The peculiarities of trade specialization in creative industries in the Central and Eastern European countries

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Abstract

Because of dynamic processes of creative economy development and resistance to the crisis of modern creative industries which occurs mainly in metropolitan areas, the interest in understanding these local processes as a factor of bringing international trade competitiveness and providing convergence among the countries where those metropolises are situated is of great value. The EU, and Central and East Europe (CEE) in particular, is not an exception. This paper reveals the most productive creative industries in the EU; fins out the impact of metropolises' creative activities development on countries' international specialization. Perspective products' and geographic patterns relating creative products' international specialization for CEE countries, especially for those which have recently signed association agreements with the EU (Moldova, Ukraine, and Georgia as an important East Neighbour for the EU) are grounded. Using inter- and intra-trading estimations, the positioning of CEE countries in the EU 28(+3) international specialization pattern is indicated. The product specialization of metropolises in CEE countries which may (or may not) contribute to further internationalization of creative industries in these countries has been revealed in the article.

Keywords: creative industries, metropolises, international specialization, inter-trading, intra-trading

1. Introduction

The countries' and their integration's sustainable economic development in the globalized world primarily means success in international trade. The EU international specialization pattern, among others, is influenced by the success of those patterns of Central and East European (CEE) countries as well. CEE

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includes those countries which are EU members already, those which are on their complicated road to membership and which have signed association agreements with the EU recently – Moldova, Ukraine, and Georgia. The last is not exactly a CEE country, nevertheless it is a country with European membership ambitions and with the greatest success in terms of reforms among East Neighbourhood members; hence, it should be taken into account as well. Taking into consideration relatively stronger divergent economic tendencies in CEE and in order to reveal the consequences for current EU members' international trade performance from three probably joining countries, we use the "WHAT IF" semantic-imitation modelling and relevant logic of empirical analyses in specialization performance.

It should be noticed that the objective difficulties in the EU economic integration for the last period have accompanied the problems arising as a consequence of the global crisis, thus addressing a complicated question to EU-members as well as to its possible members: how to simultaneously enlarge and get cohesion?. One of the perspectives that may be taken into account is using the capability of those sectors and industries which show both good resistance to the crisis and good capacity to foster economic growth. Among those sectors, the creative ones should be analysed as applicable for that task because modern creative industries have been demonstrating a constant boosting growth during crisis time. According to UNCTAD data, the world export of creative products has been indicating an annual growth rate of 14% from 2008 to 2014 (OMC, 2014). The same in the EU: throughout the 2007-2012 period, the value added in creative economy grew by 0.7 % annually whilst the average GDP dropped by the same 0.7 % annually (GSAC, 2014).

The peculiarities of creative industries are depicted by United Nations reports (United Nations, 2013; UNCTAD, 2010) and include such as: the raw material of creative industries is people (their minds, their skills, and their imagination); the genesis of economic value comes from an individual's inspiration; the value chains of creation, production, distribution and consumption have been generated mainly locally. Metropolitan areas are those creative places where creative industries' activity results from the action or interaction of enterprises, organizations and individuals (NEFA, 2007), and this strongly binds creative economy and urban development.

One may say that metropolises integrate in the world economy as places of cultural industries' value chain localization and products internationalization. Individual urban settings have increasingly constituted the systems of internal transactions that are embedded in a wider system of global transactions in a grid of relationships that are at the same time complementary and competitive, creative products' competitiveness included. The level of international competitiveness used to be observed through the trade specialization pattern. Our to-be-proven hypothesis is whether there is a range of perspective directions for international trade

specialization in creative industries which can strengthen the overall convergent process of European economic integration for each of CEE countries or not.

2. Literature review and methods used

In the literature, models explaining specialization mainly originate in trade theory (Aiginger and Rossi-Hansberg, 2006). The traditional trade theory, which encompasses the classic comparative advantage theory and the neoclassic theories of factors endowments, predicts that countries specialize in products using intensively either technology differences or relatively abundant input factors. These approaches consider that each country would specialize in the production of those goods and services where it has a competitive advantage, in this way increasing the inter-industry specialization. Meanwhile, the growing tendency of intra-trading which has been strengthening with the globalization process called for an alternative theory which would explain this evidence; consequently, the new international trade theory came for this call (Krugman, 1981). According to this theory, intra-industry trade can be explained either by achieving economies of scale in companies or through the consumer (modern consumers require a large variety of products on the market (Stângaciu and Harja, 2013).

At the centre of the intra-trading theory, a combination of decreasing costs and differentiation of products occurs. Unlike the neoclassical theory which insists that globalization leads to both winners and losers, a new theory of international trade predicts (Krugman, 1980) benefits from the globalization for virtually all participants – due to reducing the average costs and the emergence of a greater variety of goods on the market.

As to the case of economic integration, the classical theory of international trade suggests that, due to the elimination of trade obstacles, it leads to a greater conflict in the productive structure of countries and to an increasing inter-industry trade. On the contrary, the new theory concludes that it generates a lower level of conflict between the productive structure of states and a diminution in the inter-industry specialization. "The access to markets allows exploiting scale economies and brings monopolistic companies to specializing in the production of a great variety of products and services, leading to the amplification of intra-industry trade" (Grigorovici, 2009). Moreover, "empirical evidence shows that economic integration leads to intra-industry trade" (Abraham and Hove, 2005). Intra-industry specialization also leads to income convergence according to Linder's hypothesis (hypothesis-sg; hypotheses-pl. (Linder, 1961) and its empirical evidence (Shelburne, 1987).

