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EMPIRICAL EVIDENCE ON THE RELATION BETWEEN CORPORATE GOVERNANCE AND THE PERFORMANCE OF CREDIT INSTITUTIONS FROM CENTRAL AND EASTERN EUROPE

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ABSTRACT

Good corporate governance is considered an important element for financial institutions, as it is supposed to help them achieve their financial and social objectives, while also being an effective tool for regulators and supervisors. The paper analyses the relationship between corporate governance and the performance of credit institutions in Central and Eastern Europe, using a panel data set on 29 credit institutions from 9 countries (Romania, Austria, Hungary, Bulgaria, Czech Republic, Poland, Croatia, Slovakia and Slovenia), for the period 2010-2019. The study focused on the link between the governance elements related to the management structure and the internal control mechanisms of credit institutions and their performance measured by the return on assets and capital. The results obtained showed a positive relationship between the size of the audit committee, respectively the number of non-executive committees and the performance of credit institutions, thus showing that the existence of adequate internal control mechanisms contributes to a better performance of financial institutions. The results also support previous theories about the negative relation between board size and performance, highlighting the need for governance structures that allow for good communication and coordination for decision-making and increasing the performance of financial institutions. The research findings are important for both shareholders and supervisors, as the way banks perform affects economic progress and has important implications for society.

The study complement the academic literature with information on the Eastern and Central European banking sector and the importance of the corporate governance for the financial markets.

Key words: corporate governance, performance, credit institutions

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JEL codes: G3, G01, G34, G30, G38

Research area: Finance

Introduction

The concept of financial performance is an element studied since the '50s and has undergone a remarkable evolution and different understandings over time. From how to measure financial performance through the cost/benefit ratio, to the inclusion of elements on the quality offered to customers (until the 1990s), and currently evolving towards a global approach that also includes non-financial elements related mainly to social responsibility. Therefore, it is clear that financial performance has always been an important element for companies, but due to changes in global economies, companies have realised that simply to follow cost-benefit approach is not enough to measure a company's performance. In this context, it was understood that success is closely linked to the sustainable development of society, concluding in a new concept of global performance of the company that includes economic, social and environmental results.

Corporate governance has become an element of interest for companies that have begun to pay attention to and apply the principles of corporate governance, especially after the 2007-2008 financial crisis. It was considered that the lack of good practice in corporate governance was not the main factor triggering the crisis, instead the lack of effective control mechanisms within the institutions coupled with the unclear role of the competent authorities in overseeing governance systems led to a significant level of risk by most companies, especially in the case of financial institutions. Thus, corporate governance has the role of protecting the interests of shareholders by maximizing the long-term value of the company, but also attracting potential investors by promoting a policy based on transparency of information. In addition, the application of corporate governance principles in a company can lead to interest from institutional investors, an important element in attracting investors, being well known that institutional investors have confidence due to their expertise. At the same time, by applying corporate governance principles, companies are encouraged to build a strong relationship with their shareholders and other stakeholders, to communicate effectively and transparently.

At the international level, the issue of corporate governance was most prominently addressed by the Organization for Economic Cooperation and Development (OECD)[1], which published the first governance requirements in 1999. The principles were subsequently updated in 2004,

[1] http://www.oecd.org/corporate/principles-corporate-governance;

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amending them based on lessons learned from accounting scandals that have materialised in many American and European corporations. OECD principles have become a basis for the creation of national codes of good corporate governance in most advanced countries of the world.

Thus, I focused my study on the relationship between corporate governance factors and the performance of financial-banking institutions in Central and Eastern Europe, including in the analysis financial institutions from nine states (Austria, Hungary, Bulgaria, Romania, Czech Republic, Poland, Croatia, Slovakia and Slovenia). The research will focus on identifying the main factors of corporate governance, namely the factors related to the management structure and internal control mechanisms that have an influence on the performance of financial-banking institutions in Central and Eastern Europe. The originality of my paper consists in conducting the study at European level on the financial-banking sector, the studies performed before excluding from analysis this market. Another element of novelty and interest in my research is the fact that financial-banking institutions from countries that have switched from a communist to a democratic regime in approximately the same period will be analysed. I included in my study the financial-banking institutions listed on the capital in order to be able to collect information for the indicators included in the study.

The research is thus based on a set of 29 financial-banking institutions listed on Central and Eastern European stock exchanges, and the analysed time interval is 2010-2019. The period was chosen so that elements of corporate governance could be identified, which were applied following a Code of Good Corporate Governance in the studied countries.

The main results of the research add to the empirical studies, confirming some theories about the link between corporate governance and business performance. Thus, we identified a positive relationship between the size of the audit committee and the number of non-executive committees and the performance of financial-banking institutions, showing that the existence of adequate internal control mechanisms contributes to a better performance of financial institutions. At the same time, the obtained results support the previous theories regarding the negative relation between the size of the board of directors and performance, highlighting the need for management structures that allow good communication and coordination for decision-making. It can be argued that good corporate governance in terms of stronger management oversight and best practices of the board of directors influence the performance of financial institutions, an important aspect to be considered by both shareholders and supervisors, taking into consideration that performance of the financial system affects economic progress and has important implications for society.

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The paper is organised as follows, in the first chapter are presented the aspects of the literature review considered relevant to substantiate my own analysis. Elements related to the case study conducted to study the relationship between corporate governance and the performance of financial and banking institutions in Central and Eastern Europe are presented in the second part of the paper, followed by conclusions and proposals.

1. Analysis of studies on the relationship between corporate governance and financial performance of companies

In the context in which banks are essential for the proper functioning of economic activities, in recent years special attention has been paid to ensuring the stability of the banking system, a major role in this regard being assigned to the implementation of corporate governance policies. According to European Banking Authority (EBA) report on financial crisis[2], insufficient implementation and application of governance principles have not been a direct trigger of the financial crisis, but a key support factor. Thus, researchers have focused to study the implications of governance on banks 'performance to understand and show that poor corporate governance contributes to banks' insolvency (Zagorchev and Gao 2015, Beltratti and Stulz 2012). The failure of financial institutions during the crisis has led to the freezing of global lending markets and the need for governments to intervene globally. While the macroeconomic factors (e.g., free monetary policies) that underlie the financial crisis have affected all firms (Taylor 2009), some firms have been affected much more than others. Brunnermeier (2009) suggest that corporate risk management and financing policies have had a significant impact on the extent to which firms have been affected by the financial crisis. Other empirical studies have shown that poor governance has a detrimental impact on companies' performance, value, but also on how revenue is handled based on opportunity (Andrés and Vallelado 2008, Rezaee 2008, Cornett 2009).

