THE ROLE OF COUNTRY BRAND IN PROVIDING ECONOMIC RESILIENCE

Abstract. The paper summarised arguments and counterarguments on analysis of economic resilience. The bibliometric analysis on economic resilience using the software VOSviewer allowed identifying the four core scientific schools: R. Martin (University of Cambridge, Cambridge, United Kingdom); A. Rose University of Southern California, Los Angeles, United States; C.S. Holling, H. Wolman (The George Washington University, Washington, D.C., United States); I. Briguglio (L-Università ta’ Malta, Msida, Malta). The generalisation of the scientific papers and approaches on solving issues mentioned above proved that the core indicators of economic resilience assessment were macroeconomic stability; microeconomic market efficiency; good governance; social development. The paper aimed at the analysis of the marketing determinants impact on the economic vulnerability of the country. The hypothesis of the paper was no statistically significant difference in the level of economic vulnerability for countries that implement effective branding policies and do not take appropriate actions. The study checked hypothesis using the methods and instruments as follows: for the normal distribution of the statistical data – the Shapiro-Wilk test; verification of the equality of dispersion in the statistical data using the Levine’s test; parametric (One-way ANOVA; F-test) or non-parametric test (Kruskal-Wallis rank test). The object of the investigation was European Union countries which were classified on the six groups by the experts of the FutureBrand rating. The empirical data confirmed the hypothesis mentioned above. Thus, the findings proved no statistically significant difference between the leading indicators of the level of economic vulnerability according to the essential component – macroeconomic stability, which was estimated using indicators: General government deficit (-) and surplus (+) - annual data; unemployment rate.

Keywords: brand, government deficit, government surplus, unemployment rate, ANOVA.

Introduction. Economic resilience means stable economic functioning and developing. At the same time, the providing of economic resilience depends on the effect of the deferent parameters in time and place. What parameters could be classified as follows: internal and external. The globalization and integration process, the attractiveness of the investors provoke the growing of recourses inequality and as a consequence in providing of the Economic resilience (Rekunenko et al., 2019; Boiko et al., 2019). The most significant impact on macroeconomic had the internal factors as follows: Level of the economic development and dynamic; economic and fiscal balance; inequality of the income and assets; corruption and features of the social and economic policies (Vasylieva et al., 2017; Bilan et al., 2019a; Bilan et al., 2019b; Ibragimov, 2019). At the same time, strengthening of the competitiveness at the resource market provokes to have the own non-repeatable image by each country (Shvindina, 2019). In this case, one of the key goals was to develop a positive international image by the country. It leads to increasing life quality and strengthening the relationship in the global market.

Literature Review. In Scopus, the first papers which focused on the investigations of the «economic resilience» were published Van De Klundert (1986) and Herring (1986). Herring (1986) analysed economic resilience as the requirements of the Cultural differences among the Kickapoo Indians of the Southwest. Van De Klundert (1986) proposed to estimate of economic resilience for two-country analysis using the modified Cobb-Douglas functioning. From the beginning of 1986 years, the numbers of papers on
economic resilience had been increased (Figure 1). Thus, in 1986 the scientists published only two papers in Scopus, in the 2018 year – 77, 2019 year – 72. For 1986-2019 years the average growth of publications was 110%, and the average rate of increment – 10%.

![Figure 1. The searching result of publications on «economic resilience» in Scopus](http://mmi.fem.sumdu.edu.ua/en)

The scientific paper (Simmie & Martin, 2010) was the most cited paper in Scopus (556 citations), Google Scholar (1177 citations). That paper based on the theoretical background which focused on the regional economic stability. The authors highlighted the necessity of transformation from stable to regional development concept. It was justified by the fact «the firms, organisations and institutions that comprise regional economies are continually changing and adapting to their economic environments. These changes are increasingly driven by the creation, acquisition and commercial exploitation of new knowledge. These processes are never in equilibrium» (Simmie & Martin, 2010).

