

# Do large European banks benefit from sound corporate governance in good and bad times?

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## Abstract

The corporate governance of banks has special relevance, due to the specifics of the banking sector and its particular function in the economy. This paper aims to investigate the effect that internal corporate governance mechanisms have on the performance of commercial banks, how it differs for developed and emerging European markets, and whether it has changed as a result of the financial crisis. The key statistical tool used in the paper is the panel data analysis of a sample of 150 banks from 27 countries, over the period 2004–2011. We document the evidence partially supporting the effectiveness of smaller boards of directors, while the board independence seems to be negatively associated with the strategic performance of banks, especially in emerging markets and in times of a crisis. In emerging markets, state-owned banks appear to be more market-efficient, while high ownership concentration is considered by market players to be a negative signal. Studying the 2008 financial crisis period provides the evidence for structural movements in nonfinancial performance drivers.

**Keywords:** corporate governance; bank performance; commercial banks; independent directors; ownership structure; emerging markets

**JEL:** G32, G34.

## Introduction

The financial crisis of 2008 showed how little we know about the governance of banks and how crucial the sustainability of the banking sector is. The corporate governance of banks has special relevance, due to the specifics of the banking sector and its particular function in the economy. Therefore, a better understanding of corporate governance as a driver of bank performance is needed. Before the financial turmoil, the Basel Committee on Banking Supervision called for a need to study and improve the corporate governance of financial institutions. The Basel Committee emphasized the importance of the senior management structure and the board of directors [Enhancing Corporate Governance for Banking Organizations, 1999, 2006]. According to the Basel Committee, good corporate governance is necessary to guarantee a sound financial system. Improving corporate board structures, with respect to their size and composition, has been one of the main issues in corporate governance initiatives undertaken by international authorities over the past decade [EU Commission Communication, 2005; Basel Committee, 2006]. At the same time, ownership structure is not regulated. Firms are obligated to disclose the shareholders that own more than a pre-determined percentage of equity, depending on a country specific regulation. Over the last two decades, many mergers and acquisitions in the banking sector have taken place all over the world and have changed the ownership type of banks, from government to private ones or from domestic to foreign. Consequently, the average level of ownership concentration has increased. These changes raise a number of research questions. What type of owner strives to maximize bank performance? Which level of ownership concentration is most ideal for a bank?

The main purpose of this paper is to examine which corporate governance practices are better than others in terms of performance, and it uses empirical evidence from the European banking sector during the period of 2004–2011. In order to do so, we study the relationship between the corporate performance of European commercial banks and their corporate governance mechanisms, such as the board of directors and ownership structure, using a sample of 150 European banks.

The study raised two additional questions: 1) Are the best corporate governance practices different in emerging and developed countries within the European banking sector? 2) Have they changed as a result of the financial crisis?

Our empirical analysis extends the existing literature in three main directions. First, this paper goes beyond the traditional stylized models of a relationship between corporate performance and an exact corporate governance indicator. The aim is to develop a complex model of bank performance that combines the performance effects of key corporate governance mechanisms and capital structure using the concept of the firm's financial architecture, according to Myers (1999). Myers maintains that a firm's financial architecture refers to the combination of differ-

ent structural dimensions, including ownership structure, financing (leverage), corporate control and governance.

Second, the paper makes contribution to the comparable analysis of bank performance drivers in different countries, which have different legislature and levels of regulation. Foremost, a model of bank performance was developed and verified using a pooled sample of banks in European countries. Then a comparison between banks in developed and emerging countries was conducted to assess whether there are significant differences in the model of performance. This question is important in terms of adapting regulation from developed markets for regulatory use in emerging countries.

Finally, as far as the financial crisis is concerned, most existing research focuses on bank performance during the crisis and examines which corporate governance characteristics are associated with the underperformance of commercial banks. This paper examines whether there are structural changes in the model of bank performance as a result of the 2008 financial crisis.

The paper is organized as follows. Section 2 presents an overview of the extant research and the hypotheses for our empirical analysis. Section 3 describes the data sources, outlines the model and offers some descriptive statistics. Section 4 provides the obtained empirical results. Section 5 suggests the potential policy implications of the research.

## Regulatory framework and agency conflicts between stakeholders

This section contains a short review of the corporate governance regulation framework and research papers, which focus on corporate governance mechanisms' impact on bank performance, as well as outlines the main research hypotheses.

The review of existing empirical research includes discussion of the performance effect of the board of directors and ownership structure, the specifics of the effect of corporate governance mechanisms in emerging markets, in contrast to developed markets and analysis of the literature during the period of economic stability in contrast to the global financial crisis and the post-crisis years.

## Corporate governance guidelines and regulatory framework

The Basel Committee on Banking Supervision introduced the principles for enhancing corporate governance in financial institutions in 1999, and revised them on a continuous basis in 2006 and 2010, following general changes in the economic environment. Unlike the requirements regarding bank capital structure and risk level within the Basel framework, corporate governance principles have a non-binding character. According to the Principles for enhancing corporate governance developed by the Basel Committee (2010), the board should, first, amass adequate knowledge and relevant

experience. Second, it should have an adequate number of members and an appropriate composition, including a number of qualified non-executive directors sufficiently large to provide the institution with effective governance and oversight. Third, the separation of CEO and Chairman positions is also not required, though it is advised that the Chairman should be a non-executive director. Over the years, more and more banks have adjusted their corporate governance structures according to these recommendations.

