that improve the condition of the environment.

Actions designed to improve the quality of the environment in the Member States are financed from the EU budget, in particular from structural funds and from the Cohesion Fund as well as from loans offered by the European Investment Bank. Actions undertaken at the EU level or in selected third countries may benefit from the LIFE instrument. It is the only EU financial facility used to financially support projects in the area of environment and climate. Its main objective is to assist the implementation of the EU environmental law and policy as well seeking new, environmentally-friendly solutions. Together with the new financial perspective, the instrument shall be continued in the years 2014–2020 and will finance actions for the environment and climate. Member States, including Poland, use resources from this fund.

### 3. Environmental Protection in Poland and the EU Financial Support

Simultaneously to systemic changes in the Polish economy at the beginning of the 1990s and then as a result of the association and applying for the EU membership, new actions were undertaken in the area of environmental protection (Nowicki, 2014). They consisted in the adoption of the new Act on State Environmental Inspection in 1991 (DzU [Journal of Laws] of 2007, No. 44, item 287 with further amendments), programmes of 'State Environmental Policy' and their updated versions as well as in the establishing of new institutions and a system of environmentally-friendly funds (at national and voivodeship [regional] levels) built up from payments collected for emissions and used to finance necessary investment projects (Ministry of the Environment, 2008, pp. 4–5). As a result, actions under the environmental policy in Poland stipulated in documents such as: 'State Environmental Policy for the years 2003–2006 taking account of the perspective for the period 2007–2010' and 'State Environmental Policy for the years 2009–2010 with the perspective up to 2016' in the period covered by the analysis, i.e. in the years 2007–2013, were consistent with the objectives of the EU programmes and included actions to ensure sustainable development, adjustment to climate change and the protection of biodiversity.

The above action programmes and regulations of the environmental policy are in line with Art. 5 of the Constitution of the Republic of Poland which states that 'The Republic of Poland (...) ensures environmental protection and follows the principle of sustainable development'. It also means that all strategic documents for individual industries should take account of the criteria of sustainable development, which, according to the Act Environmental Protection Law, must be subject to environmental impact analyses (Ministry of the Environment, 2008, p. 15). In the light of these provisions, Polish environmental policy in the analysed period was organised around the following directions:

- covering sectoral strategies and policies with strategic environmental impact assessments,
- mobilising the market for environmental protection,
- environmental management – inclusion of environmental aspects into financial planning,
- introduction of 'green procurement' scheme in public procurement in all institutions that use public resources,
- elimination of hazardous products from the market,

- promoting the creation of ‘green jobs’ and the transfer of the latest technologies which serve environmental protection using the EU funds and schemes,
- education at national level to develop environmentally friendly consumption patterns (including eco-labels),
- support for actions aimed at the reduction of emissions from transport (Council of Ministers, 2002, p. 2 and subsequent; Ministry of Environment, 2008, p. 16).

In accordance with the above document, actions were undertaken in the following areas:

- protection of nature and forests,
- rational management of water resources,
- protection of soil,
- managing geological resources,
- air quality,
- protection of water,
- waste management,
- impact of noise and magnetic fields, and
- chemical substances in the environment (Ministry of Environment, 2014, p. 21).

National regulations and programming documents compatible with the EU regulations, mainstreamed environmental aspects into all sectoral policies but also into development strategies and programmes at regional and national levels. Manufacturers and consumers are the principal users of the environment to whom these measures are addressed.

As companies, including manufacturing, processing and service ones, are principal users of natural resources and/or by their activities they generate external effects, the above environmental, legal, economic and administrative regulations are relevant for their operations. What is important is to avoid excessive costs implied by mandatory and constantly increasing requirements of environmental protection that could hamper business operations. Hence, programming documents and mechanisms draw attention to possible aid for entrepreneurs that helps them comply with environmental requirements and to the creation of conditions encouraging them to launch desirable actions. Mechanisms of financial support for environmental projects are equally important to other projects with environmental impact and to the flow of information among public institutions and enterprises with respect to matters connected with environmental protection. In response to the needs of enterprises, institutional structures were created together with advisory bodies (public-business) expected to prepare enterprises to implement new mechanisms in environmental

protection and new solutions in this area (e.g. to implement EMAS Regulation<sup>4</sup> in practice), training the staff, promoting eco-label, etc.

In the period 2007–2013 under the National Cohesion Strategy (NCS), according to data for April 2014, in total 97.6k contracts were concluded for the total amount of eligible expenditure documented by beneficiaries of PLN 395.6 bn., including PLN 275.1 bn. of the EU co-financing (Table 1).

**Table 1. Number and value of contracts signed under the National Strategic Reference Framework (NSRF) 2007–2013 broken down by Operational Programmes**

OPERATIONAL PROGRAMME*	Co-financing agreements						Allocations used in the years 2007–2013**
	Number in k		Eligible expenditure in PLN bn.		The EU co-financing in PLN bn.		
	12.2013	04.2014	12.2013	04.2014	12.2013	04.2014	04.2014
PO IG	15.4	16.1	66.3	67.0	36.0	36.5	60.2%
PO IiŚ	2.2	2.3	154.5	155.8	113.7	115.4	65.4%
PO KL	43.3	45.3	47.9	51.3	39.9	42.8	76.3%
PO PT	0.4	0.4	2.3	2.4	1.9	2.0	68.9%
PO RWP	0.2	0.3	13.1	13.0	9.7	9.7	60.0%
PO EWT	0.3	0.3	1.7	1.7	1.4	1.4	61.0%
<b>Total national</b>	<b>61.8</b>	<b>64.7</b>	<b>285.8</b>	<b>291.2</b>	<b>202.6</b>	<b>207.8</b>	<b>66.4%</b>
RPO Dolnośląskie	2.0	2.1	8.1	8.1	5.0	5.0	74.3%
RPO Kujawsko-Pomorskie	1.8	1.8	5.9	6.1	3.4	3.5	63.3%
RPO Lubelskie	2.9	2.9	6.7	6.9	4.3	4.5	71.7%
RPO Lubuskie	0.9	0.9	3.0	3.1	1.8	1.9	75.1%
RPO Łódzkie	2.3	2.4	6.5	6.6	4.3	4.3	75.4%
RPO Małopolskie	2.8	2.8	8.8	8.9	5.3	5.4	79.0%
RPO Mazowieckie	1.8	1.9	10.1	10.2	7.0	7.1	67.4%
RPO Opolskie	1.2	1.2	3.1	3.1	2.0	2.0	84.8%
RPO Podkarpackie	2.2	2.3	6.8	7.0	4.7	4.8	77.4%
RPO Podlaskie	1.2	1.2	4.3	4.3	2.7	2.7	63.2%
RPO Pomorskie	1.6	1.6	5.9	5.9	3.7	3.7	78.4%
RPO Śląskie	4.7	4.8	10.4	10.0	7.0	6.9	71.9%
RPO Świętokrzyskie	1.2	1.3	4.8	4.9	2.9	3.0	80.3%

<sup>4</sup> Regulation of the European Parliament and of the Council (EC) No. 1221/2009 of 25 November 2009 on the voluntary participation by organisations in a Community Eco-Management and Audit Scheme (EMAS) repealing the Regulation 761/2001 of the Parliament and of the Council of 19 March 2001 allowing voluntary participation of organisations in the Community Eco-management and Audit Scheme. In Poland EMAS is additionally regulated by the Act of 15 July 2011 on national Eco-Management and Audit Scheme (EMAS) (Journal of Laws No. 178, item 1060) with executive acts.



RPO Warmińsko-Mazurskie	2.2	2.2	6.5	6.5	4.1	4.1	68.9%
RPO Wielkopolskie	2.1	2.0	7.8	7.9	5.1	5.2	77.8%
RPO Zachodniopomorskie	1.5	1.5	5.2	5.4	3.1	3.2	68.5%
<b>Total Regional Operational Programmes</b>	<b>32.3</b>	<b>32.9</b>	<b>104.1</b>	<b>104.3</b>	<b>66.5</b>	<b>67.3</b>	<b>73.2%</b>
<b>TOTAL NSRF</b>	<b>94.1</b>	<b>97.6</b>	<b>389.9</b>	<b>395.6</b>	<b>269.0</b>	<b>275.1</b>	<b>68.1%</b>

\* PO IG – Operational Programme Innovative Economy

PO IiŚ – Operational Programme Infrastructure and Environment

PO KL – Operational Programme Human Capital

PO PT – Operational Programme Technical Assistance

PO RWP – Operational Programme Development of Eastern Poland

PO EWT – Operational Programme of European Territorial Cooperation (ETC)

\*\* To calculate the allocation under NCS for 2007–2013 in PLN we used algorithm developed together by the Ministry of Infrastructure and Development and the Ministry of Finance. Algorithms developed for each Operational Programme (with the exception of the ETC Programmes where all the operations are in EUR) spread sheets which every month calculate the allocation available to Poland in PLN.

Source: Based on: Ministry of Infrastructure and Development (2014a, p. 99); Ministry of Infrastructure and Development (2014b, p. 3).

As the deployment of funds will be completed in 2015, data concerning the proportion to which they have been used under the financial perspective 2007–2013 change, which is confirmed by data in the Table. The overall utilisation rate for co-financing is 68.1% and it is higher for regional programmes (73.2%) than for national programmes (66.4%). From among national programmes the highest rate was achieved in Operational Programme Human Capital and OP Technical Assistance, while among voivodeships, Opolskie and Świętokrzyskie were the best absorbers.

#### 4. Territorial Scope of Support for Environmental Protection

In the period 2007–2013 in Poland we used the following EU funds to co-finance projects directly or indirectly linked with the environment: Structural Funds (European Regional Development Fund (ERDF), European Cohesion Fund (ECF), European Agricultural Fund for Rural Development (EAFRD), European Maritime and Fisheries Fund (EMFF), and resources under the LIFE+ Programme. On top of that, Polish economic entities could benefit from non-refundable financial assistance under two instruments, i.e. Financial Mechanism of the European Economic Area (FMEEA) and Norwegian Financial Mechanism (NFM). Besides the above, projects also used national resources, in particular from the National Fund for Environmental Protection and Water Management (NFOŚiGW), voivodeship Funds for Environmental Protection and Water Management (WFOŚiGW) as well as from private resources.

When it comes to the structure of capital investments in environmental protection in 2013 foreign assistance accounted for 22%, government budget own resources together with resources from voivodeships (regions), poviats (counties) and gminas (communes) – 50.6%, environmental funds – 12.5%, domestic loans and borrowings – 6.4%. The highest outlays in total amounting to PLN1,0851,199.2 k were recorded in the following voivodeships: Śląskie (16.1%), Mazowieckie (14.2%) and Łódzkie (10.0%) while the lowest in Lubuskie (2%) and Podlaskie (2.2%). (GUS – Central Statistical Office of Poland, 2014, p. 424). Territorial structure of foreign assistance was very similar as in 2013. Śląskie received 17.4% of resources, Mazowieckie – 14.5%, Małopolskie – 9.2% and the smallest amounts were directed to Podlaskie – 2.4% and Warmińsko-Mazurskie – 2.8%.

Foreign assistance for environmental protection in 2013 reached 709.3 m EUR and most of it originated from the Operational Programme Infrastructure and Environment under the Cohesion Fund (83.6%) and was allocated in 68.4% for the protection of water and water management, 16.9% for the protection of air, 11.1% for the protection of soil and 2.7% for environmental monitoring, ca. 1% was allocated for nature protection. (GUS, 2014, p. 494).

Legal entities, which applied for the EU funding were enterprises, gminas and units financed from the budget. Their share in the population of investors in environmental projects amounted respectively to: 60.6%, 28.5% and 10.9% in 2013. In Śląskie enterprises and gminas were the most active among investors, while units financed from the budget were significant investors in Łódzkie (GUS, 2014, p. 424).

As we have already mentioned, the EU environmental policy is coherent with other policies. Interestingly, the principle is observed in practice in Polish environmental policy and in using the available EU, national, public and private funds to accomplish environmental objectives by beneficiaries in Polish regions.

When we compare the priorities of the Polish environmental policy with the objectives pursued by the EU funds we can see that most of the programmes and schemes, not necessarily in the environmental area (NFOŚiGW, WFOŚiGW, POiŚ, NMF and MFEOG) but also PROW (Rural Development Programme) and PO RYBY (Operational Programme FISH), make direct references to actions connected with the environmental policy of the State (Table 2). The relationship is clear in Regional Operational Programmes as well as in the majority of schemes implemented under the ETC. Most of the programmes include activities designed to improve the quality of air, protection of water, and waste management. Measures connected with environmental aspect in spatial planning or managing geological resources are less frequently tackled.

