Resilience and sustainability of creative industries businesses

Helena Majdúchová1,* and Daniela Rybárová1

1University of Economics in Bratislava, Faculty of Business Management, Bratislava, Slovak Republic

Abstract. The importance of the creative economy for the development of society not only from an economic but also from a social and cultural point of view has been the subject of numerous scientific and professional studies. The connecting link between them is the observation that creativity has been considered in recent years as a new type of competitive advantage. As a generator of added value for all businesses, the creative industries have unlimited growth potential and are thus seen as a route to sustainable development. One of the problems of the creative industry is to obtain resources for business development. This paper examines the financial structure of selected areas of the creative industries in the Slovak Republic, using mean values for 2016-2019, correlation and regression analysis of financial data in 2019 (before the negative impact of COVID-19). The findings point to the absence of credit sources, which confirms the fact that these businesses are perceived as risky and unstable by banks and financial institutions in the Slovak Republic.

1 Introduction

The cultural and creative industries have an important role to play in the creative economy. The importance of the creative economy for the development of society not only from an economic but also from a social and cultural point of view has been the subject of numerous scientific and professional studies. The connecting link between them is the observation that creativity has been considered in recent years as a new type of competitive advantage. It is becoming the basis of a new direction, a new economic paradigm - the creative economy. This concept is considered to be a relatively new direction in theories of socio-economic development, which draws attention to the importance of human creativity in development. The creative economy is one of the fastest developing sectors in the global economy, providing income growth, new jobs and export earnings. In addition to the economic benefits of the cultural and creative industries, the creative economy contributes to addressing sustainable urban development issues as well as the 2030 Agenda [1]. Awareness of the potential of creativity and its proper management [2] is a value-added generator for all enterprises.

The debate around 'cultural value' has become increasingly central to policy debates on arts and creative industries policy over the past ten years and has mostly focused on the

* Corresponding author: helena.majduchova@euba.sk

© The Authors, published by EDP Sciences. This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (http://creativecommons.org/licenses/by/4.0/).
articulation and measurement of 'economic value', at the expense of other forms of value-cultural, social, aesthetic [3]. There is wide consensus regarding the capacity of the creative economy as a factor in economic development and sustainability in regions in the medium term, and it is an issue that has aroused interest in measuring the creative potential of areas by estimating composite indicators [4]. Autor Lishuan and Yanli [5] shows that evaluation of cultural and creative enterprises should cover two parts: economic benefit and social benefit. Hence, the benefits of the cultural and creative industries are demonstrated not only in generating more value for the region’s economy but also in creating social value, such characteristics of cultural and creative industries as brand demonstration effect, social morality drive effect, education effect and social capital. Douvon [6] points out in her qualitative study on the characteristics, representation of creative and cultural entrepreneurship in a developing country like Mali the influence impact in the global economy of the country. Salder [7] proposes the Arts-based Creative Industries (ABCI) supplement resource limitations and demands for creative intensity through networks; techniques used by ABCI could be of value more widely to SMEs in an increasingly network-based economy. Similarly, these networks risk locking firms into unrealistic dependence on external sources of knowledge and funding which exert significant influence on business development.

Creative industry represent a heterodox sector with high variation levels between firms. Pressure has been placed on creative industries to adopt business practices that maximize growth and contribute to national economic objectives. However, it is important to recognize that this is a sector based on creative intensity and project-based systems. Given the prevalence of small businesses in the creative industries, many entrepreneurs find it difficult to finance creative projects due to limited access to banks or venture capital. Bedendo et al. [8] document significant differences in the financing structures of small firms with managers of diverse cultural backgrounds. To isolate the effect of culture, they exploit cultural heterogeneity within a geographical area with shared regulations, institutions, and macroeconomic cycles. Their findings suggest significant cultural differences in the preference toward debt funding and in the use of formal and informal sources of financing (bank loans and trade credit).

The financeability of small creative industry businesses can be affected by potential differences in credit constraints and in the distribution of cultural origins across sectors, by trading partners and locations too. For the same reason, we examined the financial structure in different sectors of the creative industries.

