DEVELOPMENT DISCREPANCIES BETWEEN WESTERN AND EASTERN EU COUNTRIES: A STATISTICAL ANALYSIS OF TEXTILE AND APPAREL CLUSTERS

Adriana GÎRNEAȚĂ[1]
Mihaela MAȘCU (UDA)[2]

ABSTRACT

The aim of this paper is to provide an in-depth examination at the development discrepancies and cluster sustainability from the existing textile and apparel clusters point of view. Confronted with increased competitive pressure due to globalization and technological changes, the textile and clothing industry strives to remain one of the major industrial sectors in Europe. The analyzed data set illustrate differences between cluster indicators that characterize the Western EU countries in comparison with those located in the Eastern Europe. Furthermore, there is a correlation between region indicators such as GDP per capita or employment rate and the cluster indicators investigated. Strengthening the competitiveness of innovative clusters and benchmarking the performance of industrial sectors such as technical textiles has a great potential to increase the national economy. The implications of the findings regarding disparities amongst Western and Eastern European regions with reference to textile and clothing clusters are discussed in the concluding section.

KEYWORDS: *development, clusters, textile and clothing industry, region indicators, performance*

JEL CLASSIFICATION: *M21, O11, F63*

1. INTRODUCTION

The central hypothesis of the research regards the importance of textile and clothing clusters in regional performance. It was observed that the flourishing of employment in an industry within a region leads to the increase in the strength of the regional cluster environment where the respective industry operates (Delgado, 2011). A powerful cluster facilitates agglomeration economies, including larger concentrations of competent employees, specialised suppliers, complementary businesses, experienced purchasers, and intense local competition (Porter, 2003). The advantages of related economic activities being situated in geographical proximity are significant. These refer to a reduction of transaction costs, an enhancement in knowledge transfers, an optimization of the flow of information, and possibility of the development of specialized local institutions that reinforce the complementarities across related industries. (Delgado, Porter & Stern, 2011) In this manner, a solid cluster environment encompassing a specific industry within a region ought to improve development at the region-industry level by means of expanding effectiveness, driving productivity and employment creation, and expanding innovation and investment (Cortright, 2006).

---

[1] Bucharest University of Economic Studies, Romania, adriana_girneata@yahoo.com
[2] Bucharest University of Economic Studies, Romania, mihaelauda@yahoo.com

Generally, the literature reviewed explains that the presence of strong clusters in a certain region generates job opportunities for different activities located in the area (Delgado, Porter & Stern, 2011). The importance of textile and clothing clusters in generation development discrepancies between Western and Eastern European Union (EU) countries will be the subject of the present research.

2. WHAT IS A CLUSTER?

According to Porter (2000), a cluster consists of "a group of interconnected companies and associated institutions that are geographically close, within a particular field, linked by common elements and complementarities". Furthermore, Porter clarified and operationalized the concept of cluster, by creating an analysis framework called "Porter's diamond", where he included four factors: the conditions generated by the production factors, the context of the strategies of companies and the competition between them, the demand requirements, the connected industries and the sustainable ones (Dudian, Crăciun, 2011). Porter's model of interactions within a cluster takes into consideration as part of the "value chain" a company's competitive advantage which derives from how that company manages its activities from product design and procurement of raw materials until sale and service. Many of these activities involve interactions with other entities as suppliers of raw materials or parts, of specialized services, of research services and innovation, distributors, customers, etc. Because of this reason, the geographical location of the company is significant in defining its' strategy. (Gîrneață, 2013)

