

Astikè, Kristina

## Article

# Does cultural economics affect country's competitiveness?

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## DOES CULTURAL ECONOMICS AFFECT COUNTRY'S COMPETITIVENESS?

Kristina ASTIKĖ

*Vilnius Gediminas Technical University, Vilnius, Lithuania*

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**Abstract.** *Purpose* – the purpose of the article is to identify factors of cultural economics and examine their impact on countries' competitiveness.

*Research methodology* – in this study, the following factors have been determined to affect the competitiveness of the European Union countries: cultural employment by age (18–65), general government expenditure on cultural services, households expenditure on cultural goods, persons working as creative and performing artists, authors, journalists and linguists engaged in individual activity and employment. Panel data, which are processed with the Gretl software, are used for the study.

*Findings* – the results revealed that all the distinguished factors affect the competitiveness of the European Union countries; however, general government expenditure by function has the most significant effect.

*Research limitations* – the article analyses all countries of the European Union except Romania because there is a lack of statistical data on this country, which interferes with the research.

*Practical implications* – as cultural economics is linked to both the public and private sectors, the revenue and the products it generates undoubtedly contribute to the country's economic development and, hence, competitiveness.

*Originality/Value* – cultural economics is an interdisciplinary field of scientific research described and analysed by various authors as the interaction of human-made activities with new technologies, various artistic forms, knowledge, and creativity. Consequently, cultural economics has received more and more attention. However, the factors of cultural economics and their impact on a country's competitiveness level is a fragmentarily examined topic which shows its originality.

**Keywords:** cultural economics, competitiveness, Global Competitiveness Index (GCI) European Union Countries, panel regression.

**JEL Classification:** B41, C22, E00, Q01.

### Introduction

There is no general concept of cultural economics, and this is due to several reasons. First of all, the fact that cultural economics is one of the newest branches of economics, another reason is that cultural economics is often confused with a term close to it – creative economics;

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\*Corresponding author. E-mail: [kristina.astike@vilniustech.lt](mailto:kristina.astike@vilniustech.lt)

however, this branch of economics covers an even wider field of research, which also includes the cultural economics itself (Ljunggren, 2016). The links between competitiveness and cultural economics have not been studied much, which is the novelty of this study. Therefore, the article examines the influence of cultural economics' factors on the competitiveness of countries. Often, culture in economics is assessed and studied through copyrights, various patents, licenses, trademarks, etc., as a factor promoting their development (Karimzadi, 2019). This is because many authors in their studies identify cultural economics as a field of scientific research that combines new technologies and knowledge with creativity, from which various new products and services are born that need to be patented (Barrado-Timón et al., 2020). However, it is suggested to look at cultural economics even more broadly, including such factors as employees of the cultural sector, income spent by households on the consumption of cultural products, public sector spending on culture, etc. The statistical data of these cultural economics' factors are more challenging to access. However, they are relevant and show a wider field of cultural economics research, which allows us to speak more broadly about the influence of culture on the competitiveness of countries. Since cultural economics is related to both the public and private sectors, the income it generates and the products it creates undoubtedly contribute to the country's economic development and competitiveness.

Competitiveness is the ability of a country to achieve and maintain a competitive advantage and achieve economic and social development. In the global market, competitiveness is related to a country's ability to respond to urgent changes in the market and maintain its position in it (Reese et al., 2022). Various authors often emphasise that the most typical sources of competitive advantage are innovation, technology, quality and price (Universit & Bontempo, 2022; Knapčíková, 2021). Since competitiveness is a complex phenomenon showing the country's economic and social well-being and prestige, its increase must be in the country's national interest. Increasing competitiveness directly through different factors such as free legally-regulated market, developed infrastructure, increased level of education and others, attracts investments to the country, promotes tourism and increases the country's attractiveness (Aiginger, 2021). The aforementioned advantages of competitiveness are closely related to understanding cultural economics. Therefore, according to the scientists Šandrak Nukić and Načinović Braje (2022), it can be assumed that the factors of cultural economics affect the competitiveness of countries. Thus, this study aims at determining whether selected cultural economics' factors influence the competitiveness of European Union (EU) countries.

