

CLUSTERS AND CLUSTER POLICY IN UKRAINE

Cluster conception keeps growing more and more popular in nowadays economics. Governments of many leading countries such as the USA, Japan, EU states pay much attention to this theory and organize its scientific investigation and development. Cluster policy has become an obligatory issue in economic programs of all developed countries [1]. International organizations and funds dealing with cluster policy have been founded for cooperation and active work on clusters in developing countries.

Ukraine appears to be involved in the international process of introducing and enhancing cluster policy. In particular the corresponding economic program was accepted by Ministry of Economy of Ukraine in 2008 [1]. Different non-governmental organizations such as Foundation for Effective Governance actively cooperate with international groups and funds on creating clusters and popularizing cluster policy in Ukraine. Now several clusters are declared to be created and functioning in Ukraine. Yet the effectiveness of cluster policy in Ukraine may be questioned. The matter of scientific interest is to assess the efficiency of cluster policy in Ukraine using available information and statistic data.

The problem cannot be investigated thoroughly due to lack of statistic information. The purpose of the study is analyzing cluster activity in Ukraine using data provided by the existing clusters and defining industrial regions of Ukraine which have cluster structure or can be converted into clusters.

Cluster conception was first offered by American economist Michael Eugene Porter in *The Competitive Advantage of Nations* (1990) [2]. In general this theory says that companies can benefit from a number of advantages if they are located in a small area with their rivals, suppliers and related institutions such as universities, high schools, government institutions, trade unions, technical support companies [3; 1]. The theory proves itself in such examples like Silicon Valley of the USA or Cambridge IT-cluster which both have a structure of a classic Porterian cluster. These areas include the most profitable companies of the country and usually take a significant part of GDP of the entire state. For example, Silicon Valley includes about 1000 enterprises working in IT-sphere and creates almost 226 000 working places [4]. People, living and working in the region have

higher wages and standards of living than in other parts of the USA [5]. That's why the idea of creating strong economic blocks is becoming more and more attractive in nowadays economics. Many European governments show strong initiatives in clustering and cluster policy as well as the USA, Russian government is now developing a project of a big scientific cluster in Domodedovo, not far from Moscow, the possibility of clustering Ukrainian economy is discussed now by leading economists and scientists.

In general the idea of cluster supposes that the geographical proximity of related enterprises, suppliers and scientific institutions can boost up the productivity of such a cluster due to close cooperation inside it. According to Michael Porter economic clusters can exist in any field and productive sphere [3, p. 1]. He shows the example of Californian wine cluster which connects independent grape-growers, wine-manufacturers and specialized equipment suppliers [3; 2]. This shows that clusters can exist in any type of economy and clustering of any productive sphere is efficient. This remark is important for Ukrainian economy with low proportion of high-tech industries and rich agricultural basis [6]. At the same time Porter notices that the cluster effects become especially strong in advanced economy and in IT-spheres where the exchange of tacit knowledge is important [3; 2]. This exchange which is called 'spillovers' means accidental leakages of important technological information and personal know-how of the companies. This statement is proved by the history of difficult relationships between the Apple and Microsoft companies.

Yet the real effect of spillovers is questioned by Huber F. in his investigation of Cambridge IT-cluster which includes leading world university and software-developing companies [7]. Huber surveyed the workers and managers of the companies and made a conclusion that spillovers don't really matter for increasing cluster effectiveness. He says that live interaction between the workers inside the cluster is miserable and they don't benefit from a geographical proximity. Accessing important information and knowledge is possible due to Internet and other mass access services. Huber claims that knowledge spillovers become more significant between managers of different enterprises dealing with managing strategies.

Michael Porter does take globalization processes into account. Despite the fact that modern transport and multimedia services seem to nullify the advantages of being in cluster, geographical proximity still matters as it means easy accessing resources. And this is especially important for Ukraine with low quality of road infrastructure which hinders the operating of companies. Geographical proximity is profitable for both manufacturers and suppliers as they get a ready clientele and sales market. Besides close cooperation and information exchange creates a field for development and progress.