**Table 2. Coherence between programmes implemented in the period 2007-2013 with the assumptions of State environmental policy (PEP) for the years 2009-2012**

**B – DIRECT IMPACT** – programme includes priorities or measures aimed at achieving one of PEP priorities for 2009-2012.

**P – INDIRECT IMPACT** – programme includes priorities or measures connected with the accomplishment of PEP goals 2009-2012.

No.	Areas of PEP 2009-2012	REGIONAL OPERATIONAL PROGRAMMES																												
		NFOŚiGW/w/rośngw	POiS 2007-2013	PROW 2007-2013	PO RYBY 2007-2013	POIG 2007-2013	POKL 2007-2013	PO RPW 2007-2013	EWT 2007-2013	LIFE+	NMF and MF EOG	DOLNOŚLĄSKIE	KUJAWSKO-POMORSKIE	LUBELSKIE	LUBUSKIE	ŁÓDZKIE	MAŁOPOLSKIE	MAZOWIECKIE	OPOLSKIE	PODKARPACKIE	PODLASKIE	POMORSKIE	ŚLĄSKIE	ŚWIĘTOKRZYSKIE	WARMIŃSKO-MAZURSKIE	WIELKOPOLSKIE	ZACHODNIOPOMORSKIE			
1	Mainstreaming environmental principles in sectoral strategies	B	P																											
2	Mobilising the market for environmental protection	B	P																											
3	Environmental management	B	B																											
4	Community involvement in environmental actions	B	B																											
5	Research development and technological progress	B	B																											
6	Responsibility for environmental damage	B	P																											
7	Environmental aspect in spatial planning	B																												
8	Protection of nature	B	B	B																										
9	Protection and sustainable development of forests	B	B	B																										
10	Rational management of water resources	B	B	B																										
11	Protection of soil	B	B	B																										
12	Management of geological resources	B	B																											
13	Environment and health	B	B																											
14	Air quality	B	B	P																										
15	Protection of water	B	B	B																										
16	Waste management	B	B	B																										
17	Impact of noise and electromagnetic fields	B	B	P																										
18	Chemical substances in the environment	B	P																											

Source: Ministry of Environment (2014, p. 216).

The analysis of data reflecting the number of agreements signed in the period 2007–2012, as well as data from the reports produced for measures delivered under the above funds and programmes demonstrate that for direct actions, which impact environmental objectives (Table 2) one allocated PLN 61.5 bn. and almost half of these resources were earmarked for water protection (PLN 26.8 bn), the projects focused on waste water treatment and the disposal systems (Ministry of Environment, 2014, p. 217).

Substantial resources have also been earmarked for measures in areas such as the quality of air – ca. PLN 12.4 bn., waste management – ca. PLN 7.1 bn., rational management of water resources – ca. PLN 4.8 bn., soil protection – ca. PLN 2.3 bn., nature protection – ca. PLN 2.2 bn., developing research and technological progress – ca. PLN 1.3 bn., managing geological resources – ca. PLN 1.3 bn., protection and diversified development of forests – ca. PLN 1.3 bn., environment and health – ca. PLN 0.7 bn., market mobilisation for environmental protection – ca. PLN 0.5 bn., community engagement in environmental protection – ca. PLN 0.5 bn., responsibility for the harm to the environment – ca. PLN 0.1 bn. In financial terms, the least of resources were allocated for chemical substances in the environment – PLN 195 m, noise and electromagnetic fields – PLN 18 m, mainstreaming environmental principles into sectoral strategies – PLN 15 m, and environmental management – PLN 2 m (Ministry of Environment, 2014, p. 218).

Among environment-related projects those financed under the Operational Programme Infrastructure and Environment enjoyed the biggest share of ca. 33.7% in the total project population. They were followed by projects financed with national and regional funds, almost 40% in total (NFOŚiGW – 21.2% and WFOŚiGW – 18.4%) and Regional Operational Programmes and Rural Development Programme (PROW), ca. 11% each.

The EU resources were used the most in projects linked with environmental management (98.1%), development of research and technological progress (95.2%), market mobilisation for environmental protection (88.5%), and the protection and sustainable development of forests (87.9%). Projects financed from domestic resources at national (NFOŚiGW) and regional (WFOŚiGW) levels focused on chemicals in the environment (90.5%), environmental principles in sectoral strategies (68.1%), and the quality of air (63.1%) (Ministry of Environment, 2014, p. 220).

Besides transport, key sectors with the biggest allocations under the OP Infrastructure and Environment are environment and energy (Table 3). By the end of December 2013, 267 out of 763 projects in the area of the environment were completed. That means two thirds of projects are still running (Ministry of Infrastructure and Development, 2014c, p. 27).

Table 3. Data on the implementation of the Operational Programme Infrastructure and Environment as at 31 October 2014

Priority	Applications submitted for the EU co-financing (after formal assessment)*		Co-financing agreements signed			Payments made to beneficiaries	
	Number	Co-financing (in PLN)	Number	The EU component (in PLN)	% of the delivered EU commitments	Eligible expenditure in the EU component	% of the delivered EU commitments
I. Water and waste management	632	17,522,750,368	472	12,391,724,500	96.5%	7,535,262,303	58.7%
II. Waste management and soil protection	111	7,932,620,215	70	4,195,792,656	96.2%	1,561,773,838	35.8%
III. Resource management and counteracting environmental hazards	28	5,804,142,998	24	2,297,308,436	89.8%	1,032,161,702	40.3%
IV. Adjusting businesses to environmental requirements	379	2,222,776,852	233	1,040,987,092	100.0%	744,281,567	71.5%
V. Nature protection and developing environmentally-friendly attitudes	376	896,601,083	173	377,381,842	100.4%	275,768,123	73.3%
VI. TEN-T road and air networks	66	67,168,798,003	62	39,728,102,396	106.3%	35,222,763,601	94.3%
VII. Environmentally-friendly transport	182	43,595,104,759	171	31,047,859,693	95.8%	12,444,456,217	38.4%
VIII. Security in transport and national transport networks	151	21,301,028,269	114	12,754,312,314	99.2%	10,344,650,627	80.5%
IX. Environmentally-friendly energy infrastructure and energy efficiency	1,112	7,261,972,414	300	3,107,881,701	99.0%	2,200,738,422	70.1%
X. Energy security and diversification of energy sources	81	6,189,757,305	47	3,853,171,380	98.2%	2,420,267,346	61.7%

Priority	Applications submitted for the EU co-financing (after formal assessment)*		Co-financing agreements signed			Payments made to beneficiaries	
	Number	Co-financing (in PLN)	Number	The EU component (in PLN)	% of the delivered EU commitments	Eligible expenditure in the EU component	% of the delivered EU commitments
XI. Culture and cultural heritage	172	5,233,673,706	79	2,303,536,214	99.7%	1,567,122,116	67.8%
XII. Health security and improved efficiency of health protection	487	2,178,595,292	355	1,671,370,893	101.6%	1,259,521,842	76.6%
XIII. Higher education infrastructure	83	4,357,695,653	55	2,651,906,659	98.2%	1,791,052,007	66.3%
XIV. Technical assistance – ERDF	119	168,015,881	117	119,421,655	108.0%	80,396,985	72.7%
XV. Technical assistance – Cohesion Fund	383	1,547,823,410	377	1,244,853,096	102.2%	805,329,489	66.1%
<b>TOTAL</b>	<b>4,362</b>	<b>193,381,356,207</b>	<b>2,649</b>	<b>118,785,610,529</b>	<b>99.9%</b>	<b>79,285,546,184</b>	<b>66.7%</b>
ENVIRONMENT	1,526	34,378,891,515	972	20,303,194,526	95.9%	11,149,247,533	52.6%
TRANSPORT	399	132,064,931,030	347	83,530,274,404	101.1%	58,011,870,444	70.2%
ENERGY	1,193	13,451,729,718	347	6,961,053,082	98.6%	4,624,005,768	65.4%
CULTURE	172	5,233,673,706	79	2,303,536,214	99.7%	1,567,122,116	67.8%
HEALTH	487	2,178,595,292	355	1,671,370,893	101.6%	1,259,521,842	76.6%
HIGHER EDUCATION	83	4,357,695,653	55	2,651,906,659	98.2%	1,791,052,007	66.3%
TECHNICAL ASSISTANCE	502	1,715,839,291	494	1,364,274,752	102.7%	885,726,475	66.6%
<b>TOTAL</b>	<b>4,362</b>	<b>193,381,356,207</b>	<b>2,649</b>	<b>118,785,610,529</b>	<b>99.9%</b>	<b>79,285,546,184</b>	<b>66.7%</b>

\* Refers to applications entered into the IT system (formally correct)

Source: KSI SIMIK 07–13; report of 3 November 2014, DPI; [www.pois.gov.pl/AnalizyRaportyPodsumowania/Documents/Zal\\_1\\_Dane\\_finansowe.pdf](http://www.pois.gov.pl/AnalizyRaportyPodsumowania/Documents/Zal_1_Dane_finansowe.pdf), last accessed on 17.12.2014.

The EU resources under the programmes OP Infrastructure and Environment ROP, Rural Development Programme (PROW) and WFOŚiGW (Regional Fund for Environmental Protection) were used for projects relevant for the environment, such as: waste water management, waste management, energy efficiency and the use of renewable energy sources, protection of nature, forests, and the promotion of organic farming. Resources from the NFOŚiGW (National Fund for Environmental Protection) were used mostly to finance measures essential for appropriate functioning of environmental protection systems (Ministry of Environment, 2014, pp. 222–223).

Foreign assistance was addressed to actions linked with water protection and water management, environmental protection, and the protection of air (GUS, 2014, p. 494). The period covered by the study was the time when financial means were allocated to necessary environmental infrastructure, in particular water and sewage infrastructure and the modernisation and construction of new waste water treatment plants. The years 2004–2012 witnessed the expansion of water supply installations by almost 21.9% to the level of 283.1 k km. The highest increase was reported for Mazowieckie voivodeship (by 11.4 k km) and Warmińsko-Mazurskie (by 4.5 k km) (Ministry of Infrastructure and Development, 2014a, pp. 49–50). Also the sewage system was expanded by 82.4% reaching 125.6 k km in 2012. As a result, in 2012 the share of households connected to the water supply system increased by 7.8% compared to 2004 and amounted to 87.9%, while the share of connections into the sewage system increased by almost one third, i.e. by 32.5% and increased to 64.3%. (Ministry of Infrastructure and Development, 2014, p. 100). The biggest changes with this respect took place in the following voivodeships: Zachodniopomorskie, Warmińsko-Mazurskie, Lubuskie, Lubelskie, and Świętokrzyskie where living standard of the population either reached or came very close to the national average. Investment projects were accompanied by the construction or modernisation of 683 municipal waste water treatment plants, which through the application of new technologies importantly contributed to higher efficiency of treatment (Ministry of Foreign Affairs, 2014, pp. 152–153).

Measures aimed at restoring quality clean water in gminas and regions were one of the key priorities of environmental protection. Environmental projects implemented with the support from the EU funds represented 15% of the total expenditure incurred in the period 2004–2012 with the highest per capita spending in the following voivodeships: Zachodniopomorskie, Mazowieckie (over PLN1.8 k in each) and Opolskie (over PLN 1.6 k) (Ministry of Infrastructure and Development, 2014a, p. 51). These funds enabled necessary investment projects in gminas at the scale and within the time much more favouring their growth, contributed to the making up for the years of lagging behind and reduced serious local environmental hazards.

Initiatives in the area of air protection in many cases boiled down to the reduction of hazardous emissions containing carbon oxide, sulphur, nitrates, dust, and other hazardous substances and they translated into a considerable increase in investments in the use of renewable energy sources, mainly wind energy and biofuels. They have led to the increase in the share of renewable energy sources in the production of electricity from 5.5% in 2004 to 11% in 2012 (Ministry of Foreign Affairs, 2014, p. 158). Thus the structure of electricity generation slowly evolves in Poland, although it is still dominated by traditional coal and lignite power plants. About 54% of electricity is generated in three regions in Poland, i.e. in Śląskie, Mazowieckie, and Łódzkie voivodeships while the share of renewable energy sources remains small (Wiśniewski, 2011, p. 94). Renewable energy sources enjoyed the biggest share in electricity generation in 2012 in Warmińsko-Mazurskie (74.4% compared to 16.8% in 2005) and Podlaskie – 60.2% while the lowest share was reported for Lubuskie – 1.5% and Łódzkie – 3.3% (Ministry of Infrastructure and Development, 2014c, pp. 53–54). In terms of installed power, renewable energy sources dominate in Kujawsko-Pomorskie (hydro energy), and Zachodniopomorskie (wind energy) voivodeships. Smaller wind energy installations can be found in the following voivodeships: Wielkopolskie, Pomorskie, and Podlaskie, while electricity in Śląskie voivodeship is generated in co-combustion process.

