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PhD Thesis Summary

**POTENTIAL, PERFORMANCE, PROCESS IN THE
NORTH-WEST DEVELOPMENT REGION OF ROMANIA**

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KEY WORDS

Regional competitiveness, development regions, counterfactual method, competitive industries, difference-in-differences, control group, intervention group, employment, turnover, interventions

INTRODUCTION

Currently, the development of regions is regarded as one of the main factors contributing to economic growth of countries; they are major players in the global economy. Regions differ in terms of economy; compete with each other for certain products, have strengths and weaknesses, generate different opportunities for growth and development. Factors that stimulate economic growth in a region can slow it in another.

Regional economic development policy, therefore, must follow the "one-size-fits-one" approach, in the sense that the characteristics of a region cannot be copied and transposed to another region. Thus, policies should be tailored to the regional specific context such that the living standards may rise, and firms and households to feel the benefits of economic growth.

Countries formulate and implement regional strategies for economic development with the aim of creating strong regions as well as to eliminate disparities in terms of development among them. Recent developments in economic theory place the regions as centers of economic growth and improving living standards, key points of governance, organization and decision-making.

Competitiveness is portrayed as a means by which regional economies are externally validated in an era of globalization. A better understanding of the competitiveness of European regions is an imperative, now more than ever, as Europe is losing ground in terms of development compared with the United States, Japan or China.

In Romania, the region was seen as a tool to absorb European funds, aimed at reducing regional disparities. In addition to this basic feature which was the epicenter of the establishment of

development regions, it is our duty as scientists to better understand the elements which define the regional specific, how regions are developing and possibly propose solutions and methods that will help with improving competitiveness by harnessing the entire regional specific. We need to know that each Romanian region have distinct characteristics, compete and grow in different ways, with different needs and being subject to different challenges. The essential problem which is created around them consists in the lack of identification and capitalization of regional specificities, due to the fact that they do not have political legitimacy. Basically the meso level, characterizing the regional level, is not established.

The present PhD thesis aims to capture the facets of the concept of regional competitiveness, focusing on the elements that determine a region's competitiveness. As such, there are two striking lines on which we insisted in the practical demarche:

1. Regional competitiveness is influenced by economic structure (competitive industries) of a region;
2. Regional competitiveness is influenced by the competitiveness of companies operating in the region.

Research motivation

The present PhD thesis springs from a need identified by the author with respect to the recognition of sources which contribute to the performance registered at regional level. The PhD thesis is structured based on the potential-performance-process relationship. Going over the paper, it can be seen that it highlights these essential elements and also focuses on a top-to-bottom approach in the evaluation of the North-West regions' competitive position compared to others, in Romania. However, the author counts on the generation of competitive advantages locally, considering that they are transferred to other levels, thus speaking of a bottom-up approach. This approach is innovative as it captures the phenomenon even from a decision-making perspective. Another element of novelty, in the thesis, is comprised of the impact assessment of European fund interventions, with a focus on the Sectoral Operational Programme "Increase of Economic Competitiveness", dedicated to companies in the North-West, using the counterfactual assessment tools. The original contribution to the literature in Romania is

represented by the impact assessment of the interventions using the counterfactual method, thanks to which we can estimate if a certain intervention had, or not, an impact on the resulting variables. As of today, the literature which covers this domain is represented only by reports consisting of impact evaluations, elaborated by the Ministry of Regional Development and Public Administration, specifically aimed at "Impact Assessment of DMI 4.3. Support the development of microenterprises".

Research objectives

The general objective of this research paper may be grounded on the top-to-bottom approach according to which, in a first stage, the competitive position of the North-West region was evaluated, on the assumption that it can be viewed from a decision-making perspective, in which the determining factors are the evaluation criteria of the process. In the second phase, the exercise was repeated at the industry level, starting from the premise that once the industries with growth potential are identified, they can represent and can fuel the regional identity, namely the specificities that characterize the region, which deserve to be valued and supported in the future. Moving forward with this consideration, the third stage aims, this time, to evaluate the interventions impact from European funds on the competitiveness levels of companies in the North-West region.

The results from this analysis are not neglected, but on the contrary provide important information about industries which have benefited from the support and the impact these interventions have generated on labor productivity of beneficiary firms but also on regional competitiveness. Thus, through the present research we will try to find an answer using the counterfactual method to the following evaluation question: "Did the intervention have any effect?". In other words, the empirical research objectives are:

1. Assessment of the effects and effectiveness of interventions in the SOP for SMEs in the North-West region.
2. Competitive benchmarking from the SOP beneficiaries point of view in relation to similar companies in terms of features, from the North-West region.

Research methodology

To achieve these objectives we developed a research methodology, which includes the most varied and new methods in order to better capture the phenomenon of regional competitiveness. Thus, the present research uses methods such as hypothesis, comparison / benchmarking, analysis, synthesis, econometric method.