The paper Martin (2012) dealt with the analysis of regional economic resilience and occupied second place on the citation score in Scopus (536 citations). In the paper, the author paid attention to the necessity of implementing the regional economic stable development considering the changes and vulnerable external conditions. The author suggested that the primary dimension of regional economic resilience assessment were: resistance, recovery, renewal and re-orientation (realignment or adaptation) (Martin, 2012). It should highlight, that the authors underlined the necessity of merging two concepts under the understanding the definitions of «regional economic resilience»: stability and hysteresis. In this case, the hysteresis concept allowed estimating of the shocks' impact on economic development.

Rose and Liao (2005) in the empirical investigation, estimated the stability of regional development and the impact of earthquakes and other disasters using the principle of general equilibrium modelling. In this case, the author used the general principals of the main postulates of the production theory. This paper gad 369 citations in Scopus.

The analysis of the papers in Scopus showed that the considerable background on the theme mentioned above had the authors as follows (1986-2019): Adam Z. Rose (University of Southern California, Los Angeles, United States ) – 16, Gillian Bristow (Cardiff University, Cardiff, United Kingdom) – 8, Adrian Healy (Cardiff University, Cardiff, United Kingdom) – 8, Gian Paolo Cimellaro (Politecnico di Torino, Turin, Italy) – 5 (Figure 2). That findings correlate with the highest numbers of published papers with the authors' affiliations: University of Southern California – 14, Cardiff University – 12, The Ohio State University – 10, University of Cambridge – 10.
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Figure 2. The searching findings of publications on «economic resilience» by author and affiliation in Scopus

Source: developed by the authors

The findings allowed identifying the four clusters of scientific schools with the robust input in the investigation on economic resilience (Figure 3): 1) R. Martin (the University of Cambridge, Cambridge, United Kingdom); 2) A. Rose (University of Southern California, Los Angeles, United States); 3) C.S. Holling; 4) H. Wolman (The George Washington University, Washington, D.C., United States); 5) I. Briguglio (L-Università ta' Malta, Msida, Malta).

Figure 3. The co-citation analysis with using software VOSviewer

Source: developed by the authors

In the paper, I. Briguglio «economic resilience» analysed at the country level. Thus, in the papers (Briguglio et al., 2006; Briguglio et al., 2008; Briguglio et al., 2009; Briguglio, 2016) the authors defined economic vulnerability as «the exposure of an economy to exogenous shocks, arising out of economic openness» and «economic resilience» — «the policy-induced ability of an economy to withstand or recover from the effects of such shocks». In this case, the scientist used to estimate the economic resilience the following indicators: the fiscal deficit to GDP ratio, unemployment rate, inflation rate, the external debt to GDP ratio (value of macroeconomic stability); Economic Freedom of the World Index (explain to indicators Microeconomic market efficiency and Good governance); Human Development Index (allowed estimating Social development) (Briguglio et al., 2006; Briguglio et al., 2008; Briguglio et al., 2009; Briguglio, 2016). At the same time, in the papers (Dinnie et al., 2010; Florek, 2005; Supphellen...
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& Nygaardsvik, 2002; Diamantopoulos et al., 2011; Bivolaru et al., 2009; Supphellen & Nygaardsvik, 2002) the scientists confirmed that brand and image become the essential marketing determinants which allowed increasing of tourists, investment attractiveness, quality of life, competitiveness at the global market. In the paper (Bilan et al., 2019), the authors used Generalized Least Squares (GLS) model (formula 1) to confirm the statistical significance impact of country brand on macroeconomic stability.

\[
MS = \alpha + \beta_1 \text{MCBI} + \beta_2 \text{PDI} + \beta_3 \text{IDV} + \beta_4 \text{MAS} + \beta_5 \text{UAI} + \beta_6 \text{LTO}
\]  

(1)

where \(MS\) – macroeconomic stability; \(\text{MCBI}\) – the value of the brand; \(\text{DI}, \text{IDV}, \text{MAS}, \text{UAI}, \text{LTO}\) – social-value determinants of country’s brand; \(\beta_1 \ldots \beta_6\) – parameters of the model which should be estimated.

The paper aimed to analyse the marketing determinants on the economic vulnerability of the country. 