## 5. Conclusions

As a result of changing internal and external circumstances, economic integration in Europe is marked with changes in many policies, their goals and instruments. Also the structure of expenditure from the EU budget evolved and gradually more and more resources were allocated to stimulate the competitiveness and sustainable growth of the least developed regions instead of taking advantage of their disparities. Environmental policy and its cohesion with other policies as well as the possibility to benefit from subsidies from the EU budget opened up development opportunities to many regions in Poland. Poland's membership in the European Union obliges us to implement the vast EU legislation into our national law. That implies obligations often difficult to comply with by economic operators, territorial self-government units or other bodies, however, it also stimulates further efforts for the protection of the environment.

Environmental investments in Polish regions, started in the period 2007–2013 and implemented with significant EU financial support, were consistent with goals and assumptions of both Polish and the EU environmental policy.



Infrastructural projects in gminas and regions co-financed with the EU resources, directly or indirectly, influenced the condition of the environment. Subsidised environmental projects were expected to eliminate developmental drawbacks, limit major environmental hazards, and encourage to use environmental resources for innovative development of gminas and regions. Environmental investment projects in gminas resulted from local conditions and needs.

The analysis demonstrates that the EU funds used in the period 2007–2013 had a positive impact on the protection of water and water management, environmental protection and the protection of air and, by that, they have contributed to desirable changes in natural environment in Poland and to the development of its regions. New investments and modernisation projects improved the quality of life in many gminas and regions in Poland. They have also become the basis for further environmental efforts and actions connected with the use of local resources and economic mobilisation in gminas and regions.

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# **Regional Dimension of State Aid to Entrepreneurs After Poland's Accession to the European Union**

## **Abstract**

State aid is one of the economic policy instruments enhancing competitiveness of national entrepreneurs at national and regional level. There are many types of state aid which may have an impact on the growth of companies. On the other hand, public interventions should take place only to tackle market failures. The aim of the study is to identify the scope of support and spatial distribution of public resources earmarked for the development and enhancing the competitiveness of undertakings in voivodeships in Poland after accession to the EU as well as the assessment of potential impact of granted subsidies on the change of selected indicators of social and economic development at regional level. The study revealed that in the period covered by the research, only ca. 30% of public aid could be considered aid designed to directly improve the competitiveness of companies. The research does not let formulate conclusions on positive impact of aid granted for SMEs development, R&D&I, training or regional aid on respective social and economic indicators.

## **1. Introduction**

State aid includes all types of preferences granted to economic operators or their products from resources managed by public authorities. The notion covers domestic funds from local, regional and central government coffers as well as the EU funds together with co-financing from the central budget earmarked for economic operators. The definition was repeated in Art. 107 par. 1 of the Treaty on the Functioning of the European Union, which concerns aid granted by a Member State or through State resources in any form whatsoever, which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods.

After the EU accession, state aid in Poland can be granted only in accordance with the EU legislation. In 2005 European Union introduced a wide range of reforms

to rules of granting state aid to undertakings in an attempt to adjust it to both the new financial perspective for the period 2007–2013 and to the implementation of the Lisbon Strategy (Ambroziak, 2005). At that time the so called pro-Lisbon aid was identified as a support that could reinforce the competitiveness of the European Union in global markets in accordance with the competition rules. The possibilities of granting sectoral aid got seriously restricted in favour of an increased role of horizontal aid. The aim was to ensure that public interventions take place only when we are dealing with the so called market failure (e.g. high risk innovative ventures, the need to re-train the staff, to return those excluded from the labour market into the economy, environmental aspects and combating climate change, ensuring access to transport and telecommunication infrastructure). Relatively wide room of manoeuvre was left for granting the so called regional aid designed to reduce costs to operators investing in less developed regions (European Commission, 2005; Ambroziak, 2006)<sup>1</sup>.

The aim of the study is to identify the scope of support and spatial distribution of public resources earmarked for the development and enhancing the competitiveness of undertakings in voivodeships in Poland in the period 2007–2013 as well as the assessment of potential impact of granted subsidies on the change of selected indicators of social and economic development at regional level. In order to fully reflect trends in the directions of transfers of public resources to enterprises we analysed the entire period following the EU accession (starting from 2005, the first full year of membership) divided into three sub-periods of three years each: 2005–2007 (immediately after the accession without any meaningful allocation of the EU resources), 2008–2010 (when economic crisis broke out and when the funds from the financial perspective 2007–2013 were launched), 2011–2013 (after the crisis when most of the EU funds have already been disbursed).

The study covered only selected types of aid, which, in the author's opinion, may impact the growth and competitiveness of companies in the most direct way. As we have already mentioned, public interventions can take place only to tackle market failures. The following market failures, which inhibit or prevent from improving the ability of Polish enterprises to compete in international markets have been identified for Polish regions:

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<sup>1</sup> In parallel to these processes, private entrepreneurs started entering areas previously reserved exclusively for the State. As a result many activities, which by their nature call for the support from public resources (e.g. selected services rendered in general economic interest) started being pursued by private operators. The reason was to guarantee possibly the highest efficiency of public spending on aims to be achieved by public authorities (e.g. public transport). Under such circumstances, pursuant to the EU law, it is possible to identify aid element in transfer payments from the State to undertakings, which means these transfers must be subject to the EU state aid rules (Commission Decision of 20 December 2011).

- little funds allocated for research and implementation of innovative solutions, which implies relatively high business risk for such activities (Community Framework for State Aid for Research and Development and Innovation, 2006);
- mismatch between the quality and skills of labour and new expectations of employers who internationalise their operations and need to retrain their workers;
- difficult access to financing for initiatives undertaken by small and medium-sized enterprises (SMEs) whose own capital is limited and who do not have an army of advisors like large companies;
- little attractive investment perspectives in less developed regions, which result in higher additional cost of new investments compared to better developed areas, that translates into fewer start-ups and fewer new jobs thus weakening development trends (Guidelines on National Regional Aid for 2007–2013, 2006).

In the years 2005–2013 state aid, besides the above mentioned objectives, targeted also other social tasks which could impact the competitiveness of Polish enterprises only indirectly or not at all. That is why the study did not cover the following categories of aid:

- employment aid since it is granted almost exclusively as wage subsidies to encourage the hiring of the disabled and ca. one third of the total amount is paid to companies offering security and detective services (Office of Competition and Consumer Protection, 2014). Although we do not question the need to reintegrate the disabled into the labour market, it is hard to find any direct link between public subsidies and the competitiveness of companies in this case;
- aid for environmental protection, as most of these resources were *de facto* allocated to concrete, sectoral aims: modernisation of heat and energy distribution networks, undertakings connected with exploring geothermal waters or the production of bio-fuels. Support to, e.g. investment projects to implement clean and energy saving technologies or to save raw materials was marginal compared to the above mentioned activities (Office of Competition and Consumer Protection, 2014). Precise analysis is not possible as available data cannot be compared due to differences in classifications applied to public interventions in individual years of the period covered by the study;
- aid for rescuing and restructuring of firms, since this type of aid is designed to help inefficient firms survive for a short period necessary to develop a restructuring plan or to create conditions necessary to restore long-term viability of a company (Community Guidelines on State Aid For Rescuing and Restructuring Firms In Difficulty, 2008). It means the aid is granted to keep companies in the market rather than to improve their performance in international markets;

- sectoral aid addressed to concrete industries as there is no clear economic programme in Poland that would specify, which of them are fundamental for improving the competitiveness and foster economic growth. There are programmes, which identify horizontal activities and which can be supported with public resources earmarked for aid to research, development and innovation (R&D&I), training or SMEs development (Ministry of Economy, 2011, 2013, 2014).

## 2. Classification of Regions

In order to assess geographical trends in public interventions and to evaluate the intensity of granted support and its potential effect on selected indicators of regional development we divided Polish voivodeships into three groups: more developed, moderately developed and less developed.

Gross Domestic Product (GDP) per capita and unemployment rate compared to the EU average are usually used to identify the level of regional development and maximum aid intensities (Guidelines on National Regional Aid for 2007–2013, 2006). However, as already demonstrated in earlier surveys (Ambroziak, 2015), making reference to relative GDP or unemployment only is a too far reaching simplification. Hence, to more precisely distinguish the groups of voivodeships in Poland, we analysed data from the labour market and the performance of companies. In the first case, besides the already mentioned unemployment rate, we analysed its dispersion across counties within the same voivodeship as well as the proportion of working age population who are unemployed by educational attainment. That helped us to take account of divergences recorded for regions proportionally to the unemployed and working population as well as to match the skills of the labour force and the job offers in particular regions. When grouping the voivodeships we also used data, which describe the situation of enterprises: their overall number and the number of start-ups per 10,000 of inhabitants, investment outlays and fixed assets per capita, and, finally, the value of production sold per capita. In most cases we also considered the dispersion within a voivodeship at the level of counties. As a result we were able to grasp the homogeneity of regions in terms of companies engagement in investment activities expressed as investment outlays and the value of accumulated fixed assets.

We assumed the first full year after the Poland's EU accession to be the reference period with respect to which data were collected on social and economic performance of regions. Most of aid schemes offering public funds to enterprises were developed in the period preceding the financial perspective 2007–2013. Taking account of the above assumptions we have distinguished three groups of regions (Table 1):

Tabela 1. Ranking of voivodeships based on GDP per capita, unemployment and performance of companies in 2005

	GDP per capita (Poland = 100)	Unemployment rate (PL=100)	Unemployment rate dispersion	Proportion of unemployed people with higher education in working age population	Proportion of unemployed people with general secondary education in working age population	Proportion of unemployed people with basic vocational education in working age population	Registered start-ups per 10K of inhabitants	Dispersion of start-ups per 10 K of inhabitants	Number of economic operators per 10 K of inhabitants	Dispersion of economic operators per 10 K of inhabitants	Investment outlays per capita	Gross value of fixed assets in companies per capita	Dispersion of gross value of fixed assets in companies per capita	Total industrial production sold per inhabitant
Dolnośląskie (I)	102.1	117.5	0.285	0.600	0.850	4.150	76.0	0.299	1,050.0	0.195	3,783.5	27,232.0	0.9605	18,289.5
Kujawsko-Pomorskie (III)	88.0	125.5	0.245	0.500	1.000	5.250	62.0	0.192	900.0	0.217	2,438.0	18,820.0	0.5108	15,422.5
Lubelskie (III)	68.9	95.2	0.165	0.900	1.000	3.700	48.5	0.310	684.0	0.279	1,920.0	14,606.0	0.6097	7,943.5
Lubuskie (II)	89.3	132.7	0.291	0.500	0.900	5.050	77.5	0.212	996.0	0.194	3,007.5	20,619.5	0.5953	14,387.5
Łódzkie (II)	92.0	102.2	0.210	0.700	1.100	3.750	60.5	0.191	957.0	0.182	3,146.5	22,188.5	1.0251	14,058.0
Małopolskie (III)	85.7	78.7	0.318	0.550	0.750	3.350	60.0	0.239	886.5	0.270	2,951.5	20,357.0	0.6038	13,880.5
Mazowieckie (I)	155.7	77.9	0.480	0.600	0.800	3.400	76.5	0.245	1,152.5	0.252	5,471.5	50,301.5	0.5420	27,109.5
Opolskie (II)	83.9	105.8	0.343	0.500	0.700	3.550	50.0	0.244	853.0	0.271	2,382.5	25,423.0	0.6147	16,751.0
Podkarpackie (III)	69.8	102.8	0.258	0.750	0.950	4.600	44.0	0.317	664.0	0.324	2,392.5	16,288.0	0.6853	11,469.0
Podlaskie (III)	74.3	86.7	0.285	0.700	0.850	2.950	53.5	0.355	749.0	0.267	2,520.0	15,676.5	0.4881	9,768.0
Pomorskie (I)	98.3	110.9	0.447	0.550	0.900	4.150	77.0	0.241	1,023.5	0.293	3,206.0	24,084.0	0.5395	18,476.0
Śląskie (I)	110.2	88.5	0.299	0.500	0.600	3.200	59.5	0.211	911.5	0.205	3,173.5	30,394.0	0.5726	27,221.5
Świętokrzyskie (III)	76.1	116.4	0.307	1.200	1.250	5.200	49.0	0.283	806.5	0.283	2,323.5	17,828.0	0.7039	11,805.0
Warmińsko-Mazurskie (III)	76.8	154.1	0.243	0.600	1.200	5.500	65.5	0.194	766.5	0.205	2,450.0	15,402.0	0.5852	10,973.5
Wielkopolskie (I)	107.1	83.4	0.355	0.500	0.700	3.700	69.5	0.208	1,003.0	0.211	3,796.0	25,516.5	0.5107	22,977.0
Zachodniopomorskie (I)	91.7	145.1	0.281	0.700	1.250	4.950	87.5	0.179	1,206.5	0.258	2,867.0	22,121.5	0.5757	12,214.5

Explanatory note:

- the name of a voivodeship (I, II, III): I – more developed voivodeships, II – moderately developed voivodeships, III – less developed voivodeships;
- the darker the box, the more developed the region.