To analyse the performance of CEE countries in the common pattern of EU's creative products international trade specialization, and to predict probable consequences for this pattern from "WHAT IF" geographic enhancement to the East we put under estimation 31 European countries: EU28 + 3 (Moldova, Ukraine, Georgia). For each of them, we have carried out an analysis on 10 types

of creative products; 6 of them are creative goods and 4 – creative services. We also used 3 periods for assessment (2005, 2008, and 2011) in order to reveal some tendencies according to crisis time (before, during, and after crisis) to better understand geographic as well as products' differences between metropolises' and countries' performance in creative economy development. The empirical work was carried out using the B. Balassa RCA-index and the Grubel-Lloyd intra-industry index (the classic one and the one improved by B. Balassa), accompanied by Brülhart's marginal intra-trading indexes (A-Index) and Krugman's specialization parameter (Krugman Dissimilarity Index - KDI).

The estimation of the inter-trading specialization in creative goods and services is made with the *Balassa parameter* RCA (Revealed Comparative Advantage Index) which is widely used as a measurement tool for competition for the sectors whose products are traded at the international level:

$$RCA_{jp,i} = \frac{X_{ij} / \sum_{i=1}^{n} X_j}{X_{ig} / \sum_{i=1}^{n} X_g} \tag{1}$$

where X_{ij} expresses the exports of the creative good (service) i to the country j, $\sum_{i=1}^{n} X_j$ means the total exports of country j, X_{ig} expresses the world's export of the creative good (service) i, and $\sum_{i=1}^{n} X_g$ means the total world (global) exports.

To assess the optimal progressivity and foreign trade specialization, there was a need to determine the degree of intra-industry trade. For this purpose, the Grubel-Lloyd parameter is often used (G-L index). This indicator reveals the development of intra-industry trade over time and compares different countries at a given time; using the same symbolic as in formula (1) we get:

$$GL = 1 - \frac{\sum_{i=1}^{n} |X_{ij} - M_{ij}|}{\sum_{i=1}^{n} (X_{ij} + M_{ij})}, \tag{2}$$

For creative industries which demonstrate rather unbalanced trade it is proposed to use their percentage relative to the total exports and imports instead of X_{ij} and M_{ij} (Balassa, 1989):

$$IIT = 1 - \frac{\sum_{i}^{n} \left| \frac{X_{ji}}{X_j} - \frac{M_{ji}}{M_j} \right|}{\sum_{i}^{n} \left(\frac{X_{ji}}{X_j} + \frac{M_{ji}}{M_j} \right)}, \tag{3}$$

These two indexes range from 0 to 1 indicating the growth of intra-industry trade.

The most recent approach to evaluate the dynamics of specialization processes is proposed by M. Brülhart (Brülhart, 1994). This index of marginal intra-industry specialization (MIIT) is, in fact, the Grubel and Lloyd index in which the absolute values of exports and imports in a given period have been replaced by the absolute change in them (Stângaciu and Harja, 2013):

$$MIIT = A = 1 - \frac{|(X_{t-n}-X_{t-n})-(M_t-M_{t-n})|}{|X_{t-n}-X_{t-n}|+|M_t-M_{t-n}|} \tag{4}$$

где *n* determines the number of years of the analysed period; quantity of years between current and based periods of time.

In order to reveal the existing and probable partners for trade in the most productive types of creative products theKrugman's KDI parameter (Krugman, 1991) has been used:

$$K_{a,b}(t) = \sum abs\,(v_a^k\,(t) - v_b^k(t)), \tag{5}$$

where v_a^k and v_b^k represent the share of services that i exports in the total exports of creative goods and services. The parameter gives information regarding the differences between the productive structures of country *a* and country *b*.

3. The CCE countries in the European trade specialization pattern in creative products

Using formulas (1) and (2) we have obtained the results of inter- and intra-specialization patterns for the "study group" of 31 countries as a whole, and 14 CEE countries in particular. It was found that, in the average of 2005-2011, the majority of the studied group – 22 EU-members and Moldova – are inter-specialized (RCA above 1) in creative products. The average value of RCA=1.16 proves it and, for EU members, this parameter is higher: 1.21. Countries which are not specialized are: Ireland, Finland, Cyprus, Georgia, Greece, Bulgaria, Slovakia, and Ukraine.

The results of decreasing the RCA-value for the 31countries' group in the period of 2005-2008 could be taken as the consequence of 2004 and 2007 enlargement in the EU which is explained by the new theory of international trade according to which "economic integration leads to relative decreasing of inter-trading and increasing of intra-trading" (Grigorovoci, 2009, p. 89). The RCA value convergence in the 2005-2011 years could be taken as additional evidence of integrative cause of its growing (Figure 1). The very positive tendency is strengthened in the international competitive position of 8 of the 14 CEE countries (RCA higher than 1; and in case of Czech Republic, Croatia, Romania, Latvia and Slovenia – even higher than EU members' mean of RCA, 1.21).

As for the RCA increase in the next period of time (2008-2011), it might be a display of the crisis times' trend of domestic markets protection and export motivating, which influence on shrinking intra-trading and respectively increasing the inter-trading specialization. Meanwhile, it is the intra-trading which is the advanced form of specialization, leading to economic convergence, and it is very important for EU members, especially CEE countries, to find the perspectives of its development in the sphere of the most dynamic and resistant to crisis sector of the world trade – creative goods and services trade.

