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THE IMPACT OF ECONOMIC FREEDOM ON CORPORATE INSOLVENCIES IN THE EUROPEAN COUNTRIES

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Abstract

Governments constantly try to improve the macroeconomic environment for the business so that the country should attract good investment and it should grow economically. It means the policies of the government directly effects the businesses. Government policies may be designed to provide the economic freedom or it may be strict to bind the firms into different rules and regulations. However, studies have empirically confirmed that economic freedom positively leads towards firm's growth, and ultimately, to firm's stability. Moreover, studies have also found the negative correlation between economic freedom and business activity. Still, insignificant attention has been given to the correlation between economic freedom and the actual insolvency. Thus, this study will try to bridge this gap in two ways. Firstly, it will help theoretically by providing the insights into the relation between economic freedom and firms' insolvency in different economies of Europe including developing and developed economies. Secondly, it will help practically the economic policy makers to determine the influence of economic freedom on number of firms' insolvency

Key words**:** *corporate insolvencies, economic freedom, developing and developed economies, bankruptcy*

INTRODUCTION

In most European countries, the economy has evolved insignificant in recent years. In particular, business has been affected by trade disputes (involving in particular the US and the lack of clarity on Brexit). These aspects made the national economies of Europe much more susceptible to external shocks such as Pandemic Crown [19].

Thus, the issue of bankruptcy becomes a pressing one during the COVID 19 pandemic, when an enormous number of companies, practically all over the globe, were forced to cease their activities.

Corporate insolvencies has a bad impact on shareholders, employees, customers, creditors, and other stakeholders. Therefore, the ability of calculating and assessing the impact of factors on number of bankruptcies of a country is a benefit for all type of external and internal users. Counting on the evaluation and identification of environment factors on levels of corporate insolvencies, EU may take some "corrective action in time in order to work up on the European framework for restructuring and bankruptcy management".

Thus, it is important to determine the causes of the corporate insolvencies increase at the level of the U.E.

Economic Freedom is associated with business activity and the high level of economic freedom has a positive impact on economy of any country. Thus, a country's level of economic freedom show in what direction the number of corporate insolvencies will change.

This study starts with some vague results in the literature regarding the economic freedom and corporate insolvencies. Bjørnskov (2016) demonstrates that countries ranking lower in economic freedom bear slower recovery and

more severe drops from external economic crises [3]. The question comes – do economically free countries operate better with bankruptcy phenomena? Several reasons can justify why economically free countries may register less number of bankruptcies. Firstly, economically free countries have a more substantial intellectual class [16].

Next, these countries are more entrepreneurial and can develop new activities to face with corporate insolvencies [12]. Third, economically free countries positionate high in government integrity [7].

Many governments have invested billions of dollars in the social field in order to help recently laid off employees, keep small entities, and fund research. Economically free countries are likely to lower number of corporate insolvencies and quickly hasten recovery of their economies.

In this context, in this work, we will analyze one of the general environmental factor that influence on number of corporate insolvencies in a transnational analysis perspective. A correlation-regression analysis are to be "performed on a sample of 32 countries during 2013-2019".

The results show that the increase in economic freedom "diminishes the number of corporate insolvencies". Such aspects as innovation, entrepreneurial, or government integrity help the governments to minimize the problems from bankruptcies.

This research enriches the literature by demonstrating that a country's economic freedom influences the number of corporate insolvencies because free countries respond to such economic problems better than unfree countries.

Literature review

Studies in the field of a company's insolvencies are relevant with a design to improve the insolvency proceedings. In developed countries, the researches on determining bankruptcy date back to the early '20s. The first study was launched in the United States. At the beginning, researchers used simple indicators or financial rates in order to distinguish between insolvent and solvent entities. Beaver (1966) was the first economist that used statistical methods in order to predict the bankruptcy risk [2]. In 1968, Altman created one of the best known and the first bankruptcy prediction model, known as the "Z score"[1]. Since then, the number of bankruptcy assessment models has increased. In the 1970s, more than 28 studies on bankruptcy prediction models were published; over 53 studies were published in the 1980s; and in the 1990s more than 70 studies were published [14]. Thus, in 2018, Cândido Peres and Mario Antão "counted 123 different models of bankruptcy risk prediction". The most researched countries in this field, or those with the largest number of published works in bankruptcy prediction, "are the United States (30), the United Kingdom (21) and Spain (16) with approximately 24%, 17% and 13% of the total, respectively" [15]. In the countries of Central and Eastern Europe, because of the geopolitical situation, and the economic system, this subject of research started to be investigated only in the 1990s. At first, in majority of Central and Eastern European countries were utilised models of developed countries to evaluate the bankruptcy risk. Then, were performed more complicated investigations based "on the analysis of general environment factors influence on levels of bankruptcies" [13].

