AN ANALYSIS OF THE CREATIVE POTENTIAL IN INDIVIDUAL REGIONS OF THE CZECH REPUBLIC

Jitka Kloudová, Ondřej Chwaszcz

Abstract

Purpose of the article: Although the economic growth and society are two independent terms at the first sight, they are in fact closely connected and interact with each other. The main topic of this work is the creative economy, which is considered to be a part of growth theories. Thanks to the new approach, theorists supplement these theories with the demographic and the socio-cultural factor. First, the work establishes a comprehensive theoretical framework for economic growth (linked with creativity). Furthermore, it analyses the representation of creativity in the regions of the Czech Republic. **Methodology/methods:** The primary aim of this work is to carry out an analysis that charts the representation of the creative potential in the regions of the Czech Republic. The analysis uses the new creative index, which was created by modifying of the Richard Florida's creative index. Consequently, the work uses the new creative index within the framework of smaller regional units as opposed to national groupings. Additional advantages of this model include the number and measurability of the indexes.

Scientific aim: The aim of this work is not just demonstrating the dependence between the presence of creative people and economic growth, but in addition, the work aims to seek out the factors that influence the allocation of creative employees.

Findings: The work demonstrates high mutual dependence between creativity and economic growth with the help of the correlation coefficient. The assumptions that creative regions are more attractive on the social and knowledge basis were also confirmed. **Conclusions (limits, implications etc):** Territorial units must consequently work to develop conditions, which support the establishment and the development of the creative environment in order to retain their competitiveness and support the economic growth.

Keywords: New creative index, creativity, creative index, Richard Florida, regional economy, economic growth

JEL Classification: A13, O11, R11

The historical concept preceding the arrival of the creative economy

The period of modern economic growth consists of work from the beginning of the 19th century. This involved a period when numerous important, generally useful technologies, became involved in mass production (GPT – general purpose technology) bringing about at that time essential changes. Included amongst the main GPT were the steam engines which many additional macro-innovations were linked to. Major inventions from the turn of the 19th century made possible the construction of large production centres where the Smith concept (Smith 2003) of economic growth was developed consisting of specialization and division of labour. This reality was further supported by the development of means of transport (ships and steam powered trains) which significantly sped up transport and eliminated costs connected with shipping.

Although these discoveries from the beginning of the Industrial Revolution are often interpreted as the motor of economic growth, a deeper analysis fails to confirm this assertion (Crafts, 2004; Oliner et. al., 2007). The reason is currently known, thanks to the so-called Solow paradox which has been explained by the detailed impact of the development of information technologies into statistical indicators (Triplett, 1999). The same case can of course also be applied to the previous period of the Industrial Revolution.

The largest amounts of discoveries were made up to the year 1830 although the growth in the economic level was only recorded in statistical data with the advent of the “second wave” of the Industrial Revolution. The main reasons for this delay arise from the fact that it takes a certain amount of time for those in business to understand the importance of new technologies. The second step for an effective advent of GPT consists of its implementation into various trade areas with the contribution of so-called micro-innovation which allows for the use of original discoveries to a much greater extent and with a much wider spectrum of industrial areas. A significant acceleration in the income per head by approximately 1.1 % annually was recorded in Britain after the year 1830 (Antràs, Voth 2003, p. 63; Mokyr 2004) and Britain was, of course, the place where the Industrial Revolution got its start.

The main reasons include a developed institutional environment (Hall, Jones 1999; Duval, de la Maisonneuve 2009) (low trade barriers, a developed legislative and political sphere, an advanced infrastructure, overall openness) and at the same time high wage costs (Allen 2009) which forced traders to introduce machine production. British business was open to an environment suitable for implementation of various innovations which came from throughout Europe. The technological area began to be unified and spread further across Europe (Mokyr 1998). Transport development served to shorten travel and consequently open up the door to a greater degree of cooperation.

