

Impact of Corporate Governance Framework on Economic Performance in European Union

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Abstract

In the current post-crisis period, the implementation of Corporate Governance principles has proven to be important. The Organization of Economic Cooperation and Development considers failure of Corporate Governance as one of the causes of the latest financial and economic crisis. We assume that the higher quality of institutional environment point to higher performance of the economy. The aim of the paper is to quantify the implementation of Corporate Governance in the European Union through selected qualitative indicators and his impact on economies. We have verified that countries with better values of judicial independence, protection of property rights, corruption, minority investor protection, extent of conflict of interest and resolving insolvency have a higher value of gross domestic product per capita. The index of enforcing contracts was statistically insignificant.

Key words

Corporate Governance, crisis, institutions

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Introduction

Corporate Governance has been more intensively processed after economic crisis of 2008, when the Organization for Economic Cooperation and Development (OECD) identified the failure of Corporate Governance as one of the main causes of this deep recession (Kirkpatrick, 2009). According Klimiková and Muchová (2017): "*weak and ineffective governance of financial institutions has been widely cited as an important contributory factor in the massive failure of financial sector decision making that led to the global financial crisis*". Author's collective Hučka, Malý and Okruhlica (2007) defines the term of Corporate Governance "*as an issues of proprietary relationships and systems by which owners exercise their proprietary rights and control over the management area of the company; at the same time, Corporate Governance includes processes, structures and relationships, by which administrative authorities supervise the work of their executive staff.*" "*In the wake of the crisis, financial institution governance was too often revealed as a set of arrangements that approved risky strategies, was blind to the dangers on the balance sheet and in the global economy* (Klimiková & Muchová, 2017)".

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Based on the experience of Corporate Governance failures since the 1970s, firms implemented principles and rules into its internal processes in form of written Codes and in form of establishment of responsible positions: *"In order to abide by the rules of corporate governance several companies have appointed also "Chief Governance Officers" and yet, there is still some confusion about what these officers do. There is a disparity between what these officers actually do, as practice depends on the company's circumstances. Moreover, there is also great disparity between what is "written" in the corporate governance code and corporate governance practices „done" (controversy between perception and reality) (Knapik & Krajčik, 2012)."* Corporate Governance is usually processed as microeconomic issues, however, by Kittová and Steinhauser (2017) processed this theme especially in the context of the interaction between the institutional and macroeconomic environment of companies. In this way, the paper contains evidence and arguments for a constant effort to improve the institutional environment of companies. The authors assumed that the better quality of the institutional environment means better macroeconomic conditions; and vice versa - favourable macroeconomic conditions have a positive impact on the quality of the institutional environment. The role of the state should be to support the protection of property rights, further on in the constant effort to suppress corruption and to promote the access of enterprises to sources of financing. Companies should further implement the principles of Corporate Governance into their internal processes. In this way, they will gain better access to financial sources and gain a competitive advantage at the organizational level.

Corporate Governance is theoretically explained most often in the background of the new institutional economic theory and in the theory of transaction costs. The theoretical basis for Corporate Governance was mainly provided by the work and definition of governance structures by the Nobel Prize winner for Economist Williamson (1990). The amount of transaction costs is difficult to quantify, but author Okruhlica (2013) recommends using qualitative indices, in this case competitiveness indices. An analogue approach has chosen by author's team, Hasan, Kobeissi and Song (2014), applied quantitative analysis on Corporate Governance, specifically multiregional analysis. Steinhauser (2015) used as a measure the amount transaction costs and as at the same times an indicator of the institutional environment quality - the credit derivatives, namely Credit Default Swaps (CDS). Index of Institutional Environment expressed using Credit Default Swaps represents a negative value the CDS premium on the underlying asset (sovereign debt bonds of EU countries). The deterioration of the country's risk exposure represents an increase in amount of transaction costs, which is accompanied by an increase in the CDS premium, ie the decrease in the value of the institutional measurement index using the CDS. In our case, the CDS premium was used as a control variable to illustrate a complex model image.