During the global financial crisis, decisions made by the board of directors and management may be crucial for the bank's survival. Therefore, well-structured corporate governance has a special relevance for the banking sector. Inadequate risk oversight due to poor corporate governance may lead to excessive risk-taking, that may have an impact not only on a bank itself but also on the entire industry. According to the Basel Committee and the EU Commission, in many cases, poor board monitoring is caused by insufficient time commitment, technical knowledge or low diversity in board composition.

The majority of corporate governance codes in the US and Europe have been developed by different institutions and governmental organizations, without legal authority and therefore have a non-binding nature, falling into the category of recommendations and advice. Conversely, the requirements of the stock exchange dictate them binding corporate governance rules that companies must comply with. In order to be listed on a certain exchange the company must conform to the specific level of disclosure and corporate governance structure. For example, NYSE Euronext requires companies to have a board of directors containing at least three-quarters of independent members. The rules of the London Stock Exchange are considered to be less strict than those of NYSE Euronext. For example, half of the board of directors should be independent only for the premium listing.

These requirements are evolving over time and have a tendency to become stricter. For example, the Moscow Stock Exchange made amendments to its listing rules that took effect in June 2014. One of the main changes concerns the requirements for the number of independent directors on the board and the re-definition of "independent director". All the rules and recommendations create a solid base for an enhanced corporate governance in commercial banks, which we compare in this paper to the existing empirical evidence for the best corporate governance practices. As far as the regulation is concerned, we aim to answer the following question: What recommendations should be addressed in order to improve bank performance?

### **Board of directors' structure as a source of agency conflicts**

According to a number of studies, the board of directors could be a source of multiple agency conflicts [e.g. Jensen, 1993]. Agency costs could be a function of the number of directors, the proportion of outside directors, gender diversity, or CEO duality.

On the one hand, from a theoretical point of view, larger boards of directors accumulate more human capital, knowledge, and experience, which in turn allows the board to provide management with better monitoring and advice. On the other hand, an excess of members on the board can create additional problems with coordination and communication among directors, in comparison to smaller boards. Within larger boards, more compromises should be reached in order to make a decision, making this process less flexible and more time consuming. It also results in lower incentives for monitoring management and makes the board more dependent on the CEO's opinion, which negatively impacts on efficiency [Yermack, 1996]. In general, the effect of a board's size on bank value is a trade-off between advantages (human capital) and disadvantages (coordination problems). It would seemingly follow that this trade-off should create a non-linear relationship between board size and bank performance, yet little proof of such a relationship can be found in the existing literature [Andres, Vallelado, 2008; Grove et al., 2011].

However, the majority of authors find the relationship between board size and performance to be negative, showing that, in developed markets, the disadvantages of large boards are generally stronger than the advantages [Staikouras et al., 2007]. This holds true for the emerging markets as well [Adusei, 2011; Pathan et al., 2007; Liang et al., 2013]. Nevertheless, some authors show a positive relationship, arguing that the banking sector differs from other sectors, and additional knowledge and experience provided by larger boards contributes to better bank performance [Adams, Mehran, 2008; Aebi et al., 2012; Belkhir, 2009].

Following Staikouras et al. (2007), we believe that the coordination problems outweigh the advantages of bringing in additional directors and base the first hypothesis around this.

*Hypothesis 1: There is a negative relationship between board size and bank performance.*

Both the corporate governance codes of different countries and the Basel Committee recommend having a substantial proportion of outsiders in the board and take into account the advantages of their independence. However, the existing literature does not provide us with a conclusion regarding the effect of independent directors on the board.

On the one hand, independent directors have fewer conflicts of interests when acting as monitoring managers. By definition, they should not depend on the CEO's opinion and they have a reputational incentive to perform their functions in such a way that results in higher bank performance [Grove et al., 2011; Pathan et al., 2007]. On the other hand, an excessive proportion of non-executive directors could damage the advisory role of the board. For example, Ciampi (2015) reports that for small enterprises having a board not dominated by outsiders is negatively correlated with the firm's default. Moreover, some authors point out that the effectiveness of outside directors depends on the cost of acquiring information about the firm [see Duchin et al., 2010].

In addition, some authors analyzed the role of independent directors on the board committees [Yeh et al., 2011] and obtained empirical evidence that, during the financial crisis, banks with more independent auditing and risk committees were performing better than those with fewer.

While there is major evidence suggesting the positive performance effects of independent directors, some authors do show a negative effect of outside directors, who report that the majority of affiliated directors on the board is correlated with an improved performance [Kyereboah-Coleman, Biekpe, 2006; Bino, Tomar, 2012]. Andres and Vallelado (2008) support the hypothesis on the board independence trade-off, and show a reverse non-linear relationship between independent directors and the performance of US banks, implying the existence of an optimal percentage of outsiders on the board. The second hypothesis is based on the conventional view on the effect of independent directors.

*Hypothesis 2: There is a positive relationship between board independence and bank performance.*

For the last decade, the concept of gender diversity on the board of directors and in senior management has been promoted as beneficial for business. However, there are still relatively few women in senior positions in companies. Among the largest public companies across Europe, women account for just 11% of the board members [European Commission, 2010].

Some studies provide empirical evidence that those companies with the highest proportion of women in executive committees outperform the companies with no women in senior management, sometimes by as much as 41% in terms of return on equity [McKinsey&Company, 2010; Farrel, Hersh, 2005]. One of the possible explanations for the positive effect of the board's gender diversity is that it increases creativity and innovation by adding fresh knowledge, skills, and experience. In comparison to homogenous boards, diverse boards evaluate more alternatives during the decision making process, which leads to better corporate performance.