For a successful cluster the existence of think tanks is crucial [3, p. 9]. The most effective and profitable clusters in the world include big, world-famous universities with a high educational level [8]. The geographical proximity of universities and companies has several positive effects. Firstly, students have a strong incentive for studying as they see the opportunity to get a well-paid job in a big and successful company right after graduating. It's also an incentive for enrollees to apply to the university which gives such opportunities. Companies benefit from being close to universities because they have a big source of qualified personnel and young talented employees. Such companies like Google, Yahoo, Cisco and Sun Microsystems are created by the graduates of Stanford University. Besides universities play a role of think tanks at the territory of the cluster as students conduct researches, the results of which can be used by companies-employers. So, mutual knowledge of the needs of both universities and companies creates a fertile ground for development and growth.

Analyzing clustering processes in Ukraine.

Nowadays assessing the effectiveness of cluster policy of a particular state meets many obstacles. Firstly, assessment criteria are unknown: it can be difficult to define boundaries of the cluster. The very existence of the cluster structure doesn't make it profitable [3, p. 10]. Inner cooperation inside cluster should be supported by government. Clusters can be weak connecting several small companies or they can be too much controlled by government which makes them inefficient. Thus assessing clustering in Ukrainian economy is not an easy task. Michael Porter claims that sometimes clusters can stay unrecognized for a very long time when they are covered by "overlapping" and more evident clusters [3; 13]. To define the exact existence of a cluster we may need precise, versatile and available statistic information not only about companies and institutions of the region but also about the character of cooperation between them. Lack of such kind of statistic information in Ukraine makes it difficult to speak about existence and effectiveness of the clusters. Michael Porter considers qualitative and available statistics to be an important tool of popularizing

clusters. Due to it entrepreneurs could see the real benefits of being in cluster and an incentive to join it. Thus spreading information about existing clusters in Ukraine could stimulate investment-flows to them.

It is remarkable that Ukraine tries to follow modern economic tendencies concerning clustering and significant work in creating clusters is conducted. Here the cooperation of Monitor Group and Foundation for Effective Governance can be mentioned [9]. They lead common work to enhance economic development of separate regions and entire country. One of the arrangements is creating clusters at the territory of the regions taking into account their special features and characteristics. It was planned to create clusters in Lvov, Donetsk and Dnepropetrovsk regions. Two clusters which are now completely finished and functioning are located in Lvov. These are woodworking and IT clusters. The woodworking cluster is presented by three companies and a university. One of the companies is relatively big and takes a significant part of Ukrainian wood export. IT cluster is presented by six software-developing companies, two universities and two government institutions. Although the clusters are the initiative of Monitor Group they are not classic Porterian clusters. The economic blocks are formed as associations of company-members and other related institutions and have governance and membership system. To enter the cluster and become its official member a company must satisfy a number of parameters and in case of woodworking cluster pay special dues which in general equate about 20 thousand grivnyas per year. Such elements are not typical for a classic Porterian cluster which assumes free entrance, no membership system and administration. According to information provided by one of the members of the woodworking cluster dues are not in fact paid by companies and cannot be taken into account. At the same time cluster is ready to cooperate with any enterprise even if it's not an official member of the cluster. According to the same source the clusters don't aim to follow Porter's concept having their roots in early forms of merchant guilds [10]. So the cluster really means to be an organization-union of several companies which lead common work for increasing economic performance of the entire block and every separate enterprise. Companies inside the two clusters cooperate to improve their rights protection, introduce technological changes and influence the educational process in partnering universities to help graduates satisfy modern market requirements. In particular Lvov IT cluster created several new courses (in particular English language course for IT experts) and introduced them to educational programs of partnering universities.

Cluster conducts independent educational courses and training programs for the employees as well [10].

It is impossible to assess benefits and advantages of being in the clusters for member-companies due to lack of statistic information. It stays clear that the companies have their own benefits and conveniences of being in the organization but such a form of cooperation doesn't go beyond the scope of its own. It is still not a national form of manufacturing organization or a common trend.

Two more clusters are planned to be created in Dnepropetrovsk region which is considered by Monitor Group to be one of the most perspective and developing regions in Ukraine [9]. Besides, the experience of Dnepropetrovsk can be used in other parts of Ukraine. Using the provided statistic information about Ukrainian clusters as specific organizations the following ones can be named: two clusters in Lvov region which are mentioned above, automobile cluster in Zakarpattia, First Agrarian Cluster in Chernovtsy, several clusters in Lutsk, woodworking cluster in Rovno, light industry cluster in Lugansk, Melitopol agrarian clusters, Kherson touristic cluster, Odessa clusters, Donetsk automobile and metallurgical clusters, Dnepropetrovsk building and automobile clusters. It's remarkable that clusters in Donetsk are not registered and created officially although the structure of the region's economy is very close to Porterian model. Donetsk region has many metallurgical companies, coal-mines, mining equipment producing companies, universities supplying labor to these companies. All these companies are deeply connected creating one of the most rich and productive regions in Ukraine.

