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Impact of the Board of Directors' Structure on the Company's Financial Results

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ABSTRACT

Subject of study — role of corporate governance practices in managing the largest Russian banks. The **relevance** of the study is due to the fact that decisions affecting financial results of companies depend on socio-demographic characteristics of their decision-makers and technology of these decisions. The Board of Directors is the body that controls the activities of management, and the efficiency of management decisions depends on its structure. The **aim** of the study is to estimate the influence of socio-demographic characteristics of directors on financial results of banks. In this research the authors use such **method** as panel regression analysis to estimate the significance of the obtained results. The sample captures the data on 6 largest Russian banks by total assets for the period 2011–2020. As the **result**, gender board diversity has a positive and statistically significant impact both on ROA and ROE. Meanwhile, the influence of national diversity on ROE is insignificant whereas the effect of this variable on ROA is significant and negative. In addition to board diversity features, business size is also an important determinant of profitability. The negative influence of this indicator should not be understood literally. The largest Russian banks are examined in this article, so the growth in the volume of their assets is associated with a decline in profitability in relative terms. The analysis also reveals that board independence and leverage do not affect profitability. **Conclusion** confirm a positive influence of board gender diversity on financial performance of Russian banks. Along with that, a negative impact of national diversity and an insignificant impact of board independence refute the results reported by both foreign and Russian authors. Further research on the influence of corporate governance practices on financial performance of Russian companies is required.

Keywords: corporate governance; financial results; board structure; gender diversity; national diversity; profitability; regression analysis; agency theory

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INTRODUCTION

Corporate governance has a direct impact on the success of the company as a whole. It is the board of directors (further — BD) that determines and takes decisions that will lead to either positive or negative results for the company. The search for the optimal BD structure of the company has become the subject of research for both management practitioners and the academic community [1].

Among the parameters of the BD structure that influence the performance of management, among others, socio-demographic characteristics, CEO duality, the level of competence of directors about the salaries in the company, educational level and professional experience of directors were identified [2]. This paper is focused to the examination of the effect of the socio-demographic characteristics of the BD members on the financial results of top Russian banks.

Statistics on BD structures in Russian enterprises indicate the following. The share of independent directors increased significantly from 36.7% to 42.2% in 2020. Based at the six-year retrospective, the growth was 3.2% (in 2014, independent directors accounted for 39% of the total BD membership). The representation of women in the Russian BD is still one of the lowest compared to international practice despite the fact that the share of women on boards of directors increased from 8.4 to 10.5% in 2020. The percentage of companies that do not include women on their boards has more than halved — from 37% in 2019 to 23% in 2020. The share of foreign directors was 29.2% in 2020 and thus remained almost unchanged compared to 2019 (29.7%).[1]

The purpose of the paper is to examine the influence of the BD structure on the financial results of the main Russian banks. Specifically, the following criteria are assessed: board independence, the share of female directors and the share of foreign directors.

REVIEW OF THE LITERATURE

The theory that had the largest influence on corporate governance practices may appropriately be called an agency theory. It explores the problem of the separation ownership and control. This theory describes the relationships between hired directors and shareholders as a contract in which owners (principals) hire managers (agents) under certain conditions. And while managers are expected to conduct their work in a professional manner and act in the best interest of the company, in fact, this is not always the case [3].

Managers who obtain enormous resources of the company at their disposal begin to use them not for the development of a company, but for their own purposes or to achieve the target indicators of their activities [4]. This situation is referred to as an agency problem or agency conflict in the literature [5].

In the practice of corporate management, a huge amount of paper is devoted to the issue of the resolution of agency conflicts [6–9]. One of the most effective practices is the creation of a board of directors and the invitation of so-called independent directors [10]. Moreover, the composition and structure of the BD, namely the total number of directors, the share of independent directors and the proportion of female and foreign directors, also influence the financial performance of the business.