The selection of creative industry entities according to SK NACE† was carried out in accordance with the approaches of qualification of creative industry enterprises presented in our previous research papers [9]. The set of surveyed enterprises was divided into three thematic areas:

- **Professional, Scientific and Technical Activities.** This area includes architectural and engineering activities, design activities, photographic activities, and advertising and market research. This class covers a wide range of services that are most commonly provided to commercial clients. It includes those activities which require a higher level of professional, scientific and technical expertise, but does not include ongoing, routine business services which are mostly of a short-term nature. In terms of SK NACE Rev. 2, this is section 'M' and divisions 69-75.

- **Information and communication.** The information and communication sector includes enterprises engaged in publishing, film production, video and television

---

† SK NACE Rev. 2 is fully compatible with the European classification NACE Revision 2, which is laid down for the countries of the European Community by Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006.
programme production, preparation and publication of sound recordings, radio and television broadcasting, telecommunications, computer programming, consultancy and related services. It is an activity that deals with a wide range of copyright content (information products) and the creation of that content which is made available to the general public by engaging in (or preparing for) the reproduction and distribution of that content in various forms. In terms of the SK NACE, these are section 'M' and divisions 69-75, and also section 'J' and divisions 59-63.

- **Arts, entertainment and recreation.** This industry comprises the operation of establishments and the provision of services to satisfy the interests of customers in the fields of culture and entertainment. It includes the production, promotion, and participation in live performances, events, or exhibitions intended for the public; the provision of artistic, creative, and technical expertise to produce artistic products and live performances. Also included are the activities of libraries and archives; the operation of museums, botanical and zoological gardens. For the sake of completeness, it should be added that some entities providing cultural, entertainment and recreational facilities and services are classified in other divisions, such as: film and video production and distribution, (59.11, 59.12, 59.13), film exhibition (59.14), radio and television broadcasting, (60.1, 60.2). Within the meaning of SK NACE Rev. 2, this is section 'R' and divisions 90-93.

### 2 Methods

In this paper we used the analysis of means and the method of regression and correlation analysis.

The source of data for our mean value analyses are the financial statements of creative industry entities for the years 2016-2019, which are aggregated into the so-called mean values of financial indicators of economic activities in the Slovak Republic, which are published by the Slovak Credit Bureau, s.r.o. as its eponymous publication [10]. The median values of financial indicators are divided into four quartiles with values located at the level of the lower quartile (DK), the median (Me) as the mean value of a series of values arranged according to size, and the upper quartile (HK).

Within the structure of financial ratios, we focused on the ratios that determine the financial structure of the creative industry enterprises namely: total debt to total assets ratio, credit debt assets. Total debt to total assets ratio tells about the share of foreign resources (both interest-bearing and non-interest-bearing) in financing the needs of the enterprise. The credit leverage ratio indicates the extent to which the enterprise's needs are financed by interest-only sources (e.g. bank loans, short-term financial loans, etc.). We have also included the return on equity ratio (ROE) in the set of assessed indicators, which indicates the level of financial performance of the enterprise. The indicator is mainly monitored by the owners of the enterprise and demonstrates the appreciation of the capital invested by them. Its amount depends not only on the size of the profit generated, but also on the size of own resources.

Further, the method of regression and correlation analysis was used to know and mathematically describe the statistical dependence between quantitative statistical features for the selected group of economic activities. Regression analysis is used to capture the nature of correlation dependence and correlation analysis is used to measure the tightness of correlation dependence. The object of the regression and correlation analysis were enterprises of the group 90.0 Creative, artistic and entertainment activities, belonging to the division 90 Creative, artistic and entertainment activities, according to SK NACE. The database of economic results of Slovak companies of FinStat, s.r.o. [11] was used for the analysis.
3 Results

In the following subsections we present the results of the analysis of means for the selected creative industries and the results of the regression and correlation analysis for one of the selected industries, i.e. the group of the group 90.0 Creative, artistic and entertainment activities.

3.1 Analysis of means

The mean values of financial indicators of economic activities in the Slovak Republic (Credit Bureau, s.r.o.) are processed in the following table for selected sectors of the creative industries according to SK NACE 71, 74, 73, 58, 59, 60,90 and 91.

