DOI: https://doi.org/10.17323/j.jcfr.2073-0438.17.1.2023.27-43
JEL classification: G30, G21, G34

How Do Corporate Governance Factors Influence Banks' Value? Evidence from Russia

Natalia Uskova
Chief Financial Modeling Officer, PJSC Sberbank, Moscow, Russia,
niuskovahse@gmail.com, ORCID

Abstract

In this research study we built 3 models that evaluate the panel data of 30 Russian banks with the largest assets and highest reliability. Comparison of all three models by means of specification tests led us to the conclusion that the OLS model with the explanatory power of 67% is optimal.

The presence of women on the board of directors negatively affects the banks' valuation, while the number of the board of directors' meetings, number of directors and presence of an audit committee have a positive impact on the net asset value of banks. If the share of women increases by 1%, the bank's net asset value will decrease by 86%. If the board of directors has a functioning risk management committee, the bank's net asset value will grow by 225%. In case of an increase in the number of the board of directors' members by 1%, the bank's net asset value will grow by 4.4%. If the number of meetings of the board of directors per year grows twofold, the bank's net asset value will increase by 118%.

Keywords: bank, corporate governance, valuation of corporate governance efficiency, empiric model

For citation: Uskova, N. How Do Corporate Governance Factors Influence Banks' Value: Evidence from Russia. *Journal of Corporate Finance Research.* 2023;17(1): 27-43. https://doi.org/10.17323/j.jcfr.2073-0438.17.1.2023.27-43

Introduction

The banking sector has a number of significant differences from other industries. First, the difference becomes apparent after a comparison of banks' and other companies' reports. In statements of financial standing made by commercial banks, originated loans comprise the majority of assets, unlike statements of real sector companies where debts (liabilities) assume the first position. Banks' assets are less transparent than those of non-financial companies, therefore there is an opportunity to transfer a part of risk from shareholders to the holders of company debt. In addition, we may find other significant differences in the statements of financial standing. A bank's statement of financial standing does not comprise the items typical for real-sector companies, i.e., revenue, cost price, etc. Instead, banks disclose interest revenue (revenue equivalent) and interest expense (cost price equivalent).

Clearly, the structure and functioning of the banking sector companies are of a specific character, therefore, their corporate governance also differs from the corporate governance of non-financial companies.

Notion of Corporate Governance

The modern notion of corporate governance was entrenched in the principles of corporate governance developed by the Organization for Economic Cooperation and Development (OECD [1]) as far back as 2004. According to OECD documents, corporate governance is defined as the internal organization of a company that involves a set of relationships between a company's three principal governing bodies: the board of directors (BD), general meeting of shareholders (GMS) and members of the executive board.

From a legal standpoint, several key approaches to defining the notion of corporate governance are determined. Thus, T.V. Kashanina thinks that corporate governance should be understood as the functioning of the governing bodies that control a company's core activity [2], E.A. Sukhanov compares corporate governance to the competences of the governing bodies, but considers them to be subjects of civil law [3], while A.E. Chistyakov et al. understands corporate governance as a set of relationships between governing bodies, as well as other internal bodies and committees within the company, which are established to attain short-term objectives [4]. In the opinion of N.N. Pakhomova, corporate governance is to a greater extent related to the emergence of the ownership right of governance participants instead of corporate operations [5], and I. N. Tkachenko in the study guide dedicated to legal relations offers the same approach to defining corporate governance as N.N. Pakhomova [6].

The main distinction of foreign approaches is the addition of corporate external relations to the system of interrelations between governance bodies.

Since corporate governance concerns a certain legal business structure – a corporation – it should be considered only within its specifics and be limited by them, i.e., the notion of corporate governance may not be applied to any other type of business structure. Therefore, governance bodies are usually understood as three principal subjects: GMS, BD and the executive board, which is characteristic of a joint-stock company (JSC). Each governance body performs certain functions.

Thus, after analyzing several approaches to defining corporate governance, we can provide its general characteristic. Corporate governance is:

- a management system applicable only to JSC;
- a set of relationships between three principal governance bodies of a JSC (GMS, BD and the executive board), as well as other structures, sometimes external ones;
- a form of exercising the ownership right.

Corporate Governance Code

After the crisis of 2008, the Bank of Russia issued the first editions of the Corporate Governance Code. A new edition of the Code was published in March 2014, and it was no longer of a theoretical nature. It was targeted at the practical application and implementation of standards in order to improve the efficiency of managing a company [7].

The Code's main provisions address both legal and ethical aspects: the presence of independent directors on the BD; requirements for defining directors as independent; corporate dividend policy; organizing the functioning of the BD; risk management; fair treatment of minority shareholders.

It is important to note that the use of the Code and complying with the recommendations of the Central Bank is not obligatory. The companies make the decision concerning the implementation of standards into their corporate governance structure independently.