In Russia, agency theory has not been widely adopted. This is partly due to the less developed practices of corporate governance in general. Also, a factor reducing the effectiveness of corporate governance procedures is the fact that enterprises in Russia often use tools beyond the legal framework which puts into question the development of this model in domestic

[1] SpencerStuart. Russia Board Index; 2020. URL: https://www.spencerstuart.com/-/media/2021/june/russiabi2020/russiabi_2020.pdf (accessed on 07.01.2023).

enterprises [11]. On the other hand, with the development of the stock market, the need for improving the legal field and corporate governance practices for regulating business will grow.

METHODOLOGY OF ANALYSIS

Data

The explored sample comprises the six largest Russian banks as the management practices in such financial institutions and the management methods employed may differ considerably from those implemented in banks with smaller assets. It should also be taken into consideration that reporting in financial companies has a number of aspects contrasted to non-financial companies, therefore it would be methodologically irrelevant to include in the sample both financial and non-financial companies. The analysis period is 2011–2020. This period is selected in view of the fact that in 2010–2011, the global markets began to recover after the catastrophic 2007–2009 recession, and starting from 2020, the financial performance of enterprises were heavily damaged by the COVID-19 pandemic. The data is derived from the annual reports of the relevant banks, taken from their official websites.

Methods of analysis

The following methods are used for analysis: descriptive statistical analysis, correlation analysis of independent variables, panel regression analysis, and the Hausman test.

The degree of correlation is measured using the Pearson coefficient. For the interval variables that are used in the work, this coefficient is preferred over other similar indicators, such as the Spearman and Kendall factors [12].

Correlation analysis is performed to detect potential multicollinearity. This phenomenon reflects a strong correlation between independent variables. In the event of a strong correlation in the sample, the regression results may show that one of the variables affects the dependent variable while the other does not, but this may not be the case [13].

The least squares method is one of the methods of mathematical regression analysis used to determine parameters in which the modeled relationship between factors is closest to the real observed values of variables [14]. Thus, the least squares method estimates the size of the deviation of real values from the modeled values and seeks to minimize it [15].

When conducting panel analysis, another task arises: choosing the optimal model specification from two options, namely models with either fixed or random effects. The Hausman test is performed to determine whether the results of a random effect model are stable and can be used for analysis [16].

Model and hypotheses

The analytical model for panel regression analysis is as follows:

$$ROA(ROE)=Size+Leverage+Gender+ + Board\ Independence+Foreign,$$

where ROA (Return on Assets) — profit before deduction of taxes and interest payments / total assets (profitability of total capital);

ROE (Return on Equity) — net profit / equity (profit of own capital);

Gender (gender diversity) — number of women in the BD / total number of directors;

Board Independence — number of independent directors / total number of directors;

Foreign (national diversity) — number of foreign directors / total number of directors.

Size — natural logarithm of assets;

Leverage — liabilities / assets.

The last two variables are control variables. They are included in the model in order to exclude the possible undetected influence of these factors. Thus, two models that reflect different types of profitability are analyzed: total capital and equity.

Table 1

Descriptive Statistics

Variable	Observations	Average	Standard deviation	Min	Max
ROE	60	12.87%	0.133	–25.16%	43.90%
ROA	60	7.89%	0.096	–1.31%	39.42%
Size	60	8.090	1.648	3.440	10.492
Leverage	60	89.29%	7.39%	64.49%	130.77%
Board independence	33	35.76%	12.32%	11.11%	54.55%
Foreign	40	30.79%	23.74%	5.88%	90.91%
Gender	38	14.84%	7.69%	0.00%	28.57%

Source: Developed by the authors.

These models test the following hypotheses:

Hypothesis 1: the share of independent directors has a significant impact on the profitability of banks;

Hypothesis 2: the share of female directors has a statistically significant impact on bank profitability;

Hypothesis 3: the share of foreign directors has a significant impact on the profitability of banks.

It is expected that the explored factors will have a statistically significant relationship with the profitability of banks. Similarly, the hypotheses are formulated in the form of the rejection of this relationship according to the logic of the statistical tests that will be conducted in the research process.

ANALYSIS

Statistical analysis is performed in four steps. In the first stage, the descriptive statistics of the sample are analysed; then the correlation coefficients between independent variables are assessed; the next step is the panel regression analysis; and, the final stage is the Hausman specification test.