Figure 1. Change in inter-specialization in creative industries, EU28 (+3), 2005-2011
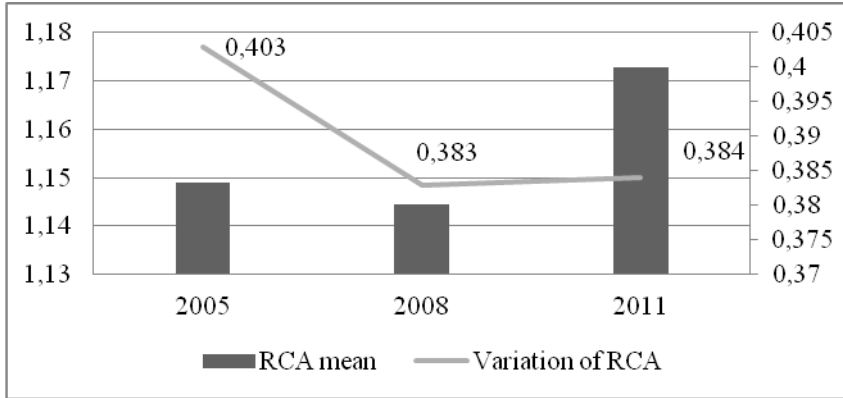
Source: own represantion

The calculated data on the levels of intra-specialization (IIT for 2005, 2008 and 2011) made it possible to conduct a cluster analysis to identify groups of countries by IIT development for these periods of analysis, and it revealed 3 clusters (k-mean method used) with the following features for each ones according to the "plot of mean" of the clustering results (Figure 2).

Figure 2. Plot of Means for the clusters of EU28 (+3) in the levels of intra-trading
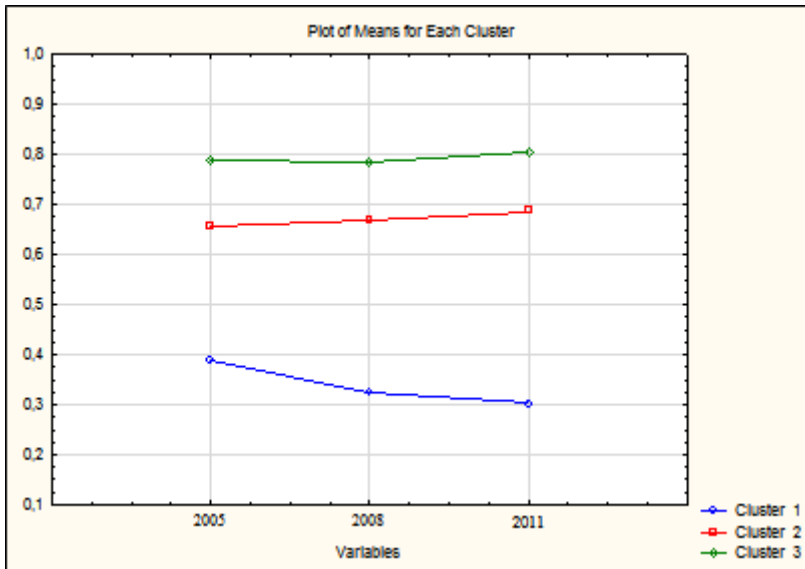
Source: own representation

There is significant convergence of IIT values that occurs over time for the 2nd and 3rd clusters to which may indicate trends in advancing economic integration (according Abraham and Hove, 2005) for the countries of these two clusters compared to countries from the 1st cluster. One may say that, as to creative industries evidence, 24 EU-members (EU countries included in the 2nd and 3rd clusters) are more integrated than 4 EU-members from the 1st cluster (these countries are: Malta, Cyprus, Finland and Ireland).

The countries of the first cluster (the lowest values of intra-specialization) increasingly develop inter-specialization, as IIT index average value of three periods is less than 0.5; besides, they are "moving away" from the average intra-trading index of the countries from the 2nd and 3rd clusters. These are EU member states such as Finland, Ireland, Malta, Cyprus, as well as Moldova and Georgia. The mean of IIT for the second and third clusters is greater than 0.5, indicating a greater extent of the advantages of intra-specialization in these countries. It should be noticed that these two clusters include all 11 countries of the CEE-members. From the three countries of the "last wave of signing" the Association Agreement with the EU, only Ukraine has shown a high level of intra-trading, Moldova and Georgia have demonstrated low and very low levels of the relevant index.

Thus, in the whole positioning of the CEE-countries in the EU, intra-specialization has shown better results than inter-specialization; in these countries, intra-trading is actively developing, the values of IIT increase while the mean of IIT for 31 countries decreases.

These estimations reveal themselves as particularly evident in terms of Brulhart's A-Index values which are calculated using formula (3) (Table 1).

Analysing the data from Table 2, one may say that eight countries have high values of the A-Index between 2005 and 2011 (Denmark, France, Luxembourg, Netherlands, Portugal, Lithuania, Poland, Romania), three of which are CEE countries.

For the CEE countries the most manifested is this trend: the active growth of the A-Index in the pre-crisis period and a sharp drop during crisis, which is resulting in a 2.7 times decreasing in the rate of marginal intra-trading for the CEE countries in the 2008-2011 period compared to the 2005-2008 period. This indicates the low resistance of these economies' creative industries to sudden market fluctuations. It is significant that a greater degree of reduction in the A-Index has occurred for countries which are the most successful in the intra-trading before crisis (countries from the third cluster). For example, Slovakia and the Czech Republic show a sharp, more than 5 times, reduction in the A-Index (and therefore slowing the processes of intra-trading in the creative industries); however, this reduction is still lower than in the UK (more than 16 times!) and Slovenia (nearly 100 times!). With regard to the last of these countries, such data can indirectly indicate the relative loss of traditional creative economy (in

particular, in the United Kingdom) with high positions in the global markets of creative goods and services.