Although cultural economics is a new branch of the economics, a number of studies have already been devoted to it in the scientific literature (Wiśniewska et al., 2020; Houkamau & Sibley, 2019), but little attention is paid to the influence of the factors of cultural economics on the competitiveness of countries. The article analyses all the EU countries except for Romania because too little statistical data is provided about this country, which does not allow the research to be carried out, which is also the limitation of this article. The statistical data of the countries used in the study are taken from the Eurostat database and the Global Competitiveness Report from 2011–2020.

The theoretical part of the article presents the links between culture and competitiveness. Factors of cultural economics are also presented, the impact of which will be studied on the competitiveness of the EU countries. The research part of the article describes the research method used and the calculations based on it. The article ends with conclusions and suggestions.

## 1. Theoretical background

Before naming cultural economics' factors that can influence the competitiveness of the EU countries, it is essential to discuss how competitiveness is measured. Since competitiveness is a complex phenomenon that cannot be measured by several parameters, the scientific community does not have a common approach to it among authors. For this reason, this study uses a specific Global Competitiveness Index (*GCI*) and analyses how it is influenced by selected factors of cultural economics. Factors of cultural economics that are not included in the *GCI* are selected. This index is prepared annually by the World Economic Forum and published in The Global Competitiveness Report (*GCR*). The purpose of the index is to provide a comprehensive picture of a country's national competitiveness. It is important to mention that the *GCI* calculation methodology has changed since 2018 (Dudáš & Cibula, 2018). Since the data used in this study are from 2011 to 2020, two data matrices were compiled for 2011–2017 and 2018–2020.

Culture is often the main factor explaining the development of countries. Each country has its own expressed culture and factors of cultural economics that emphasise the country's individuality. It is the individuality of the country that is associated with competitiveness and its development in the country (Daubaraitė-Radikiene & Startiene, 2022). Mihaela et al. (2011) and Koltsova et al. (2020) show in their research that the links between culture and competitiveness lead to good economic results. Because these links create a favourable business environment that encourages innovation and investment, through which labour productivity, employment growth and the income of the population are increased. Table 1 shows the connections of cultural economics to the country's competitiveness presented by researchers in the latest academic literature.

As can be seen from Table 1, the links between culture and competitiveness in the research are examined from various aspects. The importance of cultural products in terms of their development for different consumer markets is examined (Koltsova et al., 2020).

Table 1. Theoretical interfaces between cultural economics and the country's competitiveness (source: compiled by the author)

Authors and year	Theoretical interfaces between cultural economics and the country's competitiveness
Koltsova et al. (2020)	Examines the links between culture as an economic branch and the country's competitiveness, through the distribution and consumption of cultural products.
X. Li (2020)	The link between the cultural and tourism infrastructure of a specific city (Shanghai) and competitiveness is analysed.
Ali (2021)	The links between competitiveness and organisational culture of lecturers and researchers working in universities and higher education institutions are investigated.
Šandrak Nukić and Načinović Braje (2022)	The links between cultural institutions and competitiveness are investigated.
Kowal and Paliwoda-Pękosz (2017), Song et al. (2019)	The links between competitiveness and culture through the development of employees' knowledge are examined.
X. Li (2020)	The links between cultural sector employees and competitiveness are analysed.

It analyses the functions of cultural institutions as institutions performing the formation of public consciousness, helping the state solve problems related to improving the country's image (Šandrak Nukić & Načinović Braje, 2022; Song et al., 2019). Culture is considered a driving force of urban economic growth, and the development of its infrastructure strengthens the competitive position of cities (J. Li, 2020). Great attention is also paid to the issues of organisational culture in companies and the importance of the qualification of cultural workers. Because the development of skills and knowledge is critical to remaining competitive in the labour market. For this reason, those organisations and companies that consider upgrading the qualifications of their employees are more attractive among the employees. Šandrak Nukić and Načinović Braje (2022) analyses the support of cultural institutions and how competitive they are compared to other sectors. Such a wide field of cultural research is due to the breadth of the concept of culture itself, which allows the analysis of culture from various aspects. It can be seen from the presented connections that culture is closely related to competitiveness, which means that it is also closely related to cultural economics. Therefore, analysing these connections in more detail is relevant, as such studies are lacking. Despite the abundance of connections presented in Table 1, little attention is paid to the influence of cultural factors on the competitiveness of countries in research. These links between culture and competitiveness highlighted in Table 1 are closely related to the economics, so it is possible to form cultural economics' factors from the links highlighted and examine the influence of these factors on countries' competitiveness.