1 Methodology

Corporate Governance is difficult to quantify. This is related to the problematic methodology for measuring the amount of transaction costs. However, we have applied a quantitative analysis of qualitative indicators. We assume that the higher quality of institutional environment level to higher performance of the economy. Aim of our paper

is to quantify the implementation of Corporate Governance in the European Union (except Luxembourg and Malta) through selected qualitative indicators. These variables and their choices have tried to adapt to the usual content of Corporate Governance theory. The Corporate Governance implementation level correlates indirectly with the level of transaction costs in the institutional environment. Higher amount of index values presents higher institutional quality. We assume that the higher value of the selected indexes indicates a higher quality of the institutional environment and a better implementation of the Corporate Governance principles. An even implementation principle of Corporate Governance represents the transaction cost, but in a better institutional environment this implementation is less costly. These assumptions outputs are the same as in paper Kittová & Steinhauser (2017). Our work follows this paper and presents a continuation and deepening the analysis of other indexes. The implemented a descriptive and multiregional analysis, which we have processed in Gretl and the results were interpreted according to the literature (Pacáková et al., 2009; Lukáčik, Lukáčiková, Szomolányi, 2011). WDescription and source of variables shows table 1.

Tab. 1 Description of variables

Variables	Description and source
GDP per capita (current US\$) 2015	Gross Domestic Product per capita from year 2015 – dependent variable (World Development Indicators, WBG)
Index_CDS 10Y 2014	Index of Institutional Environment through Credit Default Swaps (10 years Senior Unsecured Debt CR, Mid Spread) from year 2014 – independent control variable (Thomson Reuters – Eikon Database)
Judicial independence 2014	Subindex Judicial Independence from year 2014 – independent variable (The Fraser Institute)
Protection of property rights 2014	Subindex Protection of Property Rights from year 2014 – independent variable (The Fraser Institute)
Extra payments/bribes/favoritism 2014	Subindex Extra Payments, Bribes and Favoritism from year 2014 – independent variable (The Fraser Institute)
Strength of minority investor protection index (0-10) 2015	Subindex Strength of Minority Investor Protection from year 2015 – independent variable (Doing Business, WBG)
Extent of conflict of interest regulation index (010) 2015	Subindex Extent of Conflict of Interest Regulation from year 2015 – independent variable (Doing Business, WBG)
Enforcing Contracts – DTF 2015	Subindex Enforcing Contracts from year 2015 – independent variable (Doing Business, WBG)

Resolving Insolvency – DTF 2015	Subindex Resolving Insolvency from year 2015 – independent variable (Doing Business, WBG)
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Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

2 Results and Discussion

In order to achieve the main aim of our paper we proceeded to quantitative analysis. Table 2 contains input data descriptive statistics. We analysed 26 EU countries except Luxembourg and Malta (N). The average GDP per capita was around 27,800 USD. The average value of the CDS Index was at -181 USD. The fact is that a higher index value means a higher quality of the institutional environment. For our needs is interesting kurtosis and skewness. Kurtosis value higher than 1 means, that dataset contains observations (states) with a variable value higher than normal distribution. In our case, we can say, that GDP per capita is divided normally within the countries surveyed; on the other hand, we have seen significant extreme observation.

Skewness reveals the shape of the distribution. Positive rate skewness means a positive, right-handed asymmetric distribution (there are a larger number of countries with an index value less than the average).