There is also some evidence that a gender-balanced board is more likely to pay attention to managing and controlling risk [European Commission, 2012]. Beck and Behr (2013) observe the same tendency in banks on the loan issuing level, as loans monitored by female loan officers are less likely to become problematic. The opinion that board diversity can be harmful for corporate performance is not particularly common. For example, Berger et al. (2012) found that the corporate governance changes leading to a higher share of female executives increase risk taking. Conversely, some authors claim that the effect of gender diversity is insignificant [Hagendorff, Keasey, 2012].

Supporting the view that diversity adds value:

*Hypothesis 3: Boards of directors that are more gender diverse are associated with better bank performance.*

There are other characteristics of the corporate governance mechanisms that are worth mentioning as they also

receive attention in the existing literature. For example, CEO duality, i.e. the situation when CEO and Chairman of the board positions are taken by the same person, is generally considered to be a negative driver of bank performance [Pi, Timme, 1993; Grove et al., 2011], while Essen et al. (2013) found that during the financial crisis, CEO duality was associated with better performance.

## Ownership structure

The ownership structure of commercial banks should also be taken into account as it is the site of many agency conflicts. An ownership structure is usually considered through two main lenses; first, the degree of ownership concentration and, second, the type of owners (the state, foreign entities, institutions, management, etc.). High ownership concentration leads to the conflicts between minor and major shareholders, while different types of owners lead to a variety of agency conflicts. The most important one is the conflict between private shareholders and the state.

A high ownership concentration has been proven to have a positive effect on a firm's value because large shareholders have greater incentives to monitor the bank's management as they have more to lose [Grove et al., 2011]. Ciampi (2015) shows that for small enterprises higher ownership concentration is negatively associated with the company's default. On the other hand, large shareholders may have too much influence on the board and in management and if they have any goals besides the company value maximization (as governments may have) then it may not be effective for the firm itself, as well as for the minority shareholders. Rowe et al. (2011), using Chinese banks, and Riewsthirathorn et al. (2011), using East-Asian banks, both demonstrate that lower block ownership is associated with better performance. There is also evidence that this effect may vary across different institutional settings [Busta, 2008].

It is widely believed that a high ownership concentration is not beneficial for commercial banks, despite the existing relatively mixed and inconclusive empirical evidence.

*Hypothesis 4: There is a negative relationship between bank performance and ownership concentration.*

Many authors also analyze the influence of shareholder types on bank performance. Among the most studied shareholders are institutions, i.e. banks and funds, management, foreign owners, families and the government. There is some evidence to support the negative influence of state ownership (e.g. see Berger et al., 2005; Farazi et al. (2011) for Middle East and North Africa; Berger et al. (2009) and Lin and Zhang (2009) for China; Micco et al. (2007) for developing countries). However, during the global financial crisis, a state could have a positive influence as a bank owner on a bank's financial stability and performance, as there is a possibility of a bail-out. Cornett et al. (2010) found strong evidence for this relationship during the Asian crisis of the early 2000s. The fifth hypothesis is based on the more widely accepted view of the negative influence of state ownership.

*Hypothesis 5: There is a negative relationship between bank performance and state ownership.*

The established governance traditions, greater experience, a higher level of discipline and better access to global capital markets generally allow banks with foreign owners to outperform domestically-owned banks. A number of empirical studies find a positive effect of foreign ownership on performance in the emerging markets [e.g. Bonin et al., 2005; Kim, Rasiyah, 2010]. However, the results regarding the effect of foreign ownership vary across countries. For example, Berger et al. (2009) show that, in China, foreign banks tend to be the most efficient, while Lensink and Naaborg (2007) analyzed an international sample which showed that an increase in foreign ownership negatively affects bank performance.

Some authors also find evidence for a positive effect of managerial ownership on bank performance [Gulamhussen et al., 2012; Bino, Tomar, 2012], as in this case the interests of shareholders and management were more aligned. The empirical findings for institutional ownership are mixed, as some studies associate it with an improved bank performance [Bino, Tomar, 2012], while others find that banks with higher institutional ownership tend to take more risk [Erkens et al., 2012; Barry et al., 2011] potentially leading to a worse performance during the financial crisis. Another widely discussed corporate governance issue is CEO compensation and its association with bank riskiness and performance [Vallascas and Hagedorff, 2013].

However, the analysis of insiders' participation and compensation was beyond the scope of this study.

### Developed vs. emerging markets

The sample consists of banks from 27 European countries. To capture the national differences in the level of development the data set is divided into developed and emerging markets. There is a variety of interpretations for the term "emerging market", but this paper considers those countries that are going through the process of economic transition (for example, industrialization) and which are at the stage of rapid growth and development to be classified as "emerging". 12 countries in the sample are considered to be emerging according to the classifications of several international organizations and index makers (IMF, Dow Jones, MSCI, S&P, FTSE, The Economist, BBVA, Columbia University EMGP). The remaining 15 countries in the sample have been recognized as "developed countries" by the IMF and the Central Intelligence Agency (CIA's 'The World Factbook 2011').

The analysis shows significant differences in a variety of development indicators for developed and emerging countries. The emerging countries have much shorter history of a market economy compared to the developed ones, which results in a lower level of institutional development. The emerging markets are characterized by a higher growth potential for both banks' profits as well as for a country's GDP, but also by higher risks, including political instability. Banking systems in the emerging

markets are financially weaker in terms of capital and they operate under limited competition. Financial markets in the developed countries are more sophisticated and liberalized; they have a better quality of accounting and reporting, better disclosure of the central bank, and protection of minority shareholders' rights. These differences may explain the possibly lower efficiency of the corporate governance mechanisms in the emerging markets. This leads to the sixth hypothesis.