Descriptive statistics analysis

To begin with, we describe the sample statistics. The analysis considered 5 independent variables (company size, leverage, percentage of independent directors in the BD, percentage of foreigners in the BD and percentage of women in the BD) and 2 dependent variables (return on equity and return on assets). Descriptive statistics are presented in *Table 1*.

Descriptive statistics analysis reflects the importance of leverage as its mean value was. Almost 90% indicate leverage growth in the banking sector over the past 10 years. Obviously, the banking sector requires free financial resources that remain after all current costs are executed. However, it is worth noting that the growth in leverage has negative implications for the industry, as the stock of own funds of companies with high leverage is limited. A high level of leverage also has a negative impact on the efficiency of the company which in combination can become one of the causes of bankruptcy.

Average profitability was 12.87% for ROE and 7.89% for ROA, respectively. However, the minimum values for both dependent variables are negative, indicating that banks in the sample recorded losses in certain years.

With regard to the BD structure, the average share of female directors was 15% while there were also boards of directors with no women. The highest level of presence of

Table 2

Correlation Matrix

Variable	Size	Leverage	Board Ind.	Foreign	Gender
Size	1				
Leverage	–0.083	1			
Board independent	0.128	–0.070	1		
Foreign	–0.662	–0.259	0.146	1	
Gender	0.071	–0.218	0.588	0.192	1

Source: Developed by the authors.

female directors was 28.57%, i.e. just under a third. The average percentage of foreigners was higher, namely 31%, while the maximum presence of foreign directors was 90% (9 out of 10 directors were foreigners). The average board independence ratio is 36%, i.e. on average two executive directors per one independent director on the board of directors of Russian banks. There were also banks where the share of independent directors exceeded 50%.

The next step was to determine the correlation between the independent variables. At this stage, the Pearson coefficient was used to examine the correlation between variables such as company size, leverage, percentage of board independence in BD, percent of foreigners in BD and percent of women in BD. In this image, the Pearson coefficient, as mentioned above, reflects the relationship of independent variables between themselves. The correlation analysis results are presented in *Table 2*.

The analysis using the Pearson coefficient identified two pairs with the highest correlation rates: between the percentage of foreigners in BD and the size of the organization (–0.662), as well as between the proportion of women in BD, and the percent of independent directors in BD (0.588).

Regarding the first correlation between the percentage of foreigners in BD and the size of the company, it can be seen that the larger the company's size, the more it tends to invite to its board of directors' managers with a foreign passport. Foreign specialists in BD are needed to expand business relationships, diversity in management approach and to make independent decisions that allow a sober assessment of the company's activities, to analyze the negative sides and to develop positive aspects.

The second pair of variables with a strong correlation is the relationship between the proportion of women in BD and the percentage of independent directors in BD. In the world economy of the 21st century, the trend to gender equality is taken, which allows women to hold high positions in the management of large companies. Numerous studies show that firms with women on their boards of directors operate more efficiently [17, 18]. This enables us to confidently state the requirement for a proper selection of the BD composition. When developing the BD, the company's management must consider the number of independent directors, women, and foreigners on the board.

As a consequence of summarizing the correlation matrix study, we can infer that organizations with women in BD function more effectively and have greater financial results. According to Pearson's coefficient analysis, the optimum number of women on the board of directors is 15–20%, or

Table 3

Regression Analysis Results

Variable	Coefficient (Standard Deviation)			
	ROA		ROE	
	Fixed Effects	Random Effects	Fixed Effects	Random Effects
Size	−0.055 (0.024) **	−0.068 (0.006) **	−0,072 (0,091)	−0,051 (0,021) **
Leverage	−0.072 (0.151)	−0.066 (0.150)	0,655 (0,568)	0,780 (0,520)
Gender	0.104 (0.142)	0.275 (0.099) ***	0,773 (0,532)	0,971 (0,343) ***
Foreign	−0.153 (0.100)	−0.177 (0.050) ***	0,190 (0,373)	−0,036 (0,172)
Board independent	−0.003 (0.068)	0.025 (0.066)	−0,0704 (0,258)	0,039 (0,230)
R^2	0.942	0.958	0,445	0,563
F-statistics (p-value)	10.570 (0.000) ***	389.89 (0.000) ***	0,67 (0,649)	21,90 (0,001) ***
$\chi 2$ (p-value)	4.7 (0.452)		1.41 (0.923)	

Source: Developed by the authors.

