A study on relationship between cultural industry and economic growth in Vietnam

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CHRONICLE	ABSTRACT
	Culture is a powerful tool to communicate values and promote objectives of public interest that are broader than wealth creation. The economy of culture entails both cultural and creative sectors. The contribution of the culture to the economy has gradually been acknowledged, with the development of the cultural industries. Using the input output table methods, this research presents one way of measuring the economy of culture focusing on the impact of final consumptions of culture industry's output on the growth of value added (GDP). Also, this study employs forward and backward linkage indicators of cultural industry that reveals the relationship between the cultural industry and other sectors in the economy. With the data from 2007, 2012 and 2016 input – output tables, the results show that although the contribution of cultural product consumption to the GDP is less than other sectors, the contribution of the cultural consumption to economic growth is quite high. The power of dispersion index of cultural industry in both 2012 and 2016 is quite high and nearly equal to 1, meaning that a unit of cultural industry change will lead to one unit of change in other industries, thus in turn leads to double the number of changes in value added of the whole economy.

1. Introduction

The comprehensive definition of culture is difficult to circumscribe. Culture can be sensibly defined as "a cumulative deposit of knowledge, experience, beliefs, values, attitudes, meanings, hierarchies, religion", including an abstract form of "notions of time, space, and concepts of the universe" (Gabinete de Análise Económica–GANEC, 2014, p.6). Culture can equally be made of the "material objects acquired by a group of people in the course of generations". In other words, culture is both a knowledge system and a way of life acquired and shared by a relatively large group of people, passed on through the generations and used without much explicit reflection (Petrakis & Kosstis, 2013). In sum, culture stands as a conditioning influence for individual and collective action (Edwards & Patterson, 2009; Maridal, 2012). The term of culture industries was first mentioned by Adorno and Horkheimer (1947) with the essay "The Culture Industry: Enlightenment as Mass Deception", in which, Adorno's subsequent writings - on film, radio, newspapers and (most notoriously) jazz and popular music – all reaffirmed the message that under monopoly capitalism art and culture had now become thoroughly absorbed by the economy

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(O'Connor, 2000). The concept of culture industry becomes widely held in sociology, media studies and critical theory and it remains functional till this day in describing how mass culture and big business are inherently bound together to make up a large-scale system of control and exploitation. There are many different definitions of cultural industry. According to UNESCO (2006), the term "cultural industry" applies to those industries that combine the creation, production and marketing of content that is by nature cultural and intangible. Content is protected by intellectual property rights and can take the form of goods and services. Some of the researches, when classifying activities as a part of cultural industry, emphasise the cultural and symbolic value of their output (O'Connor, 2010; UNESCO, 2006); others consider the intangible nature of their outputs and its protection in the form of intellectual property (WIPO, 2003) as more important. In the economy, the "cultural sector" includes industrial and non-industrial sectors (Emilia et al., 2008). Culture constitutes a final product of consumption, which is either non-reproducible and aimed at being consumed on the spot (a concert, an art fair, an exhibition) or aimed at mass reproduction, mass-dissemination and export (a book, a film, a sound recording). Cultural sectors include editing (books, newspapers, magazines, sound recording, etc.), film, video, radio, and television activities, performing arts, press, museums, archives, libraries, wholesale and retail of cultural goods, and architectural activities.

Measuring the contribution of cultural industry to the economy, Emilia et al. (2008) focused on the value added to the economy (i.e. the increase in wealth due to the cultural industry). The methodology employed by calculating the share of value added of cultural and creative sector in growth domestic product (GDP) relative to other sectors of the economy, and its contribution to economic growth. On the relationship between growth and culture industries, there are many empirical studies conducted at different stages, and for different geographic regions. Granato et al. (1997) used the least squares regression to test the relationship between economics and cultural growth in a sample of 25 countries. They employed encompassing principles to handle competing theoretical characteristics and model. A variant of Leamer's Extreme Bounds Analysis (EBA) was also implemented to evaluate the sensitivity of estimates. The results show that bringing both cultural and traditional economic variables into account gives a much better explanation of growth than the model, considering only one type of variable. The studies of other researchers, though measuring culture with other indicators and using the other econometric models, have the same conclusion that culture is a determinant of growth (Algan & Cahuc, 2008; Khan et al., 2010; Maridal, 2012; Petrakis & Kosstis, 2013; Wu & Xie, 2014).