It's worth mentioning that only registered structures and organizations are considered to be clusters in Ukraine. Periodical literature mentions a number of small clusters skipping the biggest industrial regions in Ukraine [11 – 13]. Yet Michael Porter claims that cluster doesn't have to be organized and found, it can already exist in a region and must be only recognized. He mentions a big medical cluster in Massachusetts which was 'buried in several larger and overlapping industry categories' [3; 13]. Thus Ukrainian approach isn't right because it admits existence of a cluster only when it's officially recognized.

The problem of clustering was considered at the governmental level as well. Thus Ministry of Economy of Ukraine worked out conception of creating clusters in Ukraine in 2008 [1]. In this paper production, innovative, touristic and transport types of clusters were named. Ministry declared the policy of supporting these regions due to nullifying administrative barriers.

Analyzing the situation one can see that there is a strong tendency for creating new pseudo-clusters while the situation with already existing clusters remains unclear.

There's a place for attempt to define regions which are close to classic Porterian clusters in their structure. Defining such regions is an important task because it can help to take special changes for improving these regions. Donetsk region can be a good example of a big industrial cluster.

Donetsk region is the most productive industrial force of Ukraine. And if its structure is discovered it can be seen that it is a very big and powerful cluster in its classic model. As in the case of other world-renown clusters Donetsk as a city appeared around upcoming coal mining industry. Such big coal deposits determined the life of the city for a century ahead. Of course numerous mines couldn't do without supporting manufacturers which would produce specialized equipment in large amount. Besides, great amounts of coal made Donetsk a perfect place for creating metallurgical industry. Tens of new enterprises created many working places and qualified staff was needed. This required institutes and universities which would provide companies with qualified labor. Now Donetsk is a home for four big metallurgical companies using coal including Donetsk Metallurgical Plant, more than 20 companies producing equipment and machinery for mines, chemical plants and manufactures processing coal, about 40 coal mines, five coal preparation plants [14]. Besides, Donetsk has big universities which are a source of qualified labor and scientific research. Thus it is a model of Porterian cluster: cooperating enterprises, suppliers and institutions concentrated at a relatively small area. There's one more trait which is typical for cluster: clusters often are the strongest economic regions of a country, which is true for Donetsk region.

It's worth saying that connections typical for a cluster are rather weak in Donetsk industrial cluster due to various factors. The first factor is poor state of many Donetsk mines, significant equipment wear and high risks connected with the work in mines [15]. Some economists believe that the reason is that the mines belong to government. Privatization would make mines modern and well-equipped and the work in them safe. The analyst Sergey Gayda claims that the ownership of the mine can be easily defined by its state: poor mines belong to government, better ones are private [16]. Besides, privatization could stimulate personal interest of the holders and consequently using modern developments provided by Donetsk universities. Thus we come back to one of the main Porter principles: cluster is always characterized by free market relationships and private ownership. Despite serious problems Donetsk region remains one of the most valuable economic forces of Ukraine.

Thus it can be seen that many "hidden" clusters need recognizing and improving. As high technologies

take a little part of Ukrainian economy government should think of creating and supporting large IT clusters. Leading universities of the country can be the basis for these clusters. Talented students and graduates of IT specialties need good financing and free way to create their own enterprises and companies. This statement is proved by the example of Silicon Valley. Upcoming enterprises were created there at the territory of Stanford university encouraged by low rent and close access to qualified labor. Statistics shows that the amount of investments into innovative sector of Ukrainian economy is very low while it's paid crucial attention in Europe and America. Russian entrepreneur Vladimir Kadannikov believes that innovative sector in Russia can find investments in International funds and organizations, which is applicable for Ukraine [17]. Thus low administrative barriers and support of small business development will help to create powerful IT clusters and think tanks around leading Ukrainian universities. A good basis for creating food industry clusters exists in Crimea. Here supporting enterprises, educational centers and institutions can be founded for creating wine clusters. Many wood-working enterprises are concentrated in the West of Ukraine. They can easily be converted into clusters. It's worth mentioning that government's actions in the sphere mustn't be administrative and humiliating.