Table 1. Change of intra-trading of creative goods and services at the A-Index level (Brülhart's Index of marginal intra-industry specialization)

EU 28+3 countries	Periods		
	2008-2005	2011-2008	Mean of 2005-11
Finland	0,299	0,695	0,497
Luxembourg	0,872	0,893	0,883
Netherland	0,959	0,964	0,962
Portugal	0,96	0,974	0,968
Ireland	0,243	0,358	0,3
Georgia	0,14	0,837	0,488
Denmark	0,842	0,665	0,754
France	0,7	0,694	0,697
Lithuania	0,835	0,636	0,736
Poland	0,879	0,614	0,747
Romania	0,914	0,804	0,86
Austria	0,919	0,322	0,621
Belgium	0,751	0,23	0,491
Germany	0,71	0,496	0,603
Malta	0,761	0,09	0,425
Spain	0,865	0,269	0,567
Sweden	0,864	0,397	0,631
United Kingdom	0,914	0,051	0,482
Greece	0,392	0,084	0,238
Italy	0,831	0,204	0,518
Cyprus	0,258	0,059	0,159
Czech Rep.	0,985	0,056	0,479
Bulgaria	0,668	0,29	0,52
Croatia	0,935	0,222	0,579
Estonia	0,956	0,362	0,659
Hungary	0,777	0,303	0,54
Latvia	0,799	0,522	0,661
Slovakia	0,876	0,1	0,488
Slovenia	0,997	0,005	0,501
Moldova	0,671	0,334	0,503
Ukraine	0,7	0,236	0,468

Source: own estimations using UNCTAD statistic data panel

Using the calculated values of the RCA index as an indicator of inter-trading and the A-Index as an indicator of intra-trading, the dependence between these indicators in the analysed group of 31 countries has been assessed. This

correlation appeared to be statistically significant only for the pre-crisis period (2005-2008). It turned out that the growth of the A-Index by 58.8% explains the change of RCA (Figure 3). The correlation-regression dependence is positive and slowing: at higher values of the A-Index «growth», RCA slowed down (which may indicate the presence of such countries - with high levels of growth in intra-trading – the smaller levels of inter-specialization than it might be at a linear relationship).

Figure 3. Influence of A-Index on RCA change for the group of EC 28 (+3), 2005-2008

$y = 1,3887x^{0,7497}$
$R^2 = 0,588$
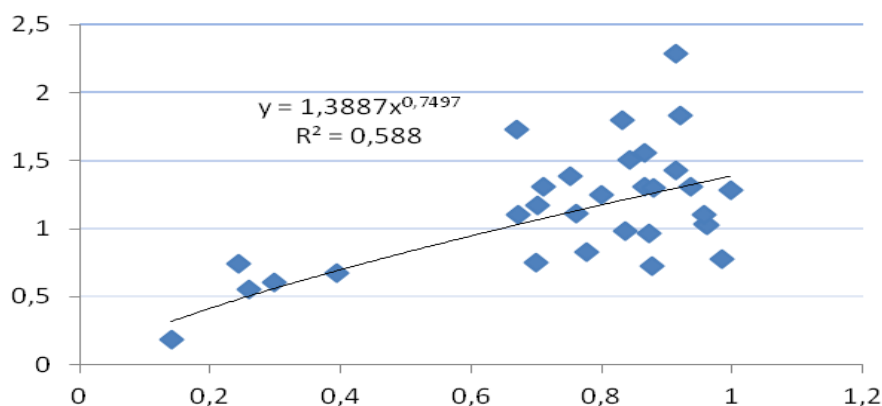
Source: own representation

We have proposed to carry out the comparative analysis of the countries in the 31 study group simultaneously on the levels of inter- and intra-specialization by using the authors' CIS-Matrix (Creative Industries' Specialization Matrix), 9 fields which are formed with 3 levels of RCA (0 to 1; 1 to 1 21 (the average of the EU); above 1.21) and three clusters of countries in terms of IIT (Figure 4). According to CIS-Matrix, 4 groups of countries may be justified (according to the degree of success in the international markets of creative goods and services on the following principle: the best performing are those that "register a comparative advantage simultaneously with the ascending intra-branch trade index" (Grigorovici, 2009). These four groups are "Current Leaders", "Future Leaders", "Catching-up" and "Lagging behind".

The first group is "Current Leaders". The countries in this group are the best performing in creative goods and services specialization countries (countries with RCA higher than the average one for the EU, and those which have the highest levels of IIT); they are those that registered a comparative advantage simultaneously with the ascending intra-trading index (field 9th in CIS-Matrix). This group, along with the countries with a long tradition of creative industries

(United Kingdom, France, Spain, Denmark and Belgium), as well as world-renowned analytic centres and strong policies of creative economy development, is also constituted by some CEE countries such as Czech Republic, Latvia and Slovenia).