The second turning point in modern economic growth is represented by the arrival of additional GPT which can be grouped into the area of information and communication technologies (ICT). It once again took some time for society to recognise the contributions from this new technological wave. In comparison with the period of the Industrial Revolution, the contribution of ICT impacted economic indicators 2x faster which serves to explain the growth of investment into human capital and knowledge, the spread of possibilities on the capital market and increased support for R&D on the part of public subjects (Crafts, 2010).

From the perspective of the classic economy, the development of ICT and (from the period of the Industrial Revolution) the steam engine became a means of decreasing costs for transport and communication with these technologies thus contributing to the expansion of the size of the market. A more significant division of labour comes about within the framework of this shared space which leads to more effective allocation of the production factors. This consequently allows the economic level all of the involved subjects to grow. Development in the area of transport assisted the production industry and ICT currently assists in allocating services.

Offshoring is an example of the shortening travel being something which is particularly popular in China as well as in additional South-Asian countries. Educationally strong regions in India also make it possible to carry out the outsourcing of a number of services in the areas of accounting, medicine, finance as well as education (Friedman 2005). Major savings are consequently realized not only on the side of producers and providers of services (the potential for development of capital facilities and an innovative approach) but also on the side of consumers (growth in the standard of living).

1 The beginning of the creative economy

Internet and additional ICT have essentially changed previously existing trade behaviour along with social models of behaviour (Kirkman et al. 2002). The basic characteristics of the changes arise from the following points:

- *Elimination of distances* – the shortening of travel leads to economic growth which can be seen not only in the Industrial Revolution, but also with the advent of ICT. In the past a production centre would emerge which benefited from the comparative advantages of the particular localities. At present, however, this characteristic has shifted to the area of services. Advanced ICT has opened the gate to an inexpensive labour force. In this case it is no longer of importance whether the work is outsourced to eastern countries, to students or to seniors as work at home.

Also worthy of emphasis is the shortening of the distance between the company and the final customer. The average Czech customer can easily order goods from a seller in the USA. The goods are consequently shipped from China and transported from Great Britain. Claims are then dealt with by a call centre located in India and service is provided by a German partner. This fictional example demonstrates that the problem of distance has ceased to be a trade limitation.

- *Diversification of the customer* – people have begun to assert their own individuality after meeting their basic needs and in connection with the growth in the standard of living. Each individual has his or her own interests and tastes. Under these conditions, it is no longer possible to produce only one kind of automobile in one colour as Henry Ford did at the beginning of the 20th century. One has to diversify the product range both in terms of design and function. Within this framework, significant changes should also be mentioned which have affected social norms and values. Lifestyles have changed so dramatically over recent years not only in the work area but also in the private sphere. ICT assists in maintaining the communication method between continually diversifying target groups and businesses, additionally making up a virtual specific environment which is transforming the establishing social bonds
- *Competitive pressures* – the shortening of distances has gradually eliminated the advantages arising from the locality where the required product is provided thus creating much greater competitive pressure on the current local player. This style of globalization has once again been supported by the advent of ICT which not only eliminates distance but also supports the arrival of new subjects on the market thanks to its openness and simple entrance into the ICT sector.
- *Transformation of the trade model* – the trade model needs to be transformed in reaction to the diversification of customers and the strong competitive pressure with the aim of maintaining competitiveness and this in all directions (Chwaszcz 2010). The area of the value chain needs the maintenance of maximum flexibility, working operationally with the high-yielding side in the framework of bound services and products and finally adjusting to the style of management. Companies at present have to minimize costs and seek out new financial flows into companies on the basis of open innovation while at the same time being sufficiently cautious in the management of companies in order not to threaten the commencement of disruptive innovations.

The above-mentioned points indicate the basic features which are evoking changes in the current economy. The strong influence of the advent of ICT is apparent in the framework of each point with it having destroyed in recent years all of the established means of trade and social behaviour. It has allowed companies to realize their regular trade in a new manner creating new means of trading. New sectors of the entertainment industry have emerged with it having been supported to a great extent by freely spread information which has contributed to the development of science. Specifically science and knowledge development are in a mutual relationship with economic growth. We were convinced of this during the period of the Industrial Revolution and we have functioned in accordance with this during the period of the creative economy.