The *hypothesis* was used as a fundamental scientific assumption especially in the case of counterfactual. The most commonly used method was the *comparison / benchmarking* method, whereas the analysis was carried out within the timeframe 2006-2012 and 2007-2013 respectively, assessing the competitive position of the North-West, by comparison with other regions of Romania. Also, the comparison is present in Chapter 4, where we achieved a competitive benchmarking at the level of SOP beneficiaries in relation to similar non-beneficiaries companies in the North-West.

The analysis is a method which I used particularly in the theoretical part, but it can be captured in several parts of the thesis. For example, we analyzed every definition of regional competitiveness, after which we filtered using *synthesis* what we considered relevant, expressing our own opinion.

In the last chapter of the paper, we studied the applicability of econometric methods in the form of panel regressions, to see whether any of the links have developed in the theoretical part between variables is validated and if they exist, empirically. Also, through this kind of methods we tried to evaluate whether interventions from European funds have had, or not, any impact on competitiveness of beneficiary companies.

SYNTHETIC PRESENTATION OF THE CHAPTERS

The PhD thesis named "Potential, performance, process in the North-West region of Romania" is structurally balanced in four chapters, of which the first two almost exclusively theoretical and the last two chapters have a practical approach.

The general objective of the first chapter entitled "Regional Competitiveness – Conceptual Insights" is to review the main aspects of regional competitiveness for presenting and understanding the context of this paper. It consists of three main chapters, as follows: 1.1. "*Viewpoints on competitiveness*" – in which the dimensions of competitiveness are presented, with emphasis on the meso level of regional competitiveness; 1.2. "*Definition and typology of the regions*" - presents the main definitions of regions and provide information on how the regions were established in Romania; 1.3. "*Regional competitiveness*" – offers an overview of the main definitions and boundaries of the concept of regional competitiveness.

From a "dangerous obsession" or a "controversial issue" to "best used term within modern economy", competitiveness is currently at the forefront of the global economic agenda.

Defining the concept aroused the curiosity of the scientific and academic community, so much so that there are a variety of approaches to it. However, we were able to synthesize the most important in view of:

- *The level at which competitiveness manifests itself*: individually, micro-economically and macro-economically;
- *The core reporting element*: foreign trade, productivity or by restricting the competitiveness of firms;
- *Potential-performance-process* relationship.

Competitiveness at the individual level depends on the qualities that individuals possess and refers to those skills influencing the behavior in the competition. Around these behaviors, certain value systems are created which exhibit a direct influence on competitiveness. Individuals are motivated to increase their standard of living, perhaps being in the "pursuit of happiness", as such there is a direct link between the level of happiness of individuals in a country (reflected by the indicator of happiness) and that of competitiveness (the happier individuals, the more

competitive a country is). Another important element influencing competitiveness is entrepreneurship. Entrepreneurial quality depends, in a first stage on the entrepreneur's skills: if he establishes a coherent strategy, achievable goals and allocates resources optimally then the firm is likely to become competitive. Moreover, by entrepreneurship, innovation and access to new markets are encouraged, essential elements for competitiveness.

The next level that we have defined is the microeconomic one (at company level) which has a clear meaning. We agreed on the definition that competitiveness depends on the performance of companies, but here, we are not talking about those sporadic results, but the long-term ones, even permanent. The wealth of a nation is created by its companies.

One challenge, however, not only for the research paper at hand, but also for the entire academic and scientific community, is to define macroeconomic competitiveness. This approach is strongly contested because many believe that, in fact, nations do not compete with each other, but their companies. However, Porter (2008) attempted to restrict the definition of competitiveness to productivity, considering it as the only element which determines the long-term standard of living of a nation and the national income per capita.

Trends were observed in explaining the concept through both productivity and by the foreign trade or in some works by restricting the competitiveness of firms. We believe that these elements should not be viewed independently, but in a relationship of interdependence proven throughout the chapter. The relationship between competitiveness and efficiency of international trade is strong and a powerful structure determines its high level of competitiveness, caused, in turn, by productivity.

Another type of relationship (Buckley, 1988) exists between competitiveness as a potential (technological development, effectiveness of price / cost), performance (profitable market share) and process (investment strategy, marketing strategies, and proximity to customers). We fully agree with this approach, extremely valid at the moment. We insist on the last link of the relationship. From our point of view, competitiveness should be understood as a process in which it is imperative to correctly set the goals and resources (funds from the government, structural funds) have to be allocated optimally to achieve the objectives. On the management of

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this process depends the achieving of a high level of competitiveness. Of course, this approach seems to be appropriate at microeconomic and macroeconomic level, however, less at the individual level. But even at this level the assertion is valid, because when an individual seeks to achieve a certain objective he is interested to manage his resources (financial, energy etc.) effectively so as to meet it; how he manages to achieve the set objectives depends on his competitive position. At other levels this situation is done through policies. In discussing the competitiveness as a process, there is often problems with areas which, especially in terms of policy, should be supported in order to improve competitiveness, regardless of the level to which we refer. To choose these areas, we tried to understand what competitiveness truly is and the elements that we have to relate when addressing this topic. No country can become competitive in all fields, but only in those in which it has a competitive advantage, and often the potential to generate competitive advantages and resources for developing companies are found in the external environment. Therefore, identity preservation (local, regional, national) at the level of activity units is imperative for achieving high levels of competitiveness!

