

Dirzu, Madalina-Stefania

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A CONCEPTUAL APPROACH TO ECONOMIC AGGLOMERATIONS*

Mădălina-Ştefania **Dirzu**
Alexandru Ioan Cuza University of Iaşi, România
dirzu_madalina@yahoo.com

Abstract: *Technological progress and rapid structural adjustments have characterized a lot of economies in the last century and they still feature pronounced structures. An important observation is that economic activities tend to agglomerate in space as a result of some kind increasing returns, forming eventually economic agglomerations. When various companies gather together, they establish specific forms of interaction. Increasing returns produce when this mutual interplay creates positive externalities for those firms which operate into an agglomeration. In this context, it is crucial to raise a question: what is an economic agglomeration and what do different scientists imply when using the concept? The phenomenon of agglomeration has attracted researchers from various disciplines employing a hybrid set of analytical perspectives. This whole framework is still puzzled with contradictory conceptualizations which are often used in an ambiguous way. Scientists tend to utilize notions such as agglomeration, cluster, territorial network, specialization, concentration somewhat interchangeably and with little concern about how to operationalize them. To shed a light on this issue, the aim of this paper is to provide a comprehensive analyze of different theoretical framework in which economic agglomerations have been debated and researched.*

Keywords: economic agglomeration, cluster, territorial network, specialization, concentration
JEL Classification: R10, R11

INTRODUCTION

Looking at a global map that shows the spatial distribution of economic activities, it becomes quite obvious that there is a strong tendency for industries to agglomerate in certain regions in order to benefit of agglomeration economies. In this way, an increasing number of countries (e.g. USA, UK, and Germany) commenced to promote this idea of supporting the development of economic agglomerations with the purpose of improving the economic performance of those regions where these concentrations are formed. The success of industrial agglomerations depends to a great extent on positive feedbacks, that is, from increasing returns to economic activity agglomeration. These specific forms of increasing returns take place from the fruitful interaction of a large number of economic actors gathered together – firms, input providers, and skilled workers and so on – and also from the complex mechanism of interrelations that results from the mutual causality between diverse variables.

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With this background an eminent question arises: What does an economic agglomeration represent and what do various scholars truly mean when using this term? In order to be absolutely fair, we have to recognize that world-class analysts proved to be unable in coming up with a single definition for this intricate notion, the overall framework remaining somehow diffuse. By reviewing an important number of contributions to the study of agglomeration, a broad description of the concept, including the associated terms, will be provided in order to offer a more profound understanding of the issue. In this sense, we have structured our paper as follows. Section 2 is dedicated to a brief presentation of existing approaches dealing with the grouping of industrial activities in space, focusing on the origin and emergence of agglomerations. Also, we explain the concepts of agglomeration, cluster and territorial network by emphasizing their basic definitions and the differences and common features which characterize them. Section 3 provides a theoretical clarification concerning the distinction among three similar notions: agglomeration, specialization and concentration which are often used in a close direction. Finally Section 4 reports some concluding remarks in relation to all these interrelated notions, highlighting their potential complementarity.

1. SPATIAL PROXIMITY AND COOPERATION: AGGLOMERATION, CLUSTER AND TERRITORIAL NETWORK

Fundamentally, there are three interrelated concepts concerning the process of concentrating economic activities in various areas, namely, *agglomeration*, *cluster* and *territorial network*. Although, formally, the three terms may be in a synonymy relation, in reality, these concepts involve different characteristics.

The original contribution regarding the phenomenon of agglomeration of industrial activities in space was first attributed to Alfred Marshall who explained this mechanism in the late 19th century under the heading of “industrial districts” and with reference to so-called Marshallian externalities (Marshall, 1890). The British author has brought forward his observations of patterns of economic activities in the industrial region of England, identifying several reasons why groups of firms in a market economy, located close to one another, are more productive than if they operated separately. Thus, Marshall describes three essential sources of collective efficiency, starting from the fact that firms can specialize more finely in intermediate stages of production as agglomeration can occur due to an increased demand resulting from local companies. More than that, the existence of numerous similar firms may encourage the concentration of supplies of skilled labour in the same

location. Furthermore, information on modern technologies and methods can be shared in informal meetings among employees of different companies. This entire framework established a strong connection between co-location by firms and economic efficiency as companies would agglomerate in order to benefit from positive externalities associated with their co-activities (Andersson et al, 2004).