Regarding research conducted in the financial sector, there are mixed findings of the impact of corporate governance on risk-taking and bank performance, the significance of corporate governance not being yet established (Zagorchev and Gao 2015, Beltratti and Stulz 2012).

In some studies, the results are different due to the specifics of the country or its degree of development (Al-ahdala et al. 2019).

According to Jensen and Meckling (1976), due to information asymmetry and conflicts of interest associated with the separation of controlling ownership, corporate managers may not act

[2] EBA Report on financial crisis, 2011, p.3;

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in the interests of shareholders, but take measures to benefit themselves. They argued that corporate governance mechanisms are designed to monitor managers in order to reduce agent costs and improve the financial performance of companies.

At the same time, a number of empirical studies focus on presenting the positive link between corporate governance and the financial performance of companies, including comparisons between better and less governed companies and their financial performance. For example, Bauer and Otten (2003) argue that there are two main reasons that link governance to a company's performance, namely good governance practices help increase investor confidence and that good corporate governance leads to their efficiency and higher cash flows in the future, i.e. better financial performance. The conclusion they reached is that the link between governance and performance is different depending on the level of development of countries. Emerging countries tend to be more in line with corporate governance criteria than developing countries.

Al-ahdala et al. (2019) also analysed the impact of corporate governance mechanisms on the financial performance of listed companies in the Indian capital market and the Gulf Cooperation Council (GCC) and showed that the corporate governance mechanisms play a key role in creating a corporate culture of awareness, transparency and openness. The results revealed that the responsibility of the board of directors and the audit committee have an insignificant impact on the performance of companies measured by ROE.

Academics argued that lack of regulatory policies, insufficient capital, excessive reliance on short-term financing and poor corporate governance contributed at the onset of the crisis, making it clear that the banks that were most exposed to these factors should have been most affected by the financial crisis. Among these studies is the one conducted by Beltratti and Stulz (2012), who analysed the overall performance of banks between July 2007 and December 2008, the worst period in the Great Depression, measuring performance through stock returns. Researchers' evidence poses a substantial challenge to those who argue that the bank's poor governance was a major cause of the crisis, as they found that banks with more shareholder-friendly advice performed worse during the crisis than other banks that pursued policies to kind of risky before the crisis and further reduced lending during the crisis.

Iqbal et al. (2018) studied the relationship between corporate governance and financial performance at the level of Asian institutions, using governance variables related to board size and composition and CEO characteristics. The results confirmed the endogenous nature of corporate governance and financial performance, concluding that the profitability and

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sustainability of companies are improved by applying good governance practices, becoming more profitable. Regarding the financial performance variables, they considered relevant the return on assets and capital, the rate of operating expenses and the return on the portfolio.

Black (2006) showed that companies facing higher risk need to be better governed because they need strict systems. Mersland and Strom (2009) sought to analyse the link between corporate governance and the performance of financial-banking institutions, the results of their study showed that corporate governance affects a variety of financial performance measures and, in turn, there are financial performance measures that affect corporate governance. At the same time, the literature presents information on studies conducted by some researchers who mainly analysed the link between certain variables of corporate governance and the financial performance of companies, including De Andres et al. (2005) who studied the effects that appear on financial performance given the size and structure of the board. To measure the financial performance of companies, one of the indicators used was ROA. The independent variables selected for the model were company size, board size, percentage of non-executive directors in total number of directors and leverage. The conclusion of the research was that the financial performance is in a positive relationship with the size of the company and a negative relationship with the size of the board of directors. The percentage of non-executive directors also showed a positive impact on financial performance.

At the same time, Mertzanis et al. (2018) showed the negative relationship between the size of the board of directors and the performance of companies. In conclusion, the more members a board of directors is, the harder it is to make a decision and therefore the higher the performance and value of a company is if the board of directors has a smaller size. With regard to financial institutions, according to an article published in 2012 by the Capital Microfinance Board[3], an ideal board it is considered of seven to nine members and effective if five to eleven members. At the same time, Hartarska and Mersland (2012) found evidence of improving the performance of financial-banking institutions with board sizes of up to nine members.

Given the results of the empirical studies presented, the first hypothesis in my research is on the relationship between the size of the board (SIZE_B) and the financial performance of financial-banking institutions in Central and Eastern Europe.

Hypothesis 1: there is a negative relationship between the size of the board of directors and the financial performance of financial-banking institutions.

[3] http://www.cmef.com;

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Nongnit and Chaiporn (2017) conducted a study that analysed the relationship between several governance variables, including the independence of directors and the performance of companies and performance measured by ROA and ROE. The control variables chosen were the size of the company and the financial leverage. They concluded that the independence of directors positively influences the performance of companies. At the same time, they showed that corporate governance is not associated with the performance of companies, a finding that is different from the conclusions of previous studies that report the existence of the relationship between corporate governance and performance. Erkens et al. (2012) proved empirical evidence on how corporate governance, especially independent executives, influenced the financial performance of firms in times of crisis. The results showed that financial institutions with more independence at the board level generated lower profits during the crisis. Subsequent analyses suggested that this was because firms with several independent boards raised more equity during the crisis, which led to a transfer of wealth from existing shareholders to debtors.

Zagorchev and Gao (2015) conducted an analysis of 820 banks of different sizes listed on the US stock exchange, to show that better corporate governance is associated with taking a lower risk and performing better for financial institutions. The study analyses how corporate governance, through decisions of managers in their own interest, can affect the investment policy and financial performance of US financial institutions. The main results showed that good corporate governance is associated with a low level of non-performing assets. According to Morgan (2002), most financial institutions focus on achieving the highest possible rates of profitability, which is why some of them end up assuming and engaging in risk-generating activities, without an adequate risk analysis and thus resulting in asymmetric information and an unsustainable financial system.

Dedu and Chițan (2013) analysed the influence of corporate governance on performance in the Romanian banking sector, including the characteristics of the governing body. The results of the study illustrate that the influence of internal corporate governance is negative in terms of ROA and ROE, highlighting the need for institutions to relax during periods of economic recession and strengthening during economic growth. Regarding the characteristics of board members, the findings support the idea of increasing the number of independent members, who should make independent and objective decisions thus increasing the performance of banks.