Given that countries are considered too small to cope with problems arising from a global context or too large to effectively respond to citizens' needs, the regional level seems to be the right solution to meet these challenges; regions have become major players in the global economy, representing true centers of economic growth and improving living standards. Even though in the literature there are many definitions for regions, regarded both geographically and from economists' point of view, we tried to narrow the definition to the following essential elements: the region is, first and foremost, a geographic area as a sub-territorial unit; secondly, it has its own identity and regional specific, with a regional consciousness. In order to exploit regional specificities it is considered that the regions must be the principal focus areas of economic policies. The regions have their own economic, social and cultural structures, being in different stages of development in terms of economy, infrastructure, environment, culture etc. It is necessary to identify and formulate specific measures for each region, thus contributing to their long-term development. The high level of heterogeneity between regions highlights the existence of diverse needs of development, so much so that through a regional development policy that respects the "one-size-fits-one" approach, these measures can address the challenges identified in each region.

The regional level is considered an intermediate level (meso) between local and national level. From the administrative point of view, the meso level of government involves the legal personality and political legitimacy. If in Romania this meso level would actually exist, then the regional policies would be able to meet specific regional development needs; regions are different from each other, especially in terms of resources and needs. From our point of view, only through such an approach we can provide a reduction of development disparities between regions and to harmonize economic growth at national level.

The regions eligible for support through the EU regional development policy are those at the NUTS 2 level, which was established in Romania through by introducing the eight development regions, by the voluntary association of local administrations. Unfortunately, these regions don't have the status of an administrative-territorial unit or legal entity, having no administrative powers. At present, we can not discuss about the existence of regionalization by creating new territorial levels because the regions in Romania don't exist from an administrative point of view. By creating a meso level, regional competitiveness would clearly be an objective of regional policy.

Although at present times there is no universally accepted definition of regional competitiveness in the literature, this concept has sparked interest of academic representatives, but also of policy makers. Regional competitiveness is an intermediate level (meso) between the micro and the macro and refers to the potential to provide an attractive and sustainable environment for businesses and residents, so that they can live and work more effectively.

This potential can only be sustained through "one-size-fits-one" policies, because the characteristics of a region can not be transposed elsewhere, they have to be personalized and must respond to regional needs that are different. Policies should also aim at achieving a high standard of living at the regional level. Porter emphasizes the relationship between regional competitiveness and regional welfare, determined by the productivity with which the natural, human and capital resources of that region are being used. In addition to productivity, Porter believes that both employment and wages, respectively innovations, are elements that contribute

to increasing regional competitiveness. The last item is essential, as investments in R&D and innovation significantly influence productivity, and it is because of this, we need to improve productivity in those sectors that can quickly assimilate innovation and generate high added value products. The emphasis only on labor productivity is dangerous, because a region with a high labor productivity and also continuously growing (by reducing employment rate), but also with a very high unemployment rate can not be considered competitive and neither long-term prosperous.

From our point of view, we can talk about a region's competitiveness if it provides the conditions required to obtain a high level of profitability of companies, but also of a high standard of living of the inhabitants. These two conditions must be met simultaneously.

The general objective of Chapter II entitled "Determinants and ways to measure regional competitiveness" is to present the determinants of regional competitiveness, and how measurement / evaluation of that concept work. Also, in this chapter the most relevant composite indicators and the results of the calculation of these indices were analyzed, in the regions of Romania. Thus, this chapter is divided into the following subchapters: *2.1. The determinants of regional competitiveness* - in which the influence factors were described and *2.2. Methods to measure regional competitiveness*, which focuses on presenting the main regional competitiveness indices.

The novelty element of this chapter is represented by the World Competitiveness Index of Regions drafted by Huggins *et al.* (2014b), which is centered on the analysis of regional competitiveness factors such as human capital, knowledge and innovation. In general, the major problem of "measuring" competitiveness is the lack of information on the linkages between determinants, such that it makes it difficult to propose recommendations to improve them.

It was noticed that most of the determinants of competitiveness are often found in the composition of regional competitiveness indices. The most common elements for expressing regional competitiveness are: GDP/capita, regional incomes, employment rate and labor productivity. These elements provide a clear picture of how productive the economy of a region is and how well people are doing in the region.

Further research showed that, in fact, regional competitiveness is influenced by several factors categories: basic, development and success, and over time these categories were reviewed, some factors being removed from the analysis and others introduced, depending on the influence they have on regional competitiveness (eg. clusters). Regardless of the model, be it about "the pyramid model" (Lengyel, 2003; Lengyel & Rechnitzer, 2013), or about "the regional competitiveness tree model" (Martin, 2005) or the categories of factors, the analysis of regional competitiveness remains valid in terms of the input-output-results links; these links should underpin all basic models that analyze regional competitiveness. The inputs (resources) are the factors of goods production and services, and the outputs (activities) are represented by factors such as human capital, physical capital or financial availability.