Note: значимость: significance at the: *** – 1%, ** – 5%, * – 10%.

approximately 1 woman per every 6 males. Women in BD allow for independent assessment of solution effectiveness, analyze problem situations, and carefully plan the future of the company.

Regression analysis using the least squares method

Since the paper uses panel sampling (data varies in two dimensions — by year and by company), it is necessary to assess which of the models (with constant or random effects) gives more accurate results. This assessment was made using the Hausman test. The test revealed that the random effect model was more appropriate for both ROA and ROE models. It was when choosing the random model that the indicators were most objective and true.

The following results were obtained after conducting regression research for ROA and ROE variables: the ROE indicator is influenced by the size of the company and gender, and the ROA indicator is also strongly influenced by the company size and gender, but the presence of foreigners on the board of directors also affects ROA (*Table 3*).

The result of the analysis shows that ROE is statistically influenced by the size of the company and gender, i.e. the number of women on the board of directors. The size of the company has a negative impact on ROE. In other words, as the size of the assets increases, this indicator decreases. ROE measures the return on equity capital, or the profitability of a company. When a company is among the largest in its industry, it is extremely difficult for it to grow at the rate that young and growing companies do. Thus, the relative return on capital of a large company increases steadily over time. This result is logical as the largest banks of the country which already occupy a significant market share were included in the sample. Therefore, they do not grow extensively. It should be noted that a negative correlation between return on equity and asset growth will be found in major banks, but the

Table 4

Research hypotheses results

Hypotheses	ROA	ROE
Board independent (hypothesis 1)	Not confirmed	Not confirmed
Gender (hypothesis 2)	Confirmed (+)	Confirmed (+)
Foreign (hypothesis 3)	Confirmed (+)	Not confirmed

Source: Developed by the authors.

conclusion cannot be generalized to smaller businesses. It should also be noted that the study's result is significant at the 5% level, which means that the probability that the size does not actually affect ROE is 5%. This demonstrates the significance of this variable.

The second variable that has a strong impact on the ROE score is the share of women on the board of directors. This coefficient has a 1% significance. In other words, the error probability in estimating the significance of this change in ROE is 1%. According to the regression analysis, the inclusion of women on the board has a positive impact on ROE. As a result, we observe a trend: increasing the share of female directors has a positive impact on return on equity.

There are several arguments for positive impact of female directors on the company's financial results. It is mostly due to men and women's distinct ways of thinking in general. Men perceive the world in a more linear and rational manner, and they are required to respond to fewer streams of information at the same time. As a result, the natural restriction of strictly "male" thinking may be a lack of diversity of possibilities and an inadequate perspective of the current condition of things. In doing so, women perceive the world more broadly, with more dimensions and a wider range of experiences available. Women are able to step out of line and offer non-standard actions and solutions to problems that are almost impossible to solve logically [19, 20]. The downside of this perception is often the inability to organize the layers of perceived information and understand the causal relationships between phenomena. We can improve the quality of the board's overall decision-making through integrating the best features of both types of thinking, namely male rationality, consistency, and pragmatism, and female volumetric vision and more intuitive thinking. This will lead to better management and financial results.

At the same time, it should be understood that the positive dynamics of the ROE development is observed with the existing ratio of men and women on the board of directors, namely about 6:1. It cannot be stated that if this ratio changes in any direction, the positive dynamics will continue.

The share of directors with foreign citizenship and the share of independent directors had no statistically significant impact on the profitability of banks. Similarly, the level of leverage did not affect the banks' profitability.