The driving motor of a creative economy consists of people (Florida 2002a) who amount to the basic factor in current economic growth. These people support the development and functioning of ICT services, moving in the area of R&D and running the expansion of newly emerging branches of industry. ICT and R&D have at the same time penetrated into regular trade processes thereby creating new work positions as well as increasing the demand for the knowledge level of typical employees (Jirásková, Žižka, 2010; Kraftová, Kraft, 2008).

The development of these creative positions can be supported by the corresponding environment which will create conditions on the legislative side as well as on the side of financial instruments focused on support of creative trade projects. Another supporting factor in the allocation of creativity, that is the allocation of creative employees, consists of the facilities of the locality. As certain research has indicated (Florida 2002b; Kloudová, Chwaszcz 2011a, 2012), creative employees often have a preference for a territory with a higher level of tolerance and with an increased representation of cultural and free-time activities.

Creative people make up a characteristic part of the working class with their allocation in selected territories being uneven which also results in uneven economic growth and the development of competitiveness. Each region interested in achieving economic growth in the modern period over the long-term will have to focus on creative employees. The aim of each region will not only be to train these employees, but also to retain them and draw them from other regions. Additional factors which include city planning and social-cultural aspects are therefore involved in growth theory.

2 Forming a hypothesis including the used data

The primary aim of this work is to carry out an analysis of the representation of creative potential in the individual regions of the Czech Republic. A modified new creative index (Kloudová, Chwaszcz 2011b) will be used as a tool for achieving this goal the emergence of which was loosely inspired by the creative index established by Richard Florida (2002c; Florida, Tinagli 2004), although his index content has been completely transformed. The new creative index is consequently of use within the framework of smaller regional units as opposed to national groupings. Additional advantages of this model involve the amount and measurability of the indexes and the coherent theoretical framework which has been described in the introductory chapter.

The new creative index (NCI) also provides creative potential with a territory and this with the contribution of an analysis of the three basic 3T areas (technology, talent and tolerance). An understanding of this index contributes to comprehending the basic points which need to be focused upon when supporting the development of creativity. For these reasons the work not only focuses on the final NCI but also on its particular indexes.

The basic hypothesis is that regions with high creative potential will be more developed economically. This fact will be tested on the basis of the correlation coefficient between the NCI and the GDP on the inhabitants in each region. The condition for meeting this hypothesis is the level of development of the region. Economic growth stands more upon the copying of innovation and lower production costs within the framework of transforming economies. In contrast, developed countries with functional institutional environments by means of their competitiveness and economic growth build up increased capital equipment, knowledge and the already mentioned creativity which serve to open up gates to development and implementation of new innovations.

The data for the needs of the analyses come from the Czech Statistical Office, concretely from data from the 2010 yearbook published annually for each region of the Czech Republic including the capital city of Prague. Although this involves ordinary available data, its importance in relationship to creativity has not been explored as yet from the side of the Czech Statistical Office.

3 An analysis of the regions in the Czech Republic and their creative potential

The work makes use of the establishment of creative potential for the particular regions with the NCI. This index consists of three smaller sub-indexes – technology (10 indexes), talent (7), and tolerance (11). Each selected indicator is shifted to the index compared with the average value of the entire group. The consequent sub-indexes are calculated on the basis of the weighted average of the particular indexes.

The consequent NCI is then the arithmetic average of the three sub-indexes. (The work eliminates the divergent number of indexes in particular areas and at the same time the importance of the used indexes and this in order that each area be assigned the same amount of points which were consequently assigned to particular indexes)

The NCI is consequently analysed in relationship with the particular index model and this on the basis of the employment of the correlation coefficient ($\alpha = 5\%$; $N = 14$) which determines the relationship between the particular indexes and the NCI. In addition, the NCI is tested in relationship to exogenous indexes which arise from macro-economic indicators. In case of positive ties on the part of the NCI to this indicator, the basic hypothesis regarding the influence of creativity on the development of economic growth will be confirmed.