Table 1. Setting Word’s margins

| Business entities | Architectural and engineering activities -71 | Specialised design activities -74.1 | Photographic activities -74.2 |
|-------------------|---------------------------------------------|-----------------------------------|-------------------------------|
| DK                | 15,74                                       | 14,96                             | 12,75                         |
| Me                | 44,46                                       | 41,87                             | 39,86                         |
| HK                | 83,08                                       | 78,86                             | 76,72                         |
| Credit debt to assets ratio (%) | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 |
| ROE (%)           | 32,31                                       | 28,85                             | 95,61                         |
| Advertising and market research -73 | 860 | 896 | 676 |
| Publishing activities -58 | 804 | 942 | 1023 |
| Motion picture, video and television programme product, ... -59 | 762 |
| TVP               | 17,99                                       | 14,25                             | 10,96                         |
| Me                | 57,84                                       | 51,74                             | 49,94                         |
| HK                | 95,61                                       | 93,41                             | 91,88                         |
| Credit debt to assets ratio (%) | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 |
| ROE (%)           | -28,85                                      | -21,46                            | -9,06                         |
| Programming and broadcasting activities -60 | 558 | 721 | 676 |
| Creative, arts and entertainment activities -90 | 58 | 64 | 47 |
| Libraries, archives, museums and other cult. activities -91 | 58 | 64 | 47 |
| DK                | 12,75                                       | 10,16                             | 10,05                         |
| Me                | 57,84                                       | 51,74                             | 49,94                         |
| HK                | 95,61                                       | 93,41                             | 91,88                         |
| Credit debt to assets ratio (%) | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 |
| ROE (%)           | -28,85                                      | -21,46                            | -9,06                         |
| TVP               | 17,99                                       | 14,25                             | 10,96                         |
| Me                | 57,84                                       | 51,74                             | 49,94                         |
| HK                | 95,61                                       | 93,41                             | 91,88                         |
| Credit debt to assets ratio (%) | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 | 0,00, 0,00, 0,00, 0,00 |
| ROE (%)           | -28,85                                      | -21,46                            | -9,06                         |

Source: Own processing according to mean values of financial indicators of economic activities in the Slovak Republic, which are published by the Slovak Credit Bureau, s.r.o.
Total debt to assets ratio across the set of thematic areas under review showed a declining trend in virtually all quartiles. For example, while in 2016 the median for Professional, Scientific and Technical Activities was approximately 44.46% to 68.83%, in 2019 it ranged from 35.04% to 45.51%. The highest indebtedness of assets was reported by the Libraries, archives, museums and other cultural activities sector. In this sector, the ratios in the upper quartile were above 100%, which means that the amount of foreign funds was higher than the amount of assets, indicating the over-extension of the enterprise, i.e. negative equity. The situation was similar in the Programming and broadcasting activities. By the nature of their activities, these two sectors are partly public utilities and partly owned by municipalities, towns or the State. The other, much more significant part is made up of privately owned entities, such as private radio and television stations and private archives.

Credit debt to assets ratio in the assessed set of thematic areas and over the whole analysis period shows zero values. This means that the enterprises in the analysis set do not operate with interest-bearing capital. This may indicate the fact that, given the size of these entities and the size of their assets and revenues, they do not have the possibility to obtain interest-bearing, especially long-term, bank funding. The size of their assets limits their ability to secure loans, while the ability to hold components of their assets that can serve as collateral has an impact primarily on long-term interest-bearing resources. Thus, the zero share of interest-bearing resources in the financial structure of enterprises is also an indication of the structure of the assets at their disposal. It can therefore be assumed that creative industry enterprises have a higher proportion of current assets than non-current assets. On the one hand, this increases their independence and autonomy; on the other hand, the limitations of their own resources may be a barrier to their growth. At the same time, these enterprises do not achieve the leverage effect of the tax shield.