Tab. 2 Descriptive Statistics

Variable	N	Mean	Std. Dev.	Skew.	Kurt.
GDP per capita (current US\$) 2015	26	27 836,98	15 666,82	0,50	-1,05
Index CDS 10Y 2014	26	-173,27	199,37	-3,25	12,64
Judicial independence 2014	26	6,12	2,03	0,04	-1,28
Protection of property rights 2014	26	6,46	1,55	0,20	-1,45
Extra payments/bribes/favouritism 2014	26	5,37	1,61	0,23	-1,25
Strength of minority investor protection index (0-10) 2015	26	6,36	0,65	0,63	-0,38
Extent of conflict of interest regulation index (0-10) 2015	26	5,98	1,02	0,61	0,65
Enforcing Contracts – DTF 2015	26	65,88	9,17	-0,79	-0,47
Resolving Insolvency – DTF 2015	26	71,40	13,03	-0,19	-1,05

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

Table 3 contains multiple regression analysis between GDP per capita and Subindex Judicial Independence. The model is statistic significant based on F-statistics and R-

squared explains up to 69 % of the observations. With an increase in Judicial Independence by one point, we expect an increase in GDP per capita of approximately 6,097 USD. Quantitative analysis has shown that with an increase in the quality of judicial independence we can expect an increase in economic performance. This conclusion demonstrates the need to implement Corporate Governance in economic processes. For comparison, the lowest value of this index is reached by the Slovak Republic (2, 65 points Judicial Independence, GDP per capita 16 088 USD), the highest value of Finland (9, 32 Judicial Independence, GDP per capita 42 311 USD).

Tab. 3 Multiple Regression Analysis - Judicial independence

Model 1: OLS, using observations 1-26

Dependent variable: GDP_per_capita_currentUSD_2015

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-8329,31	7130,32	-1,168	0,2547	
Index_CDS_10Y_2014	6,54251	10,0257	0,6526	0,5205	
Judicial_independence_2014	6097,07	982,306	6,207	<0,0001	* * *

R-squared	0,687760	Adjusted R-squared	0,660608
F(2, 23)	25,33059	P-value(F)	1,54e-06

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

Tab. 4 Multiple Regression Analysis - Protection of property rights

Model 2: OLS, using observations 1-26

Dependent variable: GDP_per_capita_currentUSD_2015

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-31562,4	8639,08	-3,653	0,0013	* * *
Index_CDS_10Y_2014	-3,61040	9,12550	-0,3956	0,6960	
Protection_of_property_rights_2	9092,28	1174,90	7,739	<0,0001	* * *

R-squared	0,768233	Adjusted R-squared	0,748080
F(2, 23)	38,11885	P-value(F)	4,99e-08

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

The result of the regression analysis between GDP per capita and Protection of Property Rights is shown in Table 4. Statistical significance is similar Table 3. In this case, we expect an increase of GDP per capita by 9,092 USD with an increase in the

index by 1 point. The lowest value of this index is Hungary (4.08 points Protection of Property Rights, GDP per capita 12 363 USD), the highest value of Finland (9.04 points of Protection of Property Rights, GDP per capita 42 311 USD). Proprietary rights protection is an essential component of Corporate Governance. The quality of the legal system, we can only recommend increasing the quality of the institutional environment in the field of property rights.

Table 5 contains a statistically significant model between GDP per capita and index Extra Payments, Bribes and Favouritism. With an increase in this variable by one-point, we expect an increase in GDP per capita of 7,886 USD. The lowest value of this index is reached by the Slovak Republic (2.72 points Extra Payments, Bribes and Favouritism, GDP per capita 16 088 USD), Finland's highest value (8.36 points Extra Payments, Bribes and Favouritism, GDP per capita 42 311 USD). Corruption under the new institutional economic theory is an informal institution (Liška et al., 2011). Its suppression, based on our analysis, contributes to a substantial increase in the performance of the economy by enhancing the quality of the institutional environment.