In short, clusters are characterized as a group of firms, consisting of related economic actors and institutions located in a close proximity from one another, all of them having reached an adequate level of performance to generate specialized expertise, services, resources, suppliers and skills (Sölvell, Lindqvist, Ketels, 2003). Clusters are designed and implemented at local, regional and national level depending on their scope and ambition (Commission Staff Working Document, 2008). Cluster initiatives are organized efforts taken by actors in a cluster to increase the cluster's growth and competitiveness (European Commission, 2014). Furthermore, clusters are considered to provide platforms to open up innovation process (Tactics, 2012), due to the fact that they provide different sources of knowledge, there is a permanent implication of new partners, and there is a notable increase of national and international RDI collaboration. Clusters can be regarded as dynamic arrangements based on knowledge creation, increasing returns and innovation in a broad sense. Moreover, clusters incorporate the intense exchange of business information, know-how, and technological expertise in traded but also in un-traded forms (Sölvell, 2009). Additionally, clusters are considered as a tool for redesigning the innovative capacity and capability of firms by strengthening the research base to a specific area and by setting up the mandatory platforms for knowledge transfer (Innovating Regions in Europe, 2008).

Jankowska (2012) presented an interesting approach, mentioning six stages of cluster development. The initial one is the crystallization of a group of firms on the basis of local knowledge, followed by the development of related market of suppliers and service providers, the formation of organizations subordinated to the interests of cluster participants, the attracting of qualified personnel and other businesses, the formation of nonmarket resources and relationships to facilitate the circulation of information, to the cluster expiration period. (Janusz, n.d.)

The importance of clusters can be explained by their three main benefits (Europe Innova Cluster Mapping Project, 2008)
- Clusters generate the possibility for companies to operate with a higher level of efficiency, finding more specialized assets and suppliers and minimizing the reaction times contrary to the situation of isolation.
- Business development tends to be higher in groups. New businesses can benefit from the offers of external suppliers, available within the cluster. There is also noted a reduction in

the cost of failure for companies activating in clusters, because entrepreneurs can appeal to employment opportunities available in the related field.
- By being part of a cluster, organizations or research institutions can achieve higher levels of innovation. Knowledge spillovers and the close collaboration with customers and other firms generate new ideas and provide a proper climate for innovation, in the same time, lowering the cost of experimenting.

2.1. Why do firms cluster?
Companies are drivers of productivity, innovation and employment, although in the present economic crisis, they face significant challenges to maintain their competitiveness. Competitive regions require high performing firms.
A strong collaboration between national and international economic partners constitutes an important aspect in the development of firms and strengthening their position on the market. Firstly, innovations are the product of collaborating with other companies, rather than being generated by isolated firms. It is required that organisations with complementary competencies work together to incorporate information and develop new ideas or products. This cooperation provides partners access to new market knowledge and permitting them to create linkages with customers. Likewise, these partnerships permits companies to introduce new products or services from a partner firm to their local or regional market (European Commission, 2007). In the context of globalisation, **these associations allow firms to compete and be more competitive**. Each of the partners can contribute to a certain extent to the value chain. For example, agreements with public research centres facilitate external knowledge and expertise that lead to product development. Small and medium enterprises can better benefit from market opportunities by partnering with multinationals.

2.2. The impact of clusters on the regional development
Every new company that enters an existing cluster increases the locational benefits for the other firms due to the existence of labour market pool, the intermediate inputs pool, technological externalities or knowledge spillovers (Maggioni, 2004). This growth is observed only up to a point, when disadvantages such as competition and congestion are caused. Companies choose to settle in a cluster on the premise that being located there generated an expected level of profitability. In an uncertain world, where outsiders are offered limited information related to local costs and revenues, profitability expectations for a certain location can be based mainly on the number of existent firms, the only observable variable.