The return on equity (ROE) showed a variation. In the assessed thematic set, for the whole period analysed, enterprises in the bottom quartile achieved a negative return on equity. This means that these enterprises had either negative equity or a negative economic result. For the entities classified in the Programming and broadcasting activities and Libraries, archives, museums and other cultural activities, the negative return on equity values correspond to the total indebtedness of assets indicator, i.e. these enterprises had negative equity. In other areas, negative ROE values in the bottom quartile are due to negative economic performance. In the upper quartile, where the best performers in the set are located, the highest return on equity was achieved by the enterprises classified in the Programming and broadcasting activities, but with a decreasing trend. Comparable values were also achieved by enterprises in Libraries, archives, museums and other cultural activities. Other areas of the creative industries had relatively balanced ROE ratios, e.g. in 2019 they ranged from 25.7%-32.59%.

It can be concluded that the financial statements in all areas follow a similar pattern. This is also the case for both the asset structure and the financial structure, which may be due to the fact that the creative industry is a people-based industry and not an asset-based industry. It may also be a reflection of external environmental influences on micro and small enterprises within the creative industries.

### 3.2 Regression and correlation analysis

The correlation analysis revealed the existence of a direct correlation between the variables EAT, EBITDA, Equity, Liabilities, Sales and Assets. As the values of one variable increase, the values of the other variable increase. The strongest correlation was observed between Sales and Liabilities, Assets and Liabilities, Assets and Sales.
Table 2. Results of correlation analysis

|        | EAT    | EBITDA | Equity | Liabilities | Sales | Assets |
|--------|--------|--------|--------|-------------|-------|--------|
| EAT    | 1      |        |        |             |       |        |
| EBITDA | 0,8945 | 1      |        |             |       |        |
| Equity | 0,5789 | 0,8098 | 1      |             |       |        |
| Liabilities | 0,5321 | 0,7711 | 0,7821 | 1       |       |        |
| Sales  | 0,6024 | 0,8377 | 0,8238 | 0,9438 | 1     |        |
| Assets | 0,5902 | 0,8387 | 0,9529 | 0,9343 | 0,9308 | 1      |

The aim of the regression analysis was to estimate the functional relationship between the variables and to estimate the parameters of the regression function. Simple regression was used to describe the relationship.

The null hypotheses that are tested in this analysis relate to the significance of the location constant and the regression coefficient, with the null hypothesis asserting the insignificance of the coefficient in question and the alternative hypothesis asserting its significance. P-values are used to evaluate these claims. The table shows the functional relationships for pairs of variables for which the P-values are statistically significant.

Table 3. Results of regression analysis

| Indicators | Regression function | Adjusted R Square | P-value |
|------------|---------------------|-------------------|---------|
| y = Assets x = EBITDA | y = 4,6132x + 20406 | R² = 0.7035 | Intercept = 0,0089 EBITDA = 7,8E-213 |
| y = Assets x = Liabilities | y = 1,9192x + 16132 | R² = 0.8729 | Intercept = 0,00157 Liabilities = 0 |
| y = Sales x = Liabilities | y = 2,203x + 16648 | R² = 0.8908 | Intercept = 0,00195 Liabilities = 0 |
| y = Sales x = EAT | y = 6,5751x + 52200 | R² = 0.3628 | Intercept = 5,56E-05 EAT = 3,66E-80 |
| y = Equity x = Liabilities | y = 0,9192x + 16132 | R² = 0.6116 | Intercept = 0,001568 Liabilities = 4,6E-166 |
| y = Equity x = Sales | y = 0,4148x + 9422,7 | R² = 0.6786 | Intercept = 0,04301 Sales = 6,7E-199 |

For other combinations of variables, the chosen models were not appropriate. According to Adjusted R-squared, which also takes into account the number of estimated parameters and the number of measurements, a high degree of tightness is achieved by the relationship between Sales and Liabilities, as well as between Assets and Liabilities. In both cases, the growth of Sales is affected by the growth of Liabilities.