**Methodology and research methods.** The core hypothesis of the paper was:  

\(H_0:\) it is no statistically significant difference in the level of economic vulnerability for countries that implement effective branding policies and do not take appropriate action;  

\(H_1:\) it is a statistically significant difference in the level of economic vulnerability for countries that implement effective branding policies and do not take appropriate action.

At the first stage, the authors did the tests on normal distributions of the data using the test of Shapiro-Wilk (Razali & Wah, 2011):

\[
W = \frac{\sum_{i=1}^{n} a_i x_{(i)}^2}{\sum_{i=1}^{n} (x_i - \bar{x})^2}
\]  

(2)

where \(x_{(i)}\) – the smallest number in the sample; \(\bar{x}\) – the sample mean.

At the next stage, the equality of the dispersion in the raw data using Levine’s test (Gastwirth et al., 2009):

\[
W = \frac{(N-k) \sum_{l=1}^{k} N_l (z_l - \bar{z})^2}{(k-1) \sum_{l=1}^{k} \sum_{j=1}^{N_l} (x_{lj} - \bar{z})^2}
\]  

(3)

where \(Z\) – the mean of the group; \(k\) – the number of different groups to which the sampled cases belong; \(N_l\) – the number of cases in the \(l\)-th group.

In the end, considering the findings from the previous stage (figure 4), the authors used parametric (One-way ANOVA: F-test) or non-parametric (Kruskal-Wallis rank test) tests (Butt, 2006). 

**Figure 4. The conceptual framework of the investigation**
The object of the investigation was European Union countries. The authors used the data from company FutureBrand (2019) to estimate the efficiency of country brand promotion. The experts from FutureBrand proved that the Country Brand Index (CBI) allowed estimating the country’s place compared with the other country and identify the bottleneck of the country’s policy. It allowed developing the corresponding strategy to overcome the issues.

The results of the analysis showed that according to FutureBrand (2019) all countries were classified by six groups: the first group – the countries which occupied the 1-10 places (Austria, Denmark, Finland, Germany, Luxembourg, Sweden); 2 group – countries on 11-20 places (France, Italy, Netherlands); 3 group – countries on 21-30 (Belgium, Portugal, Spain); 4 group – countries on 21-30 (Czech Republic, Greece, Hungary, Ireland, Slovakia); 5 group – countries on 41-50 (Romania, Poland); 4 group – countries were not included in the rating (Bulgaria, Croatia, Cyprus, Estonia, Latvia, Lithuania, Malta, Slovenia).

Results. According to (Briguglio et al., 2006; Briguglio et al., 2008; Briguglio et al., 2009; Briguglio, 2016) as the main reassurance of economic vulnerability was an indicator of the macroeconomic stability using the parameters: General government deficit (-) and surplus (+) - annual data; unemployment rate. Figure 5 showed the descriptive statistics of the selected variables.

![Figure 5. The average values of the variables of economic vulnerability based on the macroeconomic stability](image)

Table 1. Shapiro-Wilk W test for standard data

| Variable | Obs | W          | V       | z       | Prob>z |
|----------|-----|------------|---------|---------|--------|
| UN       | 27  | 0.79542    | 6.014   | 3.685   | 0.00011|
| GGD      | 26  | 0.95850    | 1.187   | 0.351   | 0.36288|

Considering the findings in Table 1, the p-values under (Prob>z) only for indicators UN was smaller than 0.05, which indicates that the normality assumption was violated. At the same time, for GGD the p-values under (Prob>z) more than 0.05, which did not allow rejecting the hypothesis on the normal distribution for selected data. Tables 2 and 3 involved the findings of Levine’s test on checking the dispersion of UN and UN.
Table 2. The findings of Levine’s test on the equality of variances UN

| id | Mean   | Std. Dev.       | Freq. |
|----|--------|-----------------|-------|
| 1  | 5.3    | 1.3740451       | 6     |
| 2  | 7.3    | 3.4597687       | 3     |
| 3  | 8.6666668 | 4.7374397   | 3     |
| 4  | 6.6999999 | 6.1040966   | 5     |
| 5  | 3.6    | 4.2426417       | 2     |
| 6  | 5.4    | 1.3815106       | 8     |

Total | 6.0592593 | 3.3221007 | 27 |

W0 = 2.88175296 df(5, 21) Pr > F = 0.03912985
W50 = 0.81535342 df(5, 21) Pr > F = 0.55214084
W10 = 2.88175296 df(5, 21) Pr > F = 0.03912985

Source: developed by the authors.