2.3. Clusters in Europe
Clusters represent an important part of the European economic reality. Based on a recent study, it was revealed that 38% of all European employees work in companies that are members of a cluster. In some regions, the recorded figure is over 50% and for other parts of the continent, the share is about 25%. Approximately 21% of these employees are employed in regions that are more than twice as specialised in a particular cluster category as the average region (European Commission, 2007).
Regarding the relative performance on the Regional Innovation Index, the European regions can be grouped into distinct innovation performance groups. The Regional Performance Groups (RIS) are represented in **Figure 1**, the data referring to 2014. Innovation leaders are considered the regions that perform 20% or more above the EU average and these are: Finland, the southern part of Sweden, Denmark, Ireland, the eastern part of England, Germany and some small areas of France. Regional Innovation followers are regions performing between 90% and 120% of the EU average, and this includes: Sweden parts of Finland and Norway, Northern Ireland, The United Kingdom, France, Germany, Austria and small parts of Spain and Portugal. Regional Moderate innovators (Norway, Spain, Portugal, some territories of France, Italy, Czech Republic, Poland, Slovakia,

Slovenia, Italy, Greece, Hungary and the Bucharest region of Romania) are regions performing between 50% and 90% of the EU average and regional modest innovators perform below 50% of the EU average (mostly South-Eastern countries, including: Poland, Hungary, Romania, Bulgaria, Croatia).
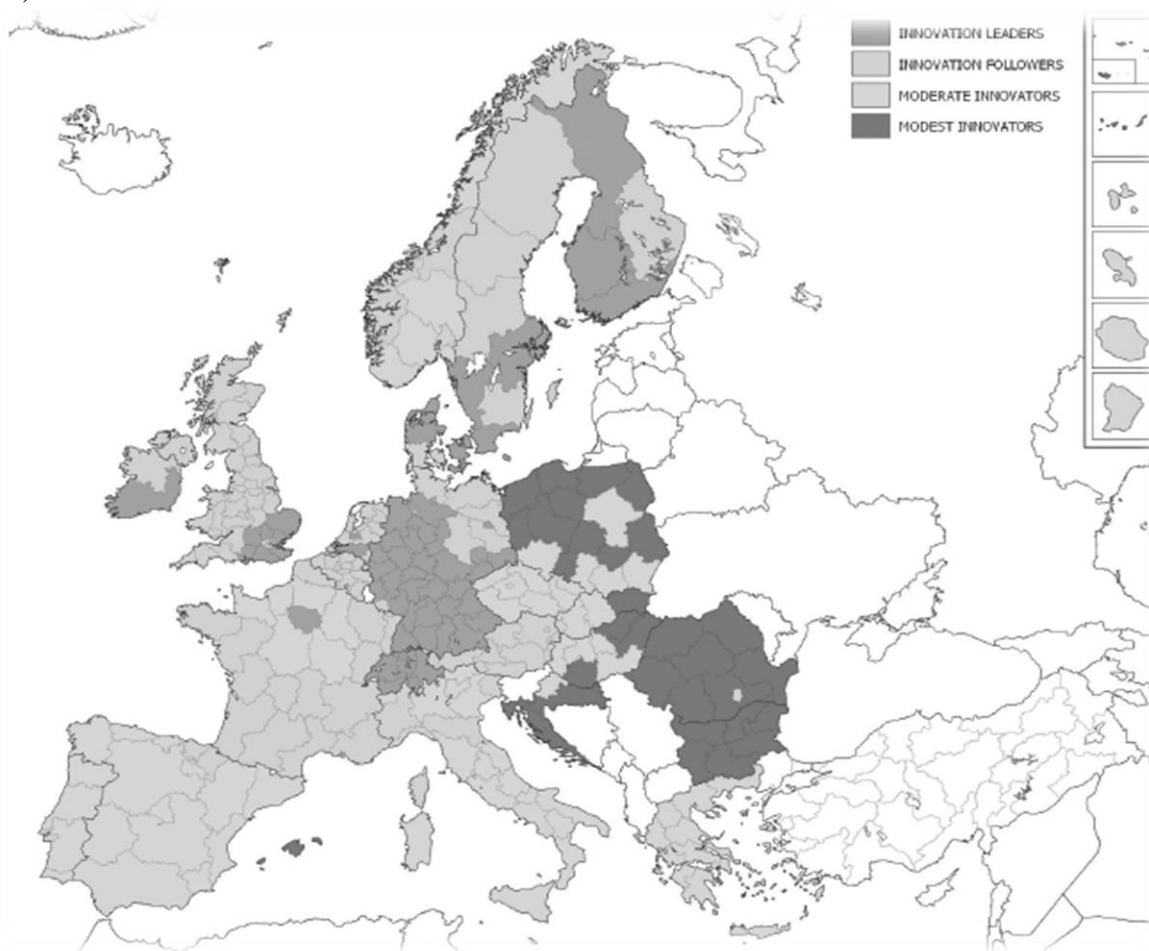