- Technological index

The structure of the technological index arises from the overall conception of the creative economy. The introduction of the work presented an explanation of the factors of economic growth which were based on shortening of distance in the modern era. At present, it is specifically new technologies which support the development of trade while at the same time creating new sales channels and completely new trade sectors.

For these reasons the technological index arises from indicators which are linked with both the area of ICT as well as the included area which consists of the production of technological equipment. The technological index was further supplemented by an indicator which speaks of the technological maturity of a region and which is represented in this model by a number of patents, IT specialists and the level of Internet connections (Table 1).

Table 1 *Technological index and its particular indexes expressed as a correlation coefficient in relationship to the New creative index on the level of probability $\alpha = 0.05$; $N = 14$.*

Number of employed – Information and communication activities	0.926
Number of registered subjects - Information and communication activities	0.923
Number of companies in the industry – Production of computers, electronic and optical tools and equipment	0.161
Number of companies in the industry – Production of electronic equipment	-0.010
Average number of employees in the industry - Production of computers, electronic and optical tools and equipment	0.155
Average number of employees in the industry- Production of electronic equipment	-0.064
Number of submitted patents	0.901
Individuals using – Personal computer	0.691
Individuals using – high-speed Internet	0.773
IT specialists in all for 1000 inhabitants	0.841
Technological index	0.953

Source: Czech Statistical Office; own calculations

The particular indicators of the technological index were transformed into indexes which arose from the average indicator from all the units of the group. After establishment of the NCI, the link with the NCI was tested with the particular indexes through the correlation coefficient ($\alpha = 0,05$; $N = 14$). It was determined that the area of ICT is in a strongly positive correlation with the NCI. The level of the correlation coefficient fluctuated on the level (0.9). In contrast, the production of technological and electronics equipment demonstrates a weak or non-existent dependence in connection with the NCI.

The indicator includes the technological maturity of the region which was once again in a strongly positive relationship with the creative potential of the region. The level of the correlation coefficient on the level of 0.8 exceeded the indicator of workers with the number of submitted patents, high-speed connections and the amount of IT specialists per 1000 inhabitants.

- Talent index

Over the course of the modern era, economic growth has become more and more dependent on the level of education. The introductory theoretical framework indicates what influence can be attributed to knowledge. The beginning of the Industrial Revolution brought with it numerous discoveries although their impact on the economy only became apparent when an understanding arose regarding the new technology and the ability to implement its contributions to average production throughout various production areas. With the advent of the second wave, an increased emphasis began to be placed on knowledge as well as on its contribution within the framework of the industrial production of the time. The arrival of new GPT connected with microchips and ICT impacted economics much faster and to a greater extent. New technological possibilities were understood and implemented into production much more effectively and on the basis of a wider education base and functional institutions involved not only in R&D, but also in connection with practice.

Work thus places an emphasis on education and knowledge for these reasons. Indicators focused on the level of education and the development of R&D in the affected locality were chosen for the purposes of this work (Table 2). Supplementary data to the talent index consisted of the level of unemployment in the age category 15-24 which was included into the model with the assumption that the creative centre creates more work positions amongst young people (with them generally having a more positive relationship to new technologies).

Table 2: The talent index and its particular indexes expressed as a correlation coefficient in relationship to the new creative index on the level of probability $\alpha = 0.05$; $N = 14$.

Population 15 and older with university education	0.936
Number of employed – Professional, scientific and technical activities	0.928
General level of unemployment 15 - 24 years of age (1/X)	0.708
Number of registered subjects - Professional, scientific and technical activities	0.878
Employees in R&D per 1000 inhabitants	0.949
Expenses on R&D	0.960
Number of university students per 1000 inhabitants	0.453
Talent index	0.977

Source: Czech Statistical Office; own calculations

A return analysis of the particular indicators confirmed the positive correlation between talent and the NCI. The closest link was confirmed with indicators focused on R&D and exceeded the correlation coefficient on the level of 0.9 ($\alpha = 0.05$; $N = 14$). In the area of dependence, however, the indicator of the amount of university students for 1000 inhabitants achieved a particularly close relationship with the NCI. This consequently confirms the appropriateness of the structure of the indicator of the talent sub-index and in addition the connection between talent and the creative potential of a region.