Upon the summary of the links between culture and competitiveness, it can be assumed that the field of culture is an integral part of the country's economics, the importance of which is constantly increasing in current conditions and influences the competitiveness of countries.

Examples of economic history show that cultural diversity is one of the main elements influencing the successful development of countries. Cultural diversity in the country brings together many different skills, talents and experiences, creating a favourable environment for developing new ideas. Customs and ethical values shape society's openness to innovation – one of the main factors influencing competitiveness (Bacsci, 2018). Each country has a different level of development depending on the country's history, legal system, geographical features, natural conditions and cultural characteristics. The cultural characteristics form the factors of the cultural economics, the analysis of which allows to study the influence of the factors of cultural economics on the competitiveness of countries. Below the article presents the factors of cultural economics that are singled out in the scientific literature as having the most significant influence on the competitiveness of countries.

### *Cultural Employment by Age (18–65)*

Cultural industries have grown faster than traditional industries over the past few decades. They create jobs and positively affect employment rates (de Santana Ribeiro et al., 2020). Since the employment problem is one of the most critical social problems for the countries' economies, increasing employment allows us to assume that economic growth will also accelerate, as people's incomes will increase, while decreasing employment will cause the opposite reaction – a slowdown in economic growth. Therefore, employment research is given

significant attention, and cultural sector workers are a part of it. Arseneault and Roulin (2021) analyse statistical data that reflect what percentage of the total workforce comprises workers in the cultural sector. In both the old and the new *GCI* calculation methodology, the labour market is included in the calculation of *GCI* as one of the 12 areas. However, if one looks at the GCR methodology of who enters the labour market, there are no cultural workers in it. According to Verhun et al. (2020), this is because cultural workers are too small a part of the labour market, and for this reason, they are not included separately. This further substantiates why it is relevant to analyse the statistical data on cultural workers and see if they influence *GCI*, especially since (Grillitsch & Tavassoli, 2018; Sanchez Salgado, 2018) consider cultural workers as an important part of the labour market. Valverde-Moreno et al. (2021) claim that the cultural sector significantly contributes to increasing the employment of disabled people and women, which increases the cultural level of the country's labour market and makes the country socially responsible. Bilan et al. (2019) claim that one of the main areas of work of cultural workers is the creation of innovations and their implementation, which also attracts new investments. Thus, from the statements made, it can be seen that cultural workers contribute to the formation of work culture, increasing social employment and creating innovations, all of which make the country more attractive and competitive in the global labour market.

#### *Persons Working as Creative and Performing Artists, Authors, Journalists and Linguists Engaged in Individual Activity and Employment*

Continuing with the employment issue, another essential aspect is employees working under individual activity contracts. The statistical data on the number of such employees per thousand inhabitants are analysed. The more modern, open to innovation and freer the society, the more attractive it is to workers working under individual activity agreements. Often, such workers are various creators, artists, performers, and journalists belonging to the sector of cultural workers. This indicator is also not analysed in the *GCI* methodology, although it is an important factor in increasing the country's attractiveness. Baluku et al. (2019) show in their study that individual activity contracts are an important factor in reducing unemployment, especially among young people. This is because this type of employment contract allows the employee to regulate the scope of their work, work from anywhere in the world and easily combine work with studies (Minola et al., 2016). Individual activity contracts also contribute to promoting an entrepreneurial culture in the country, as new businesses often start their operations based on individual activity contracts (Autio et al., 2013). Therefore, the issue of promoting entrepreneurship should be a priority of national policy, as it directly affects the country's attractiveness for investment and job creation in the country. Therefore, it is relevant to examine the statistical data of cultural workers working under individual activity contracts because after assessing whether this factor affects the country's competitiveness, it is possible to find solutions that would contribute to the development of competitiveness in the country.