Figure 1. Regional Performance Groups RIS, 2014
Source: Adapted from European Commission, Regional Innovation Scoreboard (2014), p. 4

3. ASPECTS OF THE EUROPEAN TEXTILE AND CLOTHING INDUSTRY

The textiles and clothing industry (T&C) has high value-added market segments where design and research and development represent important competitive factors. As a response to the globalisation phenomenon, companies in this sector of activity moved to higher value-added activities and production of value-added goods, like innovative industrial textiles or niche products (Abecassis-Moedas, 2007; Eurostat, 2006). The center capacities of the high-end fashion market segment are to a great extent located in developed countries and often in limited geographical areas or clusters inside these countries.

The majority of the 850,000 companies activating in the European T&C industry are small and medium enterprises (SMEs). The activities present in the fashion industry are interconnected and include design, manufacturing of materials and fashion goods, distribution and retail to final consumers. These value chains provide employment for more than 5 million people, with a relatively high share of women, representing an amount of 3.7 % from the total non-financial business economy (Idea Consult, 2009). Approximately 2 million people are employed in fashion manufacturing alone, representing 6% of the total EU manufacturing jobs. The other activities such

as: design, branding and marketing, management and retail employ another 3 million persons. Women represent around 45 % of total employment in the EU in general, while in the manufacturing of clothing the percentage raises to 80.

The ageing workforce is turning into a significant problem in T&C industry. On the one hand there is an increasing share of 50+ age group workers, and on the other hand, there is little interest from young people to fill the available jobs (Idea Consult, 2012). This is common to the manufacturing industries in Europe that now have a rather negative image, many young people finding them less attractive.

4. DEVELOPMENT DISCREPANCIES BETWEEN WESTERN AND EASTERN EU COUNTRIES

In order to provide an examination regarding the development discrepancies and cluster sustainability from the existing textile and apparel clusters point of view, were used for comparison the EU countries in Western and Eastern Europe. The regional delimitation was made according to the United Nations Statistics Division (www.unstats.un.org). The EU countries located in Western Europe are: Austria, Belgium, France, Germany, Luxembourg and Netherlands, while EU member states in Eastern Europe are: Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovakia. The data were taken from the Cluster Observatory platform for a period of three years between 2009 and 2011, characterized by the peak of the economic crisis felt worldwide (www.clusterobservatory.eu). The main economic indicators investigated are: GDP per capita, employment rate and the number of enterprises. The data found was divided into different sectors: Textiles and Apparel, and to achieve an overview of the entire industry the two of them were calculated as a whole by the authors.

4.1. The characteristics of Western EU countries regarding textile and clothing clusters
As presented in fig 1, the countries in the Western Europe are situated higher on the innovation chart. None of these are included in the Modest Innovators' group, but, on the contrary, Germany and parts of France belong, according to Regional Innovation Index, to Innovation Leaders' category. The analyzed economic and regional indicators for the Western EU countries are presented in **Table 1.**

The employment rate in this part of Europe is one of the highest in all three years that were analysed. Netherlands has the least number of unemployed people between 2009 and 2011, with a recorded employment rate of 77% and 74,7%, respectively. The lowest figures regarding this issue are found in Belgium, with an average of approximately 62% employment rate.