Figure 4. Creative International Specialization Matrix (CIS-Matrix) for EU28 (+3), 2005-2011
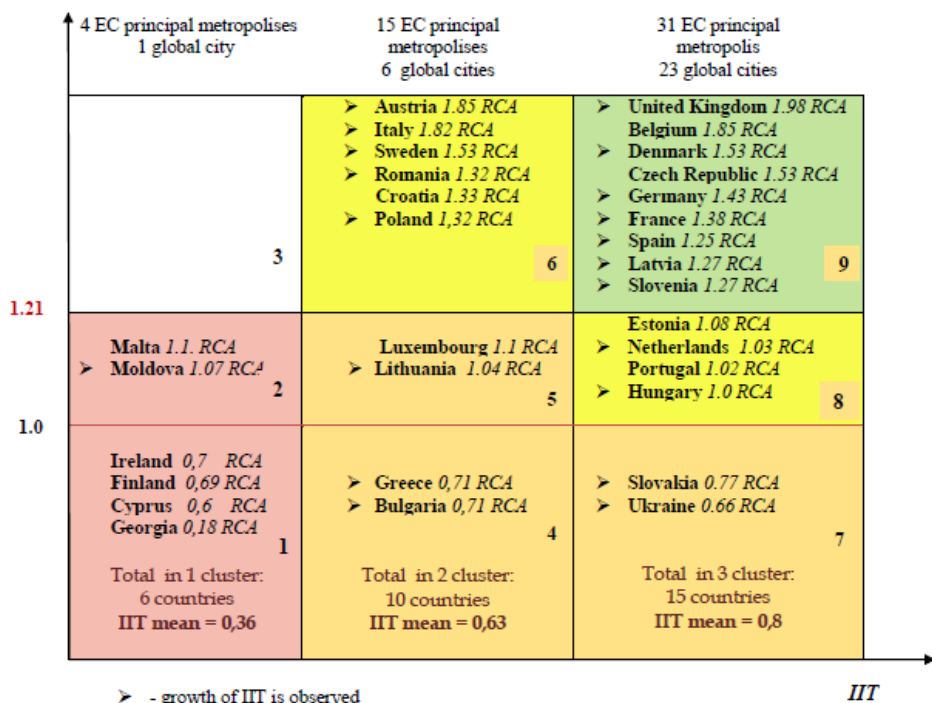
Source: own representation

The second group is "Future Leaders". Those countries that are in the fields 6 and 8 in CIS-Matrix, can be attributed to the group «Future Leaders», as the first of them have very high rates of inter-specialization (even higher in some countries from the group leader), and the last demonstrate a high level of intra-trading. Expectedly, on the basis of foregoing analysis, this group is also formed of such CEE countries as Romania, Croatia, Poland, Estonia and Hungary. Comparing the data for the first two groups with the aforementioned analysis of the A-Index dynamics, one can acknowledge the increasing trends of trade specialization (both inter- and intra-) in such CEE countries as Poland and Romania. At the same time, a quite unstable position is observed in Hungary, Estonia, Croatia, Slovenia, Latvia, and Czech Republic, and even in Germany.

The third group is "Catching-up" countries. Countries from the fields 4, 5 and 7 of the CIS-matrix are considered as "Catching-up"; for countries such as Slovakia, Ukraine, Bulgaria, it should be noted the slowdown in intra-trading specialization in creative goods and services although, in the period 2005-2008, they showed high levels of A-Index marginal intra-trading. Especially Slovakia demonstrates a great reduction of the intra-trading rate (more than 8 times). Meanwhile, the relatively higher level of intra-trading for Lithuania reveals this country as one which in the coming years could strengthen its competitive position and move to the group of countries of mega economic leadership in the sphere of creative industries' internationalization (at least in the group of "Future Leaders").

The fourth group is "Lagging behind" countries. Other countries (fields 1 and 2 CIS-Matrix) – they are those with low intra- and inter-specialization or absence of the latter. Nevertheless, in this group Georgia can be considered as a "promising" CEE-country in terms of increasing its global competitive position. This conclusion comes from the A-Index analyses, where we learn that Georgia, from the 3 cluster (low-internalized countries), at the same time shows a tendency towards intra-trading strengthening: its index of marginal intra-trading (А-Индекс) increased almost 6 times while, for example, Moldova has not improved intra-trading performance, albeit it demonstrates trade specialization a little more than one.

We should remark that, in CIS-Matrix, none of the analysed countries comprises number 3, which is characterized by the greatest inter-specialization and lower intra-specialization values, in the field. This can be seen as empirical confirmation of the positive correlation between these two types of international specialization, elaborated earlier. In other words: low levels of intra-trading are not observed when inter-specialization values are high. And, vice versa, the high inter-specialization is necessarily accompanied by (and is called with the degree of reliability of almost 59%) a high level of intra-trading.

An important empirical observation referring the CIS - matrix is a significant strengthening of the principal metropolises' ("principal metropolises" by European Commission classification), as well as global cities' (classification of P. Taylor) representation in the group of countries with a strong international specialization of creative industries (the 1st and 2nd group). So, one may conclude from the CIS-Matrix that the more specialized countries (both inter- and intra-trading), the more principal metropolises and global cities they encompass. It is not surprising because "the creative economy has always been located and nurtured in urban settings, generally large metropolitan areas" (Creative Economy Report, 2013, p.101).

Proposed by V. Chala, the concept of evaluation of the creative function development in metropolis (Chala, 2014) involves a system of indicators which characterize different aspects of multilevel creative features formation from out-of-market to market infrastructure. The following list of primary indicators is

used: number of TNCs with headquarters in a city that are listed on the stock market; proportion of employment in the sphere of production of information and communication software; proportion of employment in financial and business services; proportion of employment in culture and leisure; indicators of financing research and science by municipal budget; proportion of working age population with a university degree; number of active NGOs in a city; proportion of foreign-born in the local population; multinational link by all transport means; proportion of city infrastructure with municipal transport accessibility; proportion of households with access to Internet; number of patent applications pet capita.

The normalization-aggregation method to estimate the metropolis creative development index (MCDI) has been used. MCDI is calculated of the averagely weighted integral value of unitary standardized indicators:

$$MCDIi = \sum k_j * UMCDI_{ij} / m,\qquad(5)$$

where $UMCDI_{ij}$ shall mean the normalized value of the primary creative development indicator of the ith metropolis defined by the jth indicator; k_j shall mean the primary indicator's weight ratio in the integral   MCDI estimation determined by the method of expert assessments; m – quantity of indicators. All indicators data were transformed using the *"referring average"* normalization method. This process transforms data from its original units to a value, divided by averages in every indicator in order to get unmeasured values to aggregating easily.