### *General Government Expenditure on Cultural Services*

Another factor of the cultural economics analysed in the article is government spending on the cultural sector. Statistical data on how many euros are spent on the cultural sector per year are analysed. Fiscal and budget policy is a frequent object of study by researchers. It is common to analyse what factors determine government spending on one or the other sectors. However, a less analysed question is whether government spending dedicated to the cultural sector affects the country's competitiveness (Ercolano & Romano, 2018). Getzner (2015) emphasises that spending on culture helps preserve and restore heritage and develop the city's cultural infrastructure. Public expenditure allocated to the development of theatres, museums or exhibition halls contributes to the education of the population and the development of tourism (Werck et al., 2008). All these aspects imply that spending on the cultural sector should influence the country's competitiveness. However, this factor is not analysed in any *GCI* methodology, so it is included in this study.

### *Households Expenditure on Cultural Goods*

Consumption of cultural products is an important component of household consumption. Consumer preferences are often unpredictable in the markets for cultural goods and services. In most cases, such consumption decisions are determined by the buyer's personality, education, interests and, of course, income (Kaimann & Cox, 2021). The statistical data of this factor analysed are what part of the annual consumer index comprises household expenditures on cultural products. This factor is also not analysed in any *GCI* methodology, so it is essential to include it. Household spending on entertainment, including cultural services, is often estimated by authors to be 15–20 per cent of consumer income (Hamlin, 2019). These are high costs, and it is relevant to analyse how they influence *GCI*.

Thus, it can be seen from the cultural economics' factors discussed that the selected factors are not included in either the old or the new *GCI* calculation methodology. However, according to various authors mentioned in the study, the factors chosen are significant, contributing to the creation of innovations and the development of the country's attractiveness, so it is relevant to study their influence on the EU *GCI*.

## **2. Methodology**

### *Data*

This study uses data reflecting cultural factors that can influence the competitiveness of countries, such as cultural employment by age (18–65), persons working as creative and performing artists, authors, journalists and linguists engaged in an individual activity and employment, general government expenditure on cultural services, households expenditure on cultural goods. Abbreviated names of all variables that are used in the analysis are presented in Table 2.

Table 2. Variables of the research (source: compiled by the author)

Full variable name	Short variable name	Measurement unit
Independent variables		
Cultural employment by age (16–65)	cultemp	Thousand persons
Persons working as creative and performing artists, authors, journalists and linguists engaged in individual activity and employment	arts	Thousand persons
General government expenditure on cultural services	genexp	Million euro
Households expenditure on cultural goods	houcult	Annual average index

As can be seen from Table 2, not only the abbreviation, which is used in the analysis but also the information about the units of measurement is indicated next to each independent variable.

### Model development

The main goal of this study is to identify the factors of cultural economics and to investigate whether the selected factors influence the competitiveness of EU countries. In order to clarify this, a panel regression was performed. Since *GCI* was chosen as the dependent variable in the study, and its calculation methodology from 2018 has changed, and this may influence the results of the study, two data matrices were compiled and used in the study. One for 2011–2017, the other for 2018–2020. For this reason, the study presents a panel regression for two different periods. This allows not only to see whether the selected factors of cultural economics influence the competitiveness of the EU countries but also to compare whether the *GCI* of the EU countries is affected by the changes in the calculation of the *GCI*.

Thus, our proposed model allows calculating the influence of selected cultural economics factors on *GCI* of EU countries. The model is represented in Eq. (1):

$$GCI_{it} = \alpha + \beta_1 cultemp_{it} + \beta_2 arts_{it} + \beta_3 genexp_{it} + \beta_4 houcult_{it} + u_{it}, \quad (1)$$

where: *GCI* – dependent variable; *t* – time;  $\beta_1, \dots, \beta_4$  – coefficients;  $u_{it}$  – is the error term.