In studies conducted on non-financial institutions, Nongnit and Chaiporn (2017), Erkens et al. (2012), showed a positive correlation was identified between performance and corporate governance from the perspective of directors' independence. The identified link was explained by the fact that risk aversion managers prefer other sources of financing to the detriment of financial

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debt, and the existence of a significant share of independent directors will lead to attracting external financing. At the same time, regarding the link between the performance of financial-banking institutions and the independence of directors, Dedu and Chițan (2013), Zagorchev and Gao (2015) had shown that independence at the board level led to lower profits during the crisis for financial companies, due to higher risks taken before the crisis. Compared to the results of the empirical studies cited above, I formulated the following hypothesis:

Hypothesis 2: there is a positive relationship between the independence of the management structure (INDEPEND) measured by the number of non-executive independent directors in the total number of directors and the performance of financial-banking institutions.

According to Erhardt et al. 2003, an important issue, which generates increased interest and a degree of controversy over corporate governance, is related to diversity, defined as the range of ethnicities and the degree of representation of women on boards of directors. Ethnic groups are not widespread in all countries, which is why women play a very important role in ensuring gender diversity. For example, the Higgs Report[4] (2003) emphasizes the importance of the presence of women on boards, especially when there is little representation or no female. In some countries, requirements have been imposed to increase the presence of female directors, in response to their small number on the boards of European corporations, even though there is a growing trend in recent years according to Heidrick & Struggles (2007)[5]. Álvarez et al. (2010) studied the effect of gender diversity on corporate performance of companies from Spain. Their work is an extension of previous studies and analyses the presence and effect of women in the management structure and the impact on the performance of companies. The results are particularly important in the regulatory context in Spain, where political intervention is active to increase the presence of women in companies and to achieve gender equality. However, the conclusions suggest that this type of diversity does not necessarily lead to a better performance of companies, a balanced presence of both sexes in management structures being easier to explain from a sociological point of view, rather than a strictly economic one.

Thus arises the following hypothesis of my research on the diversity of the board in terms of the number of women and the possible positive impact on the performance of companies. The arguments of these theories are based on the fact that decisions taken at the management level can be positively influenced by ensuring diversity at the level of board members, increase their

[4]https://web.archive.org/web/20080414205912/http://www.berr.gov.uk/bbf/corp-governance/higgstyson/page23342.html;

[5] Heidrick & Struggles (2007) - Corporate governance in Europe: raising the bar; report; Paris;

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ability to manage companies' problems. The indicator expressing the number of women on the board (WOMEN_B) was calculated as a share in the total number of directors, and the expected link is a positive one.

Hypothesis 3: a higher percentage of women on boards of directors is in a positive and significant association with the financial performance of financial-banking institutions.

Another topic researched in the literature and which I analysed from the perspective of my research refers to the link between CEO duality and the financial performance of financial institutions. For example, the study of Switzer et al. (2017) showed that the influence of the CEO on the credit risk of a company is not clear. Moreover, it seems that the results obtained by them are different from the perspective of the link between CEO duality and financial performance, other studies (such as the study of Nongnit and Chaiporn 2017) showing that CEO duality is negatively correlated with companies' financial performance. Thus, we can appreciate that a company that has a duality of functions has a greater aversion to risk, in the sense that it will choose not to borrow, but as a consequence the company's performance will be affected. Therefore, it important to analyse the correlation between the variable on the duality of management functions (CEO_DUAL) and the financial performance of financial-banking institutions.

Hypothesis 4: there is a negative relationship between CEO duality and the financial performance of financial-banking institutions.

Another conclusion that emerges from the empirical studies conducted by Nongnit and Chaiporn (2017), De Andres et al. (2005) is on the negative impact of the size of the audit committee on the performance of non-financial firms. They showed that firms with a higher number of members of the audit committee are more conservative in terms of capital structure which leads to a lower degree of indebtedness and lower performance of these companies. At the same time, the conclusions of researchers Al-ahdala et al. (2019) highlighted that the performance of financial institutions is not significantly influenced by the size of the audit committee. Which is why I will try to analyse in my study the link between the size of the audit committee (AUDIT) calculated as the logarithm of the number of committee members and the performance of financial institutions.

Hypothesis 5: there is a negative relationship between the size of the audit committee and the financial performance of financial-banking institutions.

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Another element of corporate governance researched in the literature from the perspective of the influence on the performance of companies is regarding the reputation of the external auditor. Research shows that there are several reasons for choosing an independent auditor from BIG4, such as the fact that having financial statements audited by recognised auditors can reduce the asymmetry of information. In a recent study, DeFond and Lennox (2011) showed that one of the key reasons for choosing a large auditor is that firms operate internationally and thus require international auditors (such BIG4 auditors) to audit their foreign subsidiaries. Therefore, choosing large auditors could mean that companies are large and have foreign operations. Because large firms tend to perform better than smaller firms, and multinationals are more likely to outperform domestic firms, firms with BIG4 auditors may perform better than firms without BIG4 auditors. In addition, better audit quality is expected to improve the firm's decision-making process and results (investment and operating decisions). Nongnit and Chaiporn (2017) also demonstrated the positive relationship between audit reputation and company performance. Therefore, we expect a positive relationship between audit reputation and performance of financial-banking institutions. It is useful to study the theory for this segment consisting of institutions from several European states and of different sizes, some of the institutions included in the study having no cross-border activity.

Hypothesis 6: the auditor's reputation positively influence the financial performance of financial-banking institutions.

Continuing my research on the relationship between corporate governance and the performance of financial institutions, I found information on the importance of non-executive committees for good corporate governance and, implicitly, better performance. The hypothesis was recently researched by Zagorchev and Gao (2015), their results showing a positive link between this governance variable and the performance of US financial institutions. One argument would be that the existence of as many committees as possible (audit, nomination, remuneration and governance) has benefits from the perspective of governance and risk-taking by management structures and consequently improves the performance of companies. Thus, in order to continue the studies conducted on this topic and to analyse the link between governance and the performance of financial-banking institutions from the perspective of several governance elements, I set out to analyse the link between the number of non-executive committees and the performance of financial-banking institutions in Central and Eastern Europe.

Hypothesis 7: there is a positive relationship between the number of non-executive committees and the performance of financial-banking institutions.

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Main conclusions of the studies coted are presented in Annex 1.

2. Case study on the impact of corporate governance on the performance of financial-banking institutions in the cee area

2.1. Data source and selection of financial-banking institutions

The financial-banking institutions were identified from the information available at the level of the states included in the research, respectively their capital market, but also from the information published by the European Banking Authority. No selection criteria were applied, such as number of employees, level of equity or turnover. This resulted in a database of 39 financial-banking institutions listed on stock exchanges in 9 Central and Eastern European countries (Austria, Hungary, Bulgaria, Poland, Czech Republic, Romania, Croatia, Slovenia and Slovakia). The research covers a period of 10 years, respectively the period 2010 - 2019.