The analysis of ROA indicates the following. The regression analysis showed that characteristics such as company size, gender, and the number of foreigners on the board of directors had the greatest impact on ROA. The size of the company and the number of foreigners on the board of directors negatively affects the ROA indicator. But the gender variable (the presence of women in the BD) has a positive effect.

It should be noted that the presence of foreign directors negatively affects the ROA indicator at 1%. That is, the probability that the presence of foreigners in the BD does not matter for the ROA is 1%. Thus, as a result of

testing hypotheses, it should be noted that not all of them were confirmed (*Table 4*).

The impact of women's share in BD and company size on financial results was explained above. Positive influences of the presence of foreigners in the BD were also noted, such as the expansion of business ties, objective evaluation from outside and new business experience. However, we must not overlook the negative aspects of the study, which were more significant. Because of variations in education, mentality, and culture, foreigners sometimes have difficulties with understanding the nuances of the activities of organizations in a given nation. In this instance, foreigners are more likely to interfere with management rather than to assist it. Moreover, an agency conflict arises from disagreements between independent directors and managers, and as a result, practices designed to improve corporate governance have the opposite effect.

CONCLUSION

The paper is devoted to the role of corporate governance practices in the main Russian banks. The impact of BD characteristics on company financial results has been studied in specific. The use of panel regression analysis allows us to assess the impact of BD members' socio-demographic characteristics on bank profitability, namely ROA and ROE. For both dependent variables, the random effects model proved to be more effective. This suggests that the corporate governance practices presented by the selected variables are quite similar in all banks in the sample. At the same time, it should be noted that these results apply exclusively to the country's top banks; extending them to, for example, smaller banks or non-financial businesses would be incorrect because these companies would have different features.

The analysis showed that gender diversity on the board of directors has a statistically significant positive impact on both overall profitability and profitability of banks' equity capital.

At the same time, the presence of foreigners on the board has no influence on the profitability of equity capital but has a negative impact on the total profitability of the company.

Besides the BD's characteristics, bank size was an important aspect in determining the company's success. This indicator's negative role should not be taken literally. As it was noted, since the largest Russian banks were analyzed, further growth of their assets is associated with a decrease in profitability in relative terms. The analysis also showed that the share of independent directors and the level of bank leverage had no statistically significant impact on the profitability of banks.

The influence of corporate governance practices on financial performance is a relatively unexplored issue in Russian management literature. In the practice of corporate governance, at least 15–20 criteria that have a pronounced and statistically significant influence on company profitability can be identified. Furthermore, by comparing the obtained results with those in other contexts, the results may be improved and deepened. These might include samples from non-financial institutions, smaller banks, similar samples of banks from other countries (both developing and developed economies), and samples from different time periods.

It should be noted that the regression analysis used in the work does not give a complete picture. It does not reflect causal relationships between variables. The hypotheses are based on the existing literature, however there is no guarantee that the relationships applied in this sample are the same as those used by other authors in the past. Regression analysis also assumes linearity between variables whereas in reality the relationship may be non-linear [21, 22].

The results of this study may be valuable to managers of certain companies (particularly those sampled) as additional sources of information since they suggest various management decisions.