Tab. 5 Multiple Regression Analysis - Extra payments/bribes/favouritism

Model 3: OLS, using observations 1-26
Dependent variable: GDP_per_capita_currentUSD_2015

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-14006,3	7989,75	-1,753	0,0929	*
Index_CDS_10Y_2014	3,06633	10,2590	0,2989	0,7677	
Extra_payments_bribes_favouritis	7886,63	1269,30	6,213	<0,0001	* * *

R-squared	0,688169	Adjusted R-squared	0,661053
F(2, 23)	25,37892	P-value(F)	1,51e-06

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

One of the partial areas of Corporate Governance and Codes is the protection of both majority and minority shareholders. These facts belong to the core of Corporate Governance theory. Regression analysis between GDP per capita and Subindex Strength of Minority Investor Protection is shown in Table 6. For this model, the impact of the CDS index on economic performance as a control variable was also statistically significant. This model is based on F-statistics with lower reporting power and according to R-squared explains only 27 % of the observations. For this reason, we can only say that we expect an increase in economic performance with the growth of this variable country. The lowest value of this subindex is reached in Slovak Republic (2.72 points of the Strength of Minority Investor Protection, GDP per capita 16 088 USD). The highest value presents United Kingdom (7.8 points Strength of Minority Investor Protection, GDP per capita USD 43 876).

Tab. 6 Multiple Regression Analysis - Strength of minority investor protection index

Model 4: OLS, using observations 1-26
 Dependent variable: GDP_per_capita_currentUSD_2015

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-16365,6	27436,5	-0,5965	0,5567	
Index_CDS_10Y_2014	31,1129	13,9986	2,223	0,0364	*
Power of minority_inves- tor_p	7800,57	4265,35	1,829	0,0804	*

R-squared	0,270789	Adjusted R-squared	0,207380
F(2, 23)	4,270475	P-value(F)	0,026473

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

The statistical significance of the model in Table 7 is equal to the previous model. In this case, we also assume that the growth of the Subindex Extent of Conflict of Interest Regulation increases the GDP per capita. The lowest value of this subindex is Hungary (4.0 points Subindex Extent of Conflict of Interest Regulation, GDP per capita 12 363 USD). The highest value presents United Kingdom (8.3 points of the Subindex Extent of Conflict of Interest Regulation, GDP per capita 43 876 USD). Conflict of interests is one of the most serious forms of corporate failure.

Tab. 7 Multiple Regression Analysis - Extent of conflict of interest regulation index

Model 5: OLS, using observations 1-26
 Dependent variable: GDP_per_capita_currentUSD_2015

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	535,137	17004,6	0,03147	0,9752	
Index_CDS_10Y_2014	28,3582	13,9612	2,031	0,0539	*
Extent_of_conflict_of_in- terest_	5389,99	2728,03	1,976	0,0603	*

R-squared	0,285944	Adjusted R-squared	0,223852
F(2, 23)	4,605172	P-value(F)	0,020793

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

Tab. 8 Multiple Regression Analysis - Enforcing Contracts

Model 6: OLS, using observations 1-26
 Dependent variable: GDP_per_capita_currentUSD_2015

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	57321,6	25285,5	2,267	0,0331	* *
Index_CDS_10Y_2014	39,1765	16,5325	2,370	0,0266	* *
Enforcing_Contra- cts_DTF_2015	-344,508	359,388	-0,9586	0,3477	

R-squared	0,196838		Adjusted R-squared	0,126997
F(2, 23)	2,818400		P-value(F)	0,080397

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

Based on the regression model in Table 8, we cannot confirm the link between Subindex Enforcement Contracts and GDP per Capita. The lowest value of this subindex is reached by Cyprus (45.82 Enforcing Contracts, GDP per capita 23 243 USD), the highest value has Lithuania (77.88 Enforcing Contracts, GDP per capita 14 147 USD).

The model shown in Table 9 between Subindex Resolving Insolvency and GDP per capita is statistically acceptable by the base of statistical tests. With the increase in the index by one point we expect growth GDP per capita by 904 USD. The lowest value of this subindex is reached by Lithuania (48.47 Resolving Insolvency, GDP per capita 14 147 USD), Finland achieve the highest score (93.85 Resolving Insolvency, GDP per capita 42 311 USD). Business insolvency causes a deterioration of the institutional environment by increasing of insolvency risk of enterprises, by reducing confidence in the business sector. This risk threatens others subjects of the supply and demand chain, too.