*Hypothesis 6: The relationship between corporate governance and bank performance is significantly different in the developed and emerging markets.*

### Corporate governance and crisis environment

For the last five years, a greater number of studies have focused on the relationship between corporate governance and the global financial crisis of 2008. Some authors examine to what extent governance contributed to the financial crisis [Adams, 2012; Fahlenbrach, Stulz, 2011] and find that banks with more shareholder-oriented boards performed significantly worse during the crisis [Beltratti, Stulz, 2012].

Essen et al. (2013) suggested that good governance systems designed by companies and governments to assure proper oversight may fail during a financial crisis. We would like to examine whether the entire model of bank performance has changed as a result of the financial crisis. Therefore, the crisis year was included as a dummy variable in the regression analysis for the following hypothesis testing.

*Hypothesis 7: The relationship between corporate governance and bank performance differs significantly before and after the financial crisis of 2008.*

## Data and model

### Data sources

To test the hypotheses listed above, we obtained data on corporate governance and performance in the European banking sector over the period of 2004–2011. This particular period includes the crisis year, which allows us to study the impact of the financial crisis on the relationship between corporate governance and bank performance.

First, we checked the availability of the structured financial information for the banks from different European countries over the studied period from the Bloomberg database and formed a list of the banks that could be potentially included in the sample. Second, we obtained the banks' annual reports from their official websites and analyzed whether they disclosed the necessary information about their board of directors and ownership structure, which we collected manually and supplemented with additional data from the Bloomberg database. Some companies were discounted at this stage, due to the lack of publicly available annual reports or due to the poor corporate governance information disclosure in these

reports. As a result, the sample mainly consists of the largest commercial banks that have sufficient disclosure practices, which means that there is some selection bias in the sample. A way to eliminate this bias was not found, because the level of information disclosure increases with a country's level of development and a firm's size. The World Bank database was used as a main source of the countries' specific indicators.

There were a few outlier observations in the financial data that could be the result of an irregular event, or just an error made during data collection. To avoid an additional bias in the estimations, the financial data was winsorized at a 1%-level.

The final sample includes 150 commercial banks from 27 European countries, which form a balanced panel with up to 1,020 observations for the models tested. The emerging markets are represented by 12 countries and 70 banks (emerging countries: Bulgaria, Croatia, the Czech Republic, Hungary, Lithuania, Poland, Romania, Russia, Serbia, the Slovak Republic, Slovenia, and Ukraine; Developed countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom). The 150 banks in the sample represent only around 2% of the total number of banks in 27 countries, but they comprise about 60% of banking assets and 63% of issued loans.

## Model and main variables

The research model aims to verify the influence of governance mechanisms on the performance of commercial banks. The general equation of the model is as follows:

$$Perf_{it} = \beta_i^0 + \sum_{n=1}^3 \beta^n \overline{BoD}_{it} + \sum_{n=4}^5 \beta^n \overline{OS}_{it} + \sum_{n=6}^{12} \beta^n \overline{Firm}_{it} + \sum_{n=13}^{15} \beta^n \overline{Country}_{it} + \beta^{16} Crisis_t \quad (1)$$

Where:

- $i/t$  is a bank/time period indicator;
- $Perf$  is an indicator for a bank's performance;
- $BoD$  is a vector of the board of directors' characteristics;
- $OS$  is a vector of the ownership structure's characteristics;
- $Firm$  is a vector of bank specific characteristics (risk, leverage, bank size);
- $Country$  is a vector of country-specific control variables;
- $Crisis$  is a dummy variable for the year 2008, when the financial crisis was at its strongest.

Bank performance is measured by four variables in order to control for robustness. Two of these variables are market based and two are based on book values. The research is mainly focused on Tobin's Q, which is a market-value based ratio and is a proxy measure for a strategic performance. The second market-based indicator is a total shareholder return (TSR), which takes changes in a bank's share price and the dividends paid to shareholders during the year into account. Average return on assets (ROA) and average return on equity (ROE) were used to assess book measures for a bank's performance.

To measure ownership concentration, we use the aggregate stake of the three shareholders of the bank (MAJ3). The percentage of a bank's state shareholding (GOVN) is also incorporated in the regression.

Risk plays an essential role in the banking business, therefore we include its measures in the model: volatility of operating income (OIVOL) and the beta coefficient (BETA) as an indicator of systematic risk. A bank's capital structure is included in the model as the debt-to-equity ratio (LEV). A summary description of all key variables is presented in Table 1.

