

## ***INDUSTRIAL AGGLOMERATIONS AND SPATIAL EQUILIBRIUM. A NORMATIVE APPROACH***

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*Abstract: The purpose of this paper is to place spatial equilibrium analysis to a normative level by seeking solutions to reduce development gaps between Romanian regions. Making use of logical analysis, empirical study and comparative analysis, I will show that competitive regional development of Romania may be obtained through an industrial policy of supporting clusters. Romania also needs to define its policy regarding balanced spatial development, taking into account the experience of the European economies, and the realities of our country. The solution to reducing disparities among regions of Romania is the emergence of new growth poles in poorer areas. This allows a polycentric and balanced spatial development that will alleviate disparities.*

*Keywords: agglomeration economies; clusters; spatial equilibrium; disparities; regional policy*

### **1. Introduction**

The spatial equilibrium means polycentric sustainable development of a territory (national or regional), that is supported by urban growth poles, together with the existence of cluster, performing spatial configurations that allow multiple links with self-sustained growth opportunities. Promoting a "balanced polycentric urban system" is one of the main objectives of the ESDP (European Spatial Development Perspective, 1999). Interest in polycentric development is fed by the evidence that the polycentric urban systems stimulate economic growth, they are sustainable in terms of environmental protection and support territorial cohesion better than monocentric urban systems. Urban network is the backbone of the territory and fit with the capacity of the network to serve all parties effectively and harmoniously.

Placing the spatial equilibrium analysis to a normative level, the solution for reducing disparities among Romanian regions is the emergence of new growth poles in poorer areas. This allows a polycentric and balanced spatial development that will alleviate disparities. Through this, it will achieve the objectives of cohesion and competitiveness as reflected in official EU documents and recommended for regional development of the country.

In the following, we try to grasp the role of Romanian industrial agglomerations in setting up a balanced territorial development.

### **2. Literature review**

Regionalization, meaning the division of a national territory in development regions, is regard to the variables criterion that are not able to allow uniform development of areas. The Nomenclature of territorial units for statistics (NUTS) used as a territorial analysis unit does not consider real local needs. For example, an assessment of the situation in Romania reveals that 'the NUTS II classification allows only a limited understanding of the development

process' and should be complemented by other factors such as size of urban areas, market access or proximity (Government of Romania, 2007). An attempt to answer the question what is the most appropriate geographical scale to describe the level of regional development, the researchers (Cojanu, 2009, 2010) concluded that development can be viewed in a more realistic way using multiple-link spatial configurations, in which opportunities for growth are self-sustained.

Based on existing needs, the analysis should cover a growth model that emphasizes the role of competitive interdependencies that occur in a particular territory. Competitive development zones arise from a particular development context, which in turn is explained by the action of two twin concepts: identity and functionality (Cojanu, 2010). While the former refers to an identifiable common denominator for the development, the second is a functional model of territorial developments that affects the premises of temporal and spatial growth.

As suggested in studies conducted at EU level (ESPON, 2006), there are no clear borders between competitive areas, as economic spaces appear in various forms of spatial and temporal boundaries. Spatial, because a development context is defined by an arbitrary combination of factors of geographical origin, such as distance, industry economics, decision centres, value chains, etc. And temporal, since the context is the historical depository of common issues, more or less tangible, such as traditions, beliefs and the feeling of belonging to a community, drawing a pattern of development characteristic for a certain period.

That is why regionalization must be more than a process of dividing the territory into regions; it must be aimed at stimulating and diversifying economic activities, stimulate private sector investment, helping to reduce unemployment and increase quality of life, ie regional development of the national territory.

Moreover, polycentric regional development policy should not only have the urban centers as powerful core, but also competitive industrial clusters. Based on Porter's theories (1998, 2003) researchers (Delgado et al., 2010 b) has developed a systematic empirical approach to identify the role of regional clusters over regional economic performance. Their conclusions were the following: the participating industries from a strong cluster have higher growth rates of occupation, salaries, establishments and patents; new regional industries emerge where a strong cluster already exists; the presence of strong clusters in a given region determines the growth of opportunities in other industries or clusters. The same group of researchers (Delgado et al., 2010 a) has studied the role of regional clusters over regional entrepreneurship and has concluded that the presence of complementary economic activities creates externalities which increase incentives and decrease the barriers faced by start-ups. As a result, the industries localized in regions with strong clusters (e.g. characterized by a high presence of other connected industries) confront themselves with a surge in the number of new businesses and enterprises. Influential clusters are also associated with new business establishments, thus influencing decisions regarding business localization. In the end, strong clusters contribute to the survival of start-ups.