The information included in the analysis was collected from international databases (namely the Thomson Reuters platform), as well as from the financial statements and annual reports of financial institutions. As expected, we encountered difficulties in finding data for all financial-banking institutions included in the database for the entire analysed period (respectively 5 financial institutions from Croatia, Bulgaria, and Slovenia). Also for 4 financial institutions (Poland, Austria and Slovakia) the historical information was not available in English. An institution from Croatia was eliminated because the financial statements had negative elements regarding capital indicators. Therefore, the database that will be considered in the analysis comprises 29 financial-banking institutions (a list of these institutions is presented in Annex 2).

Another problem encountered in the construction of the database was the collection of information related to financial indicators, some were not available in the annual reports/financial statements of institutions or at the level of international platforms (e.g. liquid assets and non-performing real estate assets), so that they were removed from the set of variables originally thought.

Regarding the corporate governance indicators, the variables were established taking into account the hypotheses proposed in the research, resulting a database of 7 corporate governance indicators representing independent regression variables.

From the perspective of financial performance, return on assets and return on capital were considered as dependent variables of the model. At the same time, in order to control the specific characteristics of financial institutions that could influence their performance, risk-related control

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variables were introduced in the analysis. Considering that risk is a specific factor for companies that affect corporate governance practices, control variables specific to financial sector were introduced, such as: leverage, size of financial-banking institution, capital ratio adjusted to level 1, EBITDA/Total assets, the rate of non-performing assets in total assets and the ratio between total loans and total assets. (See Table 1 for variables, symbol, as well as the formula).

Table 1 Econometric model variables

Variable	*Symbol*	*Formula*
Return on equity	ROE	Net income/Equity
Return on assets	ROA	Net income/Total assets
The size of the management structure	SIZE_B	Number of directors in the board
Independence of the management structure	INDEPEND	Number of non-executive independent directors /Total number of directors in board
CEO duality	CEO_DUAL	Dummy variable: "1" exists duality and "0" if not
The share of women in leadership structures	WOMEN_B	Number of women on the board/ Total number of directors in the board
The size of audit committee	AUDIT	LN(number of audit committee members)
Number of non-executive committee	NR_COM	Dummy variable: values between "0-4", for each committee being consider 1 point
External auditors	BIG4	Dummy variable: "1" if exists audit from BIG4 and "0" if not
Firm size	SIZE_FIRM	LN(AT) andLN(number of employees)
Leverage	LEV	Long-term debts/Total assets
Non-performant assets/ Total assets	AT_NON PERFORM	Non-performant assets/Total assets
Level 1 capital ratio	TIER_1	Total risk-adjusted capital ratio/Risk-weighted assets
Total loans/ Total assets	CR_AT	Net amount of loans (excluding loan losses)/ Total assets
EBITDA/Total assets	EBITDA/AT	EBITDA measured by pre-tax gains and provisions on credit loss/Total assets, expressed as a percentage

2.2. Research methodology

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The main objective of this paper is to analyse the data set by econometric methods, in order to identify independent variables in the field of corporate governance that are responsible for increasing or decreasing the performance of financial-banking institutions, but also the link between them (negative or positive). To achieve this goal, I aimed to research the link between variables by using a regression model with "panel" data, on a sample of 29 institutions and over a period of 10 years.

The performance of institutions is explained by the return on equity indicator, calculated as the ratio between net profit and equity. We extended the research by introducing another dependent variable, namely the return on assets calculated as the ratio between net profit and total assets.

According to Pearson correlation coefficients, the explanatory variables of the model are not significantly correlated, if we refer to a maximum correlation level of 0.45, which explains the fact that the regression can be achieved (the results are presented in Annex 3).

I chose the econometric model with “panel” type data as it combines two dimensions, with observations regarding a characteristic for several financial institutions and obtained at several period in time. At the same time, this type of model is more efficient by increasing the number of degrees of freedom, solving the problems of those determinants that do not present available data, but also the problem of omitted variables included in the residual variable - "unobservable heterogeneity" (Torres - Reyna 2007).

Given that my research covers a period of 10 years, I considered that I have "micro-panel" data, and such data should not raise stationarity issues. However, according to the literature, the stationarity of the series can be tested by applying specific tests to the "panel" data. In this case, I chose to apply the Levin, Lin & Chut test, the results showing their stationarity for a significance threshold of 10%. The “Least Squares Method” was applied taking into account unobservable effects. Following the Hausman test, in order to decide between the fixed effects model and the random effects model, the null hypothesis of this test was rejected and we accepted the fixed effects model for research (prob. with values between 1% and 6.7%). The null hypothesis of this test supports the use of the model with random effects, and the alternative assumes the model with fixed effects.

The fixed effects model studies the relationship between independent and dependent variables taking into account the fact that each financial institution has specific characteristics that can influence this relationship, while the random effects model does not take into account this aspect. The results of the Hausman test could be explained by the fact that the financial-banking sector is analysed, a series of prudential regulations being applied by all financial-banking institutions

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included in the analysis (all institutions belong to EU Member States, applying the same unitary requirements at European level). Moreover, this model is considered viable if we analyse companies from a certain economic sector or for a certain territory, as is the case of my research.

The estimation of the model resulted in the following equations for studying the relationship between corporate governance and the performance of financial-banking institutions:

- $ROE = \beta_0 + \beta_1*AUDIT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*NR\_COM + \beta_5*SIZE\_B + \beta_6*WOMEN\_B + \beta_7*BIG4 + \beta_8*SIZE\_FIRM01 + \beta_9*TIER\_1$ – ***model 1***
- $ROE = \beta_0 + \beta_1*AUDIT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*NR\_COM + \beta_5*SIZE\_B + \beta_6*WOMEN\_B + \beta_7*BIG4 + \beta_8*SIZE\_FIRM01 + \beta_9*CR\_AT$ – ***model 2***
- $ROE = \beta_0 + \beta_1*AUDIT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*NR\_COM + \beta_5*SIZE\_B + \beta_6*WOMEN\_B + \beta_7*SIZE\_FIRM01 + \beta_8*AT\_NON\_PERFORM + \beta_9*BIG4$ – ***model 3***
- $ROE = \beta_0 + \beta_1*AUDIT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*NR\_COM + \beta_5*SIZE\_B + \beta_6*WOMEN\_B + \beta_7*BIG4 + \beta_8*LEV + \beta_9*TIER\_1$ – ***model 4***
- $ROE = \beta_0 + \beta_1*AT\_NON\_PERFORM + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*AUDIT + \beta_5*WOMEN\_B + \beta_6*D(SIZE\_FIRM)$ – ***model 5***
- $ROA = \beta_0 + \beta_1*AUDIT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*NR\_COM + \beta_5*SIZE\_B + \beta_6*WOMEN\_B + \beta_7*BIG4 + \beta_8*SIZE\_FIRM01 + \beta_9*TIER\_1$ – ***model 6***
- $ROA = \beta_0 + \beta_1*AUDIT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*NR\_COM + \beta_5*SIZE\_B + \beta_6*WOMEN\_B + \beta_7*BIG4 + \beta_8*SIZE\_FIRM01 + \beta_9*CR\_AT$ – ***model 7***
- $ROA = \beta_0 + \beta_1*AUDIT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*NR\_COM + \beta_5*SIZE\_B + \beta_6*WOMEN\_B + \beta_7*SIZE\_FIRM01 + \beta_8*AT\_NON\_PERFORM + \beta_9*BIG4$ – ***model 8***
- $ROA = \beta_0 + \beta_1*CR\_AT + \beta_2*CEO\_DUAL + \beta_3*INDEPEND + \beta_4*SIZE\_B + \beta_5*WOMEN\_B + \beta_6*BIG4 + \beta_7*SIZE\_FIRM01$ – ***model 9***

β0 - is the free term that shows what would be the value of the dependent variable if all the included variables were equal to zero, and βn are the volatility coefficients of the explanatory variables, n = 1, ..., 9.

The main results related to the above equations, respectively the probabilities and the coefficients related to the variables and the constant are presented in Table 2.

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Table 2 Impact of corporate governance on the performance of financial-banking institutions

Independent variables	ROE					ROA			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
C	**-1,437***	**-1,349***	**-1,41***	**-0,26*****	**-0,273****	**-0,077****	**-0,069****	**-0,07****	**-0,06****
AT_NON_ PERFORM			**-0,721****		-0,35			**-0,05****	
AUDIT	**0,213***	**0,214***	**0,206***	**0,244***	**0,18***	**0,216***	**0,022***	**0,021***	
CR_AT		-0,032					**-0,069****		-0,002
CEO_DUAL	-0,007	-0,014	-0,02	-0,11	-0,003	0,026	0,001	0,001	0,001
INDEPEND	-0,092	-0,103	-0,109	-0,11		-0,007	-0,009	-0,009	0,001
D(LEV)				**-0,02*****					
WOMEN_B	-0,120	-0,085	-0,08	-0,13	-0,022	-0,004	-0,003	-0,003	0,003
BIG4	-0,050	-0,044	-0,004	-0,06		-0,066	-0,006	-0,006	-0,001
NR_COM	**0,039***	**0,004****	0,033	**0,05****	**0,05****	**0,003*****	**0,003****	**0,002*****	
D(SIZE_FIRM)					**0,38***				
SIZE_B	**-0,018****	**-0,021****	**-0,021****	**-0,01*****		**-0,002***	**-0,002***	**-0,002***	**-0,001*****
TIER_1	0,004			0,004		**0,004*****			
SIZE_FIRM01	**0,151***	**0,153***	**0,174***			**0,007****	**0,007****	**0,009****	**-0,01***
Adjusted R^2	38,03%	37,50%	38,60%	34,27%	38,62%	42,46%	41,88%	42,58%	36,91%
F-stat	5,56	5,68	5,91	5,04	5,67	6,72	6,63	6,79	5,83
DW	1,89	1,85	1,86	1,79	1,85	1,69	1,66	1,70	1,50
Observații	290	290	290	290	290	290	290	290	290

Note: 1) *, ** and *** indicate the significance threshold of 1%, 5% and 10%, for a confidence level of 99%, 95% and 90% respectively; 2) The table is the result of own processing, following the estimation of the model in Eviews10.

The model we chose for the analysis and which presents the best from a statistical point of view, but also financially, the connection between corporate governance and the performance of a

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financial-banking institution is the model given by the first equation. Therefore, after running the regression the equation of the model becomes:

ROE = -1,43 + 0,21*AUDIT - 0,007*CEO_DUAL - 0,09*INDEPEND + 0,03*NR_COM - 0,01*SIZE_B – 0,12*WOMEN_B – 0,05*BIG4 + 0,15* SIZE_FIRM01 + 0,004*TIER_1

At the same time, in order to test the validity of the results, we ran the above model for the period 2012-2019, eliminating from the analysis the period after the financial crisis, but also considering the fact that at European level stricter requirements regarding the application of governance principles was issued by the European Banking Authority in 2011. The results thus confirm the conclusions and the link between the elements of corporate governance and the performance of financial-banking institutions demonstrated for the period 2010-2019, showing a value for DW of 2.04 and 33.17 % for Adjusted R^2.

In addition, to investigate the robustness of the results we re-estimated the model using the Generalized Method of Moments (GMM). The model was developed by Arrelano and Bond (1991) and eliminates time-invariant fixed effects by analysing the variables at the first difference. At the same time, this model assumes that the error terms are not correlated and that the current values of the dependent variable are not affected by the values of previous years. It is important to emphasize that the results obtained are in agreement with those demonstrated by estimating the model by the least squares method.

Another analysis performed to show the validity of the results obtained aimed at considering fixed time effects (while maintaining fixed effects at cross-sectional level), running the model confirming the relationships between elements of corporate governance and the performance of financial-banking institutions that were obtained by estimation of the model with fixed effects at cross-sectional level. The values obtained for DW being 1.93, and for Adjusted R^2 38.07%. The tests performed are presented in Annex 4.

2.3. Interpretation of the results and their implications

Following the analysis of the results, it can be appreciated that some of the hypotheses proposed for analysis are confirmed and for others the results are not statistically significant. In Table 3 I presented the summary of the results obtained, indicating the hypotheses proposed for research and the conclusions of my research on the financial-banking sector in Central and Eastern Europe.