For these data (table 2), the results cannot reject the null hypothesis that the variances UN are equal.

Table 3. The findings of Levine’s test on the equality of variances GGD

| id | Mean   | Std. Dev.       | Freq. |
|----|--------|-----------------|-------|
| 1  | -1.28  | 1.0034939       | 5     |
| 2  | -1.0666667 | 2.227854   | 3     |
| 3  | -1.2   | 1.1357817       | 3     |
| 4  | -1.2399999 | 1.4518953   | 5     |
| 5  | -1.6   | 1.979899        | 2     |
| 6  | -0.37500002 | 2.0049493  | 8     |

Total | -0.19615385 | 1.7592 | 26 |

W0 = 0.55002998 df(5, 20) Pr > F = 0.73650968
W50 = 0.23743331 df(5, 20) Pr > F = 0.94127919
W10 = 0.55002998 df(5, 20) Pr > F = 0.73650968

Source: developed by the authors.

The p-values of W0, W50, and W10 for GGD are higher than 0.05 and, thus, not significant. It means that there is no reason to think that the variances for all group counties are different. The obtained results Shapiro-Wilk and Levene’s tests confirmed the using of Kruskal-Wallis rank test for UN and GGD – One-way ANOVA: F-test. The results Kruskal-Wallis rank test and One-way ANOVA: F-test showed in Tables 4 and 5.

Table 4. The findings of the Kruskal-Wallis rank test for UN

| id | Obs | Rank Sum |
|----|-----|---------|
| 1  | 6   | 80.50   |
| 2  | 3   | 54.00   |
| 3  | 3   | 59.00   |
| 4  | 5   | 61.50   |
| 5  | 2   | 10.00   |
| 6  | 8   | 113.00  |

chi-squared = 5.126 with 5 d.f.
probability = 0.4007

chi-squared with ties = 5.139 with 5 d.f.
probability = 0.3992

Source: developed by the authors.
Kruskal-Wallis rank test did not confirm the statistically significant differences between six countries group on indicators UN, $\chi^2(2) = 5.139, \ p = 0.3992$.

**Table 5. The findings of One-way ANOVA: F-test for GGD**

| Source          | SS       | df | MS       | F        | Prob > F |
|-----------------|----------|----|----------|----------|----------|
| Between groups  | 20.3441989 | 5  | 4.06883978 | 1.43      | 0.2575   |
| Within groups   | 57.0254174 | 20 | 2.85127087 |           |          |
| Total           | 77.3696163 | 25 | 3.09478465 |           |          |

Bartlett's test for equal variances: $\chi^2(5) = 2.6655$  Prob>chi2 = 0.751

The results of Table 5 indicated that there was no statistically significant difference between the groups defined by one-way ANOVA ($F(2,57) = 1.43, \ p = 0.2575$). Tukey's post-test showed that the GGD level had no statistically significant difference between groups.

**Conclusions.** The findings did not confirm the statistical significance differences between core indicators of economic vulnerability relevant the macroeconomic stability. The study estimated macroeconomic stability by the indicators as follows: General government deficit (-) and surplus (+) - annual data; unemployment rate. Noted, that for the further investigations it is necessary to analyse of the all components of economic vulnerability: macroeconomic stability; microeconomic market efficiency; good governance; social development (Briguglio et al., 2006; Briguglio et al., 2008; Briguglio et al., 2009; Briguglio, 2016). Besides, the core limitation of the investigation was using the production theory on brand assessments. In this case, it is necessary to estimate base on the consumers and fiscal approaches. The consumers' approach based on a personal study of the target audience perception of the country, while the using a fiscal approach allowed avoiding that limitation and used objective secondary data to assess the impact of the country's brand on economic vulnerability.

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