Corporate Governance Requirements of the Moscow Exchange

The Moscow Exchange also imposes requirements on issuers that wish to be listed [8]. Certain corporate governance requirements are imposed on each listing level. In case of failure to fulfill these requirements, company shares are not admitted to the desired level (Table 1).

Table 1. Requirements of the Moscow Exchange for issuers

Requirement	Listing level	
	Level I	Level II
Number of independent members of the BD	At least 20% of BD members and at least three persons	At least two persons

Requirement	Listing level	
	Level I	Level II
Presence of an audit committee	+	+
Presence of a remuneration committee	+	–
Presence of an HR committee	+	–
Presence of a corporate secretary	+	+
Presence of a Regulation on the Corporate Secretary	+	–
Presence of a dividend policy document	+	+
Presence of an internal audit committee	+	+
Presence of a Regulation on the Internal Audit	+	+

Notes: Designation "+" – a requirement should be fulfilled, "–" – a requirement is not obligatory.

Source: Compiled by the author on the basis of source [8].

Approaches to Evaluating a Company in Econometric Analysis

In order to demonstrate the company valuation, the notion of market value is usually applied, however, researchers define it in their papers in different ways. Tobin's Q is frequently used [9]. Sometimes an absolute value – the company's market capitalization – is used instead of a ratio (coefficient) for evaluation [4; 10–12]. It is obtained by multiplying the number of issued shares by their mean stock price. Some papers also propose a valuation on the basis of share price, which allows to disregard company size [13; 14].

The indicator that represents the equivalent of a company's economic earnings – *EVA* (*economic value added*) – is considered to be rather complex. Its advantage is that it is calculated mainly based on the corporate balance-sheet and takes into consideration both borrowed capital and equity capital. Besides, unlike NPV (net present value), EVA does not require a forecast of cash flows, but allows to make a conclusion regarding company value.

From a theoretical point of view, all methods may be divided into three groups: 1) the income approach; 2) the comparative approach; 3) the ownership-based approach.

Particular attention should be heeded to evaluating an unlisted company. Foreign and Russian literature offers several ways to evaluate such a company: on the basis of net asset value; using indices the utilize factor analysis, etc.

Approaches to Corporate Governance Evaluation

Studies related to the analysis of valuation of corporate governance in various economic sectors began most actively in the early 20th century [2; 4; 15; 16]. It should be noted that ratings compiled by specialized agencies or by the authors themselves are used to assess the level of corporate governance in some papers. Aggregation of several factors within one indicator may be considered an advantage of such an approach. At the same time, the inability to evaluate the influence of each specific regressor and the extent of its influence are the main drawbacks.

Here are the two principal approaches to the evaluation of corporate governance quality, which are applied to define the level of its influence on company value:

The index method (evaluation based on ratings compiled by agencies or researchers), which comprises several factors at the same time, but may assess only the general nature of influence of corporate governance.

Consideration of independent corporate governance factors and evaluation of each of them separately.

Methodological Framework of the Research

The Russian banking sector was selected for the research study [17; 18]. The sample consists of **30 banks** listed by the Bank of Russia as the largest ones in terms of assets and on the *Forbes* list as the most reliable ones (Table 2).

Table 2. Research sample

Number	Bank	CB license number	Region
1	Sberbank	1481	Moscow and Moscow Region
2	VTB	1000	Saint-Petersburg and Saint-Petersburg Region
3	Gazprombank	354	Moscow and Moscow Region

Number	Bank	CB license number	Region
4	Alfa-Bank	1326	Moscow and Moscow Region
5	Russian Agricultural Bank	3349	Moscow and Moscow Region
6	Credit Bank of Moscow	1978	Moscow and Moscow Region
7	Sovcombank	963	Kostroma Region
8	Raiffeisenbank	3292	Moscow and Moscow Region
9	Rosbank	2272	Moscow and Moscow Region
10	UniCredit Bank	1	Moscow and Moscow Region
11	Bank Russia	328	Saint-Petersburg and Saint-Petersburg Region
12	Russian Regional Development Bank	3287	Moscow and Moscow Region
13	Tinkoff Bank	2673	Moscow and Moscow Region
14	Bank Saint-Petersburg	436	Saint-Petersburg and Saint-Petersburg Region
15	Citibank	2557	Moscow and Moscow Region
16	AK Bars	2590	Tatarstan
17	NovikomBank	2546	Moscow and Moscow Region
18	SMP Bank	3368	Moscow and Moscow Region
19	Uralsib	30	Moscow and Moscow Region
20	Bank Dom.RF	2312	Moscow and Moscow Region
21	Pochta Bank	650	Moscow and Moscow Region
22	BM-Bank	2748	Moscow and Moscow Region
23	Peresvet	2110	Moscow and Moscow Region
24	RNCB	1354	Simferopol
25	Home Credit Bank	316	Moscow and Moscow Region
26	Moscow Industrial Bank	912	Moscow and Moscow Region
27	Russian Standard	2289	Moscow and Moscow Region
28	Absolut Bank	2306	Moscow and Moscow Region
29	Almazergienbank	2602	Sakha (Yakutia)
30	Center-invest	2225	Rostov Region

Source: Compiled by the author.