Subsequently, the new economic geography concept or agglomeration economies attributed to Paul Krugman (1991), with reference to Marshall externalities (1890), identifies three principal agglomeration economies:

- ❖ Existence of labor pool;
- ❖ Existence of suppliers;
- ❖ Knowledge spillovers.

Agglomeration economies are supposed to appear when these types of linkages either reduce the costs or increase the revenues (or both) of the companies taking part in the local exchange. Presence in an economic agglomeration is, in other words, believed to improve performance by lowering the costs of transactions for both tangibles and intangibles. Companies using the benefits of geographical proximity in such a case also provided a basis for cluster formation at later stages. In this way, clusters are also perceived as a mature type of economic agglomeration whereas the fine link between agglomerations and clusters can be observed in the below table:

Table 1 – Types of economic agglomerations

	Economic activity in general	Related industries
Efficiency and flexibility	Metropolises	Industrial districts
Innovation and upgrading	Creative regions	<u>Clusters</u>

Source: Malmberg, A., Solvell, O., Zander I. (1996) *Spatial Clustering, Local Accumulation of Knowledge and Firm Competitiveness*, Geogr. Ann., Series B, Vol. 78B, No. 2.

Explaining the concept of cluster can therefore be provided through the phenomenon of agglomeration by encasing it in a matrix formed of two quadrants: agglomeration forces acting on a general level or in companies and related industries on the one hand and forces enable improved efficiency and flexibility or improvements and innovations, on the other hand.

Moreover, economists often tend to utilise agglomeration and clustering synonymously, defining agglomerations and clusters in a specific manner: they represent geographical and sectoral concentrations of enterprises and firms. Hence, by this definition a region shows agglomeration when it specialises in a certain industrial sector compared to other regions in the economy. This particular definition has been frequently used in empirical descriptions of regional specialisation

(Huggins, 2000; Begg, 1991) and also by economic theorists explaining agglomeration (Arthur, 1994; Krugman, 1991).

However, there were specialists who have made a clear distinction between the two concepts, focusing their attention in particular to the unique characteristics of clusters: the synergies created by companies that maintain mutual cooperation ties which finally become more innovative clusters (Porter, 1990). Therefore, the literature has focused more on the mechanisms leading to the establishment of interconnections between various actors that belong to a cluster.

Taking into account the issues raised above, it should be noted that the difference between agglomeration and cluster is that the first term refers to the concentration of industries in a particular geographic area, emphasizing the idea of regional distribution industry, describing also the conditions influencing spatial distribution industries in the territory. On the other hand, the notion of cluster emphasizes the importance of geographical concentration of companies and various organizations, but that form and function as a unified organism. In this framework, the *cluster* can be viewed as a specific phenomenon of industrial agglomeration, while *agglomeration* represents the primary base for the development of a cluster.

Furthermore, it should be noted that the term of *cluster* became visible with the appearance of Michael Porter's work, where the author defines clusters as geographic concentrations of interconnected companies, specialized suppliers, service providers, and companies in related industries and associated institutions in certain areas that compete but also cooperate (Porter, 1990). Inside clusters one can find governmental or educational institutions, professional consulting providers, and employers who provide specialized training, research and technical support (Porter, 1999). From these definitions it is clear that the attention must focus primarily on exchange relations that occur within the cluster, which play a critical role in the process of innovation and improve the competitive advantage of companies. Hence, to achieve a multilateral connection between all the members of a cluster it is necessary to create a network mechanism. Thus, the concept of cluster determines a new analysis implying spatially concentrated firms, drawing our attention to a new concept called *territorial network* (Sprenger, 2001).