Measurements of regional competitiveness are varied and generally take into account its determinants. However, most of these "measurements," show how competitive the region is but offers no information about the determinants that should be supported in order to improve the competitiveness levels. Some authors (Buckley, 1988) argue that the way in which competitiveness must be measured concerns the 3 P's (performance, potential, process), a close relationship existing between these elements. Then, at European level, and not only, a large number of methodologies were developed for calculating the indices of competitiveness, among which the best known is the Regional Competitiveness Index, developed by the European Commission. It takes into account various factors, without a specific focus on some core elements. Unlike RCI, Global Competitiveness Index of Regions developed by Huggins *et al.* (2014b) focuses on human capital, on knowledge and innovation as core elements of regional competitiveness.

Other authors (Snieska & Bruneckiene, 2009) believe that, based on a limited set of economic and social indicators, regional competitiveness can not be measured because it is a complex concept. Also, the same authors have listed four requirements that the method must meet in order to properly measure competitiveness: complexity, reliability, comparability, simplicity.

The analysis and measuring of the regional competitiveness are useful because they allow in many cases, the identification of strengths and weaknesses, which must be taken into account in

development of regional strategies for competitiveness. However, these performance hierarchies don't provide information about the factors that should be supported by these strategies, in order to improve regional competitiveness. Strategic decisions in the planning process should be based on the measurement results of the competitive position and potential of a region.

Chapter III entitled "Regional Benchmarking: Evaluating the competitive position of the North-West development region" has the general objective of presenting competitiveness as a decision making process, assessing the competitive position of North-West region. This exercise is useful for at least two reasons: first, the region can be compared with other regions through benchmarking and secondly, this process allows the evaluation of the potential for improving and increasing regional performance.

The chapter is divided into the following subchapters: *3.1. Multi-criteria analysis: the Analytic Hierarchy Process* – presents the method designed to help decision makers to structure a specific decision problem, taking into account multiple criteria describing the issue; *3.2. The evaluation of the North-West region's competitive position* is dedicated to the evaluation of the North-West region's competitiveness in relation to other Romanian regions; *3.3. Competitive industries in the North-West region* is strength point of the thesis as highlights the regional industrial profile.

This chapter has analyzed the competitive position of North-West region compared to other regions of Romania. In this same chapter, we give particular importance to the evaluation of industries which offer the region a solid economic structure, being long-term economic growth generators. We start from the belief that the industrial profile is the one creating regional identity and that sustainable competitive advantages are built locally.

Regional Benchmarking started to become a feature of the policy making process, facilitating the learning process through which we aimed at understanding the regional contexts, in their depth, and achieve improved results in terms of regional competitiveness. Thus, benchmarking promotes the learning process of a region from the regions to which they relate (reference). This should not be considered as a policy tool; for example, in the United States it is being used in the academic environment in order to measure and understand new patterns of regional economic development.

We must point out that benchmarking is more useful, in particular, in regions with legal personality (where there meso level of governance exists), because even if they operate in a distinct economic environment, they can compare between themselves in order to assess the fairness of their development strategies, and whether current policies are addressing regional challenges correctly. The performance benchmarking which we have made at the level of development regions in Romania, except for the Bucharest-Ilfov region, allowed us to assess, analyze and compare the relative performance of the regions.

The multi-criteria analysis method (AHP) used for comparative assessments of phenomena and concepts represented the instrument that was the basis of the assessment of North-West region competitive position in comparison with the rest of the developing regions of Romania. One of the main steps in this process was to assess the competitive position of the region in terms of factors influencing regional competitiveness, factors which were described in chapter II, in the form of relevant macroeconomic indicators: GDP / capita, labor productivity, average and monthly net income, in the 2006-2012 time frames.

Of course, this method can be considered subjective, many steps of the method involves assessing the decision-maker(s). Following this evaluation, it was found that some regions are more strongly influenced by certain indicators (eg the West region's competitiveness is strongly influenced by GDP / capita, while the Centre region is particularly influenced by net exports).

The North-West region was ranked 3rd (4th, at national level, Bucharest-Ilfov being ranked first) after the Centre and West Regions. This hierarchy is different from the one which was obtained from the calculation of the Regional Competitiveness Index, for example, which is primarily due to the considered indicators (structure based on 11 pillars), and secondly, due to the calculation methodology. The results obtained from the ICR calculation, for 2013, are favorable for the North-West region, positioning it in second place among the regions of Romania; due to high innovation factor values recorded, in particular, technological readiness and innovation. Using this method we obtained the positioning of the North-West region in comparison to the other regions, but we failed to identify influences and connections between the determinants of competitiveness of regions and we also failed to propose any solutions to improve them.

In this chapter, we also considered relevant the analysis and assessment of the competitiveness of industry branches that make up the economic structure of the North-West region, considering that it significantly influences regional competitiveness. We feel that the regional economy is competitive as long as it has a significant number of competitive industries and companies. Thus, using the same valuation method, we tried to examine which industries are competitive and what features they present.