**Table 1.** Description of the main variables used in the regression analysis

Board of Directors	
<i>BSIZE</i>	Size, i.e. the number of directors in the bank's board of directors
<i>IND</i>	Percentage of independent directors in the board of the bank
<i>FEM</i>	Percentage of female directors in the board of the bank
Ownership Structure	
<i>MAJ3</i>	Equity share of the three largest shareholders of the bank, %
<i>GOVN</i>	Shareholding of the government in the bank's ownership, %

**Bank specific controls**

AGE	Bank's age, i.e. natural logarithm of the number of years since the bank was founded.
SIZE	Bank's size, i.e. natural logarithm of total assets of the bank
DIVERS	Percentage of non-interest income in the total income, which controls for bank's diversification
GNII	Annual growth of net interest income of the bank (%), which controls for the growth of the bank's core business
LEV	Leverage, i.e. total debt to common equity that controls for the bank's capital structure
OIVOL	Operating income volatility, a measure of operating risk
BETA	Coefficient beta, a measure of systematic risk

**Country specific controls**

GDP	Annual GDP growth (%) that controls for country's growth
MSIZE	Natural logarithm of market capitalization of all listed companies in the country, proxy for market size
NPR	Non-performing loans ratio in the country's banking sector, proxy for country risk

**Performance measures**

ROA	Return on average assets of the bank, measure of bank's profitability
ROE	Return on average equity of the bank, measure of bank's profitability
TOBQ	Tobin's Q calculated as the ratio of (Total assets + (Market value of equity – Book value of equity)) to Total assets, a measure of bank's strategic performance
TSR	Total shareholder return, based on a change of market share price over the year and a dividend yield

**Time controls**

CRISIS	Dummy variable that equals one for the crisis year 2008 and zero otherwise
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**3.3. Statistics and trends**

The statistics for the main variables are presented in Table 2. The difference between averages for the subsamples of the emerging and developed markets was tested and appeared to be significant for the majority of the indicators. The average size of the board is around 15 members in the developed countries, with 8 directors in the emerging countries. At the same time, developed markets are characterized by a higher level of board independence – 54% on average versus 34% in emerging countries.

An average stake owned by the three largest shareholders, which is used to indicate ownership concentration level, is 74% in the emerging countries and only 41% in the developed ones. Average state shareholdings are almost three times bigger in the emerging markets – 17% versus 6% in developed Europe.

The corporate governance indicators began to adjust as a result of the crisis, although in general the changes were not drastic. A slight decrease in the average board size – by 1 member – took place from 2004 to 2011. The ownership concentration measured as the aggregated stake of the three largest shareholders increased over the 8-year period by 11%, demonstrating a consolidation trend in the sector. Over the years, state ownership grew by 5% mainly due to rescues of the banks during the financial crisis of 2008.

In the sample, only 4.5% of the total number of observations indicate CEO duality. Such a small percentage may be explained by the recommendations on the CEO-Chairman positions split that began to appear in corporate governance codes in 2002 (for example, codes in the UK and Russia).

As for the bank's performance dynamics, there was also a sharp decline in Tobin's Q and in total shareholder return in 2008, as well as a decrease in ROA and ROE in 2008–2009 in both the developed and emerging countries.

**Table 2.** Comparison of the key statistics for the main variables

The table reports averages for the main variables for the complete sample (27 countries), emerging and developed markets as well as a comparison between time periods.

Variable	Complete sample	Emerging Markets	Developed Markets	Before crisis	2008	After crisis	
<i>BoD &amp; Ownership</i>	<i>BSIZE</i>	11.90	8.37	14.83	12.32	11.74	11.53
	<i>FEM</i>	0.14	0.14	0.14	0.13	0.14	0.14
	<i>IND</i>	0.45	0.34	0.54	0.45	0.45	0.45
	<i>MAJ3</i>	0.56	0.74	0.41	0.52	0.57	0.59
	<i>GOVN</i>	0.11	0.17	0.06	0.09	0.10	0.13
<i>Banks specific controls</i>	<i>AGE</i>	3.62	2.98	4.19	3.54	3.65	3.71
	<i>SIZE</i>	3.11	1.51	4.45	2.91	3.25	3.30
	<i>DIVERS</i>	0.28	0.26	0.30	0.31	0.19	0.25
	<i>GNII</i>	0.18	0.27	0.11	0.27	0.36	0.10
	<i>LEV</i>	6.44	2.80	9.48	6.46	7.48	6.42
	<i>OIVOL</i>	0.65	0.15	1.05	0.37	0.95	0.90
	<i>BETA</i>	0.83	0.75	0.90	0.73	0.87	0.93
<i>Country specific controls</i>	<i>GDP</i>	0.02	0.04	0.01	0.05	0.02	0.00
	<i>MSIZE</i>	5.44	4.48	6.28	5.55	5.16	5.32
	<i>NPR</i>	0.05	0.07	0.03	0.04	0.03	0.05
<i>Performance</i>	<i>ROA</i>	0.01	0.02	0.01	0.02	0.01	0.01
	<i>ROE</i>	0.13	0.14	0.12	0.21	0.06	0.05
	<i>TOBQ</i>	1.05	1.10	1.02	1.10	0.99	1.01
	<i>TSR</i>	0.06	0.12	0.03	0.30	-0.58	-0.12
<i>Number of Banks</i>	150	70	80	-	-	-	

## Results

### Common corporate governance mechanisms in European banks

For the sample of 150 European banks, we estimated fixed effect regressions for four measures of performance: for Tobin's Q as the main performance indicator and the other three for the robustness check. The results are presented in Table 3.

The relationship between the size of a board of directors and bank performance in terms of Tobin's Q is negative with the p-values approaching a level of significance. Therefore, the first hypothesis has not been fully rejected, which supports some of the previous research papers and the widespread opinion that smaller boards are more efficient.

We find that independent directors are negatively associated with the strategic performance of commercial banks. This result runs contradictory to the common view on the independent directors, and the second hypothesis. The discussion of the implications of this result is presented below.