Conclusions.

The quick analysis allows us to make several important conclusions. Firstly cluster conception is known and paid some attention in Ukraine. Governmental work in this sphere doesn't go beyond recognizing the problem and doesn't involve significant investments and active policy. The conception is popularized and implemented by non-governmental social and private organizations due to several international cluster development programs. The analysis gives reasons to believe that cluster policy is understood in a wrong way in Ukraine. New clusters are created as ruled and administrated organizations while existing ones remain unrecognized and uncared. Organizational type is not typical to Porterian cluster and it can be seen in the most successful clusters of the world. For example Silicon Valley including more than 1000 companies and world-famous university was developing as natural structure. It won't be mistaken to say that its development was even accidental. No administrative measures taken by the USA government caused a quick growth of impressive IT industry in this region. High educational level of Stanford University, wide range of possibilities for upcoming enterprises and some individuals still remain the source of Silicon Valley's prosperity. Thus it would be quite logical to pay attention to such natural clustered structures in Ukraine.

It's worth mentioning that the cluster policy program in Ukraine introduced by Monitor Group involved creating two clusters in Donetsk region (metallurgical and engineering ones). However the program didn't get recognition in Donbas and this is taken as the criterion of failure. At the same time Donbas remains much more economically powerful cluster than any officially recognized ones. Defining existing clusters will help to concentrate on enhancing their efficiency. At the same time significant efforts should be paid to stimulating growth of new clusters. This shouldn't be done by administrative measures as cluster can't be an artificial structure. Attention should be paid rather to solving definite problems of industrial regions than to registering them as clusters.

Policy on stimulating growth of new clusters must involve creating proper climate for small and medium business, creating friendly conditions for creating new clusters. Especially important is achieving development and growth in high-technology industries. The obligatory conditions for growing IT-clusters are higher education of perfect quality and significant investments in IT sector.

Defining potential clusters is an important issue as well. It's crucial to define economically perspective regions and territories with concentrated manufacturing which lack single elements to become powerful economic clusters.

The quick analysis in this study showed that the Ukrainian idea of cluster and classic Porterian model differ a lot. This questions the efficiency of current cluster policy in Ukraine. In this paper it was tried to define a cluster structure in Ukraine and it was proved that Donetsk had all needed features to be treated as a classic Porterian cluster.

Further studies and developments should concentrate on thorough analysis of industrial map of Ukraine with purpose to define all potential and existing clusters of Ukraine. The experience of foreign countries should be analyzed to understand how we can improve our existing clusters and stimulate growing new ones. Possible cluster policy models for Ukraine must be proposed.

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Павлиш Е. В., Поклонський С. К. Кластери та кластерна політика в Україні

У статті було розглянуто сучасну концепцію кластерів М. Портера, її критику деякими дослідниками та науковцями. Особливу увагу було приділено процесам кластеризації в Україні. Було проаналізовано існуючі кластери та діяльність із створення кластерів взагалі. Було зроблено спробу виявити існуючі економічні кластери на основі аналізу індустріальної мапи України та доступної статистичної інформації.

Ключові слова: кластер, кластеризація, Портер, спілловвер.

Павлыш Э. В., Поклонский С. К. Кластеры и кластерная политика в Украине

В статье была рассмотрена современная концепция кластеров М. Портера, её критика некоторыми исследователями и учёными. Особенное внимание было уделено процессам кластеризации в Украине. Были проанализированы существующие кластеры и деятельность по созданию кластеров в целом. Была осуществлена попытка выявить существующие экономические кластеры на основе анализа промышленной карты Украины и доступной статистической информации.

Ключевые слова: кластер, кластеризация, Портер, спилловвер.

Pavlysh E. V., Poklonsky S. K. Clusters and Cluster Policy in Ukraine

The article deals with the cluster conception by M. Porter, its criticism by definite researchers and scientists. Special attention was paid to clustering processes in Ukraine. The existing clusters and clustering activity were analyzed. It was attempted to define existing economic clusters basing on industrial map of Ukraine analysis and available statistic data.

Key words: cluster, clustering, Porter, spillover.

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