Correia (2014) emphasize that, for all composite indicators, aggregation is an important step to their construction and should not be taken lightly. That is why the MCDI-index was put under expert estimation of weight of indicators in the integrated index.

In this paper, we have found out the link between MCDI- Index and RCA-Index, which may confirm rather good statistical dependence of countries' inter-trading level on the level of development of creative industries activities in their metropolitan areas and global cities. Starting from the estimates obtained concerning the level of correlation between dependent factor from independent (in this case: the degree of development of creative functions in metropolis, - its growth by 53% explains the change in RCA), it is obvious that they should be checked for later statistical evidence of urban development in the EU. However, the presence of correlation with parabolic increase is an argument to prove that the development of creative metropolises' function not only affect their local level of economic development (GDP per capita) and the level of their integration into the global economy (global city index P. Taylor) – as these relationships have been proved (Chala, 2011) – but also affect the level of international competitiveness of creative industries (degree of inter-trading specialization) in the country of their origin.

To gain a deeper understanding of current trends causes, as well as possible ways of increasing specialization, the comparative analysis of the product intra-

trading specialization (using the Grubel-Lloyd index) and bilateral intra-specialization (KDI index Krugman) were launched. Aiming to establish the resources to reduce the gap between CEE countries and other EU members, a selective comparative analysis of product intra-specialization is proposed. In order to do so, the use of the mean of the group of "current leaders" for each type of creative product (6 types) and service (4 types) as etalon value would be quite helpful. The strong argument is that etalon as a mean can positively impact accounting the dynamic in the analysed period of 2005-2011. The idea is to apply it afterwards as etalon measure of product intra-specialization alternatively for CEE countries in all 4 groups of CIS-matrix (Table 3).

Table 3. Product intra-trading performance of CEE countries, 2011

Group of CIS-matrix	CEE country	Types of creative products in line of diminishing productivity									
		New media	Advertising	Publishing	Design	Visual Arts	Audio-visuals	Architecture	Art crafts	R&D	Entertainment
Current leaders	CZ	+	-	++	+	++	-	-	++	-	++
	LV	-	-	-	+	-	-	+	++	-	-
	SI	+	++	-	++	-	-	++		+	++
Future leaders	HR	-	++	-	-	-	-	+	!	-	++
	EE	-	-	-	++	++	-	-	++	!	++
	HU	-	++	-	++	++	++	++	!	-	+
	PL	++	-	++	-	++	++	++	-	-	-
	RO	!	-	-	-	-	-	++	!	-	-
Catching up	BG	++	-	-	+	-	++	-	!	-	-
	LT	-	-	+	-	++	++	-	-	++	-
	SK	++	-	+	++	!	-	-	-	-	++
	UA	-	-	++	++	-	!	++	-	++	-
Leg-ging	MD	!	!	!	!	_	!	++	++	-	-
	GE	-	+	!	!	!	-	-	!	!	-

Source: own estimations

++ - overcomes the corresponding "current leaders" average meaning

+ - not more than 5% lower than the corresponding "current leaders" average meaning

! – more than twice as low as the corresponding "current leaders" average meaning

The level of productivity of creative industries in the EU should also be taken into consideration. Our own calculations, using various representative statistic panels, show such a hierarchy of these indicators of UNCTAD list of creative industries, and have revealed the most productive of them: New Media, Advertising, Publishing, Design, and Visual Arts.

From Table 3, one may learn that, in the first two groups of leaders, only Slovakia uses the capacity of the most productive creative products – New Media and Advertising. As to the latter, its big level of intra-trading, Croatia and Hungary demonstrate it as well. Most countries in these two groups gain from intra-trading in Design (Latvia, Slovenia, Estonia and Hungary) and Visual Arts (Czech Republic, Estonia, Hungary, Poland). The weak performance of Latvia should be improved by supporting creative activity in New Media and Visual Arts, otherwise this country may lose its leader position, first in the intra-trading and then in inter-trading (according to the revealed dependence between the A-Index and RCA). As to New Media, the other 4 countries should also make efforts to increase this product's impact on intra-trade. These countries are Croatia, Romania, Estonia and Hungary.

In the "Catching up" and "Lagging" countries groups, which developed intra-trading in the most productive types of creative goods and services, there are Bulgaria (in New Media) and Slovakia (New Media and Design). A rather better-performing country in intra-trading appeared to be Ukraine: its intra-trading level in Publishing and Design is higher than the average levels for the "Current Leaders" group. The worst situation with intra-trading levels of those creative products which are the most productive is demonstrated by Moldova and Georgia.

Among the Eastern "internal EU border" countries, Romania and Bulgaria show the lowest level of productive creative products' intra-trading capabilities. That is why we have preceded our investigation to the geographic priorities revealing for those countries as well as for the countries which are their close neighbours ("external EU border" countries): Moldova and Ukraine. By using formula (5), Krugman's Dissimilarity Indexes (KDI) were calculated which found out the perspective geographic regions to develop intra-trading with (Table 4).

The countries toward which Romania, Bulgaria, Ukraine and Moldova (Table 4) have a lower KDI-index represent a potential source of these 4 countries' import. We could learn from Table 4 that the perspectives to increase intra-trading in creative industries mainly concentrate in CEE countries as well. Exceptions are Portugal and Spain, which may consume import of creative industries from Bulgaria and Romania; Denmark (from the same group of countries plus Ukraine and Greece) which has a close structure of creative goods with Romania, Moldova and Ukraine, may therefore improve intra-trading with these countries.