The Group of Applied Economics (GEA, 2007) did a survey on the 42 Romanian counties regarding the correlation between development and entrepreneurial spirit, highlighting that the success of regional competitiveness has four determinants, directly related to industrial agglomerations. First, it comes to the high productivity of industrial clusters as a result of access to specialized inputs and employees, access to information, complementarities, access to institutions and public goods, incentives to achieve performance. Second, it is noted the innovation supported by industrial agglomerations as a result of the needs of new customers, new technological possibilities, production or distribution, and the ability to act quickly. Third, industrial clusters stimulates the formation of new companies,

having as causes low barriers to the market entry - through better information on opportunities, easy detection of niches / segments uncovered in terms of products, services or service suppliers, a large local market - but also to the market exit. Finally, regional competitiveness is related to competition and cooperation within industrial clusters based on vertical links with suppliers and customers - by disseminating information that may contribute to the development of new products and processes, or financial gain by increasing coordination of work - and the horizontal relationships with direct competitors - the effect of compensation between access to a larger volume of resources, on the one hand and the potential loss of intellectual property, or the emergence of most redoubtable competitors, on the other hand.

### **3. Industrial agglomerations - poles of competitiveness in regional development. The Romanian experience**

Based on observations of Alfred Marshall (1890) regarding the benefits companies that are concentrated in a particular region, through neo-classical economists approaches and other scientists in related fields (especially geographers), clusters have become today a "fashionable" concept around the the world. Essential contributions to the development of the concept is due to Michael E. Porter (1998), by replacing the classical theory of production factors in a diamond of competitiveness, thus becoming the founder of economic policy based industrial clusters. He defines clusters as a concentration of companies and associated enterprises (universities, research institutes, trial laboratories, continuous professional learning providers, professional associations, local authorities etc.) from a specific field, found in the same geographical area and interconnected through common and complementary activities. The definition focuses on interconnections between actors, the synergies arising from their collaboration and positive externalities results, such as skilled labor, locally available, low-cost transportation, external economies of scale, transfer of know-how and technology.

Economic practice has validated the model known in the literature as "the triple helix". It joins together, within a cluster, representatives of: companies – representing the economic part of the cluster; universities and research institutes – representing the suppliers of innovative solutions, applicable to the real needs of the companies that are part of the cluster; local and regional public authorities etc.

Clusters are a real alternative also for the economic development of Romania. In this country, experience has proved that the three natural partners of the "Triple helix" model not only do not cooperate, but they also do not know each other and do not get to discuss with one another. There is a need for adapting the model and for turning it into a "Four clover" model, the fourth actor being the catalyst organizations – consulting firms, specialized in the technological transfer and innovation field, technological transfer centers, etc.

Romanian clusters have been formed in a natural "bottom up" manner, based on industrial agglomerations in certain geographical regions. These were based on either the tradition – the case of automotive component suppliers Dacia-Renault or Textil NE - or the location of multinational companies - Western Automotive cluster. Transition to the next level has been done, in almost all cases, due to the intervention of catalyst entities (RDAs, industry associations, consulting firms) which led to the formation of clusters as "potential poles of competitiveness". The most important role in forming clusters / poles of competitiveness was the Ministry of Economy, Trade and Business Environment, Department of Industrial Policy,

which by actions since 2008, accelerated the process of creating these competitive industrial agglomerations.

This has materialized in four main actions: 1. development of the chapter regarding clusters from the industrial policy document, with support from the German Agency for Technical Assistance (GTZ); 2. “Inov Cluster” Project (2008-2010), from the Sectoral Plan for Research and Development, which consisted in disseminating the concept of innovation clusters in Romania and the examples of good international practice, as well as stimulating economic operators in creating and developing innovation clusters through creating specific instruments (guides, gateways, consulting services); 3. “cluster mapping” exercise, developed by MECBE, with support from the German Agency for Technical Assistance (GTZ); 4. generating potential competitiveness poles by General Direction for Industrial Policy and Competition through requesting the sealing of a partnership agreement, that would prove the cooperation within the cluster. The model used was that of “Pro Wood”, 21 clusters succeeding, so far, in submitting a partnership document, which represents a valid start in evaluating competitiveness poles at a national level. It identifies one of the most important vectors, cooperation, as well as the existence of common goals, integrated in the cluster (<http://clustero.eu/romanian-cluster-association/>).

In a previous study (Clipa et. al, 2012b) on the comparative analysis of region rankings according to the number of clusters, GDP/capita and level of competitiveness, we concluded that the development of industrial agglomerations has not offered any support for the regional competitiveness in Romania. Moreover, this country has not benefited from a policy based on the development of industrial agglomerations, which, in turn, could have led to the improvement of regional competitiveness. That is why we believe that Romania has unused resources which would permit the consolidation of regional competitiveness. We focus below on the proper understanding of agglomeration factors as sources of balanced spatial development. We are also trying to answer the question: what are the policies able to support a balanced spatial development based on agglomerations?

#### **4. The normative dimension of spatial analysis**

A balanced territorial development can be achieved by directing public policy in two directions. The first aims at stimulating economic growth in regions with a lower level of economic development. Despite the fact that this was the main objective assumed by our country in preparing the strategy for attracting European structural funds, regional policy option is compromised due to lack of efficiency in the allocation of funds. So that Romania may not become EU peripheral zone is necessary to improve the management of EU funds absorption in areas such as higher qualification of the workforce, developing competitive production technologies and environment.