Networks are defined in many ways, especially at the present moment, when everything is part of a network. However, the concept is vague and needs clarification because similar to agglomeration or cluster notions, also in the case of territorial network everything consists in relationships, contacts, connections, associations or partnerships. As a general definition, the network describes a mechanism where several actors or groups of actors work together for a common goal, on the basis of a shared vision. In the literature, this specific term defines the

collaborative relationships among local firms, banks, institutes of higher education and research, consultancy centers, chambers of commerce, associations of producers, local government and other social groups concerned (Maillat, 1990; Cappellini, 2002; Sprenger, 2001). Relationships within a network develop over time, but once formed tend to be characterized by a high degree of interdependence, communication, reciprocity and trust. Moreover, connections between network actors can result and be constructed on formal agreements, but these ties are especially based on partnership and the belief that everyone involved can have benefits. It is considered that the links between members of a network reflects not only market relations and social and cultural context, but mostly social rules, cultural norms, customs manifests through which connections between organizations may improve the efficiency of spatial interactions (Fisher, 2006).

Considering these, we can observe that the defining concepts of grouping economic activities is shrouded in a veil of confusion, the operationalization of the three concepts of agglomeration, cluster, respectively territorial network, being realized in an ambiguous way by economic scientists. Although, we admit that formally these notions may have a similar meaning, each requires its own logic with distinct characteristics, which is observable in the table below:

Table 2 – Agglomerations vs. Clusters vs. Territorial network

<i>Agglomeration</i>	<i>Clusters</i>	<i>Territorial network</i>
Geographic concentration of firms from similar industries or not	Geographical concentration of firms in related industries or not, government bodies, educational institutions, specialized suppliers, service providers etc.	Geographical concentration of firms, banks, institutes of higher education and research, chambers of commerce, associations of producers, local government etc.
Economies of scale and scope	Positive externalities	Benefits for all the participants
Interrelations among firms from similar industries or not	Development of synergies	Social and reliable relations
Purpose: collective efficiency	Purpose: innovation	Purpose: improve the efficiency of spatial interactions

Source: Compiled by author

2. AGGLOMERATION, SPECIALIZATION AND CONCENTRATION

From another perspective, the term of agglomeration is often used interchangeably with the concept of specialization or concentration. Apparently, specialization and concentration are treated as connected processes and even identical. If at the theoretical level their connection depends on various theories and qualitative arguments which we take into account, at the empirical level the analysis of the diverse economic activities utilise the same data for the specialization and the concentration. Most of the empirical studies treat both processes as parallels, so that the dynamics

of the specialization is always accompanied with the same dynamics of the concentration. Still, it is necessary to make the difference between all these similar notions. There are always ambiguities arising from the fact that the sectorial concentration is almost synonymous with the specialization.

However, certain economists suggest that specialization and agglomeration involve both mobile and immobile factors (Brulhart, 1998). For this reason, major industrial composition refers to a region in which industrial activities are agglomerated compared to other regions (involving a relative rather than absolute measure of agglomeration). On the other hand, pure agglomeration normally refers to the spatial concentration of economic activities in a well defined location, while concentration describes the spatial distribution of specific industries.

For other scholars (Hallet, 2000), the concentration and the agglomeration are very different from the specialization. The specialization compares if the weight of a region in the production of the good is relatively important or not with regard to the weights of the other locations in the same production. For a better understanding we can relate to the case where two regions A and B are not specialized while in another case they are. More, in the second situation the specialization coincides with the concentration because of the equal sizes of both regions. On the other hand, the concentration and the specialization may not coincide.

From this new economic perspective, we can observe that all these three notions are useful, but they must be used properly, especially in empirical analyses.

CONCLUSIONS

In the literature dedicated to the issue of concentrating economic activities in space, there is no single definition for economic agglomerations or related concepts. However, notions such as agglomeration, cluster, territorial network, concentration and specialization are often used to describe the same reality. Although we recognize that, apparently, these notions may have a similar sense, in fact, each of them involves its own structure with different and specific functions. Consequently, it can be concluded that a specific definition of the terms concerning conglomeration of industrial activities is far from being elucidated, the operationalization of these five interrelated concepts being made in a vague manner by economic scientists. As it can be seen from the arguments presented in the previous sections, the concept of agglomeration can be defined in various ways, so it is preferable not to perceive all these interpretations as being totally categorical verdicts, with the essential mention that all these five diverse conceptions complement, rather than exclude each other.

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