Table 4. Supporting creative industries in the close neighbours of the East Europe: products specifics and geography direction, 2011

	Country	In what types of high productive creative products to make policy of supporting	According to KDI parameter, what direction is rather easy to enter the market for creative	
			goods export (KDI level)	services export (KDI level)
"Internal border" at the East of EU	Romania	*Goods:* 1. New Media 2. Publishing 3. Design 4. Visual Arts *Services:* 5. Advertising 6. Entertainment	Greece (0.10) Denmark (0.11) Portugal (0.16) Georgia (0.16) Bulgaria (0.18) Estonia (0.18) Poland (0.18) Ukraine (0.19)	Spain (0.15) Portugal (0.18) Estonia (0.19)
	Bulgaria	*Goods:* 1. Publishing 2. Visual Arts *Services:* 3. Advertising 4. R&D 5. Entertainment	Denmark (0.12) Georgia (0.12) Portugal (0.13) France (0.14) Ukraine (0.15) Spain (0.16) Hungary (0.17) Romania (0.18)	Belgium (0.12) Netherlands (0.17) Ireland (0.18) Sweden (0.18) Denmark (0.19) France (0.19) Ukraine (0.19)
"External border" at the East of EU	Moldova	*Goods:* 1. New Media 2. Publishing 3. Design 4. Visual Arts *Services:* 5. Advertising 6. Entertainment	Slovenia (0.2) Romania (0.22) Croatia (0.22) Greece (0.25)	Slovenia (0.18) Latvia (0.13) Estonia (0.23) Lithuania (0.24)
	Ukraine	*Goods:* 1. New Media 2. Visual Arts *Services:* 3. Advertising 4. R&D 5. Entertainment	Portugal (0.10) France (0.11) Poland (0.12) Georgia (0.12) Spain (0.14) Greece (0.14) Bulgaria (0.15) Denmark (0.15) Romania (0.19)	Belgium (0.10) Poland (0.11) Slovenia (0.17) Bulgaria (0.19)

Source: own estimations

4. Final remarks

The estimation of two dimensions of creative industries development in CEE countries – specific to internationalization (by trade relations) and localization (metropolitan component) – has revealed new perspectives for both economic growth and implementation of cohesion policy of perspective geographic directions for trade.

The growth of trade volume is caused by the changes in the models of comparative advantages (inter-industry trade) or by the growth of products differentiation accompanied by scale economies (intra-industry trade) or by these types of trade simultaneously.

Comparative advantages of intra-trading were identified at the theoretical and empirical levels; research should however be taken with some caution. First of all, it concerns the appearance of asymmetry of the effects of intra-specialization among countries with different levels of income: we should not forget that the Krugman model is intended primarily to describe trade between industrialized countries; to explain the trade between rich and poor countries, the Heckscher-Ohlin model is still in force, as mentioned by Krugman himself. Nevertheless, the development of intra-trading should be seen as an additional source of income from foreign trade, which provides much greater employment opportunities and reduces the risks associated with the instability of the global economy. In addition, it is believed that the structural change (caused, for example, by the liberalization of trade or by the reduction of exports of manufactured goods) in industries dominated by intra-industry trade, is less painful from both a social and an economic point of view than in sectors mainly with inter-industry trade. This is due to the fact that the movement of resources within the sector (for example, from the production of one sort or brand to another) is much easier than between sectors, resulting in turn in lower cost of structural adjustment (adjustment cost) (Krugman, 1995; Kandogan, 2003). As we have seen, creative industries, whose development takes place mainly in the metropolises, should be referred to such industries as well.

Metropolises, as the most productive cities of the world, become powerful financial, economic and intellectual centres and their impact on the global economy is crucial in the current conditions. The analysis of the theoretical approaches evolution concerning the identification of the city phenomenon can argue that their economic leadership in the early 21st century was caused by the interaction of such factors, as the use of benefits gained from location, functional specialization and "integration" into the modern information technology space. In a post-industrial paradigm of the modern society development, the role of the location factors tends to decrease, and on the contrary, the role of the functional specialization factors and network information society factors tends to increase, respectively.

The comparative analysis results concerning international specialization of creative industries are rather illustrative than strong due to the rather short period of investigation. To prove and add value to the presented research and also detect tendencies of intra-trading in creative industries of EU and associated members it is required: to calculate RCA, IIT, A-index for more recent years by using new estimations of UNCTAD and other well-known research organizations and analytical centres, as well as to deepen the existing analysis and make it more representative by including statistical data for 2000 -2004, 2006, 2007, 2009, 2010. Apart from this, hoping for the availability of a wider range of data panel for the 2000 – 2013 period, it is presumed to launch more actual calculations of inter- and intra- trading variation values, first of all, for the group of EU-members only, then - for EU-15 members, and finally – for 28 (+3) group. It is planned to estimate bilateral – intra trading by taking into consideration the more recent statistical estimations. In this way, it will become possible to empirically check the validity of the hypothesis that the growth of average meanings with corresponding intra-trading variation value reduction can be regarded as evidence of income convergence processes in the analysed groups.

In the future, it is crucially important to repeat the calculation of authorial Metropolis Development Index (MCDI) and its correlation with international specialization index for the analysed group of countries. This will be possible as soon as renewed statistical data becomes available, meaning Urban Audit and analogical European Commission estimations, as well as P. Taylor's and Globalization and World Cities research group reports.

References

Abraham, F. and Hove, J.van. (2005), *Intra-Industry Trade and Technological Innovation*: *The Case of Belgian Manufacturing*, retrieved from http://www.etsg.org/ ETSG2005/papers/vanhove.pdf.

Aiginger, K., and Rossi-Hansberg, E. (2006), Specialization and concentration: a note on theory and evidence, *Empirica*, Vol. 33, pp. 255-266.

Andres, L., and Grésillon, B. (2011), Les figures de la friche dans les villes culturelles et créatives. Regards croisés européens, *Espace Geographique*, Vol. 40, Issue 1, January, pp. 15-30.