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Table 3 Centralized information on validated assumptions following model estimation

Variable	Hypotheses	ROE	ROA	Conclusion
C		-	-	
AT_NON_PERFORM	-	-	-	Valid
AUDIT	-	+	+	Valid
CR_AT	-	Statistically nonsignificant	-	Partial valid
CEO_DUAL	-	Statistically nonsignificant	Statistically nonsignificant	
INDEPEND	+	Statistically nonsignificant	Statistically nonsignificant	
WOMEN_B	+	Statistically nonsignificant	Statistically nonsignificant	
BIG4	+	Statistically nonsignificant	Statistically nonsignificant	
NR_COM	+	+	+	Valid
D(SIZE_FIRM)	+	Statistically nonsignificant	+	Partial valid
SIZE_B	-	-	-	Valid
TIER_1	+	Statistically nonsignificant	+	Partial valid
SIZE_FIRM01	+	+	+	Valid

A positive relationship can be observed between the size of the audit committee and the performance of financial-banking institutions. Therefore, we can appreciate that financial-banking institutions that have a higher audit committee will report a higher value of ROE. The results contradict the conclusions of Nongnit and Chaiporn (2017), respectively De Andres et al. (2005), but they are in line with those obtained by Zagorchev and Gao (2015) for US financial institutions. In addition, the study of Al-ahdala, et al. (2019) conducted on financial institutions

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in India highlighted that the performance of financial institutions is not significantly influenced by the size of the audit committee.

Also, both control variables, respectively the level 1 capital ratio (TIER_1) and the size of the company measured by the number of employees, have a positive direct relationship to the company's performance. The link could be explained by the fact that the TIER_1 indicator is a tool to limit the risk of over-indebtedness and can be considered a simplified solvency indicator because it measures the volume of risk-free assets compared to Tier 1 equity. Regarding the direct relationship between the size of the financial institution and performance, this could be explained by the fact that larger institutions have better visibility and enjoy greater trust and attention from stakeholders, which will have the effect of increasing their performance (Pantea el al. 2014).

The governance variable regarding the number of non-executive committees is also positively related to the performance of financial-banking institutions measured by ROE, which shows that the existence of such committees allows a better governance of institutions and how to assume the risks of to the management structures. The results are in line with those of Zagorchev and Gao (2015).

Regarding the size of the management structure and the performance of financial institutions, the results showed a negative relationship, thus confirming previous empirical studies. One argument in support could be that the lack of communication and coordination in a management structure with a large number of directors leads to low financial performance (Mertzanis et al. 2018). Moreover, in the case of financial institutions, Hartarska and Mersland found evidence of improving the performance of financial-banking institutions with board sizes of up to nine members, and if we look at the financial-banking institutions analysed we see that on average the board consists of 8 members. In addition, in most institutions, the recommendations are to have a board size of up to 9 members, and in the case of those institutions with larger management structures this aspect was argued by the large number of branches of those institutions.

The results obtained for the other corporate governance indicators are insignificant for a considered significance threshold of 10%. However, there is a negative link between the performance of financial institutions and all these indicators, namely for the duality of CEO, the independence of board members, the reputation of the auditor and the presence of women in the board.

In the case of the number of women on board, although the data obtained are not statistically significant, the negative relationship with financial performance could be justified by the fact

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that it is more of a sociological element that ensures gender equality, this type of diversity does not necessarily lead to better company performance (Heidrick and Struggles, 2007). Regarding the duality of functions, the result confirms previous research and the hypothesis, the performance of the institutions being better when the CEO does not hold the position of president (Nongnit and Chaiporn 2017), being much more difficult for the board to fulfil its essential function if there is duality.

Non-significant data were obtained on the independence of board members; moreover, the coefficient indicates a negative relationship with the performance of financial institutions, contrary to the hypothesis of research and literature.

Regarding the auditor's reputation and how it influences the performance of financial-banking institutions, there is also a negative coefficient, justified by the fact that one of the key reasons for choosing a large auditor is that companies operate internationally and thus require international auditors to audit their foreign subsidiaries (DeFond and Lennox 2011). It can be seen that it is not an element that improves the performance of institutions but has become more of a good practice at the level of financial groups.

From a statistical point of view, most of the variables in this model are below the 5% significance threshold. At the same time, it should be emphasized that the above results are also confirmed for the control variables related to the quality of assets held by financial institutions. In addition, to see if the time effects influence the results, we ran the model for the period 2012-2019, the results being confirmed as well. At the same time, the validity tests performed confirm the results obtained regarding the links between the governance variables studied and the performance of financial-banking institutions in Central and Eastern Europe.

Conclusions

The study is a continuation of previous research on the link between corporate governance and the performance of financial-banking institutions, helping to strengthen hypotheses, but also showing the need for further analysis on corporate governance factors that lead to better performance of institutions financial. The study focused on the influence of certain governance variables such as the size of the board, the share of independent directors, the number of members on the audit committee, the duality of the CEO, the share of women on the board, the auditor's reputation and the number of non-executive committees. In addition to the governance variables, we added in regression control variables, the size of the financial-banking institution and the Level 1capital ratio. The variables that indicate the performance used in the analysis were the return on assets and capital.

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The results support the previous conclusions regarding the negative relationship between the size of the board of directors and the performance of companies showing that management structures with a smaller number of members are more efficient and lead to better performance. At the same time, it is confirmed that larger financial institutions perform better than smaller ones, justified by the fact that they manage to attract easier capital, but also the trust of investors and customers.

With regard to internal control mechanisms, namely the audit committee and the number of non-executive committees, the study confirms previous theories showing that proper control and better governance diminishes excessive risk-taking and therefore positively influences the performance of institutions. This conclusion is particularly noteworthy, as previous research, examining the drivers of the 2007-2008 financial crisis has shown that the lack of internal control mechanisms and good governance has led to a significant level of risk being taken by the majority of financial institutions. In addition, this conclusion is supported by the evidence obtained in my research on the direct relationship between the performance of financial institutions in Central and Eastern Europe and the assumed risk measured by the Level 1 capital ratio.

Therefore, it is important for the management team to take into account the influence of the governance elements discussed above in order to have the best possible financial performance, especially for companies in the field where research is of significant importance. It is important to emphasize this aspect because, although we encounter these factors applicable in other fields, the current study was conducted for financial-banking institutions. Moreover, if we take into account the fact that the analysis was carried out taking into account fixed effects, we can appreciate that the results obtained are more important for financial institutions in a certain geographical area, namely Europe.

Regarding the other governance variables related to the structure of the board (number of independent directors and the share of women on the board), duality of functions and reputation of the auditor, I failed to obtain statistically significant results to support the research hypotheses and the conclusions of the empirical studies analysed.

The values obtained regarding the presence of women in the management structure of financial institutions could be justified by the fact that in order to comply with the requirements of increasing the number of women on board for sociological and not economic reasons, institutions are required to accept such positions and people with less expertise and experience in banking. It is also obvious that both expertise and experience are formed over time, with the occupation of

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positions within the management structures, which is why men are more suitable candidates to occupy such positions, which they have in fact always had.