This research aims to draw a strong alarm signal in terms of *losses of the regional industrial profile*, which is a source of regional identity generation. We showed that, in general, the industries of the North-West region are labor intensive, have very low productivity and added value and a low technological level. Why is such an analysis important? The industrial sector is the source of innovation and comparative advantages are manifested only in production. So when the North-West would have legal personality and could develop regional policies, those industries which should be supported and also understand what form of support they should receive, should be well known.

Thus, we evaluated the competitiveness of industries in the North-West region by using the AHP method in the 2008-2012 timeframe, considering the number of SMEs, number of employees and turnover of SMEs belonging to industrial branches of manufacturing industry, according to NACE codes. The conclusion obtained was that the most competitive industry in terms of the criteria taken into account is the food industry, followed by the manufacture of fabricated metal products and the manufacture of wearing apparel. We can draw the following conclusions in terms of supporting certain industries through regional policies:

- if there is a need in supporting the industries generating high levels of turnover, the minimum level of medium-low-tech industries should be settled;
- if support of industries that generate high levels of employment is desired, the right decision would target low-tech industries, in particular;
- if growing and developing the industries that can quickly assimilate innovation and generate high added value products is desired, we take into account, in particular, medium-high-tech industries and high-tech.

These decisions depend, however, on the development needs of the region. The chapter presented has a special significance for this research and is based primarily on identifying specific regional economic activities which contribute to the increase of regional competitiveness. It is understood that the type of analysis performed in this study are not sufficient to substantiate the decisions which need to be taken at regional level, but they should be complemented by qualitative analysis to ensure the veracity of the results.

At the same time, assessing industries at NACE codes level can be a trap, because these codes do not reflect the exact field of activity of firms. In the future, in order to truly demonstrate the economic competitiveness of the region, it is necessary to conduct a detailed analysis of economic activities of the businesses within the North West region. A regional analysis of economic activities is solely not enough; a national or even global analysis must be done in parallel in order to support the idea that the North-West region has a competitive advantage in a particular economic activity or in the production of a certain product. As such, we are speaking about a long and laborious research process that requires, initially, the inventory, at the lowest level (both territorially and in terms of production) of the assets that the North-West region possesses.

The general objective of Chapter IV entitled "Evaluation of the performance and competitiveness of companies in the North-West region" focuses on the study and analysis of regional competitiveness through the evaluation of the impact of interventions in structural and cohesion funds. The components subchapters are: *4.1. Objective: Increasing Economic Competitiveness in the North-West region*, *4.2. Impact assessment using the counterfactual method*, *4.3. Control group and counterfactual assessment tools*, *4.4. Sources and database* and *4.5. Data analysis and interpretation*. Of these, the subchapters 4.1, 4.2, 4.3. and 4.4. offer methodological explanations, and 4.5. focuses on the method itself and on the results interpretation.

We consider that such an analysis is relevant due to the fact that the funds dedicated to improving economic competitiveness at the firm level contributes to increasing regional competitiveness as well. After a seven-year programming period, one can wonder, if indeed, these programs have achieved their objectives. Have the number of jobs and the turnover of the

beneficiary companies increased? If yes, the positive results also had an impact on regional competitiveness? Thus, during the chapter, we tried to find an answer, through applying counterfactual method, for the following evaluation question: "Did the intervention have any effect?".

This final chapter, dedicated to the performance analysis of companies in the North-West region in terms of impact of the operation 1.1.1. "Support for strengthening and upgrading the productive sector by tangible and intangible investments" was a challenge for the present research for several reasons:

1. **Addressing an assessment method** (the counterfactual) recently used in Romania (there are few domestic reports which have addressed this method). The author's challenges were the learning of tools through which the counterfactual analysis could be achieved (DID, panel regressions etc.), and the preparation of two groups: intervention and control. Setting the control group was an important step of this analysis; the development of this process was both laborious and time consuming.
2. **Rethinking the parameters defining the performance of companies** based on the consideration that a performing company is also a competitive one. In this respect, it is considered that turnover is not an indicator properly reflecting the performance of companies (from the perspective of outcome indicators which are to be monitored), thus, proposing its' replacement with the rate of return or even with the labor productivity.

According to the obtained results the support given to SMEs through Operation 1.1.1. of the Sectoral Operational Programme "Increase of Economic Competitiveness" had a statistically significant positive impact on the result variables used in the present study: number of employees and turnover. Additionally, an impact was also noticed on the productivity of businesses, but less significantly. Briefly, the intervention contributed to the achievement of the following results:

1. It had a significant and positive impact on the number of employees; beneficiaries have registered an increased in the number of employees compared to non-beneficiaries.
2. It had a significant and positive impact on the growth of turnover; turnover of beneficiaries is higher than that of non-beneficiaries, although, during the study period, turnover growth was more pronounced in their case.
3. Had a positive impact, but less statistically significant on achieving higher productivity.

4. Did not impact the economic rate of return.

From the presented results, it is obvious that the beneficiary companies have become, to a limited extent, more productive, but not more efficient, through this operation. Competitiveness is at risk, in the sense that, on one hand, they registered increases in employment, but on the other hand, have not become more efficient (if we define efficiency by the economic rate of return) and have not recorded significant increases in productivity. These aspects should be met simultaneously to enable us to refer to increases in competitiveness.