Although the above researches have the same conclusion that culture influences the economic growth, most of the studies have employed econometrics model such as OLS to test the relationship. By using econometrics models, there are only a direct impact of cultural industry to economic growth, while cultural factor also has impact on economic growth through other sectors in economy. The input–output model is a quantitative economic technique that represents the interdependencies between different branches of a national economy, thus it can be used as a method to test the relationship between cultural industry and economic growth by both direct and indirect impacts. This method has been adopted by Jianwen and Hong (2011) and CEBR (2017) to calculate the contribution of cultural industries to economy. In the context of Vietnam, the relationship between culture development and economic growth is a hot topic since it has been mentioned in the documents of Vietnamese government. However, most of local studies mainly analyse the relationship between the two-from theory (Pham, 2007 & 2014; Nguyen, 2011), the empirical analysis is rare. Therefore, this research attempts to investigate the relationship between cultural and economic growth by using the input – output analysis for Vietnam in both direct effect (impact of cultural industries' demand on GDP growth) and indirect effect (impact of cultural industries on economic growth through other sectors in the economy).

2. Research Methodology

2.1. Data Collection

This study employs the Vietnam input - output tables of 2012 and 2016. The 2012 and 2016 input-output tables were issued by Vietnam General Statistics Office and the two input – output tables have the same

number of categories activities (164 industries in total). Due to the dynamic and diverse nature of the sector, it often does not align well with official statistics measurement frameworks which tend to use Standard International Classification (SIC) codes. Thus, according to our current cultural industry standard basing on the Decision No. 1755/QD-TTg of Prime Minister of Vietnam is the culture and its related industries category, the products of input – output table will be divided into four sectors which are agriculture, industry, services and culture.

The agriculture sector includes all commodities from number 1 to 27; The industry sector includes all commodities from number 28 to 107 (excludes the product number 58); The cultural industry consists of Service sector for printing and copying items; Published products; Film service, television program production, sound recording and music publishing; Broadcasting services; Advertising and market research services; Services of travel agents, tour business and support services, related to the promotion; Creative, art and entertainment services; Services of libraries, archives, museums and other cultural activities; Sports and entertainment services. The rest is associated with the service sector.

2.1. Approach

Input-output multipliers are an indication of the strength of the linkages between a particular sector and the rest of the state or regional economy. As well, they can be used to estimate the impact of a change in that particular sector on the rest of the economy. A routine set of mathematical operations based on coefficients derived from the I-O transactions model, is as outlined below.

The transactions table may be represented by a series of equations as follows,

$$X_i = \sum_{j=1}^{n} x_{ij} + Y_i \tag{1}$$

where:

X_i = total output of sector i (row totals);

x_{ij} = output of sector i purchased by sector j (elements of the intermediate quadrant);

Y_i = total final demand for the output of sector i.

It is possible, by dividing the elements of the columns of the transactions table by the respective column totals to derive coefficients, which represent more clearly the purchasing pattern of each sector. These coefficients, termed 'direct' or 'I-O' coefficients, are normally denoted as a_{ij}, and represent the direct or first round requirements from the output of each sector following an increase in output of any sector. In equation terms the model becomes:

$$X_i = \sum_{j=1}^{n} a_{ij} X_j + Y_i \qquad i = 1,...,n \tag{2}$$

where a_{ij} represents the direct coefficient and is equal to X_{ij}/X_j. This may be represented as follows,

$$X = AX + Y, \tag{3}$$

where $A = [a_{ij}]$ is the matrix of direct coefficients. The previous equation can be extended to $Y = (I - A)X$ where $(I-A)$ is termed the Leontief matrix, or

$$X = (I - A)^{-1} Y, \tag{4}$$

where $(I-A)^{-1}$ is termed the 'general solution', the 'Leontief inverse' or simply the inverse of the open model. The general solution is often represented by: $B = (I - A)^{-1} = [b_{ij}]$.

According to the input – output related theory, the final demand $(Y = C + G + I + (E - M))$ is the main factor that affects production. The final demand decides the total output (Eq. 4), the total output would affect the structure of the added economic value in turn, that is GDP.

Based on the Leotief matrix, we can calculate the effect of demand on output X and the value added is calculated as follows:

Impact of final domestic demand on output

$$X : \sum (I - A)^{-1} Y / \sum Y . \tag{5}$$

Impact of final domestic demand on value added is also as follows,

$$\sum v (I - A)^{-1} Y / \sum Y , \tag{6}$$

where: $v = [V_j / X_j]$, V_j represents the value added of the sector j, X_j denotes the total output of sector j (column totals). In the economic activities, there are many extensive, complexes and closely technology economic link among industries, these linkages are call industrial ties. Guo and Hewings (2001) argued that increased backward linkage will generate greater demand for inputs by other industry and increased forward linkages will lead to the changes in output sensitivity in other sectors. Thus, we can use those indicators for analyzing the indirect impact of cultural industry on economic growth.

The backward linkage (BL) and forward linkage (FL) are defined as follows:

Backward linkage: $B_j = \sum B_{ij}$. $\tag{7}$

It refers to the expansion of an industry when using other industry products as inputs.