Tab. 9 Multiple Regression Analysis - Resolving Insolvency

Model 7: OLS, using observations 1-26
 Dependent variable: GDP_per_capita_currentUSD_2015

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-36582,2	15083,5	-2,425	0,0236	* *
Index_CDS_10Y_2014	0,939495	12,5293	0,07498	0,9409	
Resolving_Insol- vency_DTF_2015	904,452	191,678	4,719	<0,0001	* * *

R-squared	0,575594		Adjusted R-squared	0,538689
F(2, 23)	15,59670		P-value(F)	0,000052

Source: Own processing by WBG, 2017a; WBG, 2017b; The Fraser Institute, 2014; Thomson Reuters, 2018.

Conclusion

We have confirmed the opinion that higher quality of institutional environment pointed to higher performance of the economy. It could be applied on EU countries, which were objects of our observation without Malta and Luxembourg. In our paper we confirmed the premise that implementation of Corporate Governance indirectly correlates with the level of transaction costs. Higher value of indexes indicates a higher quality of the institutional environment that means lower level of transaction costs and better implementation of the Corporate Governance principles. The implementation of corporate governance in form of principles or rules increases level of transaction costs however in a better institutional environment this implementation is less expensive. The strong linkage and the relationship between the variables are confirmed among GDP per capita and variables in table 3, 4, 5. It means that Judicial Independence; Protection of Property Rights; Extra Payments / Bribes / Favouritism significantly correlated with economic performance of countries as well as with implementation of Corporate Governance.

In other cases, models have low statistical significance, but the direction of the linkage indicates that with the increase in the quality of indices (Strength of Minority Investor Protection Index; Extent of Conflict of Interest Regulation Index; Resolving Insolvency) we can see also increase in quality of the implementation of Corporate Governance principles. These models also pointed out increasing of the economic performance measured by GDP per capita (analysis in table 6, 7, 9). In one case, the regression model between Subindex Enforcement Contracts and GDP per capita in Table 8 was not confirmed. We assumed that there will be a linkage, because the issue of Corporate Governance can be understood as prevention of economic failures on microeconomic level. Governance should avoid the risk of opportunism and thus increase enforcement of contracts. To our surprise, the linkage between these variables was not confirmed.

Here we have space to return in to the work of Williamson (1990) and his government structures which is related to the protection of contract failures from all contract parties. It is also related to the theoretical apparatus of opportunistic behaviour, asymmetric information and asset specificity. This also explains the selection of all factors that present the Corporate Governance implementation. This means connection between macro- and microeconomic perception. The performance of micro-level entities is reflected at the macroeconomic level. This means that the failure of economic subjects increases the risk of the crisis. To reduce the risk of the crisis, we recommend increasing the quality of implementation Corporate Governance principles by individual economic entities as well as for decision makers. This link and recommendation is found in much of the influential literature. We have confirmed this conclusion by updating of database and selecting of variable set. Authors Knapik and Krajcik (2012) claim that Corporate Governance failures triggered the 2008 economic crisis (careless implementation of the principles and rules). They also argue that respect for these principles has the potential to restore lost confidence in the financial sector to gain capital for further development of corporations and growth: *"Companies that fail to reform their governance will find themselves in a competitive disadvantage when they try to obtain capital to finance growth. High governance standards must be seen in practices and results of corporate activities. Good corporate governance is not easy and it is neither formal nor ceremony. An efficient board of directors involves a combination of right people, the right structure, and the right processes. It is the real challenge to determine the right combination for*

each individual company. Each company and country should consider its own circumstances before choosing the best way to improve corporate governance and prevent corporate failures."

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