### Cointegration test

In order to find out if there is a long-run relationship between the series, two series are cointegrated when they have common trends, i.e. they are in some sense similar. In order to test this, the Pedroni cointegration test is employed. Actually, the Pedroni test is one of the most popular while working with panel data. The null hypothesis states that there is no cointegration; the alternative – “All panels are cointegrated”. The results of the cointegration test are provided in Table 3.

Table 3. Pedroni cointegration test for 2011–2017 model (source: compiled by the author)

	Statistic	<i>p</i> -value
Modified Phillips-Perron test	8.447	0.000
Phillips-Perron test	-25.498	0.000
Augmented Dickey-Fuller test	-49.209	0.000

According to the results presented in Table 3, it could be concluded that there is an existence of a robust long-run relationship between *GCI* and explanatory variables.

Table 4. Pedroni cointegration test for 2018–2020 model (source: compiled by the author)

	Statistic	<i>p</i> -value
Modified Phillips-Perron test	9.257	0.000
Phillips-Perron test	7.486	0.000
Augmented Dickey-Fuller test	-11.153	0.000

The same results, that all three variables have a strong relationship with *GCI*, were also obtained in the other analysed period. The results are shown in Table 4.

### Panel unit root test

In order to check the stationarity of the panels, the unit root test is employed. The current study employs Levin-Lin-Chu unit-root tests. The null hypothesis of the unit root test is “Panels contain unit roots”; the alternative is “Panels are stationary”. The results of the test are provided in Table 5.

Table 5. Levin-Lin-Chu panel unit root test for model 2011–2017 (source: compiled by the author)

Variable	Adjusted <i>t</i>	
	Without time trend	<i>p</i> -value
<i>GCI</i>	-2.225	0.013
cultemp	-8.673	0.000
arts	-69.117	0.000
genexp	-1.742	0.041
houcult	-3.272	0.000

Based on the results provided in Table 5, panels are stationary.

Table 6. Levin-Lin-Chu panel unit root test for model 2018–2020 (source: compiled by the author)

Variable	Adjusted <i>t</i>	
	Without time trend	<i>p</i> -value
<i>GCI</i>	-3.259	0.000
cultemp	-7.259	0.005
arts	-55.249	0.000
genexp	-1.987	0.020
houcult	-3.490	0.000

Based on the results in Table 6, it can also be seen that all the data are stationary.

### 3. Results and discussion

After performing the panel regression, it can be seen that the coefficient of the *houcult* factor is negative, as the P value is more than 0.05, which means that this factor is statistically insignificant, so it will be removed from further analysis. The results of the panel regression analysis are shown in Table 7.

Table 7. 2011–2017 panel regression analysis (source: compiled by the author)

	coefficient	std. error	t-ratio	p-value
const	4.047	1.719	2.354	0.020
cultemp	0.319	0.030	10.56	3.64e-020
arts	0.001	0.000	2.203	0.029
genexp	4.28706e-05	1.30909e-05	3.275	0.001
houcult	-0.007	0.171	-0.404	0.687

Due to the negative coefficient, after removing the *houcult* cultural economics' factor from the calculations, the panel regression was repeated with the remaining three variables: *cultemp*, *arts*, *genexp*. The results of the panel regression analysis are shown in Table 8.

Table 8. 2011–2017 panel regression analysis (source: compiled by the author)

	coefficient	std. error	t-ratio	p-value
const	3.325	0.108	30.91	2.96e-076
cultemp	0.326	0.027	11.88	9.93e-025
arts	0.001	0.000	2.342	0.020
genexp	4.38358e-05	1.20111e-05	3.650	0.000

As can be seen from Table 8, the factor of *genexp* of cultural economics has the most significant influence on *GCI*. The coefficient of this factor is the highest compared to the other two factors. Such a result is likely because general government expenditure on cultural services is an essential factor in the development of culture. Authors studying fiscal and budget policy agree with this. Rius-Ulldemolins et al. (2019), who study cultural policy, claim that state government expenditure on cultural services is important for the preservation of cultural heritage, the cultivation of the country's traditions and history, and all of this contributes to the attractiveness of the country.