Forward linkage: $B_i = \sum B_{ij}$. $\tag{8}$

It indicates the level of production depending on input from other sectors.

Accordingly, the power of dispersion index and the sensitivity for dispersion of each sector are determined as below:

Power of dispersion index: $P_j = B_j [N / T]$ $\tag{9}$

The higher the ratio, the greater the backward linkage of that industry and when that industry grows rapidly, it will lead to rapid growth of all supply sectors (products, services) of the whole system.

Sensitivity for dispersion index: $S_i = B_i (N / T)$ $\tag{10}$

The higher the ratio, the greater the forward linkage of that industry and the relative necessity of that industry to the remaining sectors. In which we have $T = \sum \sum B_{ij}$.

3. Results and Discussion

Vietnam has a diverse, rich and unique culture represented by traditional culture (heritage, relics, festivals, traditional handicrafts, traditional arts) and contemporary cultural values (museums, contemporary art performance centers, new art forms) are great potential for facilitating the development of cultural industries. In addition, thanks to the right policy of economic and cultural development, in the recent years, especially after the policy of socialization of cultural activities, different economic sectors have been involved for the development of various fields of cultural industries, such as film, music, fashion, performing arts, such as audiovisual firms, entertainment, craft production, fine arts, and craft villages.

Table 1 illustrates that the scale of the cultural sector in Vietnam has nearly doubled in size over the four-year time period 2012 – 2016, and more than four time for ten year from 2007 – 2016. However, the sector has only marginally increased its share of total GDP as the economy as a whole has experienced strong growth over the period in question (the share of cultural industry's value added to GDP is 1.25% and 1.51% for the year 2012, 2016 respectively). The size of individual categories of activity that makes up definition of culture industries is differently. Advertising and market research services are the largest categories of activity and they account 0.66% of GDP and about 44% of total value added of Vietnam's cultural industries; sports and entertainment services, service sector for printing and copying items and broadcasting services are high value-added activities among cultural activities. Although the value of top activities is small, most of them are creative activities which are considered as the modern feature of culture industries. However, the other activities which are exploited traditional cultural value are very small in both value and share of GDP. This shows that, in practice, the cultural industries in Vietnam are still under-developed with potential and it is still less developed than other countries in the region with similar backgrounds such as China, Korea. In the world, Vietnam's cultural industries is at an early stage of development.

Table 1
Value added of cultural industries in Vietnam (*Unit: million dong, %*)

	2012		2016	
	Value added	Rate of value added/ GDP	Value added	Rate of value added/ GDP
+ Service sector for printing and copying items	6,761,137	0.21	7,999,899	0.18
+ Published products	2,529,139	0.08	3,355,674	0.07
+ Film service, television program production, sound recording and music publishing	1,616,173	0.05	2,363,479	0.05
+ Broadcasting services	3,298,366	0.10	6,381,990	0.14
+ Advertising and market research services	11,426,133	0.35	29,804,658	0.66
+ Services of travel agents, tour business and support services, related to the promotion	5,495,739	0.17	6,268,869	0.14
+ Creative, art and entertainment services	1,109,389	0.03	1,301,235	0.03
+ Services of libraries, archives, museums and other cultural activities	924,353	0.03	1,143,361	0.03
+ Sports and entertainment services	7,577,639	0.23	9,199,930	0.20
Total value added of cultural industry	**40,738,068**	**1.25**	**67,819,095**	**1.51**
GDP	**3,267,536,079**	**100.00**	**4,502,724,353**	**100**

3.1. The cultural industry's contribution to economic growth

Base on the approach presented above, the impact of final demand of cultural industry to the valued added of Vietnam is in Table 2.

Table 2
The impact of final demand of all sectors to value added of Vietnam (*Unit: million dong*)

Sectors	2012 induced final demand value	2012 VA induced by a unit increase of final demand	2016 induced final demand value	2016 VA induced by a unit increase of final demand
Agriculture	488,342,556	0.15	716,004,181	0.16
Industry	1,440,730,244	0.44	2,046,274,324	0.45
Services	1,297,725,211	0.40	1,672,626,752	0.37
Culture	40,738,068	0.01	67,819,095	0.02

As input – output tables are for the period of years, therefore, the relationship between economic growth and the final demand of sectors is calculated by the formula of $T_i = Z \times (G_{i0} / GDP_0); Z = (G_{it} / G_{i0})^{1/n} - 1$, where T_i is the contribution of final demand for the i sector value added induced by value's growth to growth of *GDP* for the period; GDP_o is the GDP of base year (here is GDP for the year 2012 input – output table); z is the average annual growth rate of final demand value added induced for each sector (this only 4 years of economic growth projected average annual growth rate due to input output table from 2012 -

2016). Table 2 shows that cultural industry in Vietnam is still not as an important sector since the value-added (VA) induced impact of a unit increase of final demand of such industry is relatively small in comparison with other sectors. However, while the VA induced by a unit increase of final demand of other sectors are stable from 2012 to 2016, the VA induced by a unit increase of final demand of culture industry has increased for two times for the four year period. The relationship between the final demand and economic growth is shown in Table 3.