The share of female directors in the board was found to be insignificant. During the analyzed period, female board members did not have an opportunity to employ their skills and knowledge fully as their percentage in the boards was very low (14% on average) and they could not have sufficient influence over decisions-making. There are differences between the male and female approaches to monitoring and advising that should appear in the banks' results over time.

The results indicate that the relationship between ownership concentration and strategic bank performance is negative, which implies that the ineffectiveness of decisions advocated by the major shareholders outweighs the benefits of their potentially advanced monitoring. The market is aware of the downside to concentrated ownership and may consider it a bad signal. As a result, a company's share prices may trade at a discount to peer companies, with dispersed ownership leading to lower market capitalization and lower Tobin's Q.



For the studied sample the state ownership has a positive effect on bank performance, though it does not support the most commonly acknowledged view. We document this relationship for Tobin's Q, whose market and book value based elements allow us to consider it as a more long-term focused indicator, in comparison to the banks' returns, which are based on a one-year operating income. Therefore, the result shows that the government involvement in commercial banks' capital may be beneficial in the long-term. In addition, state support during the financial crisis may increase market confidence.

As it was expected, the financial crisis of 2008 had a significant negative impact on the strategic performance of European commercial banks, which partially supports the hypothesis.

**Table 3.** Bank corporate governance and performance in developed and emerging markets

The table presents regression results of bank performance on indicators of corporate governance with controlling for bank and country specifics for the total sample and two subsamples – emerging and developed markets. The Chow test has been used to check whether there are any significant structural differences between coefficients in the models for different subsamples. Panel A presents the results for market value based measures of performance and Panel B shows the estimates for book measures. Robust standard errors were used. \*, \*\*, \*\*\* indicate significance at the 10%, 5% and 1% levels respectively.

PANEL A: Market Based Performance						
Tobin's Q						
Variable	Complete sample		Emerging markets		Developed markets	
	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.
CRISIS	-.038***	-3.31	-.085***	-3.33	-.014	-1.57
BSIZE	-.001	-0.93	-.009	-1.05	-.001*	-1.82
IND	-.116*	-1.66	-.185	-1.26	-.003	-0.17
MAJ3	-.094	-1.63	-.296**	-2.14	.033	1.43
GOVN	.203**	2.42	.460***	2.98	.014	0.88
AGE	-.055**	-2.13	-.111	-1.63	-.011	-0.67
SIZE	-.051***	-3.34	-.087**	-2.38	-.024	-1.27
GNII	.038*	1.75	.043	01.сеН	.025	1.37
LEV	-.003*	-1.76	-.007*	-1.84	.000	0.08
BETA	-.036*	-1.93	-.018	-0.79	-.076***	-2.94
GDP	.304**	2.17	.335	1.33	.054	0.61
MSIZE	.069***	6.26	.105***	4.19	.050***	5.39
Cons	1.213***	11.13	1.498***	5.59	.943***	9.55
<b>Adjusted R2</b>	<b>0.483</b>		<b>0.511</b>		<b>0.479</b>	
<i>Prob. F-stat</i>	0.000		0.000		0.000	
<i>Chow prob.</i>	0.000					
<i>Observations</i>	869		322		547	

<b>Total Shareholder Return</b>						
Variable	Complete sample		Emerging markets		Developed markets	
	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.
CRISIS	-.583***	-13.02	-.718***	-6.85	-.532***	-12.12
BSIZE						
IND						
MAJ3	-.449*	-1.71	-.602	-0.98	-.509*	-1.72
GOVN	.595*	1.89	.655	1.22	.663*	1.82
AGE	-.427***	-3.76	-.869***	-0.84	-.270**	-4.65
SIZE	-.262***	-3.89	-.153	-2.84	-.297***	-2.46
GNII	.160*	1.81	.167	0.92	.030	0.42
LEV	-.018**	-2.26	-.043**	-2.37	-.009	-1.32
BETA	-.166	-1.58	-.187	-0.95	-.233***	-3.56
GDP	-3.192***	-3.86	-2.215	-1.61	-5.416***	-6.62
MSIZE	.345***	6.26	.274**	2.08	.406***	8.11
Cons	1.297***	2.73	2.701***	2.6	.584	1.07
<b>Adjusted R2</b>	<b>0.346</b>		<b>0.284</b>		<b>0.432</b>	
Prob. F-stat	0.000		0.000		0.000	
Chow prob.	0.012					
Observations	855		298		557	

### PANEL B: Book Based Performance

<b>Return on Assets</b>						
Variable	Complete sample		Emerging markets		Developed markets	
	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.
BSIZE	.000	-1.31	-.001*	-1.92	.000	-1.34
IND	.009**	2.16	.011*	1.72	.004	1.52
MAJ3	-.009*	-1.92	-.009	-0.91	-.015***	-3.06
SIZE	-.001	-0.48	.004**	2.19	-.004***	-3.36
DIVERS	.048***	4.90	.097***	8.06	.014	1.61
GNII	.010***	4.17	.015***	5.64	.001	0.34
LEV	-.001***	-3.41	-.001***	-2.94	.000*	-1.72
OIVOL						
BETA						
GDP	.026	1.52	.005	0.22	.026*	1.79
MSIZE	.005***	4.62	.003	1.23	.007***	6.33
NPR	-.070***	-2.92	-.057*	-1.93	-.064**	-2.36
Cons	-.021***	-2.59	-.015	-1.13	-.010	-0.98
<b>Adjusted R2</b>	<b>0.583</b>		<b>0.678</b>		<b>0.394</b>	
Prob. F-stat	0.000		0.000		0.000	
Chow prob.	0.000					
Observations	1020		452		568	