M. Costin and A. Miff (2000), as well as other authors determined that the etymology of the term "bankruptcy" indicates its origin in Latin, from the word "fallo-fallere", translated as to lack, to escape - in the sense that the bankrupt does not fulfill his obligation to pay his creditors, but also having the meaning in Latin to deceive [4].

The term was taken over in Italian under the name of fallere, in the sense of making a mistake, to stop a payment and the name "falimento" (in German - bankruptcy) [9], which translates as bankruptcy, error, mistake and even deception. The insolvent trader was called falito in Italian, a term taken in Romanian under the name of faliment (person who is in bankruptcy; insolvent person; who is in a disastrous situation, who has suffered a total failure), in French it is called failli, in Spanish - fallido, and in English - failure and bankruptcy. However, the terminology has the

same meaning: it designates bankruptcy - a legal institution that regulates the manner of forced execution of the assets of the merchant debtor in a state of cessation of payments. That is, as a rule, the state of affairs of the trader who has ceased payments for his trade debts is called bankruptcy. By the same term, the legal status of the trader against whom a declaratory bankruptcy sentence has been pronounced is designated.

So, some of the terms that are often used in the bankruptcy literature are: *failure, insolvency and bankruptcy*. These terms are sometimes used interchangeably (as in the case of respective article), although formally each of them can be defined in a different way, e.g.

- *failure* can be defined as the inability of a business to continue, especially due to lack of money,
- *insolvency* indicates that the company's net assets have a negative value, and / or failure to perform a required thing (for example, failure to perform a contract, such as payment of someone's debts), and
- *bankruptcy* refers to the official declaration of bankruptcy of a company.

Therefore, dealing with the issue of bankruptcy is not a novelty for economics, but the attention it enjoys from specialists lately is special.

MATERIALS AND METHODS

Variables and data sources

The main goal of our research constitutes in the control of the correlation between the level of economic freedom and the number of corporate insolvencies in a country.

The number of Corporate insolvencies was picked from the Creditreform study (Creditreform study: Corporate insolvencies in Europe, 2017, 2018 and 2019 [5, 6].

Economic freedom can be measured through tree indices which are:

1. Economic Liberty Index (EL),
2. Economic Freedom of the World Index (EFW),
3. Index of Economic Freedom (EF).

We have selected Index of Economic Freedom (EF) given by Adam Smith. It is calculated with the help of 12 quantitative and qualitative indicators that are grouped into four large categories:

1. Rule of Law (Government Integrity, Judicial Effectiveness, Property Rights),
2. Government Size (Tax Burden, Fiscal health, Government Spending),
3. Regulatory Efficiency (Labour Freedom, Monetary Freedom, Business Freedom),
4. Open Markets (Investment Freedom, Financial Freedom, Trade Freedom).

The economic freedom index scales from 0 to 100 - 100 is the highest degree of economic freedom and 0 the least level of economic freedom. “The Index covers 12 freedoms – from property rights to financial freedom – in 184 countries”. This index was used by other researchers in their studies [17] and [3] in order to present the level of economic freedom of a country. The variables and their data sources that are analyzed in the model are summarized in Table 1.

Table 1. Variables and data sources

Variable Name	Description	Source
Corporate insolvencies (CI)	Represent the number of total liquidated business of a country	Creditreform study: Corporate insolvencies in Europe, 2017, 2018 and 2019
Economic freedom variable (EF)	It ranges from 0 to 100 100 is the maximum degree of economic freedom 0 - the least economic freedom	The Heritage Foundation

Source: elaborated by authors.

The research hypothesis of this research is:

• ***H1*** *= A country ranking high in economic freedom is associated with a lower number of bankruptcies;*

Considering the proposed goal and hypothesis, the methods were used: data collecting, data processing, empirical analysis, and panel analysis.

The data of 32 countries:

- 17 countries of Western Europe

- 15 countries of Central and Eastern Europe, over the period 2013-2019.