In terms of productivity, taking into account the two analyzed groups, it was concluded that the increased productivity of beneficiaries could be "nullified" by the decrease in the productivity of non-beneficiaries; as such an actual improvement in competitiveness can't be noticed. However, an accurate estimation of the impact of interventions aimed at companies on a regional economy can be achieved only by means of **regional simulation models**. Taking the example of the present research firms, operating in the same market, located in the same geographic area, have similar characteristics, we can point to at least two gaps caused by the intervention:

1. Firstly, the beneficiary firms could exploit the investment opportunities of non-beneficiary firms;
2. Secondly, starting from the consideration that companies in the intervention group are in direct competition with those in the control group (at least with the corresponding company), which did not receive support, it is likely that the relative performance of non-beneficiary firms to be affected.

We make the following clarifications, drawn from the analysis conclusions: the analyzed operation aimed most activities/industries and was dedicated to all regions of Romania, addressing the same development needs; it did not have a *focused approach* on industries that contribute to regional identity, and the information we were able to deepen were not sufficient to *identify specific regional economic activities*. Thus, we can not say that this intervention has contributed significantly to the industrial development of the region and neither to the fact that the region would become competitive in certain area/product; this should be demonstrated by a rigorous analysis.

We can, however, offer a starting point for a future analysis: we demonstrated that there are a few companies with no regional correspondent in the control group due to the required criteria, amongst others being the activity domain. Thus, areas targeting: the manufacture of bricks, tiles (NACE 2332); manufacture of fasteners and screw machine products (NACE 2594); manufacture of other general-purpose machinery (NACE 2829) and manufacture of other special-purpose machinery (NACE 2899) can be considered niche because at regional and national level there are not so many companies working in this field.

Thus, through a detailed analysis on these areas, starting from local, regional, national and even global level, we will be able to draw conclusions about the competitive advantages (if they exist and how they can be further developed).

In our approach, we identified several major limitations of this research. One of these is the lack of analysis on the *degree of financial autonomy of companies*. Usually, it is considered that firms accessing various funds must meet some minimum requirements in terms of financial autonomy, in order to eliminate the risk of failure due to the fragility of the approved design review. The existence of such constraints involves a different distribution of financial autonomy rate between the beneficiary and non-beneficiaries companies. Received funds positively influence the companies' financial autonomy, being able to support their activities, particularly the production, without having to consume its own resources, having more chances to become competitive.

Another limitation is represented by *the identification strategy of the control group*; the counterfactual cannot be observed in a direct way, but only by reference to the control group. An important aspect that is related to the analysis is the "time" factor; in some cases, the impact, may be noticed, after a longer period of time.

We admit that it is recommended to use *a mix of methods* (both quantitative and qualitative), as such, this type of method should be accompanied by qualitative methods (interviews, focus groups etc.) for a proper validation of the results. The major problem of determining the net effect of this method is the difficulty of separating the effects owed to the intervention and those due to other causes. However, other factors were identified, factors that could influence the outcome of interventions which aim to support businesses in addition to the program itself (Martini & Bondonio, 2012: 52):

1. *Macroeconomic cycles* similarly affecting profitability, investment and employment decisions of all companies operating within the national / regional economy.
2. *The economic conditions* that could affect revenues and expenses of all firms in the local / regional economy.
3. *Market conditions* specific to some economic sectors that could affect revenues and spending of all companies operating in the concerned sectors.

In this chapter, our intention was to analyze an intervention through which companies, active in the manufacturing sector, were supported based on the idea that regional competitiveness is determined by the competitiveness of firms active in the region. We have shown that companies, through interventions, have not become more competitive and have not resulted in improving the regional competitiveness. What to do next?

1. **Supporting clusters** - they contain various complementary relationships and certain collateral influences in terms of technology, knowledge, marketing etc. Relations are the underlying of productivity, entrepreneurship (increasing the rate of creation of new businesses) and innovation. Inside the cluster, co-opetition is being developed, meaning that companies manage to work together and find common solutions to increase productivity without jeopardizing competition.
2. **Supporting industries / economic activities that highlight regional identity** – we consider that funds must be provided to areas with growth potential. This means that when a potential beneficiary wants to apply for funding, he must prove the existence of a competitive advantage he holds, and also must prove that its future development, based on the financial aid, does not jeopardize the remaining companies from the same sector and the same geographical area.
3. **Encourage the creation of regional value chains** - if companies operating in the same value chain would be financed, then the impact at regional level could be greater.

The ideas presented above may be exploited by regional policies (when the regional economic autonomy existence is genuine).

FINAL CONCLUSIONS AND RECOMMENDATIONS

Our research sought - primarily - the following objectives: first, understanding the concept of regional competitiveness in the context of regional economic development theory; secondly, presenting the most important, meaningful and current methods for measuring regional competitiveness; thirdly, creating a benchmarking for grounding the structuring decisions of interventions aimed particularly at companies with an industrial profile in alignment with the North-West development regions' identity; fourthly, the impact evaluation of interventions aimed at business activities within the North-West development region and to analyze their influence on regional competitiveness.