Variable	Return on Equity					
	Complete sample		Emerging markets		Developed markets	
	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.
<i>BSIZE</i>						
<i>IND</i>	.145**	2.38	.122	1.48	.183**	02.08
<i>MAJ3</i>	-.245***	-2.79	-.172	-1.54	-.273***	-2.59
<i>SIZE</i>	.020	1.43	.055***	2.91	.013	0.58
<i>DIVERS</i>	.611***	4.99	.905***	6.43	.410*	2.51
<i>GNII</i>	.122***	5.86	.136***	5.21	.080**	2.33
<i>LEV</i>	-.009**	-2.08	-.016***	-3.54	-.006	-0.97
<i>OIVOL</i>	-.032***	-4.86	-.026	-0.78	-.030***	-4.27
<i>BETA</i>	-.041	-1.64	-.007	-0.22	-.113***	-3.00
<i>GDP</i>	.520***	2.94	.494**	2.15	.194	0.93
<i>MSIZE</i>	.068***	5.82	.033	1.60	.099***	6.40
<i>NPR</i>						
<i>Cons</i>	-.336***	-3.36	-.260**	-2.14	-.491***	-2.86
<i>Adjusted R2</i>	<b>0.607</b>		<b>0.651</b>		<b>0.595</b>	
<i>Prob. F-stat</i>	0.000		0.000		0.000	
<i>Chow prob.</i>	0.009					
<i>Observations</i>	1020		452		568	

## Developed and emerging markets

As discussed earlier, the developed and emerging countries in the sample have significantly different characteristics. Therefore, the separate models for the two subsamples were estimated and successfully tested for structural differences in the coefficients for all four dependent variables.

First, the effect of board size on strategic performance is negative for both the emerging and the developed markets, but it is statistically significant only for the developed markets. Second, the effect of board independence remains negative and it is stronger for the emerging markets, though it loses significance when estimated for the two separate subsamples.

Third, ownership concentration is only significantly negatively associated with a bank's strategic performance in the emerging markets. Forth, the significant positive impact of state ownership is also observed only for the emerging countries. Therefore, in the developed markets ownership structure does not play a particularly important role, possibly due to more efficient regulations and more advanced protection of the minority shareholders' rights.

The crisis effect is negative, but it is stronger for the emerging economies in terms of the coefficient (-0.085 vs. -0.014) and the significance level.

In general, significant factors of the model for the developed markets are the financial crisis, systematic risk, and size of the market. Among corporate governance vari-

ables, only the relationship between the board size and bank performance is significantly negative. Therefore, the strategic performance of commercial banks in the developed markets is not explained by corporate governance indicators used and has other determinants.

## The financial crisis

Due to the fact that many financial indicators in the sample demonstrate a strong decrease during the financial crisis, the separate models for the period before the crisis and after it were estimated. The testing revealed that there are significant structural differences in the coefficients between these two models (the results are in Table 4).

The effect of board independence on strategic performance appeared to be positive before the crisis and negative after it, though both coefficients are insignificant. The negative impact of ownership concentration was more significant during the period of financial growth, so was the impact of a bank's size. The relationship between a bank's age and performance changed the sign to negative after the crisis, meaning that mature banks suffered more from the financial crisis.

In general, variables that were significant before the crisis lost their significance after 2007. This means that bank performance during and after the crisis is explained by other factors, supporting the hypothesis about structural movements in the relationship between corporate governance and bank performance as a result of the financial crisis.

**Table 4.** Bank corporate governance and performance before and after the financial crisis

The table presents regression results of market based bank performance on indicators of corporate governance for the two subsamples: before and after the financial crisis of 2008. The Chow test has been used to check whether there are any significant structural differences between coefficients in the models for different subsamples. Robust standard errors were used. \*, \*\*, \*\*\* indicate significance at the 10%, 5% and 1% levels respectively.

Tobin's Q		Total Shareholder Return						Total Shareholder Return					
Variable	2004-2007	2008-2011	2004-2007	2008-2011	2008-2011				2004-2007				
	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.	coef.	t-stat.	coef.		t-stat.		
CRISIS				-0.035		-0.43				-0.5144	***	-8.39	
BSIZE	.0020	**	2.03	.0025		1.04							
IND	.0478		1.13	-.1849		-1.12							
MAJ3	-.0856		-1.48	-.1023		-1.16	.2353		0.44	.0014		0.00	
GOVN	.0057		0.24	.1619		1.13	.9588		1.62	.4001		0.71	
SIZE	-.0680	**	-2.15	-.0443		-1.04	.0675		0.45	-.0692		-0.29	
AGE	.0042		0.13	-.0323		-0.60	-.1942	*	-1.73	-1.6083	***	-3.90	
GNII	-.0030		-0.12	-.0195		-0.78	.0827		0.71	.1103		0.86	
LEV	-.0009		-0.65	-.0032		-1.21	-.0426	***	-2.92	-.0237	**	-1.99	
BETA	.0217		1.52	.0207		0.55	-.4209	***	-3.06	.0169		0.08	
GDP	-.0906		-0.26	.0332		0.17	6.0593	**	2.08	-4.4005	***	-4.32	
MSIZE	.0974	***	3.77	.0538	***	2.80	-.0895		-0.63	.5399	***	4.76	
Cons	.7626	***	5.72	1.1115	***	4.15	1.5595	**	2.56	3.7043	**	2.11	
Adjusted R2	0.872	0.519	0.338	0.267	0.519				0.338				
Prob. F-stat	0.000	0.001	0.000	0.000	0.001				0.000				
Chow prob.	0.000	0.001							0.001				
Observations	387	482	362	493	482				362				

## Robustness check

In this study four different measures of bank performance were used to test whether the obtained results are robust. Total shareholder return has similar determinants to the ones of Tobin's Q, except for the board size and independence.