The assumption regarding the increased number of work positions was confirmed for the labour force of an age of 15- 24 years of age in the regions with the highest creative potential which expresses the relationship between the indicator of the general level of unemployment (15 - 24 let) on the NCI on the level of the correlation coefficient to an amount of 0.71 ($\alpha = 0.05$; $N = 14$).

- Tolerance index

The tolerance index expands the view of creative potential, respectively economic growth, to include the social-cultural and city planning aspects. The beginnings of the mutual relationship between economic growth, the facilities of a region and the composition of society can be seen in, for example, Jane Jacobs (1961, 1969). Of greatest renown in this area is Richard Florida (2002) who in the framework of the tolerance index made use of the so-called gay or bohemian indexes. Not only is this data difficult to obtain, but it is significantly disputable in relation to economic growth.

Indicators were selected for the NCI within the framework of this study which can also be made use of for smaller regions or even towns with, however, each indicator also having its own exact corresponding ability. The aim of this sub-index is to depict the attractiveness of a locality (Table 3).

Indicators concerned with mobility and the presence of foreigners from EU27 should serve this purpose. There is an assumption of increased mobility amongst creative people and in this case regions with high social-cultural facilities should attract a higher level of creative employees.

Additional indicators concerned with the cultural sector, tourism, the crime rate and business activity arise from this assumption. Business activity should thus be in a positive relationship to the NCI and this due to the reason of transformation of business activity and the presence of a creative potential in a region which leads to the development of completely new business activities.

Table 3 *The tolerance index and its particular indexes expressed as a correlation coefficient in relationship to the new creative index on the level of probability $\alpha = 0.05$; $N = 14$.*

Growth in number of people caused by moving	0.824
Foreigners in the countries of EU 27	0.875
Number of employees - cultural, entertainment and recreational activities per 1000 people	0.677
Newly established vs. dissolved economic bodies	0.724
Number of registered bodies – cultural, entertainment and recreational activities	0.141
Use of accommodation facilities – guests	0.827
Use of accommodation facilities – nights spent	0.694
Books borrowed from the library per 1000 people	-0.319
Organised events in all	0.456
Organised concerts	0.884
General crime level per 1000 people (1/x)	-0.550
Tolerance index	0.903

Source: Czech Statistical Office; own calculations

Regions with the highest creative potential demonstrate a strong correlation with the growth of inhabitants and the presence of foreigners from the countries of the EU, thus the assumption regarding the attractiveness of the creative locality is confirmed. As concerns cultural facilities, the high dependence of the indicator involving the percentage of employees in cultural, entertainment and recreational areas (0.68), the organising of cultural events (0.46) and the organising of concerts (0.88) can be seen in the framework of the NCI.

The visiting level of the locality is also connected with the facilities and the attractiveness of the locality. This assumption was tested with the use of the correlation coefficient on the firmness of connections between the NCI and the use of accommodation facilities. In this case the level of the correlation coefficient is on a significantly positive level 0.69 – 0.83. In contrast, one only significant negative level of correlation was measured in relationship to the NCI and the general level of crime (1/X) per 1000 inhabitants despite the fact that a positive link was expected in the original prediction.

Finally, mention must be made of the facilities of the region for development of the business sphere where a link between the NCI and the ratio of newly established vs. dissolved economic bodies was sought out and demonstrated. Creative regions are consequently an attractive locality which are of interest for creative people and which bring about conditions for the development of both culture and trade.

4 New creative index

The result of the methodology presented here is the establishment of the NCI which within the framework of the examined group divide the selected locality into regions with high creative potential (max. 1) and other regions (min. 0). This consequently always consists of a comparison of a selected group. It is impossible to work with this kind of defined index outside the demarcated collection of data.