Getzner (2015) emphasises that spending on culture helps preserve and restore heritage and develop the city's cultural infrastructure. Werck et al. (2008) argue that the state expenditures allocated to the development of theatres, museums, and exhibition halls contribute to the education of the population and the development of tourism; such investments make the country more attractive and competitive compared to other countries.

Next, a panel regression was performed for the 2018–2020 data, the results of which are shown in Table 9.

Table 9. 2018–2020 panel regression analysis (source: compiled by the author)

	coefficient	std. error	<i>t</i> -ratio	<i>p</i> -value
const	82.058	27.087	3.029	0.004
cultemp	4.233	0.719	5.891	3.04e-07
arts	0.017	0.010	1.677	0.099
genexp	0.000	0.000	1.851	0.070
houcult	-0.275	0.261	-1.054	0.297

As can be seen from Table 9, the cultural economics' factor with a negative coefficient value has not changed; it is *houcult*, which further shows that this factor does not affect the *GCI* of EU countries.

After removing this *houcult* factor of cultural economics that does not influence the *GCI* of the EU countries, a repeated panel regression was performed, the results of which are shown in Table 10.

Table 10. 2018–2020 panel regression analysis (source: compiled by the author)

	coefficient	std. error	<i>t</i> -ratio	<i>p</i> -value
const	53.678	2.844	18.87	6.41e-025
cultemp	4.124	0.711	5.793	4.08e-07
arts	0.016	0.009	1.608	0.114
genexp	0.000	0.000	1.885	0.065

From the results indicated in Table 10, it can be seen that compared to the results of 2011–2017, the factor with the highest coefficient has changed – *cultemp*. The change in the most influential cultural economics' factor in the *GCI* of the EU countries could also be determined by the too-small sample of years. However, this is not an unexpected result because compared to the results of 2011–2017, this cultural economics' factor of *cultemp* was the second most influencing *GCI* of the EU countries. This is supported by other studies, which state that the cultural sector has grown faster than other sectors in Europe over the past few decades, which contributes to the creation of new jobs and improves employment indicators (de Santana Ribeiro et al., 2020). It has also been noticed that the cultural sector employs employees with higher education, so the higher the percentage of people working in this sector, the more attractive the country is compared to other countries (Arseneault & Roulin, 2021). Thus, it is evident that the mentioned aspects contribute to increasing the country's competitiveness and justify the obtained results.

## Conclusions

Although cultural economics is a new branch of economics, culture is often the main factor explaining the development of countries. Each country has its own expressed culture and factors of cultural economics that show the country's individuality. Research by different authors shows that it is the individuality of the country that is connected to its competitiveness and

its development in the country. Therefore, in this study, the following cultural economics' factors were singled out and analysed: cultural employment by age (18–65), general government expenditure on cultural services, households expenditure on cultural goods, and persons working as creative and performing artists, authors. In order to investigate whether selected factors of cultural economics influence the competitiveness of the EU countries, a model of factors of cultural economics was created.

GCI was chosen as the dependent variable in the study. Its calculation methodology from 2018 changed, so two data matrices were constructed and used in the study. One for the 2011–2017 period, the other for 2018–2020. The results of the different tests performed showed a solid long-term relationship between the GCI and selected factors of cultural economics in both periods. The obtained test results showed that all the data are stationary.

The results of the panel regression analysis showed that Households expenditure on cultural goods is statistically insignificant, so it was excluded from further research.

The obtained results showed that the mentioned cultural economics' factors contribute to increasing the competitiveness of the EU countries. Thus, it is crucial to invest in the cultural sector and develop it because it contributes to increasing competitiveness, which affects the attractiveness of countries in global markets and new investments in countries.

As a limitation of the study, the too-small number of cultural economics' factors can be singled out. Therefore, it is recommended for further research to expand the number of factors of cultural economics, which would even more accurately reflect the entire cultural sector and substantiate its importance for the competitiveness of EU countries.

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