We documented a negative impact of independent directors on strategic performance, while observed a sustainable positive relationship between book measures of performance and independent directors. Therefore, independent directors may have a short-term positive impact on bank performance, while being negatively associated with a long-term one. The effect of board size is insignificant for the majority of models with other performance measures.

Ownership concentration has a significant negative impact over all measures of performance, however, state ownership is not important for book measures. The crisis effect is also significant for total shareholder return, but it is insignificant for the book measures of performance. This may be explained by the fact that book values reflected the results of the financial crisis for several subsequent years.

The book values based performance has one more significant determinant that market measures do not have: diversification of income. The effect of diversification is positive and sustainable for different subsamples as non-interest sources of income improve bank returns. Therefore, different measures of performance tend to have

various significance of determinants. Among all factors, ownership concentration is the most robust one as its negative coefficient is significant in the majority of the estimated regressions.

## Policy implications

The obtained results may serve as an empirical confirmation or conversely a contradiction to the existing corporate governance recommendations. We document the empirical evidence for a negative association of the board independence with strategic performance, but it has a significant positive effect on book measures of performance. Therefore, it seems that in a short-term perspective independent directors are beneficial for bank performance. They support decisions that lead to better returns, but they might lack an understanding of a bank's strategy and other specifics, which leads to a worse long-term performance. Corporate governance codes in some countries advise companies to have at least 25 or 33% of outsiders in the board, while the most advanced stock exchanges require the share of independent directors to be higher than 50%. We suggest that these requirements should not go to the extremes and that fully independent boards may suffer from an incomplete information about the company. Therefore, introducing the minimal requirements for the share of inside directors may be reasonable as it will ensure the board's better access to the information about the bank.

Following the similar argumentation, we believe that the corporate governance codes should contain practical restrictions for the number of the board members. There is a widely spread opinion that the appointment of additional directors to the board may harm its efficiency and lead to a worse performance due to coordination problems and our results support this view.

The observed effects of ownership structure raise a question: should more dispersed ownership structure and a stronger state involvement be encouraged or even regulated? The regulation of ownership concentration might be executed similar to the antimonopoly regulation. However, it is a rather challenging task to establish a limit for shareholdings. If an allowed maximum share for one shareholder is higher than a naturally formed level of shareholdings for the firm, it will not increase the efficiency of banking governance. However if the limit is too strict, the ownership structure may become too disperse and the bank's shareholders will comprise a large group of people not sufficiently involved in the bank's equity to monitor its performance well. In this case the proper functioning of the board of directors becomes crucial. Nevertheless, to start developing such recommendations and regulation a solid base of empirical evidence should be built.

## Conclusion

The financial crisis of 2008 demonstrated the fragility of the banking sector and the great exposure the global economic system has to it. Since then the corporate governance mechanisms of banks has been analyzed more precisely as possible factors influencing bank performance in good times, as well as in bad times. The paper examines this relationship using the example of the European banking sector and the sample of 150 commercial banks from 27 countries over the period from 2004 to 2011.

We observe that, on average, higher ownership concentration is associated with worse bank performance in Europe, while state ownership has a positive effect on the market-based performance indicators. The relationship between board size and European bank performance is either negative or insignificant, which partially supports the widespread opinion that smaller boards are more effective. The percentage of independent directors in boards is negatively correlated with bank performance, but it demonstrates a sustainable positive relationship with the book returns. This raises a question regarding the difference between an independent director's effect in the short-term and long-term perspectives.

We also find significant differences between bank performance models for the developed and emerging markets, meaning that corporate governance plays a more important role in the emerging economies. Therefore investors interested in the emerging markets should devote more efforts to studying the bank's corporate governance system before investing in it. Based on the obtained evidence, banks with private majority shareholders may not show the best results, while state shareholding might provide

some protection and support. As for the board of directors, emerging markets investors should not overestimate the importance of its size and should focus more on the negative signals of the board's extensive independence.

Examining the financial crisis of 2008 provides us with the evidence of the significant changes in bank performance drivers after the crisis. The obtained picture implies that investors should be careful while investing in banks with highly independent boards as they do not appear to be beneficial in the critical times. After the crisis the positive effect of the state shareholdings as well as the negative effect of concentrated ownership become stronger, which should also be considered by investors.

In general our findings suggest that corporate governance recommendations should address the question of a necessary minimum share of directors with inside knowledge in the board in order to pursue a better bank performance. Boards dominated by independent members may suffer from incomplete information and understanding of a company's business model resulting in harmed efficiency. The same may hold true for excessively large boards, therefore we believe that the corporate governance codes should contain at least a discussion about the advantages and disadvantages of larger boards. The obtained results suggest that there are some important differences in how corporate governance relates to bank performance in different countries and during different stages of the economic cycle. Therefore, when corporate governance systems are being established on a country- and a company-level a comprehensive approach should be used and a probability of a financial crisis should be taken into account.

This paper is aimed to be in for top managers, shareholders and board members of banks, as the findings can provide them with recommendations on what corporate governance is beneficial for bank performance. This study may also be useful for regulators as the empirical evidence for the future regulatory corporate governance initiatives.

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