Despite this limitation, the NCI provide important information about the creative potential of particular regions in the Czech Republic (Table 4) and at the same time, thanks to consequent analysis of

the particular element, indicators can be determined which play a significant role in the development of creativity and thus support creativity in a directed fashion along with the economic growth of the region.

Table 4 *The new creative index for selected regions of the Czech Republic*

New creative index			
Capital city of Prague	0.847	Olomouc	0.405
South Moravian	0.649	Moravian-Silesian	0.404
Central Bohemian	0.587	Zlín	0.389
Plzeň	0.438	Liberec	0.386
South Bohemian	0.436	Ústí	0.348
Hradec Králové	0.426	Vysočina	0.326
Pardubice	0.425	Karlovy Vary	0.287

Source: Czech Statistical Office; own calculations

As is evident from Table 4, the highest creative potential is concentrated in Prague. The first among the 13 regions was the South Moravian region which is highly dependent on the significant contribution of the city of Brno, particularly in the area of talent. The opposite end of this fictional ladder was occupied by the Karlovy Vary region and Vysočina region which were particularly lacking in the area of talent.

Source: Czech Statistical Office; own calculations

Figure 1 *The new creative index and its 3T sub-indexes within the framework of the 13 regions of the Czech Republic and Prague*

The graph not only indicates the overall order, but also records the contribution of particular 3T sub-indexes within the framework of the NCI and at the same time measures the particular regions within the framework of each 3T sub-index separately (Figure 1). In the area of talent, Prague, South Moravia and the Central Bohemia regions are particularly successful. This is followed at some distance by the Moravian-Silesian region. On the opposite end in terms of the low level of the talent index were the Karlovy Vary and Ústí regions.

The technological index once again achieves the highest levels in Prague and the South Moravia region with Olomouc and Pardubice also worthy of inclusion here. The low technological index was connected with Moravia-Silesia, Liberec and the Karlovy Vary regions along with the Vysočina region.

In terms of the tolerance sub-index the creative regions with Prague, South Moravia and Central Bohemia at the head stand out.

The establishment of the NCI and its consequent analysis were confirmed by the internal structure of the model. This index needs to be examined in relation to the macro-economic indicators located outside of the presented model for the purposes of establishing a complete theoretical framework. Only in this fashion can the basic premise regarding the mutual dependence of creativity and economic growth be confirmed. Data primarily concerned with economics and employment was for this reason included among the basic macro-economic indicators (Table 5).

Table 5 *The basic macro-economic indexes expressed as a correlation coefficient in relationship to the new creative index on the level of probability $\alpha = 0.05$; $N = 14$.*

	NCI	Technology	Talent	Tolerance
Employment per 1000 people	0.730	0.642	0.661	0.778
Gross domestic product (per person)	0.860	0.822	0.805	0.821
The formation of gross fixed capital (2008) per person.	0.827	0.763	0.769	0.821
Gross money income (a person)	0.852	0.758	0.770	0.903
Free work positions per 1000 people	0.755	0.690	0.675	0.793
Registered bodies (as of 31. 12.) per 1000 people	0.732	0.609	0.623	0.866
- trade companies per 1000 people	0.824	0.753	0.758	0.839
Initiated flats per 1000 people	0.678	0.603	0.620	0.710
Completed flats per 1000 people	0.862	0.781	0.836	0.825
Doctors per 1000 inhabitants	0.774	0.762	0.722	0.721

Source: Czech Statistical Office; own calculations

The indicator GDP per inhabitants was chosen as the main indicator in order to test the dependence of creative potential and economic growth as it demonstrated a high mutual dependence with the NCI. Selected indicators were also tested in relationship to particular sub-indexes with the employment of the correlation coefficient ($\alpha = 0,05$; $N = 14$). Particularly close connections, exceeding the level of the correlation coefficient to an amount of 0.8 were demonstrated not only with the NCI but also withal its sub-indexes.