Analyzing this data, a significant aspect was revealed. The GDP per capita in the textile industry is not influenced by the level of unemployment. Thus, Luxembourg, the country with the highest GDP per capita (69,939.7 Euro) has a quite low employment rate (65.2%) compared to other countries in the region. The two indicators are correlated only in the case of the Netherlands, which records the highest employment rate (74.7%) and the second value of GDP per capita Western Europe (33,453.9 Euro) in 2011.

Most companies are located in France and Germany, which can be explained by the fact that these two countries also have the largest population from the analyzed region. In 2009, in Germany there were 2,061,738 registered companies and the number slightly increased in the following two years, to 2,092,549 and 2,105,920 respectively. In France though, the number of enterprises decreased from 2,079,467 in 2009 to 2,086,329 in 2010, figure that was maintained one year later. Luxembourg has the lowest number of enterprises from the Western EU countries, only 26,365, but the population is only 497,783.

Furthermore, Austria has a population of 8,365,275 people, the GDP per capita is 31,093 euro, and the number of enterprises slightly increased from 298,494 to 309,713, according to the data

obtained for the three years. Belgium has a population of 10,796,492; the value of GDP per capita is 28771.6 euro, the employment rate of approximately 62% and there are 263,570 registered companies.

Table 1. The figures for Western EU countries

Year	Region	Population (K)	GDP per capita (EUR PPP)	Employment rate (%)	Enterprises
2009	Austria	8365275	31093	71.6	298494
2010	Austria	8365275	31093	71.7	309713
2011	Austria	8365275	31093	71.7	309713
2009	Belgium	10796492	28771.6	61,6	263570
2010	Belgium	10796492	28771.6	62	263570
2011	Belgium	10796492	28771.6	62	263570
2009	Germany	81902306	29008	70.9	2061738
2010	Germany	81902306	29008	71.1	2092549
2011	Germany	81902306	29008	71.1	2105920
2009	France	62636528	27005.1	64.2	2079467
2010	France	62636528	27005.1	64	2086329
2011	France	62636528	27005.1	64	2086329
2009	Luxembourg	497783	69939.7	65.2	26365
2010	Luxembourg	497783	69939.7	65.2	26365
2011	Luxembourg	497783	69939.7	65.2	26365
2009	Netherlands	16530388	33453.9	77	1034605
2010	Netherlands	16530388	33453.9	74.7	1097495
2011	Netherlands	16530388	33453.9	74.7	1136735

Source: Adapted from www.clusterobservatory.eu

4.2. The characteristics of Eastern EU countries regarding textile and clothing clusters

The striking aspect related to the textile clusters in the six countries from the Eastern EU is that the clusters in the region are part of the Moderate and Modest Innovators'' category. Therefore, the entire region is characterized by low innovation, which is also reflected in the economic indicators **(Figure 2)**.

The highest value for the GDP per capita is found in the Czech Republic (20,177.4 Euro), while the lowest value is recorded in Bulgaria, only 10,877.3 Euro. The highest employment rate is also found in the Czech Republic, with an average of approximately 65% for the three years, whereas the least number of employed people was found in Hungary, only 55.4%. In terms of the number of the existing enterprises, the Czech Republic also has the best figures. Here, there were 1.952.251 registered firms in 2009, 1,736,670 in 2010 and 1,783,453 in 2011. Slovakia has the fewest companies in the region, only 77,139 in each of the three years.

Apart from the lowest value of the GDP per capita, Bulgaria has a small number of companies, but there were not any major fluctuations during crisis. In 2009, in Bulgaria there were 364,776 firms, while in 2010 and 2011, the number reduced to 363,808.

Hungary has a relatively high value for the GDP in comparison to the other five countries from Eastern Europe, 16,152.3 euro, even if it has the highest unemployment rate. The number of enterprises was not provided.

The GDP per capita in Poland was 16,152.3 euro, whilst the employment rate was about 59.2% and the number of enterprises grew from 3,532,219 in 2009, to 3,549,868 in the next two years.