Regarding the number of independent members, the duality of functions and the auditor's reputation, obtaining statistically insignificant results should not automatically lead to the idea that these factors do not influence the performance of financial-banking institutions, but rather the need to study continuing their connection with performance. In addition, it is important to note that in the case of financial institutions other control and risk mitigation mechanisms may be more effective (e.g. audit committee and number of non-executive committees), which is also justified by the requirements imposed by supervisors.

At the same time, the findings are similar when we exclude the period immediately after the 2008 crisis, and the results remain unchanged after robustness checks using the Generalized Method of Moments.

In conclusion, in order to maximize shareholder wealth, financial institutions are inclined to take extreme risks that can increase the instability of the financial system, as good governance practices can control and avoid the materialization of such negative effects on the economy. Moreover, the study illustrates that the current supervision and regulation of financial-banking institutions must be complemented by sound corporate governance mechanisms to maintain the stability of the financial system.

The results of this research are important for decision makers at both the financial institutions and the supervisory and governmental authorities. According to Laeven (2007), capital supervision, monitoring and regulation are not the only tools that affect financial institutions. Given the evidence, the performance of financial institutions is highly influenced by their own governance structures. In general, the paper suggests that governance plays a key role in ensuring the stability and progress of financial-banking institutions. Supervisors and central banks have also recently emphasized the need for effective corporate governance practices in the banking system, as bank failures and poor governance contribute to the development of financial crises.

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Annexes

Annex 1. Summary table on the main conclusions of the empirical studies analyzed and on the basis of which the research hypotheses were established

Author of the study	Dependent variables analyzed from the perspective of the link with the performance of companies/financial institutions	Conclusions
Iqbal, Nawaz* and *Ehsan (2018)	The size and composition of the board and the characteristics of the CEO and the relationship with the performance of the companies. The leverage was considered as a control variable.	The profitability of micro-financial firms in Asia (measured by ROA and ROE) is improved by applying good governance practices.
De Andres, Azofra* and *Lopez (2005)	The size and structure of the board of directors and the size of the audit committee were the governance variables analyzed, and as control variables the company size and leverage were analyzed.	The performance of companies in Western Europe and North America is in a positive relationship with the size of the company and a negative relationship with the size of the board, respectively in a positive relationship with the percentage of non-executive directors. Negative impact of the size of the audit committee on the performance of companies.
Mertzanis, Basuony* and *Mohamed (2018)	The size of the board of directors and the relationship with the way companies perform.	The performance and value of companies in the MENA region are higher for companies where the board of directors has a smaller size.
Hartarska* and *Mersland (2012)	Dimensiunea board-ului instituțiilor financiare și legătura cu performanța acestora.	The size of the board of financial institutions and the connection with their performance.
Nongnit* and *Chaiporn (2017)	The independence of the directors, the duality of the CEO and the size of the audit committee as governance variables, and as control variables the size of the company and the financial leverage.	They concluded that the independence of directors positively influences the performance of companies measured by ROA and ROE, while the duality of CEO is negatively correlated with performance. Firms with a larger number of members on the audit committee are more conservative in terms of capital structure which leads to a lower degree of indebtedness and lower performance of these companies.

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Erkens, Hung* and *Matos (2012)	Independent directors and how they influence performance during the 2007-2008 crisis.	The results showed that financial institutions with more independence at the board level generated lower profits during the crisis. Subsequent analyzes suggested that this was due to the fact that companies with several independent boards raised more equity during the crisis, which led to a transfer of wealth from existing shareholders to debtors.
Zagorchev* and *Gao (2015)	Number of independent members and non-executive committees. The dependent variables targeted risk elements, namely: non-performing assets / total assets, non-performing real estate assets / total assets, size of financial institutions, TIER_1, EBITDA / total assets and loans / total assets.	The main results showed that good corporate governance is associated with a low level of non-performing assets for financial institutions. The results also showed a positive link between the number of non-executive committees and the performance of US financial institutions. One argument would be that the existence of as many committees as possible has benefits from the perspective of governance and risk-taking by management structures, improving the performance of companies.
Dedu* and *Chițan (2013)	The characteristics of the management body and how it affects the performance of financial institutions listed on the Bucharest Stock Exchange.	Regarding the characteristics of board members, the findings support the idea of increasing the number of independent members, who should make independent and objective decisions thus increasing the performance of banks. Performance was measured by ROA and ROE.
Álvarez, Sanchez and Dominguez (2010)	They analyzed the influence of gender diversity on the performance of Spanish companies.	It should be noted that previous analyzes have in fact shown mixed results. The conclusions suggest that this type of diversity does not necessarily lead to a better performance of companies, a balanced presence of both sexes in management structures being easier to explain from a sociological point of view, rather than a strictly economic one.
Switzer, Tu* and *Wangb (2017)	The relationship between the internal governance variables, respectively the CEO duality and the default / credit risk for financial institutions.	The results showed that the CEO's influence on a company's credit risk is not clear, and implicitly on its performance.
Al-ahdala, Alsamhib, Tabashc	The size of the audit committee and how	The performance of financial institutions

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and *Farhand (2019)*	it influences the performance of financial institutions.	is not significantly influenced by the size of the audit committee.
DeFond* and *Lennox (2011)	Auditor's reputation on firms performance.	The positive relationship between audit reputation and company performance, a theory also confirmed by Nongnit and Chaiporn (2017).

Annex 2. List of financial-banking institutions included in the analysis

Țara	Denumirea instituției	Simbol
Romania	Banca Transilvania SA	BT
Romania	BRD Groupe Societe Generale SA	BRD
Romania	Patria Bank SA (BUCURESTI)	PATB
Austria	Erste Group Bank AG	ERSTE
Austria	Raiffeisen Bank International AG	RAIB
Austria	BKS Bank AG	BKS
Austria	Volksbank Vorarlberg e Gen	VOLK
Austria	Wiener Privatbank SE	WPBI
Croatia	HPB dd	HPB
Croatia	Slatinska Banka dd	SLTA
Croatia	Privredna Banka Zagreb dd	PDBA
Croatia	Zagrebacka Banka dd	ZABA
Hungary	MKB Bank Nyrt	MKB
Hungary	OTP Bank Nyrt	OTP
Bulgaria	Central Cooperative Bank AD	CCBA
Bulgaria	First Investment Bank AD	FIBA
Bulgaria	Bulgarian American Credit Bank AD	BACA
Czech Republic	Komercni Banka as	BKOM
Czech Republic	Moneta Money Bank as	MONET
Poland	Powszechna Kasa Oszczednosci Bank Polski SA	PKOB
Poland	Bank Millennium SA	MILP
Poland	Alior Bank SA	ALIOR
Poland	Bank Polska Kasa Opieki SA	PDBA
Poland	Idea Bank SA	IDEA
Poland	Bank Handlowy w Warszawie SA	BHW
Poland	mBank SA	mBank
Slovenia	NLB dd	NLB dd
Slovenia	Vseobecna Uverova Banka as	VUB
Slovak Republic	Tatra Banka as	Tatra