Regional competitiveness is a complex concept, and a universally accepted definition does not exist. However, during the present research we managed to draw some conclusions with respect to the conditions which need to be met, simultaneously, when speaking about regional competitiveness:

1. A region's competitiveness requires *high labor productivity*, while maintaining a *high rate in terms of employment*. In vain a region has high and growing labor productivity (by reducing employment), if the unemployment rate is increased; in this case, the region cannot be considered competitive and neither to be able to thrive in the long term.
2. The competitiveness of a region requires *sectoral and territorial development*. Focusing investments and industrial activity, at the county seat level, does not lead to a balanced development of the region, on the contrary, it has negative effects, especially on employment and living standards in the remaining cities or municipalities in the region.
3. Competitiveness in a region does not mean jobs in abundance, but a *high employment rate and jobs that provide high wages*, as such, their type and quality are very important, especially for raising living standards. (eg Silicon Valley).
4. The competitiveness of a region relates to supporting and developing the *sectors / industries that can quickly assimilate innovation*, creating products with high added value, as well as *the traditional ones*, which are labor-intensive; however, the latter should adapt to new technological conditions (taking into account the characteristics of the fifth cycle of economic development).

Another conclusion drawn from the analysis refers to *avoiding artificial industrial developments* at regional level, thus the support of industry branches must be fully *economically justified*. It is also necessary that financial resources are to be distributed so as to ensure a *balanced and harmonious development at regional level* (often the temptation is to financially support - even at the industry branch level - those elements that generate a higher rate of return).

Going on the grounds that the economic structure of North-West region significantly influences its competitiveness, we evaluated the competitiveness of industries within, trying to identify those sectors whose development must be justifiably supported in the future.

Thus, our conclusion was that the industries of the North-West region are generally labor intensive, have low productivity and a low technological level (industrial classification was carried out by Eurostat in terms of "technological sophistication"). The most competitive industries are the manufacture of fabricated metal products and the manufacture of wearing apparel (full ranking is presented in Chapter 3).

Based on these results, we formulated the following conclusions, which could help policy makers in the process of developing regional policies:

1. If supporting industries which are generating high levels of turnover is desired, then the minimum level of medium-low-tech industries is settled; for example, metallic construction and metal products, rubber industry and plastics etc.;
2. If supporting industries which generate high levels of employment is desired, then low-tech industries, in particular, will be chose; eg food industry, apparel articles, textiles, wood and furniture industry;
3. If the development industries that can quickly assimilate innovation are desired, then medium-high-tech and high-tech industries will be taken into account, in particular; for example, electrical equipment industry, equipment and machinery, computers and electronic and optical products etc.

In order to make the link between the different types of support (in this case we are talking about a program developed at national level) offered by European funds and regional competitiveness, we aimed to assess the impact of Operation 1.1.1. from the Sectoral Operational Programme

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"Increase of Economic Competitiveness" on the economic competitiveness of firms in the North-West region.

Our conclusion was that this operation had a positive and statistically significant impact on the turnover and on the number of employees of beneficiary companies; additionally, an impact was also noticed on the productivity of firms, but less significantly. According to the results, we conclude that the beneficiary companies have become more productive (although in a less significant extent), but not an improved performance, defining performance through the economic rate of return (the intervention had no impact on it as a result of the methods which we applied). In other words, it could not be concluded that the companies have become more competitive following the intervention, thus neither has the North-West region's competitiveness improved.

Likewise, we found that in the absence of a focused approach on certain priority industries, regional identity driven by an industrial profile is affected. Unfortunately, after analyzing the intervention, we could not identify a concentration of economic activities that could promote (at least claim to) the regional specifics.

This occurred primarily because of the fact that the operational program has national coverage, answering to national development needs, not having an approach focused on economic areas that reflect regional identities. Therefore, projects that have applied for funding aimed most industries and were not linked to the priority sectors set out in the regional development plans elaborated in each region. However, some of these projects were not "born" as a result of an existing need (a project idea clearly outlined by a potential entrepreneur), but have been developed in a "*forced*" way because appropriate funding sources existed at the time. Secondly, funding the "*scattered*" low importance projects and their scope (without being considered strategic) turned into a *lack of concentrate efforts* in those areas which support the regional identity.

These issues can, however, be rectified at the methodology for promoting projects level; it requires a change, starting from the step of establishing regional priority areas and the promotion of project developments up until assessment and completion.

In the assessment phase, in priority, the projects should be evaluated more rigorously in terms of correlation with competitiveness and smart specialization strategies developed at national level and, in the background, with the regional development plan and strategy and even in terms of

importance of development projects for the region; this importance can be explained by the economic indicators of the investment, such as the economic internal rate of return, which the beneficiaries may submit in the business plan that they develop (this indicator, in the way it was treated in the research paper at hand, reflects economic performance).