Balassa, B. (1989), *Comparative Advantage, Trade Policy and Economic Development*, Harvester Wheatsheaf Hemel, Hemstead.

Brülhart, M. (1994), Marginal Intra-Industry Trade: Measurement and Relevance of the Pattern of Industrial Adjustment, Welwirtschaftliches Arhiv, *Review of World Economics*, No. 130(3).

Chala, V. (2014), *Megapolices in European economy: perspectives of development*, PSACEA.

Chala, V. (2014), Principal convergent models of metropolis creative development in EU and Ukraine, *Економічний простір,* Vol. 86. С., pp. 25-39, retrieved from http://nbuv.gov. ua/ j-pdf/ ecpros_ 2014_86_5.pdf.

Correia, C. M. and Costa, J. S. (2014), Measuring Creativity in the EU Member States, *Investigaciones Regionales,* Vol.30, pp. 7-26.

European Commission - COM (2010), *Green paper on cultural & creative industries: unlocking the potential of cultural and creative industries,* Brussels: 183, EC DG for Education and Culture.

EY (2014), *Creating growth. Measuring cultural and creative markets in the EU*, retrieved from http://www.creatingeurope.eu/en/wp-content/uploads/2014/11/study-full-en.pdf.

Florida, R., Gates, G. and Tinagli, I. (2004), *Europe in the creative age*, Demos, London 21.

Flew, T. (2011), *The creative industries: culture and policy*, Sage.

Flew, T. and Cunningham, S. (2010), Creative industries after the first decade of debate,*The Information Society*, Vol. 26, No. 2, pp. 113-123.

Frankel, J. (1997), *Regional Trading Blocs in the World Economic System*, Washington, DC: Institute for International Economics, pp. 133–134.

GESAC (2014), *Creating Growth. Measuring cultural and creative markets in the EU* (European Grouping's of Societies of Authors and Composers Report, commissioned Ernst&Young Global Limited) Desember, 2014 EYGM Studio EY France.

Grigorovici, C. (2009), Analysing the Degree of Specialization in Romania's Services Trade. *Romanian Journal of Economic Forecasting*, Vol. 10, No. 1, pp. 95-115.

Grubel, H.G. and Lloyd, P.J. (1975), *Intra-industry trade: the theory and measurement of international trade in differentiated products*, New York: Wiley.

Kandogan, Y. (2003), Reconsidering the adjustment cost of the Europe agreement, *Applied Economic Letters,* Vol.10, No2 (February), pp. 63-68.

Krugman, P. (1981), Intra-industry Specialization and the Gains from Trade, *Journal of Political Economy*, Vol. 91, pp. 83-96.

Krugman, P. (1991), Increasing Returns and Economic Geography, *Journal of Political Economy*, Vol. 99, pp. 117-132.

Liefooghe, C. (2010), Économie créative et développement des territoires: enjeux et perspectives de recherché, *Innovations*, Vol. 31, Issue 1, pp. 181-197.

Linder, S. B. (1961), *An Essay on Trade and Transformation*, Stockholm: Almqvist & Wicksell.

de-Miguel-Molina, B., Hervas-Olver, J., Boix, R. and de-Miguel-Molina, M. (2012), The importance of creative industry agglomerations in explaining the wealth of European regions, *European Planning Studies*, Vol. 20, No. 8, pp. 1263-1280.

New England Foundation for the Arts (2007), *The Creative Economy: A New Definition*, retrieved from http://www.nefa.org/sites/default/files/ResearchCreativeEcon Report2007.pdf.

OMC (2014), *The cultural and creative sectors' export and internationalization*, Working group of EU member states' experts on cultural and creative sectors. Support strategies, retrieved from http://ec.europa.eu/culture/library/reports/eac-omc-report-ccs-strategies_en.pdf.

Potts, J. and Cunningham, S. (2008), Four models of the creative industries, *International Journal of Cultural Policy*, Vol. 14, No. 3, pp. 233-247.

Pratt, A.C. (2008), Creative cities, *Urban design*, Vol. 105, p. 35.

Reitel, B. (2012), Visions européennes de la métropolisation: Concepts globaux, enjeux et politiques nationals, *Bulletin d'Association de Geographes Francais*, Vol. 89, Issue 4, pp. 503-511.

Scott, A. J. (2006), Creative cities: conceptual issues and policy questions, *Journal of Urban Affairs*, Vol. 28, No. 1, pp. 1–17.

Scott, A. J. (2008), Cultural Economy: Retrospect and Prospect, in: Anheier, H. and Isar, Y.R. (eds.), *The Cultural Economy. The Culture and Globalization Series 2*, London: SAGE Publications.

Scott, A. J. (2014), Beyond the creative city: cognitive–cultural capitalism and the new urbanism, *Regional Studies*, Vol. 48, No. 4, pp. 565-578.

Shelburne, R. C. (1987), A Ratio Test of Trade Intensity and Per-Capita Income Similarity, *Weltwirtschaftliches Archiv*, Vol. 123, Heft 3 (Fall), pp. 474-87.

Stângaciu, O. and Harja, E. (2013), Testing The Models Of Regional Specialization In Terms Of New Theories Of International Trade, *Revista Română de Statistică*, Vol. 17, pp. 72- 85.

UNCTAD (2010), *Creative economy report*, retrieved from http://www.unctad.org/ creative-economy/2010.

United Nations (2013), *Creative Economy Report. Widening local development pathways,* published by the United Nations Development Programme (UNDP), One United Nations Plaza, New York, NY 10017, USA and the United Nations Educational, Scientific and Cultural Organization (UNESCO), France.