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Annex 3. The correlation matrix related to the variables included in the research

Denumire indicator	AT_NON_PERFORM	AUDIT	BIG4	CEO_DUAL	CR_AT	EBITDA_AT	INDEPEND	LEV	NR_COM	ROA	SIZE_B	ROE	SIZE_FIRM	SIZE_FIRM01	TIER_1	WOMEN_B
AT_NON_PERFORM	1.00															
AUDIT	-0.40	1.00														
BIG4	-0.09	-0.04	1.00													
CEO_DUAL	0.04	-0.19	0.09	1.00												
CR_AT	0.11	0.08	-0.51	0.18	1.00											
EBITDA_AT	-0.31	0.15	0.03	-0.13	-0.06	1.00										
INDEPEND	-0.11	0.27	0.34	0.00	0.01	-0.06	1.00									
LEV	-0.02	0.07	-0.14	0.04	0.32	0.06	-0.02	1.00								
NR_COM	-0.07	0.05	0.44	0.11	-0.23	0.12	0.30	-0.05	1.00							
ROA	-0.25	0.21	0.02	-0.13	-0.07	0.70	0.03	0.00	0.13	1.00						
SIZE_B	-0.30	0.41	0.16	-0.30	-0.21	0.11	0.19	-0.05	0.30	0.16	1.00					
ROE	-0.23	0.23	0.00	-0.13	-0.04	0.64	0.02	-0.01	0.12	0.85	0.13	1.00				
SIZE_FIRM	-0.37	0.26	0.29	-0.15	-0.39	0.15	0.11	-0.12	0.36	0.23	0.62	0.20	1.00			
SIZE_FIRM01	-0.30	0.20	0.24	-0.18	-0.34	0.15	0.01	-0.13	0.25	0.24	0.45	0.22	0.92	1.00		
TIER_1	-0.03	-0.18	-0.09	-0.02	0.09	0.49	-0.22	0.11	0.12	0.24	-0.20	0.17	-0.25	-0.25	1.00	
WOMEN_B	0.07	0.09	0.02	-0.15	0.31	-0.14	0.32	0.09	0.20	-0.06	0.01	-0.03	0.06	0.03	-0.13	1.00

Anexa 4. Validity test results performed in Eviews10

1. Model estimation results for the period 2012-2019

Dependent Variable: ROE				
Method: Panel Least Squares				
Sample: 2012 2019				
Cross-sections included: 29				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AUDIT	0.294593	0.081911	3.596511	0.0004
BIG4	-0.004866	0.133255	-0.036520	0.9709
CEO_DUAL	-0.035817	0.052187	-0.686317	0.4933
INDEPEND	-0.105295	0.115522	-0.911467	0.3632
NR_COM	0.064568	0.030710	2.102515	0.0368
SIZE_B	-0.020542	0.011608	-1.769631	0.0784
SIZE_FIRM01	0.115099	0.060130	1.914159	0.0571
TIER_1	0.013621	0.004746	2.870131	0.0046
WOMEN_B	-0.133416	0.157142	-0.849014	0.3969
C	-1.489265	0.508028	-2.931463	0.0038
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.439696	Mean dependent var		0.064047

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Adjusted R-squared	0.331720	S.D. dependent var	0.196588
S.E. of regression	0.160708	Akaike info criterion	-0.668610
Sum squared resid	4.958768	Schwarz criterion	-0.100580
Log likelihood	114.8902	Hannan-Quinn criter.	-0.439478
F-statistic	4.072186	Durbin-Watson stat	2.041673
Prob(F-statistic)	0.000000		

2. Model estimation results by GMM method

Dependent Variable: ROE				
Method: Panel Generalized Method of Moments				
Sample: 2010 2019				
Cross-sections included: 29				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
AUDIT	0.213520	0.067814	3.148621	0.0018
BIG4	-0.050550	0.101041	-0.500291	0.6173
CEO_DUAL	-0.007872	0.040841	-0.192740	0.8473
INDEPEND	-0.092684	0.085680	-1.081740	0.2804
NR_COM	0.039820	0.021953	1.813860	0.0709
SIZE_B	-0.018614	0.009389	-1.982516	0.0485
SIZE_FIRM01	0.151689	0.044653	3.397049	0.0008
TIER_1	0.004490	0.002932	1.531368	0.1269
WOMEN_B	-0.120617	0.119881	-1.006145	0.3153
C	-1.433709	0.374933	-3.823909	0.0002
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.451527	Mean dependent var		0.063573
Adjusted R-squared	0.370354	S.D. dependent var		0.192079
S.E. of regression	0.152415	Sum squared resid		5.807598
Durbin-Watson stat	1.874268	J-statistic		7.042018
Instrument rank	38			

3. Model estimation results with fixed time effects and at cross-sectional level

Dependent Variable: ROE
Method: Panel Least Squares
Sample: 2010 2019
Cross-sections included: 29

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
AUDIT	0.235227	0.068157	3.451258	0.0007
BIG4	-0.038599	0.102462	-0.376717	0.7067
CEO_DUAL	-0.007622	0.040616	-0.187653	0.8513
INDEPEND	-0.116639	0.085500	-1.364206	0.1738
NR_COM	0.048489	0.025049	1.935744	0.0541
SIZE_B	-0.021081	0.009448	-2.231214	0.0266
SIZE_FIRM01	0.156203	0.044438	3.515069	0.0005
TIER_1	0.003668	0.002933	1.250729	0.2122
WOMEN_B	-0.126288	0.123176	-1.025263	0.3063
C	-1.496918	0.378098	-3.959075	0.0001
	Effects Specification			
Cross-section fixed (dummy variables)				
Period fixed (dummy variables)				
R-squared	0.479973	Mean dependent var		0.063573
Adjusted R-squared	0.380715	S.D. dependent var		0.192079
S.E. of regression	0.151156	Akaike info criterion		-0.792784
Sum squared resid	5.506399	Schwarz criterion		-0.195009
Log likelihood	161.1608	Hannan-Quinn criter.		-0.553231
F-statistic	4.835594	Durbin-Watson stat		1.930226
Prob(F-statistic)	0.000000			