Table 3
Induced final demand of each product sector's contribution to economic growth

Sectors	Final demand induced average growth (Z)	Contribution of induced final demand to economic growth
Agriculture	10.0%	17.98%
Industry	9.1%	48.43%
Services	6.6%	31.17%
Culture	13.6%	2.03%
The whole economy	*8.35%*	*100%*

As shown in Table 3, although the contribution to economic growth of value-added induced of industry and services sectors were much larger than the cultural industry, the average growth rate of cultural industry final demand induced of Vietnam was the highest among all sectors. In addition, Table 2 illustrates that the main contribution to economic growth in Vietnam during the last period is still industry sector. Therefore, beside continuously developed industry sector, we should develop the culture industry vigorously, to promote steady and rapid economic growth.

3.2. The cultural industry's contribution to growth of other sectors

The results of power of dispersion index and sensitivity for dispersion indexes is illustrated in Table 4 below:

Table 4
Power of dispersion and sensitivity of dispersion indexes of economy

Sectors	2012				2016			
	Backward linkage	Power of dispersion index	Forward linkage	Sensitivity for dispersion index	Backward linkage	Power of dispersion index	Forward linkage	Sensitivity for dispersion index
Agriculture	2.85	**1.0208**	2.16	**0.7733**	3.57	**1.0013**	2.63	**0.7378**
Industry	3.29	**1.1792**	5.65	**2.0236**	4.13	**1.1591**	7.80	**2.1875**
Services	2.32	**0.8313**	2.07	**0.7413**	3.10	**0.8689**	2.43	**0.6815**
Culture	2.70	**0.9688**	1.29	**0.4618**	3.46	**0.9707**	1.40	**0.3932**

Data in Table 4 show that the cultural industry's sensitive for dispersion index is relatively small in comparison with other sectors, indicating that the cultural industry is relative stable, and it is not easily influenced by the role because of the changes in other industries. On the other hand, the influence of cultural industry as the stimulate for other groups of industries of the economy is high and tends to increase for the period 2012-2016, and for the 2016, the power of dispersion is nearly equal to 1 which satisfies the requirements as important sector to the economy. Clearly, the industry sector in Vietnam is the important sector in all aspects of contribution to economic growth, it is consistent with the characteristics of a country that is in the process of completing its industrialization process. This suggests that Vietnam should enhance capacity to produce input for industry industries and likewise the industry industries should be further developed to meet demand of other industries. By doing so, the improved dispersion power and sensitivity index would strengthen the inter-sectoral linkages, thus creating a strong impetus for country's economic development.

4. Conclusion

The analysis of the relationship between cultural industry and economic growth shows that although the contribution of cultural products consumes to GDP is less than other sectors, the growth of induced cultural consumption is quite high.

The power of dispersion index of cultural industry in both 2012 and 2016 is quite high and nearly equal to 1, i.e. this special service product, culture, also promotes the development of the related industries, which in turn stimulates the next part of industry sector and so continues to spread and promotes economic growth in general.

The demand for cultural services is an important component of demand for services. The same holds with other service needs, where there is a demand for cultural products, it will attract the investment community and cultural services, such as social organizations and units of cultural products and their related industries, production and investment. The community through investment for the cultural industries led to the development of related industries, and promoted the development of associated industries and ultimately could influence the entire economy to grow significantly.

Consumption of cultural industry contributes to economic growth cannot be ignored and the culture's role in promoting the development of other industries is obvious. Therefore, to stimulate economic growth in Vietnam, we need to have some policies to promote the development of the cultural industry as below:

(i) It is necessary to change the perception that the cultural sector was a non-manufacturing industry and the cultural market has problems. The market has an indispensable link of the cultural industry. For developing the cultural industry as an economic sector, there are many differences with the development of culture during the war. Businesses and entrepreneurs play an important role in this industry.

(ii) It is a copyright issue. Cultural industry is an economic sector, cultural firms operating under the process of producing, exploiting, distributing and consuming cultural values should be protected by the Intellectual Property Law and Copyright Law. It must be affirmed that cultural industry would not exist if copyright infringement were serious. Therefore, propaganda and dissemination of legal education, raising awareness of the enforcement of copyright laws and related rights in the whole society is one of the most important tasks of conservation of copyright and related rights.

Acknowledgement

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