Romania has the second lowest value for the GDP per capita, of only 11,681.2 euro. The employment rate remains constant at an average of 58.8%. The number of enterprises dropped significantly, from 532,873 companies in 2009, to 482,430 in 2011.

Furthermore, Slovakia's GDP per capita was 18,132.9, the employment rate was 60.2% in 2009 and 58.8% in the following two years, and, as mentioned, the smallest number of enterprises: 77,139.

Table 1. The figures for Eastern EU countries

Year	Region	Population (K)	GDP per capita (EUR PPP)	Employment rate (%)	Enterprises
2009	Bulgaria	7585130	10877.3	62.6	364776
2010	Bulgaria	7585130	10877.3	59.7	363808
2011	Bulgaria	7585130	10877.3	59.7	363808
2009	Czech Republic	10487178	20177.4	65.4	1952251
2010	Czech Republic	10487178	20177.4	65	1736670
2011	Czech Republic	10487178	20177.4	65	1783453
2009	Hungary	10022650	16152.3	55.4	
2010	Hungary	10022650	16152.3	55.4	
2011	Hungary	10022650	16152.3	55.4	
2009	Poland	38151602	14090.5	59.3	3532219
2010	Poland	38151602	14090.5	59.2	3549868
2011	Poland	38151602	14090.5	59.2	3549868
2009	Romania	21464123	11681.2	58.6	532873
2010	Romania	21464123	11681.2	58.8	482430
2011	Romania	21464123	11681.2	58.8	482430
2009	Slovakia	5418590	18132.9	60.2	77139
2010	Slovakia	5418590	18132.9	58.8	77139
2011	Slovakia	5418590	18132.9	58.8	77139

Source: Adapted from www.clusterobservatory.eu

All things considered, the research findings suggest that the presence of strong clusters in a region has a great influence on generating job opportunities for some other activities in the region.

Textile and clothing clusters can contribute to the prosperity on the region they are located in, but they are not the exclusive explanation for competitive advantages. The presence and depth of these types of clusters in a regional economy is a single issue of the general business environment that companies must confront in the location. Factor conditions, the context for rivalry, and demand conditions are other aspects that have to be considered. Clusters are more likely to emerge, prosper, and survive where these conditions support high productivity and innovation.

4. CONCLUSIONS

Regions where a great number of employees work in industries that belong to strong clusters are usually more prosperous. Prosperity can rise under the influence of employment on activities in various industries that belong to such clusters. In addition, industries located within a strong cluster are associated with higher employment growth. Strong textile and clothing clusters determine

growth in wages, stimulate employment and influence the growth of GDP per capita at the national level. While many other factors different than clustering can have an impact on prosperity, the data provides clear evidence that clusters are significantly related to prosperity and there is therefore a need to consider textile and clothing clusters as a central part of any economic strategy.

ACKNOWLEDGMENT

REFERENCES

Abecassis-Moedas, C. (2007), *Globalisation and regionalisation in the clothing industry: survival strategies for UK firms,* International Journal of Entrepreneurship and Small Business, Vol. 4, No. 3, pp. 291–304.

Commission Staff Working Document (2012a), *Competitiveness of the European High-End Industries*, Brussels.

Commission Staff Working Document (2012b), *Policy Options for the Competitiveness of the European Fashion Industries – Where Manufacturing Meets Creativity*, Brussels.

Commission Staff Working Document SEC (2008), *The concept of clusters and cluster policies and their role for competitiveness and innovation: main statistical results and lessons learned,* Luxembourg.

Cortright, J. (2006), *Making Sense of Clusters: Regional Competitiveness and Economic Development,* The Brookings Institution Metropolitan Policy Program, Retrieved: August 7, 2014 from http://www.brookings.edu/reports/2006/03cities_cortright.aspx.

Delgado, M., (2007), *Do Clusters Really Matter for Companies Competitive Strategies? Evidence at the Country Level*, Manuscript.