### 3.3 Suggestions and recommendations

Based on our analysis, it can be concluded that most creative industry businesses operate with short-term, non-interest-bearing capital. This fact practically excludes the possibility of long-term financial planning. This means that these enterprises operate in an unstable financial environment and work with short-term financial plans, but this is also partly due to the nature of their activity (many enterprises have a very short life cycle, e.g. film production). The capital structure is also affected by the use of intellectual property rights. These enterprises are dependent on intangible assets. They work with copyrights, licences, trademarks, but these are not reflected in the assets, despite the fact that without their active exploitation these enterprises often cannot operate at all. Consequently, the value of their assets is lower and the accounting structure of their assets does not include those assets that...
can serve as hedging instruments. It would be possible to value these assets at their fair value, but here we are faced with the problem of the variability of the value of these assets, the relatively short life cycle of many businesses (e.g. film production), the relatively high costs of registering intellectual property rights and also the tendency to value these rights, e.g. by means of an expert valuation.

Banks are thus unable to recognise the true economic value of these assets and, as a result, the possibilities for creative industries to obtain bank loans are very limited. Creative industries are thus dependent on self-financing, which is the most important but insufficient source of financing for their needs.

In view of the above, we are therefore formulating a proposal for measures that should contribute to improving the financial situation of creative industry enterprises.

1. Motivate the banking sector to set up financing programmes for creative industries. An example is the bridging loans prepared by Slovak Investment Holding in cooperation with BKS Bank, Všeobecná úverová banka, Slovenská sporiteľňa and UniCredit Bank. The purpose of these bridging loans was to help entrepreneurs whose operations had been affected by a pandemic or quarantine measures. However, these are rather one-off measures which will not solve the problems of creative industry enterprises in the long term. The solution could be the real launch of a so-called guarantee mechanism under the Creative Europe programme, as proposed by the European Parliament in its Report on a coherent EU policy for the cultural and creative industries. It is also important to broaden the range of financial instruments available to businesses in the creative industries, such as micro-credits, repayable grants and contributions, venture capital funding, various models of collective financing and the creation of public-private partnerships. The EFSI should focus on financing projects with a higher risk profile as a priority, rather than financing projects that are normally viable through bank loans.

2. The creative industries are mainly funded by public subsidies and grants. The amount of these depends on their focus and on the individual regions. The main source of funding is the European Structural and Investment Funds. There are many instruments to support the creative and cultural industries, an overview of which can be found on the websites of the relevant line ministries and the Government Office.

The cultural and creative industries are supported by a number of grants. Regular calls are launched to support entrepreneurship in these sectors. The following areas are supported by grants:
- Creative vouchers,
- Worth-partnerships,
- Integrated Regional Operational Programme,
- Creative Europe 2014-2020,
- Creative Europe - Creative Europe 2020, Creative Europe 2020, Creative Europe 2020, Creative Europe 2020, Creative Europe 2020, Creative Europe 2020,
- Audiovisual Fund.

3. It is clear that public sector subsidies can help with start-up and funding for creative industries businesses, often being more accessible to key cultural sectors than to the cultural and creative industries as a whole. In addition, the views of CCI representatives (presented at various academic workshops and seminars) suggest that public initiatives are not able to meet the expectations and needs of CCI entrepreneurs because they are difficult to understand, often remote from the territory in which the company operates, administratively demanding and do not necessarily represent long-term financial support.

The European Parliament also stresses the idea of tax exemptions and the use of tax credits (lower VAT rates and other tax incentives for both online and offline creative services and labour-intensive products). It points to successful projects that have been
implemented in this area in some Member States. Tax breaks should not only be targeted at businesses, but also, for example, at the taxation of labour, which affects the mobility of artists between countries.

4 Discussion

Perhaps the biggest obstacle facing entrepreneurs and businesses in the creative industries is getting enough funding to finance their needs. The lack of finance for the creative industries has been exacerbated by the pandemic crisis of COVID-19. Many scientific articles are currently devoted to this topic. Eikhof [12] demonstrates how considering the cultural economy’s typical business models and resultant work and employment practices allows understanding that the inclusion and diversity impacts of the COVID-19 pandemic will be driven by more than workers’ differing abilities to buffer short-term income insecurity. Betzler et al. [13] highlight that early policy measures have been developed against the backdrop of a complex interplay of public policy priorities over the last years. In these priorities the intensity of state involvement, the economic situation before the pandemic and the propensity of self-employment in society are key to understanding the adoption of specific policy measures across countries.

The uneven impact of Covid-19, coupled with the various government measures in place, will very likely result in a widening of existing inequalities, which is more worrying in the long term because of the diversity and inclusiveness of the sector.