Methods

In order to determine the correlation between economic freedom and corporate insolvencies, it is necessary to create a model combining the influence of economic freedom on corporate insolvencies. For this effect, the correlation-regression analysis was utilized. This method allows evaluating the influence of risk factors or confounding variables on the resultant variable and the level of correlation between the dependent variable and the independent variables.

Correlation-regression analysis shows the level of the dependent variable changes according to the modifications of one or more independent variables. Due to the fact that each economic phenomenon is influenced by a great number of factors, in majority cases, multifactorial models are utilized. This aspect allows us quantitatively determine the form and intensity of the correlation between the output and the factors of influence (x_1, x_2, …, x_k). Thus, the next factorial equation model will be analyzed:

$$y_i = a_0 + a_1 x_{1i} + a_2 x_{2i} + ... + a_k x_{ki} \quad ,(1)$$

where:

a_0 – the capture point of the regression line and the y-axis;

a_1, a_2, … a_k – the regression coefficients showing the mean change in the endogenous characteristic y caused by the modification of the exogenous characteristic x_k by a unit, with the condition that the influence of the other factors of the mathematical model is taken into consideration and fixed at the average level;

x_1, x_2, … x_k –independent variables.

The coefficient of determination (R) shows the qualitative correlation between endogenous and exogenous characteristics in this model. The closer the value of this coefficient to 1, the tighter the correlation between the characteristics.

This research sample consists of 32 countries (25 developed and 7 developing countries) (M = 32) in the period 2013-2019 (t = 7). The research included 15 countries of Central and Eastern Europe and 17 countries of Western Europe. In the process of multifactorial model elaboration, to determine the influence of factors on the modification of the output indicator, was taken into consideration that *y* reflects "the number of corporate insolvencies of a country (CI)"; and the influence of the causal variable on corporate insolvencies is represented by x_1 - Economic Freedom (EF).

Thus, the correlation between corporate insolvencies and economic freedom can be seen in Figure 1.

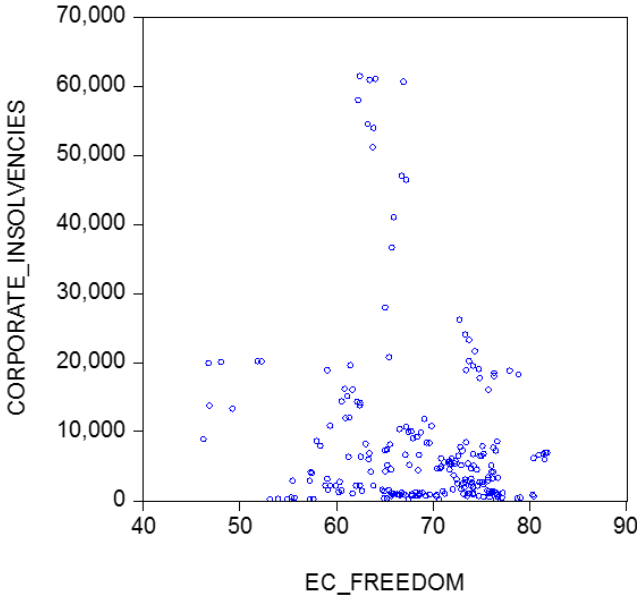

Fig. 1. Correlation between corporate insolvencies and economic freedom
Source: Authors' design.

According to the obtained results, we can see a weak linear relation between the corporate insolvencies and the factor included in the mathematical model, as well as a correct correlation.

Thus, the correlation coefficient shows the presence of a negative relationship, that is, an increase in economic freedom leads to a decrease in the number of corporate insolvencies.

More, the dataset of the present study comprise both cross-sectional and time-series modifications. Thus, the panel data analysis is most suitable. Panel data is ordinarily analyzed with the help by one of its basic models: random effects (RE) or fixed effects (FE). Next, the Hausman test was conducted, in order to determine the feasibility of selecting between models with random (RE) and fixed (FE) effects. The Hausman test

validated the selection of fixed effects model, because the obtained p-value is lower than critical value of 0.05 [3].

A benefit of FE model "include the possibility of unobserved characteristics elimination if they are time-invariant, thus it allows to assess the net effect of the explanatory variables on the result indicator" [18]. Consequently, the FE method is particularly suitable for estimating corporate insolvencies, which depends on time-varying differences in heterogeneity between countries.