Source: Own calculations based on the Database of Local Data Bank of the Central Statistical Office.

- more developed with relatively smaller problems in the labour market and in enterprises (Dolnośląskie, Mazowieckie, Pomorskie, Śląskie, Wielkopolskie);
- moderately developed with enterprises moderately engaged in creating new jobs and in investment (Lubuskie, Opolskie, Zachodniopomorskie);
- less developed experiencing serious problems in the labour market and with investment effects clearly below the average (Kujawsko-Pomorskie, Lubelskie, Małopolskie, Podkarpackie, Podlaskie, Świętokrzyskie, and Warmińsko-Mazurskie).

### 3. Main Trends in State Aid to Entrepreneurs

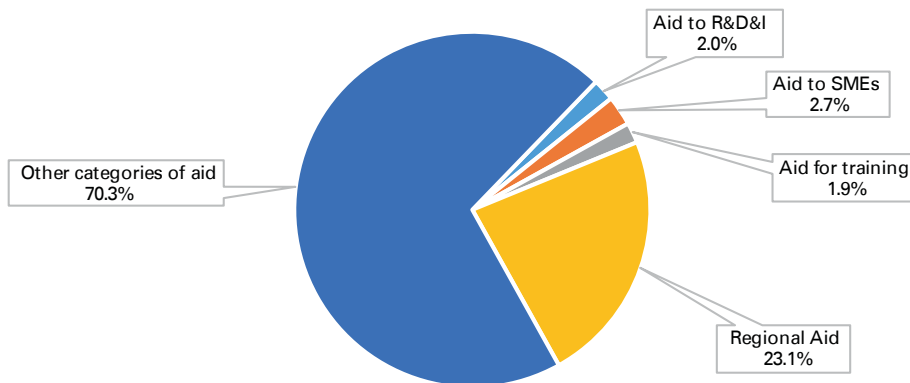
The period of 2005–2013 witnessed the evolution of both the amount and structure of state aid granted to entrepreneurs in Poland. In the first three years of the period covered by the study, i.e. 2005–2007 the total amount of state aid (calculated as gross grant equivalent – GGE) granted in Poland was slowly increasing from PLN 8.2 bn to PLN 9.5 bn. Clear increase was recorded in the following two years when the total amount of aid tripled reaching almost PLN 33.3 bn in 2009. That coincided with two important events: economic crisis and the beginning of spending the EU resources under the financial perspective 2007–2014. However, already since 2010 the amount has gradually dropped to PLN 24.4 bn although in the last two years of the perspective it grew again on average by 10% annually. Altogether, in the years 2005–2013 granted state aid exceeded PLN 204 bn and only ca. 30% (PLN 60.8 bn) can be treated as growth promoting horizontal aid (aid to R&D&I – 2.0% of total aid, aid to SMEs – 2.7%, aid for training – 1.9%, and regional aid – 23.1%). It means horizontal aid represented only 22% of growth promoting aid in the analysed period while the rest of resources were distributed as regional aid. Other categories of aid, which slightly, indirectly or not at all contributed to the competitiveness and development of Polish enterprises had the biggest share in public interventions (Figure 1).

In the first three years following the Poland's EU accession growth promoting horizontal aid was dominated by aid to small and medium-sized enterprises granted primarily as subsidies for new investment projects. Since 2008 when resources from 2007–2013 financial perspective were launched the same objective could be financed from regional aid schemes. Aid schemes aimed at strengthening the competitiveness of Polish companies through innovation ranked second. However, they were gradually increasing starting from 2009. It is also worth noting that in the years covered by the study aid granted for improving the quality of human capital through training was continuously available to enterprises and its amount increased particularly only in the period 2009–2011. Regional aid, the last category of growth promoting aid, has



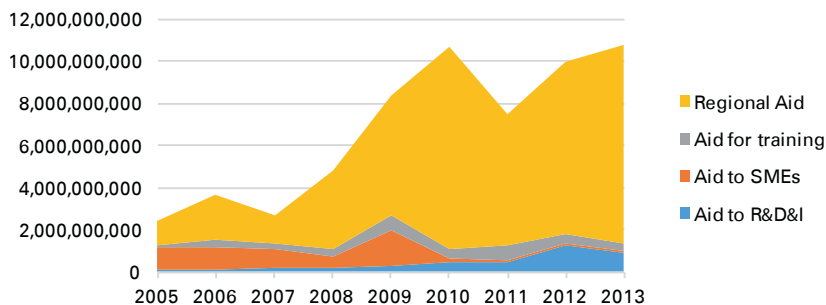
been granted to enterprises since the beginning of our EU membership in amounts exceeding the sums allocated for growth promoting horizontal aid, which we hereby discuss (Figure 2).

**Figure 1. Structure of state aid granted in Poland in the years 2005–2013**



Source: Own calculations based on the Office of Competition and Consumer Protection data.

**Figure 2. Changes in the structure of growth promoting aid in Poland in 2005–2013 (PLN)**

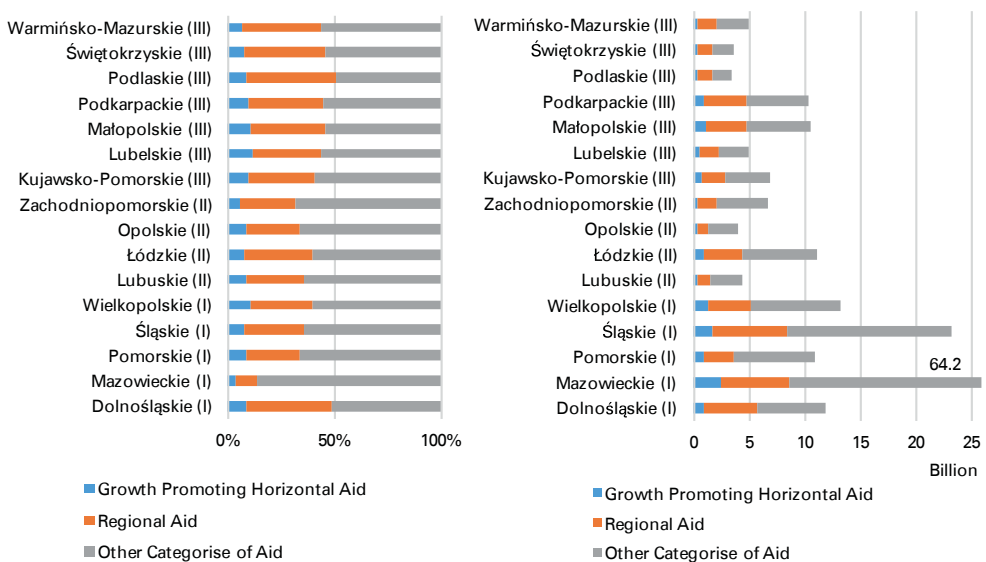


Source: See Figure 1.

In absolute terms, the majority of growth promoting aid was earmarked in 2005–2013 to voivodeships from group I, i.e. the most developed (Mazowieckie, Śląskie, Dolnośląskie and Wielkopolskie). The smallest amount of assistance granted in the form of growth promoting horizontal aid was recorded in less and the least developed regions. These voivodeships were dominated with regional aid which did not require any specialist R&D back-up or the presence of high quality human resources (Figure 3). Based on that we can conclude that general direction of

transfers within growth promoting state aid took account of the development levels of assisted voivodeships and the quality of endogenous factors as at 2005. Considering, however, the amount of resources compared to the total of public interventions, one may doubt the effect of growth promoting aid upon basic social and economic indicators in regions. More precise diagnosis will be feasible when we include the outcomes of the analysis of how relative (not only absolute) values evolved, where the aid was addressed and who were the beneficiaries of its individual categories.

**Figure 3. Absolute amounts (PLN) and structure of cumulated growth promoting and other aid (%) in Poland in 2005–2013**



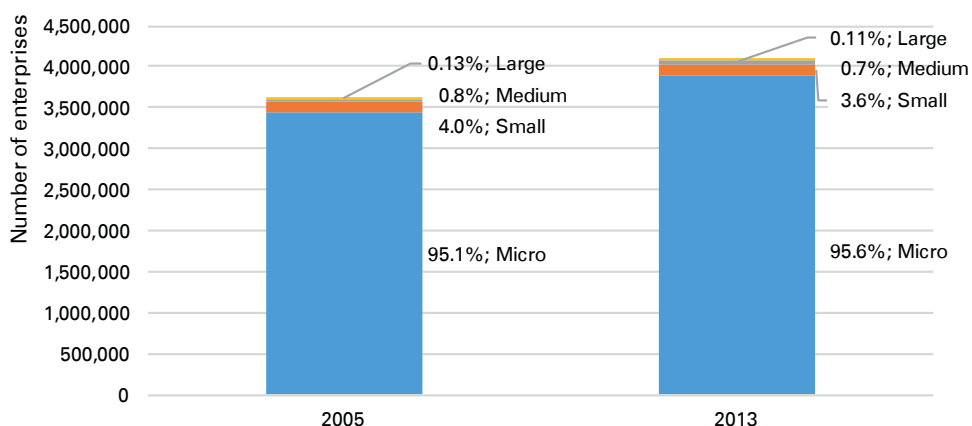
Source: See Figure 1.

### 3.1. Aid to SMEs

In 2005–2013 the highest share (41.3%) in growth-promoting horizontal aid was reported for aid to SMEs, which accounted for ca. 2.7% of the total amount of state aid granted in Poland. It is worth noting that, in terms of numbers, SMEs dominate in the population of Polish companies (ca. 99%). SMEs are mainly micro businesses (which employ up to 9 people), usually with little capital and the staff recruited from family members. Enterprises generate almost three fourths of GDP and the SMEs contribute to ca. 68% of it (micro: 44.8%, small: 10.5%, medium: 12.7%), and large enterprises provide the remaining 32% (Figures 4 and 5). It means that SMEs and

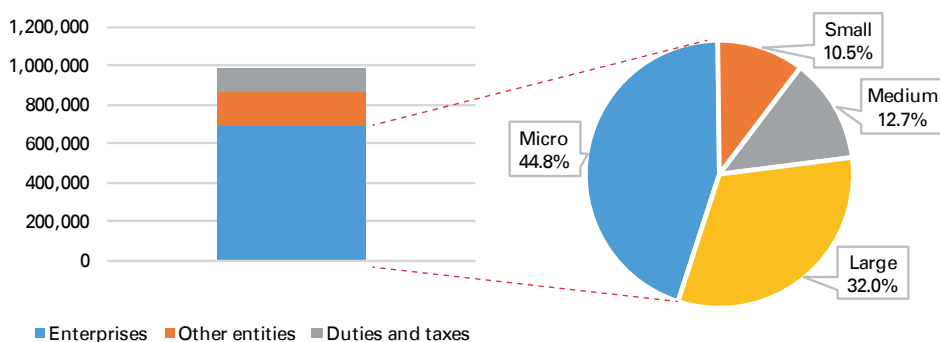
micro businesses in particular have an important impact on economic growth of Poland. Hence we should expect special treatment of SMEs in the policy of public interventions in Poland, which should eliminate permanent market failures faced by these enterprises.

**Figure 4. Polish enterprises by size in 2005 and 2013**



Source: Own calculations based on the data from Database of the Local Data Bank of the Central Statistical Office.