Delgado, M., Porter, E. M. & Stern, S. (2011), *Clusters, Convergence, and Economic Performance*, US Census Bureau Center for Economic Studies Paper.

Dudian, M. & Craciun, L. (2011), *Industrial Agglomerations and Clusters. The Textile and Textile Products Industry from Romania*, Economia. Seria Management Volume 14, Issue 1, pp 40 – 51.

European Commission, (2007), *Innovation Clusters in Europe: A statistical analysis and overview of current policy support*, DG Enterprise and Industry Report, Retrieved August 5, 2014, from http://www.central2013.eu/fileadmin/user_upload/Downloads/Tools_Resources/Cluster.pdf.

European Commission (2014), *Regional Innovation Scoreboard 2014*, Belgium.

Europe Innova Cluster Mapping Project (2008), *Cluster policy in Europe - A brief summary of cluster policies in 31 European countries*, Oxford Research.

Eurostat (2006), *Sectoral analysis of EU manufacturing activities – Textiles, clothing, leather and footwear,* in European business – Facts and figures, Luxembourg, Office for Official Publications of the European Communities, Retrieved August 5, 2014

    from: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-BW-06-001-03/EN/KS-BW-06-001-03-EN.PDF.

Gîrneaţă, A., *The Importance of Clusters in the Development of the Textile and Clothing Industry*, Network Intelligence Studies, Volume I, Issue 2, 2013, p. 83 – 89.

IDEA Consult (2012), *Study on the competitiveness of the EU fashion industries.*

Innovating Regions in Europe (2008), *Effective Regional Innovation Systems*, Final Report.

Janusz, A. (n.d.), The Significance of Implemented Projects for Business Cluster Performance, University of Lodz (Poland), Retrieved 10 October, 2014, from: https://unilodz.academia.edu/ArturJanusz/Papers

Maggioni, M. A., (2004), *The rise and fall of industrial clusters: Technology and the life cycle of region*, Institut d'Economia de Barcelona Espai de Recerca en Economia, Facultat de Ciències Econòmiques i Empresarials, Universitat de Barcelona.

Porter, M. E. (2000). *Location, competition and economic development: Local clusters in a global economy*, Economic Development Quarterly, Vol. 14 No.1, pp. 15–34.

Porter, M.E.(2003), *The Economic Performance of Regions,* Regional Studies, 37, pp. 549-578.

Probst, L., Monfardini, E., Frideres, L., & Bohn, N. U. (September 2013), *European Cluster Excellence Scoreboard,* Pilot Version, Extension of the European Cluster Observatory, PwC Luxembourg.

Sölvell, Ö (2009), *Cluster: Balancing Evolutionary and Constructive Forces,* Second edition, January 2009.

Sölvell, Ö.; Lindqvist, G. & Ketels, C. (2003) *The Cluster Initiative Greenbook, August 2003* (1st ed.), Stockholm: Ivory Tower.

Swann, P. (1992), *The Dynamics of Industrial Clusters*, Oxford.

TACTICS: *Where the Cluster Winds are blowing (in Europe),* (2012). Draft Report, Retrieved at August 5, 2014, from http://www.clusterobservatory.eu/eco/uploaded/pdf/1368191396040.pdf.

The European Cluster Observatory (2009), *EU Cluster Mapping and Strenghtening Clusters in EU. Europe Innova Paper no: 12*.

The European Cluster Observatory (2012), *ScoreboardMethodology, Version 1.3,* Luxembourg, Retrieved August 7, 2014, from http://www.clusterobservatory.eu/eco/uploaded/pdf/1368191396040.pdf.

The European Cluster Observatory (n.d.), Retrieved August 7, 2014, http://www.clusterobservatory.eu/index.html#!view=aboutobservatory;url=/about-observatory/methodology/indicators/.

United Nations Statistics Division, Retrieved August 7, 2014 from: http://unstats.un.org/unsd/methods/m49/m49regin.htm.