A second direction for public policy in Romania, the dispersion of growth from developed regions to the other through a process of redistributing at national level face the reality that resources tend to focus on those areas that allow maximizing their use. We have to intervene within the area of policy focusing on transformation of local or regional skills (through an auto-generating cumulative positive causality between industries), to ensure competitive conditions of the market and use local skills to create new business.

Urban centers are seen as competitive by focusing both resources and initiative to create added value. Also, economic development process is based on related industries and clusters located at varying geographic scales, other than administrative units used in theoretical studies or expert reports (cities, counties and development regions). The

investment attractiveness of development areas, in opposition to administratively bounded territories, result from the general trend of the industry to agglomerate in the center to the detriment of the periphery, creating further uneven growth opportunities. Thereby public policy interventions are needed to reduce losses and to multiply the positive effects. That is why supporting and strengthening competitive industrial clusters may be a more appropriate goal for regional development policy.

Cluster support policies can be divided into three main categories, depending on the objectives and reasons which led to their implementation: 1. Facilitation policies, directed towards the creation of a micro-economic environment permitting development and innovation, indirectly facilitating emergence and development of clusters; 2. Traditional framework policies, which include policies for SMEs and industry, for research and innovation, regional policies; they refer to clusters as instruments for improving their efficiency; 3. Development policies, focused on the creation and mobilisation of a specific category of clusters, with the purpose of reinforcing a certain economic sector. This is the only category which directly concerns the cluster theory.

The experience of other European economies shows two types of cluster-support schemes: the first one supports "top-level" clusters, with influence on the level of competitiveness of the respective country and susceptible of reaching an international excellence degree; the second type deals with regional clusters, whose importance may not surpass the region's borders, but which have a considerable impact on the overall economic development. In Romania's case, we believe that a third type of cluster-support policies is necessary, the one focused on the processes prior to cluster formation, in order to facilitate cooperation between partners, much needed for further cluster development.

Romanian industrial policy, according to the main principles and objectives of EU, started to emerge in 2002 by forming a strategic vision, and to develop once the Lisbon Strategy (2005), when in the definition of industrial policy the focus moves to strengthen and encourage horizontal factors that determine competitiveness, human capital, research, innovation, entrepreneurship, environment.

Since 2009, there is a new policy document of the General Direction for Industrial Policy and Competitiveness (DGPIC 2010a) entitled Romania's Industrial Policy 2009-2012, which addresses the overall objective of achieving national strategic objectives adopted in accordance with the directions outlined by Europe 2020. Among other things, it is noted here the priority interest of "stimulate the development of competitive agglomerations (clusters / poles of competitiveness, growth poles, the poles of urban development, industrial parks, etc.)" (DGPIC 2010b).

According to commitments undertaken by Romania in the Treaty of Accession to the European Union and to ensure similarity with other Member States of the European Union, the National Reform Program for 2011-2013 - Section Industrial Policy (approved by the Government in April 2011) and Industrial Policy Document stipulate the importance of cluster policy and competitive poles for economic recovery and growth of regional and national competitiveness.

It follows that the promotion of competitiveness poles / clusters as part of the industrial policy of our country aims to identify existing and potential "top-level" agglomerations. General objective is to encourage industrial development around networks of functional clusters in order to produce goods with high added value possible competitive both on the national and international level. Romania's challenge is to anticipate and prevent the decline in certain industrial sectors that currently benefit from comparative advantages (eg labor costs). The role of local decision makers and the economic entrepreneurs overall

economic development is increasingly important when developing competitive industrial agglomerations.

The analysis of the macroeconomic model based on the interdependencies between regional disparities, agglomeration and economic growth (Clipa et al., 2012a) shows that in the case of core-periphery dual regional structured economies, the cohesion policy effects can be avoided, in that the central agglomeration will generate a higher growth rate at national level, but with the price of amplifying the existent regional disparities. One way of dampening this negative effect over Romania is investing in those areas which could trigger regional development. We are talking about policies designed to promote innovation and knowledge, by providing incentives for research and development or by investing in educational infrastructure. That is why studies identifying areas of interest for the development of regional clusters and measures necessary for their support are and must remain one of the objectives of most regional development strategies.

## 5. Conclusions

In Romania, there is a significant potential for the development of competitive clusters, as the 2010 Cluster Mapping showed a balanced regional distribution of clusters on its territory. Furthermore, all of its 8 development regions meet the requirements of cluster formation, meaning the presence of all the four clover petals: business and industry; higher-education institutions and a research-development-innovation environment; local and regional authorities; catalysts (innovation and technological transfer entities, chambers of commerce, consultancy firms).

The Romanian Government's strategic plans deal with the promotion of clusters and supplier chains, with the investment in new technologies, while encouraging international cooperation, as well as stimulating cooperation between universities, research institutes and innovative SMEs. One of the major objectives of our regional development strategies has to be concerned with the identification of those interest areas that favor the development of regional clusters and with the necessary accompanying measures.

The questions that we need to address are: just how competitive are clusters? What is the impact of industrial agglomerations over regional competitiveness in Romania? These inquiries can inspire future empirical research in this field.

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