**Figure 5. Composition of GDP broken down by categories of enterprises in Poland in 2005**

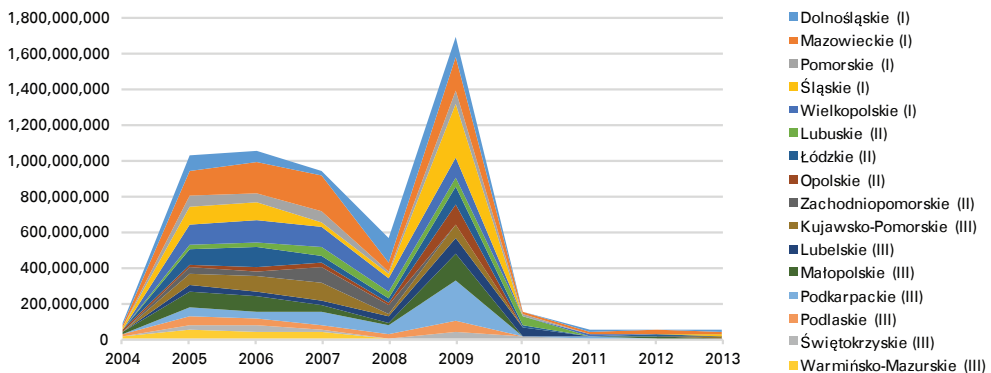


Source: Polish Agency for Enterprise Development (2013, p. 16).

The amount of aid allocated for SMEs growth in 2005 exceeded PLN 1 bn but it decreased in subsequent years to almost PLN 0.56 bn in 2008. Special attention should be paid to 2009 when aid granted to SMEs rapidly increased to reach the highest amount in the analysed period of PLN 1.7 bn. In the years that followed

granted subsidies dropped again to the level of PLN 0.15 bn in 2010 and in the years 2011–2013 to ca. PLN 0.05 bn annually (Figure 6). The first half of analysed period was dominated by aid granted to new investments in SMEs (95–99% of aid for SMEs development), however, as available resources got quickly exhausted, the aid to the sector in subsequent years boiled down to partial reimbursement of the cost of consulting services, which often could be rendered by other beneficiaries. These subsidies improved financial standing of companies but it is hard to say if they could contribute to their meaningful development. In absolute terms, the highest amount of aid to SMEs was granted in 2005–2013 in the voivodeships: Mazowieckie, Wielkopolskie, Śląskie and Dolnośląskie, i.e. in the group of relatively more developed regions. The list can be supplemented with Podkarpackie, where a substantial financial intervention was conducted for SMEs in the crisis year 2009.

**Figure 6. Change in geographical distribution of aid granted for SMEs development in Polish voivodeships in 2005–2013 (PLN)**

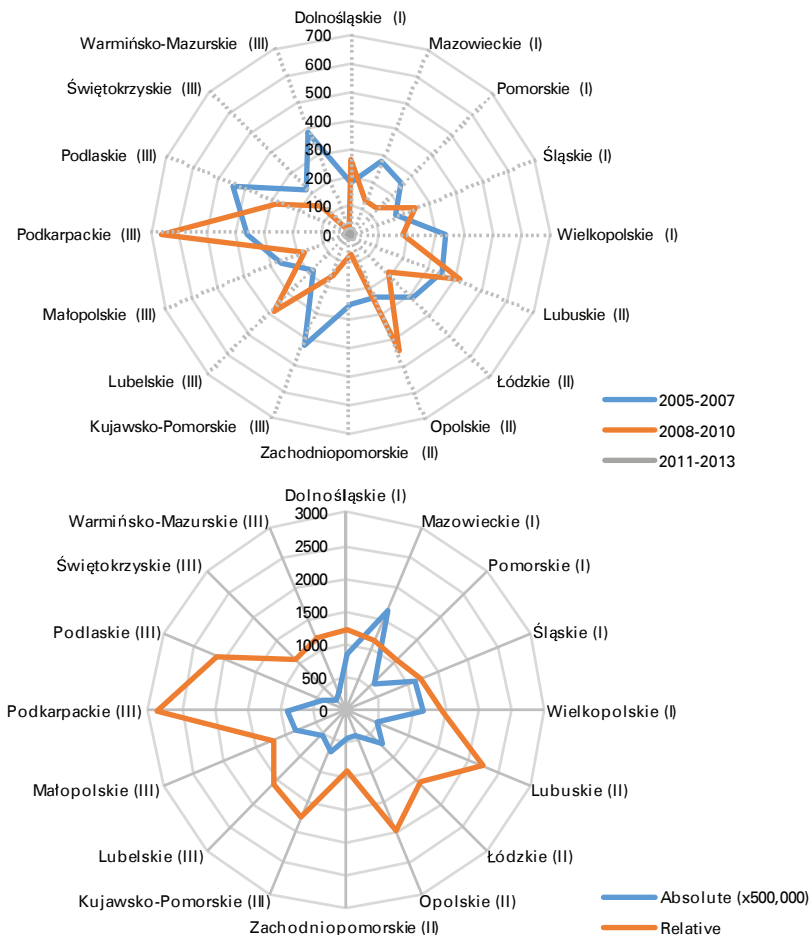


Source: See Figure 1.

When analysing average relative amounts (per a single potential beneficiary) of aid to SMEs we can notice a significant change in the years 2005–2013 (Figure 7). In the first three-year period 2005–2007 the highest aid to SMEs per economic operator was granted in the following voivodeships: Mazowieckie, Wielkopolskie, Lubuskie, Łódzkie, Kujawsko-Pomorskie, Podkarpackie, Podlaskie, and Warmińsko-Mazurskie (from PLN 278 to 443 per potential beneficiary). In the years of economic crisis, 2008–2010, we can clearly see the increase in average aid granted in Dolnośląskie, Śląskie, Opolskie, Lubelskie, and Podkarpackie (up to PLN 664). Then, as we have already mentioned, aid to SMEs dropped dramatically (to several PLN), although the leaders in relative amounts of aid remained the same.

Based on the study of cumulated amounts of aid granted to the SMEs in 2005–2013 we can conclude that the most of aid was available in richer regions (Mazowieckie, Śląskie, Wielkopolskie, and Dolnośląskie), however, the comparison of absolute amounts to the number of potential beneficiaries introduces also voivodeships from moderately or the least developed regions (Podkarpackie, Lubelskie, Kujawsko-Pomorskie, Opolskie, and Lubuskie) into the list of voivodeships where aid to SMEs was the highest (Figure 7).

**Figure 7. Regional distribution of aid for SMEs development in 2005–2013 (PLN)**



Explanatory notes:

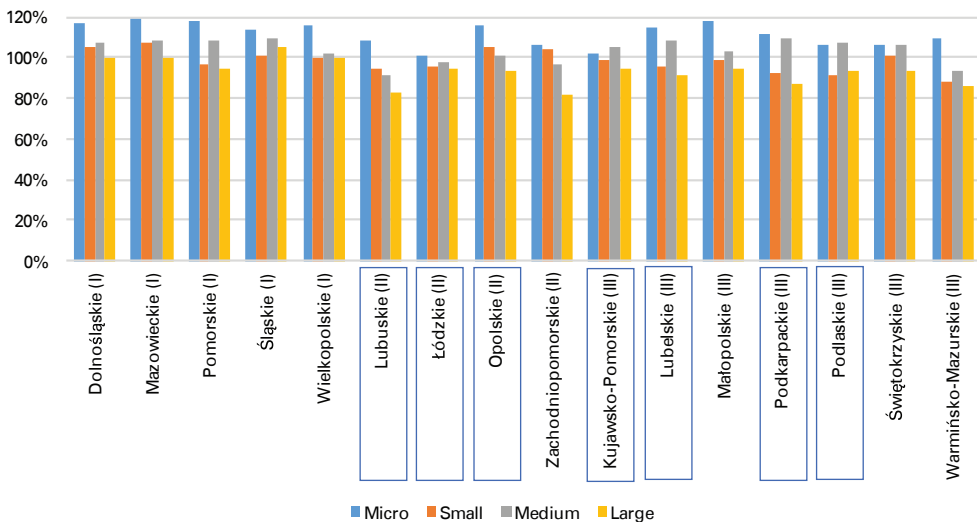
Figure on the top: average relative amount of aid for SMEs growth (in relation to the number of economic operators in a given year) in 2005–2013.

Figure on the bottom: absolute (GGE) and relative (in relation to the number of economic operators as at the end of 2013) cumulated aid for SMEs development in 2005–2013.

Source: See Figure 1.

Higher amount of state aid for SMEs development available per economic operator should be accompanied by the increase in the numbers of SMEs start-ups in the region. Firstly, higher intensity and availability of aid should translate into bigger interest in receiving such resources and, consistently, into the inflow of SMEs at least from neighbouring voivodeships and the establishing of start-ups by local population. Secondly, more investment projects, which were the primary objective of aid to SMEs in the first years of analysed period, should increase demand for additional services connected with the implementation of such projects rendered by the SMEs rather than by large companies. Thirdly, expected growth of assisted firms should increase demand for links with local suppliers and business clients for goods and services offered by the beneficiaries, which should also increase the number of economic operators in the region.

**Figure 8. Changes in the population of entrepreneurs per 10 thous. working age inhabitants by the size of companies in 2013 compared to 2005 (2005 = 100%)**



Explanatory note: names of voivodeships in boxes indicate aid to SMEs per a single economic operator above the average for all regions in Poland.

Source: See Figure 4.

But the above hypothesis is not confirmed by the analysis of the change in relative numbers of SMEs in individual voivodeships. The highest increase in the number of SMEs per 10 thous. working age inhabitants was recorded foremost in richer and more developed regions although aid amount per economic operator was smaller. In voivodeships where average aid was higher, the dynamics of increase in the number

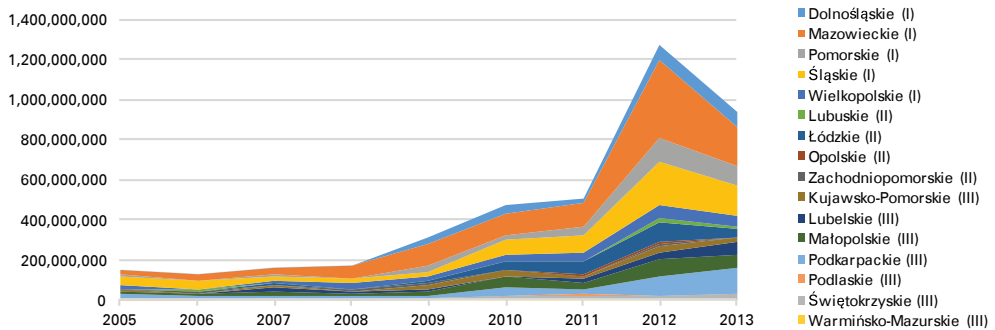
of firms per 10 thous. inhabitants was lower or even on the negative side. Only in Opolskie and Kujawsko-Pomorskie higher resources granted for SMEs growth were accompanied by the increase in relative numbers of firms in voivodeships (per 10 thous. working age inhabitants) (Figure 8). That allows us to conclude that higher intensity of aid for SMEs growth in moderately and the least developed regions was not accompanied by meaningful increase in the relative number of economic operators.

### 3.2. State aid for R&D&I

Aid for research, development and innovation (R&D&I) ranked second with respect to the amount of absolute growth promoting horizontal aid. It became admissible under the EU law as a result of the recognition of market failure in the area. Market participants usually do not consider (positive) externalities which got transferred to other economic operators and research, development and innovation projects may suffer from insufficient access to finance (because of information asymmetry) or coordination problems among enterprises (Community Framework for State Aid for Research and Development and Innovation, 2006). Obviously, to be competitive, companies should conduct R&D works and commercialise the results of research, however, sometimes they are prevented from doing so by the lack of resources (that is true mostly for small firms) and high uncertainty when it comes to the effects. This is clearly a reflection of some lack of entrepreneurship spirit as risk is inherent to any economic activity. Nevertheless, the European Commission admitted the possibility of public interventions in the R&D&I area. Considering the nature of aid, we should expect support to be granted mostly in richer regions, where companies are engaged in R&D activities to improve their competitive position on the market.