The resilience of the creative economy as an important sector of the national economy should not only be ensured in the short term. Securing the long term requires critical reflection on business models and the inner workings of the sector, and perhaps a move away from discussions of economic growth to new agendas for creative social economies [14] and environmental economies [15, 16].

Acknowledgment

This paper is an output of the science project VEGA č 1/0340/19 “The Entrepreneurial Dimension of the Creative Industries in the Context of Innovation and Smart Growth” - project share is 50% and project VEGA č. 1/0708/20 „Socio-economic determinants of sustainable consumption and production in terms of impact on performance and competitiveness of enterprises” - project share is 50%;

References

1. D. Streimikiane, T. Kacerauskas, The creative economy and sustainable development: The Baltic states. Sustainable development 28, 6 (2020) DOI: 10.1002/sd.2111
2. J. Zhou, X.M. Wang, D. Bavato, S. Tasselli, J. Wu, Understanding the Receiving Side of Creativity: A Multidisciplinary Review and Implications for Management Research. Journal of Management 45, 6, 2570-2595 (2019)
3. E. Belfiore, Whose cultural value? Representation, power and creative industries. International journal of cultural policy 26, 3, 383-397 (2020) DOI: 10.1080/10286632.2018.1495713
4. M.I. Boal-San, L.C. Herrero-Prieto, Reliability of creative composite indicators with territorial specification in the EU. Sustainability 12, 8 (2020) DOI: 10.3390/su12083070
5. Q. Lishuan, G. Yanli, An Exploratory Study on Benefit Evaluation of Cultural Creative Enterprises. International Journal of Economics, Finance and Management Sciences, 8, 6, 214-218 (2020) DOI: 10.11648/j.ijefm.20200806.11
6. R. Douvon, The characteristics of cultural and creative entrepreneurship the Malian context. *Revue internationale PME* 33, 3-4, 81-103 (2020)

7. J. Salder, The creative business: enterprise development in the arts-based creative industries. *Creative Industries Journal* 14, 1, 63-80 (2021) DOI: 10.1080/17510694.2020.1789414

8. M. Bedendo, E. Garcia-Appendini, L. Siming, Cultural Preferences and Firm Financing Choices. *Journal of Financial and Quantitative Analysis* 55, 3, 897-930 (2020) DOI: 10.1017/S0022109019000103

9. S. Šagátová, Development of Cultural and Creative Industry in EU Countries. *Proceedings of Scientific Papers*, 539-544 (2019) ISBN 978-80-225-4680-5

10. CRIF – Slovak Credit Bureau, *Stredné hodnoty finančných ukazovateľov ekonomických činností v Slovenskej republike za rok 2019*. (CRIF, Bratislava, 2020) ISBN 978-80-971109-8-7

11. FinStat, s.r.o., Company database with financial data [online]. Available at: https://finstat.sk/databaza-financnych-udajov

12. D. R. Eikhof, COVID-19, inclusion and workforce diversity in the cultural economy: What now, what next? *Cultural Trends* 29, 3, 234-250 (2020) DOI: 10.1080/09548963.2020.1802202

13. D. Betzler, E. Loots, M. Prokupek, L. Marques, P. Grafenauer, COVID-19 and the arts and cultural sectors: investigating countries’ contextual factors and early policy measures. *International journal of cultural policy* Early Access (2020) DOI: 10.1080/10286632.2020.1842383

14. R. Comunian, L. England, Creative and cultural work without filters: Covid-19 and exposed precarity in the creative economy. *Cultural Trends* 29, 2, 112-128 (2020) DOI: 10.1080/09548963.2020.1770577

15. I. Kufelová, N. Grisáková, P. Štetka, *Hodnotový rozmer ekoinovačnej stratégie podniku* (VŠERS, České Budejovice, 2020) ISBN 978-80-225-4656-0

16. R. Lacko, P. Markovič, S. Šagátová, Z. Hajduová, Evaluation and Development of Environmental and Health Efficiency: Case of V4 Countries. *Ekonomický časopis* 68, 10, 1040-1056 (2020)