This element could be a sub-criterion of the assessment process and the projects could receive a score based on this indicator (which shows the importance of the project for the core development of the region). Thus, from our point view, projects can be prioritized in terms of correlation with the national strategies mentioned above and those targeting specific areas of regional activity could get a higher score in the evaluation stage.

Of course, our opinion should not be understood as an obligation of potential beneficiaries to apply for funding under any circumstances; they must have knowledge in the field they want to make the investment (does not react in the absence of development needs and just because programs are financing some areas, with priority). Otherwise, we risk having unsustainable initiatives. Moreover, it is necessary to encourage the framework through which we ensure facilities for “entrepreneurial seeking” and the beneficiaries, which can demonstrate their capabilities to generate serious projects, should be supported.

Another issue that we wish to point out concerns the *territorial distribution of projects*. There was a trend towards the concentration of project, particularly, in county seats. To encourage balanced regional development, the evaluation stage can provide a higher score to projects which are carried out in areas with a deficient in employment rates.

From our point of view, the localization (place of implementation) of the project could represent another criterion, which is to be included in the evaluation grids, for which the project can effectively receive points for.

We concluded that innovation is a key element underpinning the increasing regional competitiveness. However, the projects focusing on the business environment only addresses this component from the point of view of involving the promotion of the *information society* and the use of new technologies, however the evaluation procedure does not encourage firms to take on the achievement of indicators characterizing the product or process innovation activity (identifying new business models, marketing activities, the reorganization of management systems etc.).

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The definition of the innovation potential is strongly required, it being understood, at project level, through the investments' capacity to contribute to the increased use of new and modern technologies and/or software solutions in the production/providing of services process. From our point of view, stimulating the beneficiaries to assume the fulfillment of innovation indicators (which are to be monitored) can be a solution to persuade them to form and develop a culture of innovation, because this it is not present in regional firms.

Another step that we consider to be lacking within this methodology for promoting projects is aimed at the long periods of between the actual time of submission of the project, done by the beneficiary, and the actual evaluation of it (in some cases, projects were submitted in 2008 and came to be evaluated in 2012). It was noticed that this problem had a negative impact on the likelihood of achieving the assumed indicators in the project by the beneficiaries; therefore many have decided not to sign the contracts or even terminate their financing contracts.

Concerning the result indicators which are assumed and monitored within the projects, we concluded that among these we should include labor productivity as well. Of course, these issues pertain to the logic of the operational programs development, but as we have shown in the last chapter of the thesis, labor productivity defines regional competitiveness.

Increasing the competitiveness within the North-West region sector profiles and its economic and social development in the territorial sector can not be achieved only through policies that support SMEs, but policies which address the business environment are also needed, generally including here large regional existing firms, firms that, as we have proven, have the necessary resources to support business innovation. From our point of view, regional competitiveness can be improved only if it is ensured by simultaneous efforts, by both the sectoral and territorial development of the region. Unfortunately, regionally speaking, territorial development is not an integral element in the creation of added value at the level of economic activities and interventions from structural and cohesion funds don't have an integrated approach (eg SOP Increase of Economic Competitiveness and Regional Operation Programme) in terms of territory nor do they encourage the creation of regional networks or clusters.

As presented in Chapter 4 of the research paper at hand, spatial impact could not be evaluated because investments were not following a "territorial logic". The only conclusion we could draw

was that a concentration of interventions was observed, especially, in the county seats, which is not representative of a balanced territorial development. If we argue that improving regional competitiveness in the long term requires a simultaneous development of both sectoral and territorial fashion, then we can not support the idea that the analyzed intervention had any positive effect on regional competitiveness. From our point of view, it is necessary to ensure complementarity at the level of operational programs, and this can be achieved by initiating synergic, strategic and with strong regional impact projects.

Improving regional competitiveness is an imperative, and for that purpose we propose, in addition to the above, the following:

1. **The promotion of a support policy for industries / sectors with regional specifics** - a step is trying to convince companies of the importance of investment in innovation (developing a culture of innovation), contributor to development in the medium and long term. It is also important that companies wishing to benefit from support to demonstrate the competitive advantage they hold as well as prove that its future development will not jeopardize the work of other companies from the same sector and geographical area.
2. **A recommendation in terms of policy is aimed at promoting training at regional level**, of human capital (structural, professional) which is to become capable of responding to the needs of the region's traditional industries to adapt to new technological knowledge (traditional industries must use general purpose technologies - Internet, ICT etc.)
3. **Much more efficient regional management**, especially in the regional clusters. They are a key factor in the regional economic development.
4. **Another important role is owned by universities**: seen primarily as sources of human capital and, secondly, as sources of knowledge. The adaptation of curricula to the labor market is strongly needed, particularly because the education system does not react quickly to technological and economic changes. We have demonstrated the importance of entrepreneurial education and the role it plays in generating regional competitiveness.

From our point of view, the conclusions we have presented together with the results obtained in this thesis contain relevant and useful information, especially for those who are responsible with policy developments aimed at supporting businesses, showcasing the elements which should be taken into account throughout the whole process of promoting the projects.

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