The amount of R&D&I aid in Poland was gradually increasing starting from 2005 (from PLN 152.7 m), however, the data clearly demonstrate that the launching of resources under the financial perspective 2007–2013 helped increase the aid considerably from 2009 (PLN 311.5 m) until 2013 (PLN 936.9 m). That was true mostly in the richest regions of Poland (Mazowieckie, Śląskie, Pomorskie and Wielkopolskie voivodeships). As a rule, the tendency should be considered correct as economic operators with innovation potential establish themselves in richer regions where, thanks to public assistance, they can speed up or intensify their R&D programmes. Special attention needs to be paid to Podkarpackie voivodeship where aid to R&D&I significantly increased in 2012 (most probably because economic operators established in the special economic zone got interested in this category of aid) (Figure 9).

**Figure 9. Change in geographical distribution of aid to research, development and innovation in Polish voivodeships in 2005–2013 (PLN)**



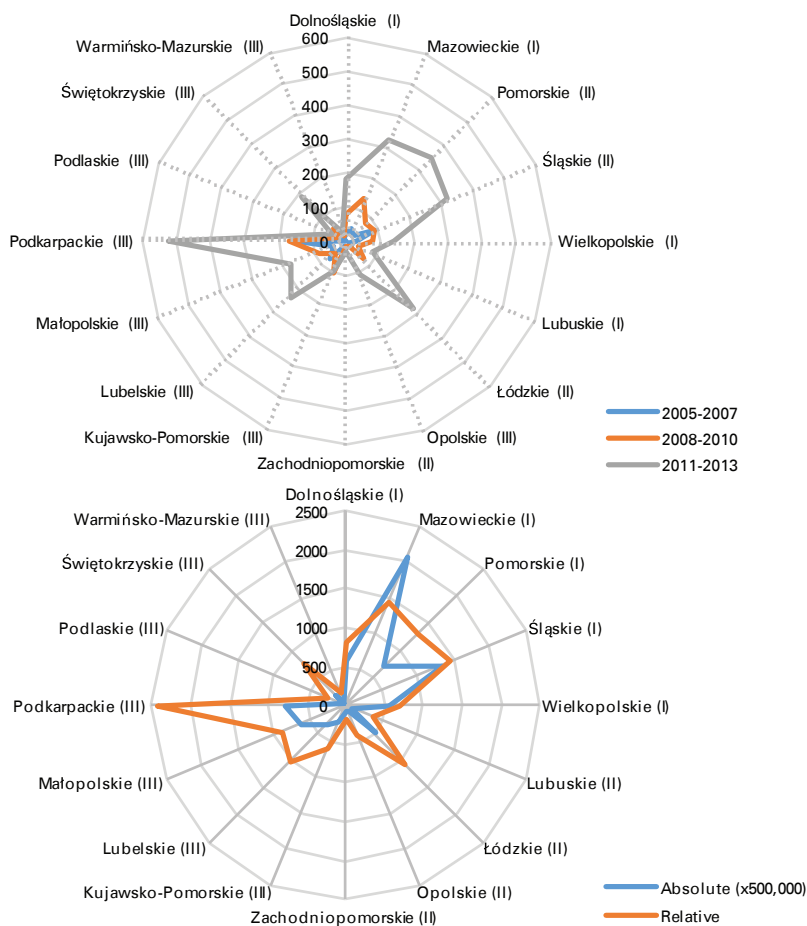
Source: See Figure 1.

For the sake of better comparability of data amounts of R&D&I aid in individual voivodeships were referred to the average size of the population of registered economic operators. On top of that, we distinguished three 3-year periods before, during and after the economic crisis: 2005–2007, 2008–2010 and 2011–2013 (Figure 10). The analysis gave grounds to conclude that substantial amounts of aid to R&D&I per potential beneficiary were continuously, although not evenly, increasing in subsequent years. Between 2008–2010, compared to the times from before the crisis, aid per economic operator clearly increased (from several to several dozen PLN) in Dolnośląskie (PLN 80), Mazowieckie, Pomorskie and Śląskie, but also in Łódzkie and Podkarpackie (up to PLN 169). In the times of crisis relative support for innovation did not change significantly in other medium and little developed regions in Poland (several dozen PLN). Only the period following 2010 witnessed a significant increase in the amount of R&D&I aid per potential beneficiary in the richest voivodeships (PLN 183–349), but also in Podkarpackie (526), Łódzkie (282), and Lubelskie (235), i.e. in voivodeships with relatively bigger business potential.

Taking account of cumulated absolute amount of R&D&I aid we can conclude that the highest amounts of aid were available in richer regions (Mazowieckie: 25% of all R&D&I resources, Śląskie – 16.3%, Pomorskie – 8.6% as well as Dolnośląskie and Wielkopolskie 6.8% each) and in poorer regions with industrial and research agglomerations (Łódzkie – 6.3%, Małopolskie – 7.5% and Podkarpackie 9.4%). However, when we compare absolute amounts to the number of potential beneficiaries, the rankings of Podkarpackie, Lubelskie and Małopolskie among voivodeships with the highest relevance of R&D&I aid per potential beneficiary improve while those of Mazowieckie and Pomorskie deteriorate (Figure 10).



**Figure 10. Regional distribution of state aid to research, development and innovation in 2005–2013 (PLN)**



Explanatory notes:

Figure on the top: average relative amount of R&D&I aid (in relation to the number of economic operators in a given year) in 2005–2013.

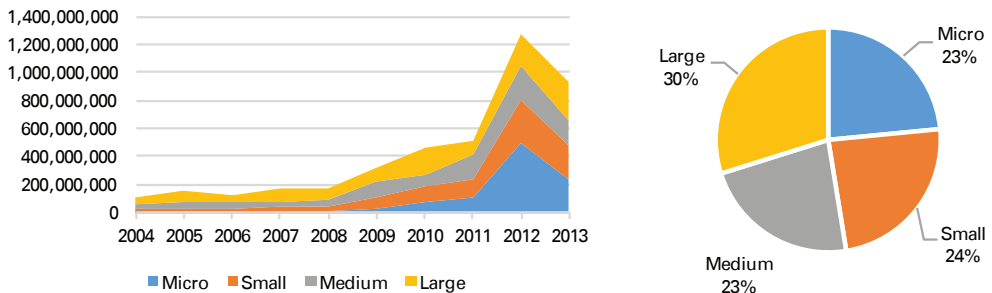
Figure on the bottom: absolute (GGE) and relative (in relation to the number of economic operators as at the end of 2013) amounts of cumulated R&D&I aid in 2005–2013.

Source: See Figure 1.

In the first three years following the Poland's EU accession large and medium enterprises were the main beneficiaries of public support granted to R&D&I (from 42.7 to 56.1%) (Figure 11). Aid to other categories of enterprises started to grow gradually from 2009. In particular the period of 2012–2013 recorded substantial increases of aid granted to micro and small enterprises both in absolute terms and as a share in total aid to R&D&I (for micro from 6.4% in 2008 to 38.4% in 2012

and for small enterprises from 17.1% to 24.9%). Finally, cumulated amounts of aid to R&D&I in the period 2005–2013 were rather evenly distributed across categories of enterprises.

**Figure 11. Structure of R&D&I aid by the size of beneficiary (PLN) (left) and cumulated for years 2005–2013 (right)**

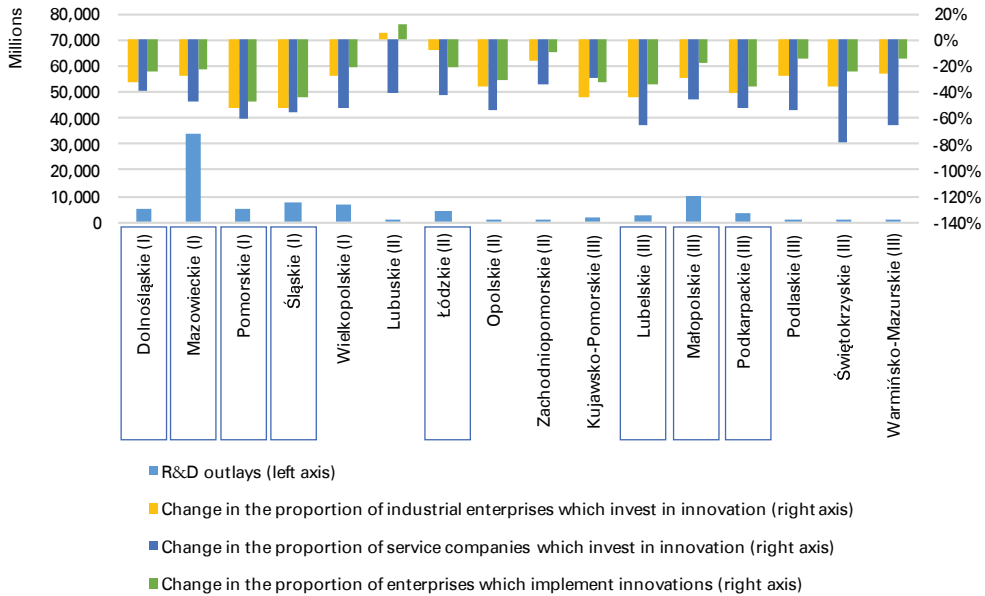


Source: See Figure 1.

It seems that in voivodeships which granted the highest amounts of state aid for R&D&I (both in absolute and relative terms) we should see increased involvement of economic operators in research, development and innovation. On the one hand, the list of regions with the highest allocations for R&D&I aid per economic operator is identical with the group of voivodeships where absolute R&D outlays are the highest. On the other hand, however, the highest drop in the share of industrial and service companies, which invest in innovation was reported in voivodeships where aid granted to R&D&I was the highest (Pomorskie: drop by 48% in 2013 compared to 2006, Śląskie: – 43.8%, Podkarpackie: – 35.2%, Mazowieckie: – 23.1%) (Figure 12). The same regions recorded considerable decrease in the percentage of innovative companies, i.e. firms which introduced at least one product or process innovation (a new or substantially improved product or new or substantially improved process) in the analysed period.

The analysis allows us to conclude that public funds earmarked for R&D&I were granted to companies based in industrial and service centres distributed independently of relative development level of individual voivodeships, which might suggest their correct regional targeting. Nevertheless, it is hard to unambiguously grasp the positive effect of state aid to R&D&I on the performance of enterprises in this area, their innovation or placing new products on the market. The reason may be too little amount of aid compared to the needs, poor quality of assisted R&D projects or problems in the commercialisation of research results.

**Figure 12. Cumulated R&D&I outlays in the years 2005–2013 and the change in the percentage of economic operators who invest in innovation and implemented innovation in 2013 compared to 2006**



Explanatory note: names of voivodeships in boxes: regions with the highest R&D&I aid ratio per a single registered economic operator.

Source: See Figure 4.

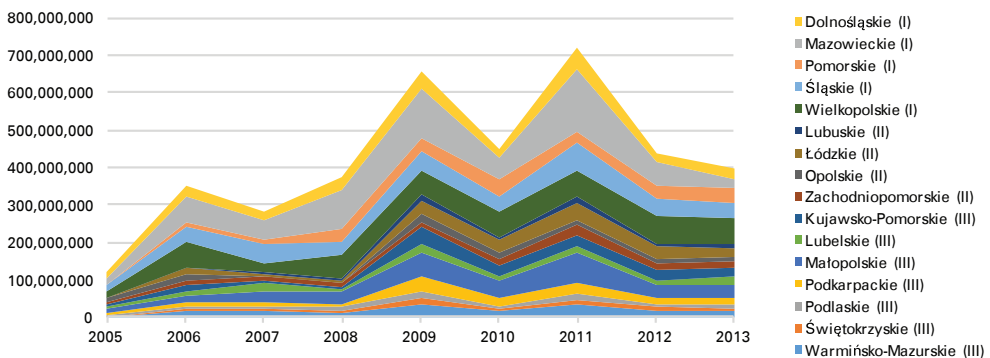
### 3.3. Public Support Schemes to Improve the Quality of Human Resources in Firms

High quality of human resources and the adjustment of their skills to employers' expectations are among fundamental factors decisive for investment attractiveness of specific locations and, by the same token, for regional development opportunities and rate. In order to live up to these challenges training aid schemes have been introduced under which aid is granted to improve the skills or to retrain present or potential workers. In this particular case, market failure consists in insufficient interest of employers in improving the skills of their staff, who after having acquired new knowledge and skills are legitimately expected to be more efficient at their workplaces, on the one hand, but also become more attractive to other employers. Since analysed data concern any type and scope of training including a complete change of vocational profile and improving already acquired skills, we should expect there is

no significant divergence when it comes to the amounts of aid granted in individual voivodeships in Poland.