Additional macro-economic indicators confirming the mutual relationship with the NCI included the indicator of the formation of gross fixed capital, free work places per 1000 inhabitants, or the number of registered trade companies per 1000 inhabitants. In each of these cases the correlation exceeded the level of the 0.73 correlation coefficient. Apart from the fact that creative regions achieve higher economic growth, this fact is also supported by higher incomes which are attained by individuals working in the regions with higher creative potential.

The supplementary data concerning construction of flats was included with the aim of confirming the assumption that creative regions are attractive being of interest for new employees which creates a demand for housing. The high level of the positive correlation with the NCI confirms this reality.

The basic assumption regarding the connection between creativity and economic growth was finally confirmed. This basic hypothesis thus defends the structure of particular indexes of the NCI. The guided support of economic growth and the competitiveness of the region can thus be supported via development of creativity which arise from the above-presented indicators, contained in the NCI model.

Conclusion

The work arises from the currently particularly relevant concept of “the creative economy” which is often exchanged with the concept of “creative industry”. The work rejects the concept of creativity when only limited to selected industrial sectors, but instead perceives creativity as one of the basic factors in current economic growth.

A theoretical concept for modern economic growth is consequently formulated in the introduction to this work. Additional steps in growth theory which involve the already mentioned creative economy are presented upon clearly defined theoretical foundations. The theory of economic growth is thus enriched by a demographic and social-cultural aspect.

The advent of the creative economy has made possible technological development in the area of ICT which has evoked a range of changes in society as well as in business. The new way of business and business possibilities have evoked a demand for a new labour class. Additionally, the importance of R&D has become a key factor in the innovation process leading toward the obtaining of competitive advantages. A new labour class has consequently emerged which significantly contributes to the economic growth of the region.

The allocation of this labour class is uneven just as economic growth in the particular regions is also uneven. The aim of this work consisted of not only demonstrating the dependence between the presence of creative people and economic growth, but also the seeking out of factors which influence the allocation of creative employees.

The new creative index was employed for this purpose as it contains a number of indicators from the areas of technology, talent and tolerance and consequently distinguishes between the analysed regions defining regions with high creative potential and the remaining regions. The high mutual dependence between creativity and economic growth was demonstrated with the employment of the correlation coefficient ($\alpha = 0.05$; $N = 14$). The assumptions that creative regions are more attractive on the social and knowledge levels were also confirmed. Territorial wholes with an interest in retaining their competitiveness and supporting economic growth, must consequently work at developing conditions which support the emergence and development of a creative environment.

Prague ranked the highest amongst the regions with the highest creative potential from the analysed collection of territorial units which in this work represented the 13 regions of the Czech Republic and the capital city of Prague, followed by the South Bohemian and the Central Bohemian region. These regions at present are developing creativity primarily thanks to a knowledge base representing a high number of university educated inhabitants and higher values in indicators concerned with R&D in comparison with other regions.

Acknowledgements

Authors are thankful to the Internal Grant Agency of FaME UTB No. IGA/FaME/2013/033 for financial support to carry out this research.

References

- Allen, R. C. (2009) *The British Industrial Revolution in Global Perspective*. Cambridge: Cambridge University Press.
- Antràs, P. & Voth, H. L. (2003) Factor prices and productivity growth during the British Industrial Revolution. *Explorations in Economic History*, January, 40(1), pp. 52-77.
- Chwaszcz, O. (2010a) Inovační linie moderní doby I. *Trendy ekonomiky a managementu*, 4(6), 63-79.
- Crafts, N. (2010) The Contribution of New Technology to Economic Growth: Lessons from Economic History. *Revista de Historia Económica*, 28(3), pp. 409-440.
- Crafts, N. (2004) Steam as a General Purpose Technology: a Growth-Accounting Perspective. *Economic Journal*, 114(495), pp. 338-351.
- Duval, R. & Maisonneuve, de la C. (2009) *Long-Run GDP Growth Framework and Scenarios for the World Economy*. OECD Economics Department Working Paper No. 663.
- Florida, R. (2002a) *The Rise Of The Creative Class: And How It's Transforming Work, Leisure, Community And Everyday Life*. New York: Basic Books.
- Florida, R. (2002b) *The Rise Of The Creative Class: And How It's Transforming Work, Leisure, Community And Everyday Life*. New York: Basic Books.