More than this, the FE method usage in our analysis will solve the endogeneity problem by the help of FE estimator.

The elimination of both the problem of endogeneity and the source of the omitted variable bias in the FE model can be achieved using the deviation from estimators, or the so-called "within the estimator".

In this context, we may conclude that "FE regression compromises constant average effects of each data category, i.e. country in the case of this study".

Thus, the coefficients in the FE model indicate how different each observation is from the mean; namely, "FE regression reports the average effect within the group". Furthermore, FE regressions are particularly important to use when classifying data, as it can be difficult to control for all category characteristics.

All the calculations, operations described above we performed with EViews software.

RESULTS AND DISCUSSIONS

In Table 2 we can be observe all the results of testing the hypothesis of the research. The results were obtained using the panel regression equation.

Thus, in the table below, performed with the EViews software, we determined the estimated coefficients and probabilities related with them, the value of t-Statistic test and the standard errors.

Taking into consideration that, the coefficients values are notably different from zero, we may conclude that is interdependence between the corporate insolvencies (dependent variable) and the economic freedom (independent variable), as follows:

- increasing with a one percent the index of economic freedom cause a reduction in the average of 0.4 p.p of the bankruptcy indicator.

This insignificant level of CI modification can be explained by the fact that "Economic Freedom is one of the general environment factors", which influence on corporate insolvencies. Mismanagement is the primary cause of corporate insolvencies, but the general environment factors are the factors that do not depend on the company /management, but rather on the efficiency of institutions, which is lower and do not succeed in controlling, and their influence all together is no more than 20%.

Table 2. Testing regression model parameters on panel data

Dependent Variable: LOG(CORPORATE_INSOLVENCIES)
Method: Panel Least Squares
Date: 02/19/21 Time: 18:29
Sample: 2013 2019
Periods included: 7
Cross-sections included: 32
Total panel (unbalanced) observations: 218
White cross-section standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(EF)	-0.368983	0.710374	-0.519421	0.6041
CI	9.720534	3.011383	3.227930	0.0015

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.950919	Mean dependent var	8.162244
Adjusted R-squared	0.942429	S.D. dependent var	1.444640
S.E. of regression	0.346627	Akaike info criterion	0.857476
Sum squared resid	22.22776	Schwarz criterion	1.369808
Log likelihood	-60.46489	Hannan-Quinn criter.	1.064414
F-statistic	112.0079	Durbin-Watson stat	0.874204
Prob(F-statistic)	0.000000		

Source: Author's own calculations.

Adjusted R-squared (0.942) shows "a strong correlation between the dependent variable and the independent variable". So, 94,2% of the modifications in the number of corporate insolvencies are caused by the changes of the independent variable, "the difference being caused by the variation of the residual variable and the errors (e) respectively; the

obtained regression model can be extended to all the analyzed countries" [8], because the Adjusted R-squared is approximately the same as the R-squared coefficient. The value of the F test demonstrates a statistically significant relation (p-value close to 0) and a null random probability between the studied variables.

This result fully conforms to the hypothesis H1. Thus, a country ranking high in economic freedom is associated with a lower number of bankruptcies.

CONCLUSIONS

The objective of this study is to determine the relation between the number of corporate insolvencies and the level of economic freedom in the European Union countries. To reach the purpose, firstly we described what are the factors that may have an impact on bankruptcy phenomenon are. Consequently, we have established one hypothesis, on the base of which a model has been developed. The goal of the model is to show the impact of economic freedom on the number of bankruptcies. Analysis was utilized 32 European countries over the period 2013-2019.

It has been established that for the period 2013-2019, at the level of the countries exists a negative correlation between the corporate insolvencies recorded in each country and Economic Freedom. Interdependence is confirmed by the Adjusted R-squared coefficient, 0.4 p.p. of the modifications in the number of bankruptcies are determined by the modification of the economic freedom indexes. The insignificant level of Corporate Insolvencies modification under Economic Freedom is one of the general environment factors, which influence on corporate insolvencies. Mismanagement is the primary cause of corporate insolvencies, but the general environment factors are the factors that do not depend on the company /management, but rather on the efficiency of institutions, which is lower and do not succeed in controlling. Lower economic freedom may lead to a greater number of bankruptcies. This impact need to be taken into consideration by the EU, which is actively looking to perform the European framework for restructuring and bankruptcy management.

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