In the period 2005–2013 absolute amounts of aid addressed to economic operators to cover the costs of training of workers were generally increasing although decreases were recorded in 2007, 2010 and 2012–2013. The highest amount of training aid was allocated in the most developed voivodeships (Mazowieckie 17.9% of the overall amount of such an aid, Wielkopolskie: 13.4%, Śląskie: 10.5%, and Małopolskie (9.5%). The least amounts were distributed in the poorest and least developed voivodeships (Świętokrzyskie: 1.9%, Podlaskie: 2.2% but also Lubuskie: 2.2%) (Figure 13).

**Figure 13. Changes in geographical distribution of training aid in Polish voivodeships in 2005–2013 (PLN)**



Source: See Figure 1.

A slightly different picture emerges when we analyse absolute amounts of aid for training (per economic operator as operators are not beneficiaries of such a public intervention) (Figure 14). The first three years following the EU accession were the period of highest training aid allocations per economic operator in Wielkopolskie (PLN 104), Opolskie (PLN 102), Warmińsko-Mazurskie (PLN 102), Lubelskie (PLN 84), Śląskie (PLN 85), Małopolskie (PLN 72), and Podlaskie (PLN 71). In the two subsequent 3-year periods: 2008–2010 and 2011–2013 there was a tendency to increase relative support in more developed voivodeships (e.g. in Mazowieckie PLN 148 and PLN 121 respectively, Pomorskie PLN 162 and PLN 137, Wielkopolskie PLN 177 for each period) and to significantly increase training aid per potential beneficiary in Warmińsko-Mazurskie (up to PLN 189), Podkarpackie (to PLN 133), Małopolskie (to PLN 152) and Kujawsko-Pomorskie (to PLN 150).

The end result was the highest amount of cumulated training aid granted in more developed voivodeships: Mazowieckie, Śląskie and Wielkopolskie. Considering,

however, average amount of aid per single economic operator, the distribution of aid across voivodeships is, as expected, much less differentiated, although still we can identify the leaders: Warmińsko-Mazurskie, Wielkopolskie, Opolskie, Kujawsko-Pomorskie (Figure 14).

**Figure 14. Regional distribution of training aid in 2005–2013 (PLN)**

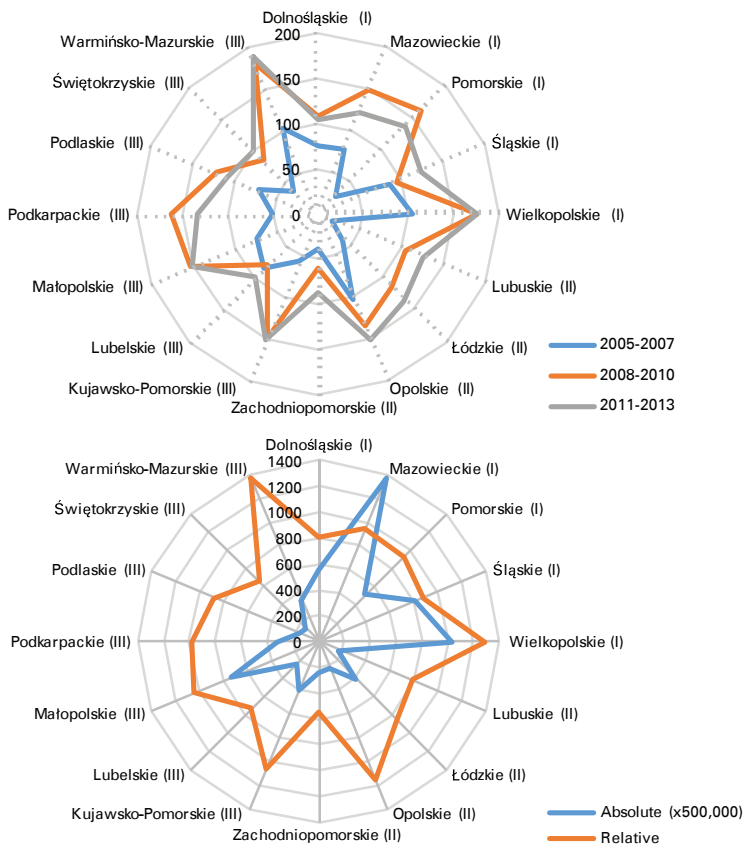


Figure on the top: average relative amount (in relation to the number of economic operators in a given year) of training aid in years 2005–2013.

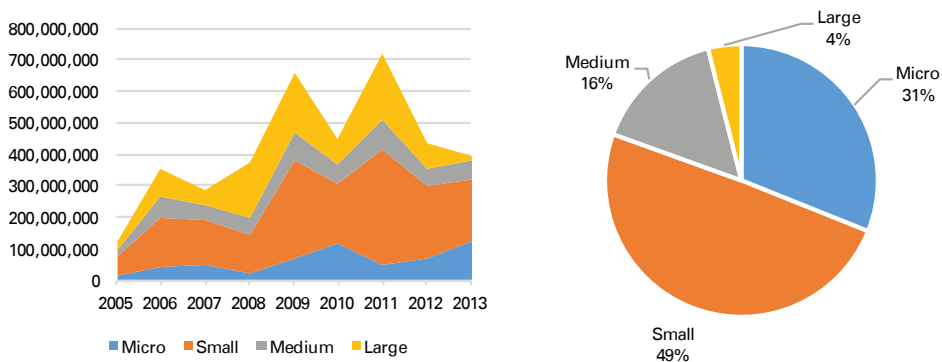
Figure on the bottom: absolute (GGE) and relative amount (in relation to the number of economic operators as at the end of 2013) of cumulated training aid in years 2005–2013.

Source: See Figure 1.

Micro and small enterprises were the main beneficiaries of training aid in Poland from the beginning of the EU membership (Figure 15). Their share in cumulated amount of training aid reached 80%. It means that large and medium-sized companies benefited less from such a support, which implies that larger Polish employers were less willing to delegate their staff to trainings compared to smaller employers.

As we have already mentioned, to some extent it was dictated by the fear of losing workers who improve or change their skills using state aid resources. Besides, large corporations have their own training schemes and career paths independent of public interventions. More restrictive EU regulations governing the allocation of training aid for large companies are another reason why their interest in such subsidies was not impressive. That is why workers of smaller, often family, businesses benefited more from training aid.

**Figure 15. Training aid structure by the size of the beneficiary (PLN) (left) and cumulated for years 2005–2013 (right)**



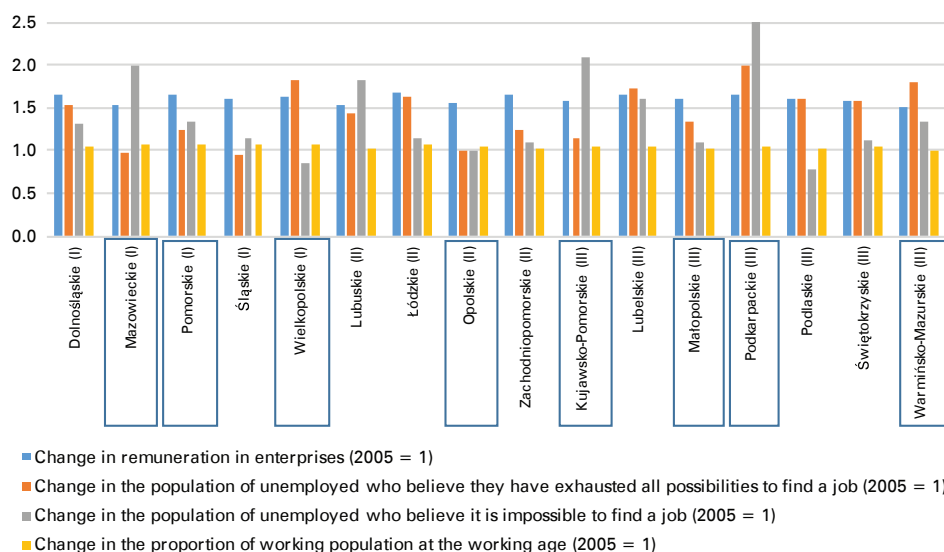
Source: See Figure 1.

As mentioned before, training aid is designed to improve skills of those already employed, which should translate into better quality and improved mobility of labour. We should thus expect the increase in remuneration of workers and generally improved vocational engagement of people in regions where more training aid was available. That is contradicted by the data on the change in salaries and wages in enterprises, the population of unemployed who believe they have exhausted all known possibilities of finding a job, unemployed who cannot find a job and the change in the percentage of working population at working age in all the voivodeships which granted the highest amounts of training aid per potential beneficiary in 2005–2013.

We must note that in some voivodeships which granted higher amounts of training aid the number of unemployed convinced they would not be able to find a job considerably increased (Kujawsko-Pomorskie, Podkarpackie, Mazowieckie) (Figure 16). Also the number of unemployed people who claimed they had exhausted all known possibilities of finding a job increased in Wielkopolskie, Podkarpackie and Warmińsko-Mazurskie. The proportion of vocationally active working age population strongly increased in the analysed period in more developed voivodeships, which

was not necessarily due to higher amounts of training aid. We should also stress the absence of the sufficiently precise data describing the situation of persons who have benefited from training subsidised from public resources and those who have not. Thus, based on the conducted analysis we are not in a position to unambiguously identify positive effects of training aid at regional level. Moreover, perhaps too little funds allocated to training as well as its sometimes questionable scope and quality did not lead to any significant changes in regional labour markets.

**Figure 16. Changes in remuneration in enterprises, in the population of unemployed and in the proportion of vocationally active in 2013 compared to 2005 (2005 = 1)**



Explanatory note: names of voivodeships in boxes: regions with the highest training aid ratio per registered economic operator.

Source: See Figure 4.

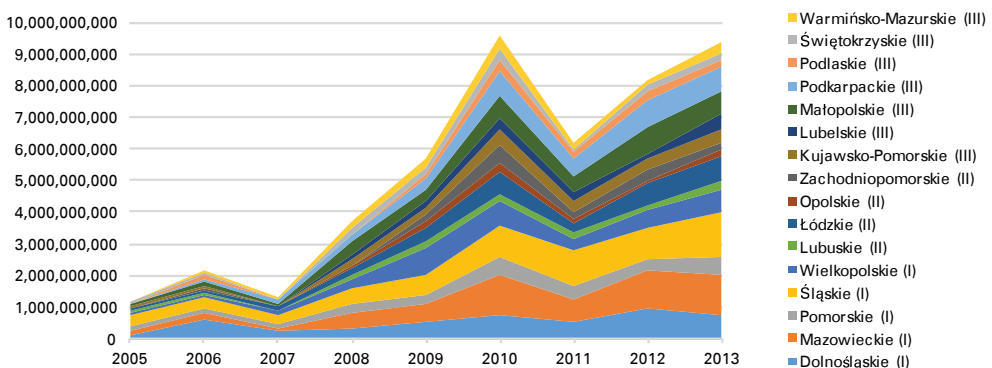
### 3.4. Regional Investment Aid to Enterprises

The above discussed categories of state aid were addressed to all economic operators independently of the industry or location of their activities. In absolute terms, the most important impulse to improve the competitiveness of Polish enterprises came from regional aid. Regional aid is granted in areas where the standard of living (calculated as GDP per capita) is abnormally low and which suffers from high unemployment. In this case market failure consists in additional costs that

must be paid by economic operators who invest in areas offering poor transport and telecommunication infrastructure, lower quality labour force not exactly matching employer's expectations and suppliers and customers at distances much longer than in better developed territories. In other words, regional aid should be granted in regions much less developed compared to other areas. As in the case of Poland practically all of the territory of the country is little developed, regional aid became admissible in all regions although in different intensity. It is also worth noting that such an aid does not have to be linked with the introduction of new technologies or innovative solutions and thus it does not always provide an impulse to improve the competitiveness through investments. However, as resources are made available to enterprises for new investment projects, it facilitates development and provides necessary equity base to compete in international markets (Ambroziak, 2006, 2015).

These are the reasons why regional aid has become the key form of public assistance, which can be interpreted as growth promoting measure. In 2005 regional subsidies amounted to ca. PLN 1.17 bn and despite they nearly halved in 2007 compared to the previous year, they increased to almost PLN 9.6 bn in 2010. Next year, when the financial crisis was over regional aid dropped by almost 30%, but then it started to increase again to reach PLN 9.4 bn in 2013. In the period 2005–2013 the highest amounts of regional aid in absolute terms were granted in the following voivodeships: Śląskie (14.1% of all regional aid resources), Mazowieckie (12.7%) and Dolnośląskie (10.2%). The least regional aid was granted to medium developed (Opolskie – 2.1%, Lubuskie – 2.5%) and the least developed voivodeships: Świętokrzyskie (2.9%), Podlaskie (3.1%) and Warmińsko-Mazurskie (3.8%) (Figure 17).