- Florida, R. (2002c) *The Rise Of The Creative Class: And How It's Transforming Work, Leisure, Community And Everyday Life*. New York: Basic Books.
- Florida, R. & Tinagli, I. (2004) *Europe in the Creative Age*. London: Carnegie Mellon Software Industry Center/DEMOS.
- Friedman, T. L. (2005) *The World Is Flat: A Brief History of the Twenty-first Century*. 1. ed., New York: Farrar, Straus and Giroux.
- Hall, R. E. & Jones, C. I. (1999) Why Do Some Countries Produce So Much More Output per Worker than Others? *Quarterly Journal of Economics*, 114(1), 83-116. ISSN 0033-5533.
- Jacobs, J. (1961) *The Death and Life of Great American Cities*. New York: Random House.
- Jacobs, J. (1969) *The Economy of Cities*. New York: Random House.
- Jirásková, E., Žižka, M. (2010) The Significance of Business Localization Factors in the Czech Republic. *Creative and Knowledge Society*, 1(2), 16–36.
- Kirkman, G. S., Cornelius, P. K., Sachs J. D. & Schwab, K. (2002) *The Global Information Technology Report 2001-2002: Readiness for the Networked World*. New York: Oxford University Press.
- Kloudová, J., Chwaszcz, O. (2012) Transformation of 3t Model towards the Comparison of Creative Centres within the European Union. *E&M Economics and Management*, 15(4). 56-70.
- Kloudová, J., Chwaszcz, O. (2011a) New Way of Analysis of Creative Centers within Europe. *Economics & Management*, 16, 197-206.
- Kloudová, J., Chwaszcz, O. (2011b) New Way of Analysis of Creative Centers within Europe. *Economics & Management*, 16, 197-206.
- Kraftová, I., Kraft, J. (2008) High tech firmy a tvorba bohatství v zemích EMEA. *E&M Economics and Management*, 11(4), 4-20.
- Mokyr, J. (2004) Accounting for the Industrial Revolution. In: Floud, R. & Johnson, P. [eds.]. *The Cambridge Economic History of Modern Britain: Volume 1 - Industrialisation, 1700-1860*. Cambridge: Cambridge University Press, pp. 1-27.
- Mokyr, J. (1998) The Second Industrial Revolution, 1870-1914 [online]. (unpublished manuscript) (outlining the increases in technological developments between 1870- 1914), [cit. 2013-03-13]. Available from: <<http://faculty.wcas.northwestern.edu/~jmokyr/castronovo.pdf>>.
- Oliner, S. D., Sichel, D. E. & Stiroh, K. J. (2007) Explaining a Productive Decade. *Brookings Papers on Economic Activity*, 38(1), 81-152. ISSN 0007-2303.
- Smith, A. (2003) *The Wealth of Nations*. Bantam Classics, 2003.
- Triplet, J. E. (1999) The Solow Productivity Paradox: What do Computers do to Productivity? *Canadian Journal of Economics*, 32(2), pp. 309-334.

Authors:

doc. Ing. Jitka Kloudová, Ph.D., Univerzita Tomáše Bati ve Zlíně, Fakulta managementu a ekonomiky, Mostní 5139, 760 01 Zlín, Česká republika; Paneurópska vysoká škola, Tomašikova 20, 821 02 Bratislava, Slovensko, kloudova@fame.utb.cz

Ing. Ondřej Chwaszcz, Univerzita Tomáše Bati ve Zlíně, Fakulta managementu a ekonomiky, Mostní 5139, 760 01 Zlín, Česká republika, chwaszcz@seznam.cz