REFERENCES

1. Dement'eva A.G. Corporate governance. Moscow: Magistr; 2017. 721 p. (In Russ.).
2. Akhmedova E.A. Corporate governance. Moscow: LAP Lambert Academic Publishing; 2018. 204 p. (In Russ.).
3. Mikhailov D.M. Effective corporate governance. Moscow: KnoRus; 2015. 448 p. (In Russ.).
4. Mishurova I.V., Panfilova E.A., Nesterova O.S. Specification of corporate conflicts in the context of the "agency theory". *Russian Journal of Management*. 2020;8(2):36–40. (In Russ.). DOI: 10.29039/2409–6024–2020–8–2–36–40
5. Panda B., Leepsa N.M. Agency theory: Review of theory and evidence on problems and perspectives. *Indian Journal of Corporate Governance*. 2017;10(1):74–95. DOI: 10.1177/0974686217701
6. Kudin L. Internal corporate control and CEO's dual position. *Teoreticheskaya i prikladnaya ekonomika = Theoretical and Applied Economics*. 2020;(3):1–10. (In Russ.). DOI: 10.25136/2409–8647.2020.3.33170
7. Prommin P., Jumreornvong S., Jiraporn P., Tong S. Liquidity, ownership, concentration, corporate governance and firm value: Evidence from Thailand. *Global Finance Journal*. 2016;31:73–87. DOI: 10.1016/j.gfj.2016.06.006
8. Gaitán S., Herrera-Echeverri H., Pablo E. How corporate governance affects productivity in civil-law business environments: Evidence from Latin America. *Global Finance Journal*. 2018;37:173–185. DOI: 10.1016/j.gfj.2018.05.004
9. Fedorova E.A., Komletsova V.G., Tregubova M.K., Maksimova A. Yu., Emel'yanova V.D. The impact of corporate governance on the capital structure of domestic companies. *Finance: Theory and Practice*. 2022;26(2):25–37. DOI: 10.26794/2587–5671–2022–26–2–25–37
10. Basheer M.F., Gupta S., Raoof R., Waemustafa W. Revisiting the agency conflicts on family-owned pyramidal business structures: A case of an emerging market. *Cogent Economics and Finance*. 2021,9(1):1926617. DOI: 10.1080/23322039.2021.1926617
11. Perfilyev A.A., Bufetova L.P., Shen B. Analysis of capital structure of commercial banks. *Mir ekonomiki i upravleniya = World of Economics and Management*. 2021;21(3):45–69. (In Russ.). DOI: 10.25205/2542–0429–2021–21–3–45–69
12. Kovalev E.A. Probability theory and mathematical statistics for economists. Moscow: Urait; 2019. 284 p. (In Russ.).
13. Babeshko L.O. Fundamental of econometric modelling. 4th ed. Moscow: KomKniga; 2020. 428 p. (In Russ.).
14. Il'chenko A.N., Ksenofontova O.L., Kanakina G.V. Workshop in economic and mathematical methods. Moscow: Finansy i statistika; 2009. 287 p. (In Russ.).
15. Fomin G.P. Economic and mathematical methods and models in commercial activity. 4th ed. Moscow: Urait; 2019. 462 p. (In Russ.).
16. Babaitsev V.A. Mathematical methods of financial analysis. 2nd ed. Moscow: Urait; 2019. 215 p. (In Russ.).
17. Chapple L., Humphrey J.E. Does board gender diversity have a financial impact? Evidence using stock portfolio performance. *Journal of Business Ethics*. 2014;122(4):709–723. DOI: 10.1007/s10551–013–1785–0
18. Kyaw K., Olugbode M., Petracci B. Does gender diverse board mean less earnings management? *Finance Research Letters*. 2015;14:135–141. DOI: 10.1016/j.frl.2015.05.006
19. Liu Y., Wei Z., Xie F. Do women directors improve firm performance in China? *Journal of Corporate Finance*. 2014;28:169–184. DOI: 10.1016/j.jcorpfin.2013.11.016
20. Zelechowski D.D., Bilimoria D. Characteristics of women and men corporate inside directors in the US. *Corporate Governance*. 2004;12(3):337–342. DOI: 10.1111/j.1467–8683.2004.00374.x
21. Velte P. Do women on board of directors have an impact on corporate governance quality and firm performance? A literature review. *International Journal of Sustainable Strategic Management*. 2017;5(4):302–346. DOI: 10.1504/IJSSM.2017.10010121
22. Amin A., Ali R., Rehman R.U., Naseem M.A., Ahmad M.I. Female presence in corporate governance, firm performance, and the moderating role of family ownership. *Economic Research*. 2022;35(1):929–948. DOI: 10.1080/1331677X.2021.1952086

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A. N. Krasnov — development of the research concept, selection of indicators for analysis, formation of research conclusions.
I. V. Balinin — collection of statistical data, tabular and graphical representation of the results, analysis of the findings.
L. A. Shmeleva — description of the methodology used and calculations, analysis of the results obtained, formation of the conclusions of the study.

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