**Figure 17. Changes in geographical distribution of regional aid in Polish voivodeships in 2005–2013 (PLN)**



Source: See Figure 1.



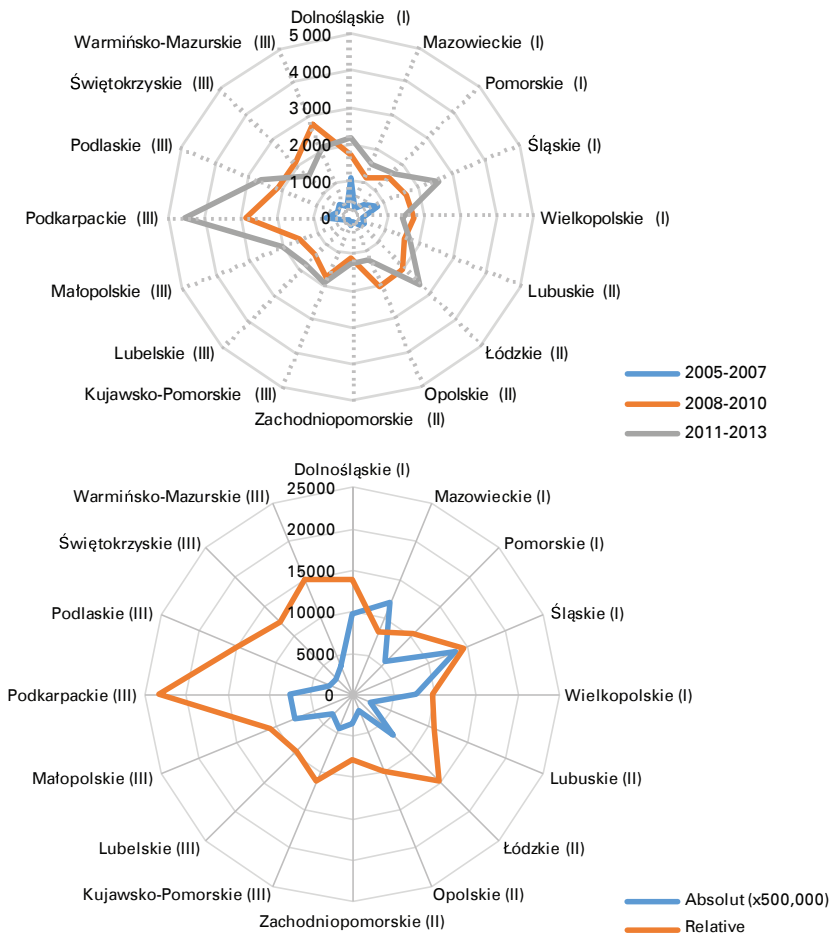
**Figure 18. Regional distribution of regional aid in 2005–2013 (PLN)**

Figure on the top: average relative amount (in relation to the number of economic operators in a given year) of regional aid in the years 2005–2013.

Figure on the bottom: absolute (GGE) and relative amount (in relation to the number of economic operators as at the end of 2013) of cumulated regional aid in the years 2005–2013.

Source: See Figure 1.

However, when we analyse relative amounts of regional aid (per a single economic operator) we may conclude that in the first three years of the period covered by the study (2005–2007) the highest aid was granted to Dolnośląskie (PLN 1094), Śląskie (PLN 765) and Podkarpackie (PLN 663). In the times of economic crisis, which coincided with the launching of the EU funds for the financial perspective 2007–2013 the ranking of voivodeships changed in favour of the least developed regions in Poland. In 2008–2010 the leaders who granted the highest amounts of

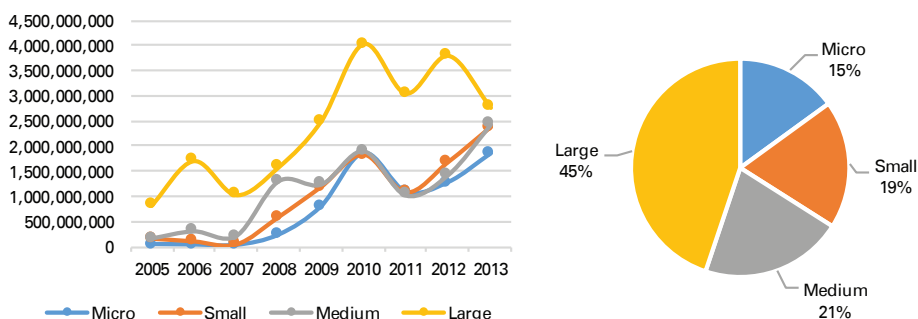
regional aid per statistical economic operator could be found in the least developed voivodeships: Podkarpackie (PLN 2893), Warmińsko-Mazurskie (PLN 2744), Podlaskie (PLN 2175), Świętokrzyskie (PLN 2131) and Kujawsko-Pomorskie (PLN 1791) but also some medium developed voivodeships: Łódzkie (PLN 1999) and Opolskie (PLN 2036). Last three analysed years, 2011–2013, clearly improved the ranking of Podkarpackie (PLN 4530), Łódzkie (PLN 2633), Kujawsko-Pomorskie (PLN 1912) and Śląskie (PLN 2595), though in the remaining ones the amounts of regional aid granted per economic operator also increased. Considering accumulated amount of aid for the period of 2005–2013, the highest aid was granted in more developed voivodeships but when we compare the amounts to the number of economic operators in a given region, the highest amounts of regional aid per operator were granted in the least or moderately developed regions. It means that when we take the support to the least developed regions as the primary aim of regional aid, it correctly targeted the poorest voivodeships (Figure 18).

In Poland, in the years 2005–2013, large enterprises were the main beneficiaries of regional aid, although their share in regional aid schemes fluctuated from 69.8% in 2005 through 79.8% in 2006 to drop to 29.4% in 2013. In 2008 a shift was recorded in the proportion of groups of regional aid beneficiaries when the share of micro businesses increased to 6%, small enterprises to 15.9% and medium-sized ones to 35.4%. In the years to come the share of medium and large enterprises shrank for the benefit of micro and small firms (Figure 19). Ultimately, however, the main recipients of regional aid were enterprises able to deliver large investment projects and employing substantial numbers of staff, which for social and political reasons is very attractive (45% of all regional aid). Doubts have been raised whether large enterprises in Polish regions genuinely need aid. They generate many jobs and often, but not always, collaborate with local suppliers but their bankruptcy implies huge problems in monopolised labour market and problems to suppliers, which may be solved by another big investor or by regional SMEs.

As we have already explained, the aim of regional aid is to limit additional investment costs in less developed regions. Aid measures should attract new waves of investments to such regions. Considering the analysed period of 2005–2013 we can conclude, however, that the map of cumulated investment outlays by enterprises does not overlap with voivodeships where the most of regional was granted (Figure 20). In voivodeships where relatively more regional aid was granted no significant change in investment outlays was recorded in companies in the period 2005–2012 compared to the situation in more developed regions, where regional aid allocations were smaller. Also the proportion of investment outlays in these voivodeships in the years 2005–2013 compared to the reference year 2005 was lower than in more developed

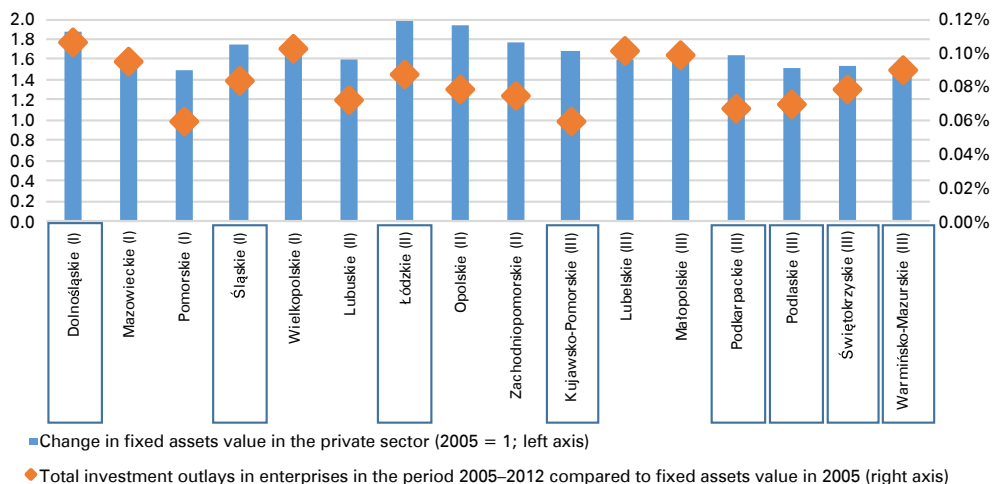
regions. Thus it is hard to unambiguously decide that regional aid significantly contributed to the increase in fixed assets value and to the inflow of non-subsidised investment projects into these regions.

**Figure 19. Structure of regional aid by the size of beneficiaries (left) and cumulated in the period 2005–2013 (right)**



Source: See Figure 1.

**Figure 20. Change in the value of fixed assets in the private sector and the sum of investment outlays in enterprises in 2005–2013 compared to fixed assets value in 2005**



Source: See Figure 4.

## 4. Conclusions

Pursuant to the EU law and in accordance with the theory of public interventions, state aid should apply only to the cases of market failure. This is the spirit of the EU legislation, which allows the Member States to support only the initiatives, which for reasons pertaining to costs or risks involved or to the absence of direct effects are not dealt with by economic operators. Hence public assistance should be granted only when it is indispensable and when it may encourage firms to pursue specific operations. The mechanism should lead to the growth of enterprises and areas where they are based.

The study revealed that in the period of nine years, 2005–2013, public assistance was granted in the amount of PLN 204 bn and only ca. 30% (PLN 60.8 bn) of it can be considered aid designed to directly improve the competitiveness of companies (R&D&I aid, aid to SMEs, training aid and regional aid). Most resources ended up in companies, which applied for restructuring aid, employed the disabled or operated in a particular sector and was not necessarily intended for growth promoting measures.

The analysis of collected data shows that the highest growth promoting horizontal aid was granted to SMEs. However, higher intensity of aid to SMEs in moderately and the least developed regions did not produce tangible increase in the population of economic operators. As a result, the intervention brought benefits to individual firms and did not engage operators in regions with the highest state aid to SMEs.

Also for the aid for research, development and innovation it is hard to identify its impact upon firms' performance in the area. Because firms with innovative potential are usually located in industrial and service centres, which can be found in all voivodeships, we were not able to identify a group of regions in which the aid was granted in bigger amounts. Funds were allocated to firms independently of relative development levels of voivodeships, which could suggest their correct spatial distribution. However, either the amounts were too small or financed projects not enough innovation oriented (which was not analysed) or there were problems with the commercialisation of the outcomes of research because no clear improvement in R&D&I area was reported for enterprises.

State aid for training was rather evenly distributed across voivodeships if we take account of its average amount per economic operator. That is due to the nature of aid, which is to improve the skills of workers in enterprises, independently of their capabilities or tasks. Also in this case our analysis has not revealed clearly positive effects of training aid at regional level.

Regional aid was considered potential growth promoting aid as it is supposed to limit negative consequences of higher investment costs in less developed regions. Considering the cumulated amount of aid the biggest allocations were granted in more developed voivodeships, but when we compare the amount to the number of economic operators based in a given region, it turns out that the highest allocations per operator were granted in the least and moderately developed voivodeships. To a large extent that was the result of maximum aid intensity ceilings imposed by the European Commission to give preference to poorer regions. The analysis of selected investment indicators did not demonstrate clear effect of regional aid upon the increase in fixed assets value or the inflow of non-subsidised investment to the regions.

In conclusion we can say that, with the exception of regional aid, it is hard to identify clear-cut criteria of spatial distribution of other categories of analysed growth promoting aid granted in Polish voivodeships in 2005–2013. The study does not let formulate conclusions on positive impact of aid granted for SMEs development, R&D&I, training or regional aid upon respective social and economic indicators. That may be due to: (a) delayed response of the economy to public interventions, (b) too little amounts to be able to influence the development of certain areas, (c) deficiencies and mistakes made in preparing and implementing assisted projects, (d) government failures consisting in the inability to match public support with expectations and capabilities of economic operators.

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