The research period (2016–2020) was selected for several reasons: first, such studies had been carried out in Russia prior to 2016; second, we decided not to analyze the crisis period (2015–2016) because it could skew the results. We chose the net asset indicator (or the net asset value, NAV) as the target variable since it is the most common evaluation method in the banking sector. Since the size of companies in the sample differs significantly, data with logarithms is more representative.We used 18 variables as corporate governance factors (Table 3).

Table 3. Description of Variables

Variable	Description
Y	Bank's net assets value, bln. RUB
Board size	Number of directors on the BD as at the end of the year
Independent directors	Share of independent directors on the BD

Variable	Description
Female directors	Share of women on the BD
Foreign directors	Share of foreigners on the BD
Board meetings	Number of meetings of the BD per year
Audit committee dummy	Presence of an audit committee (dummy variable)
Audit committee size	Number of directors on the audit committee as at the end of the year
Audit committee CEO participation	CEO's participation in the audit committee
Audit committee number of meetings	Number of meetings of the audit committee per year
Strategy committee dummy	Presence of a strategy committee (dummy variable)
Strategy committee size	Number of directors on the strategy committee as at the end of the year
Strategy committee CEO participation	CEO's participation in the strategy committee
Strategy committee number of meetings	Number of meetings of the strategy committee per year
Risk committee dummy	Presence of a risk committee (dummy variable)
Risk committee size	Number of directors on the risk committee as at the end of a year
Risk committee CEO participation	CEO's participation in the risk committee
Risk committee number of meetings	Number of meetings of the risk committee per year

Source: Compiled by the author.

A distinctive feature of study of the Russian banking sector is the limited nature of disclosed corporate governance information as compared to the American and European markets. Therefore, it was somewhat difficult to find a single source of data. For this reason, most of the information related to the corporate governance factors was obtained from annual bank reports published on their official sites or from the Interfax Center of Corporate Information Disclosure. Reports of Bank Dom.RF were only available at *Cbonds*.

In the present research, we ***put forward the following hypotheses***:

H_1: The share of independent directors has a positive influence on banks' valuation.

H_2: When the number of women on the board of directors increases, the bank's valuation improves.

H_3: Factors of the presence of risk, strategy and audit committees will be significant in the model.

The research studies 30 entities over the course of 5 years, for a total of 150 observations.

Econometric Analysis of the Influence of Corporate Governance on Russian Banks' Valuation

Building an OLS model

OLS of an Unbalanced Panel

The data structure may be considered a ***panel*** because the sample contains information on the entities, all of which are observed over a certain period. Structural data is usually studied by means of the ordinary least squares estimation (OLS), fixed effects model (*FE*) or the random effects model (*RE*).

Such objects as x_{it} are considered, where i is the sequential number of observation ($1 \dots n$); t – time point ($1 \dots T$). In this case, $i = 30$ and $T = 5$ because the period in question is 5 years (2016-2020).

Inasmuch as some values are missing due to the absence of data, the panel may be considered ***unbalanced***. First, we will construct an OLS model on the basis of the data with some missing values.

We added all considered variables to OLS. Net assets were used as Y – the target variable, other 17 factors from table 3 were used as independent variables.

As a result of evaluation, we obtained an OLS model (Table 4). All factors turned out to be insignificant, while the determination coefficient was too high ($R^2 = 0.99$).

Table 4. *OLS*. Dependent variable *Y*

	Coefficient	Standard error	*t* statistics	*p*-value
Const	9.08459e + 09	9.72942e + 09	0.9337	0.4193
BoardSize	−4.42807e + 08	1.53010e + 09	−0.2894	0.7911
IndependentDirectors	−8.36947e + 09	3.97748e + 10	−0.2104	0.8468
FemaleDirectors	−1.14558e + 11	6.24151e + 10	−1.835	0.1638
ForeignDirectors	3.39598e + 09	4.19348e + 09	0.8098	0.4773
BoardMeetings	−4.12233e + 08	3.80213e + 08	−1.084	0.3576
AuditCommitteedummy	−3.09504e + 10	1.58436e + 10	−1.953	0.1458
AuditCommitteeSize	−2.61342e + 09	4.55573e + 09	−0.5737	0.6064
AuditCommitteeCEOparticipation	−1.41583e + 10	1.72133e + 10	−0.8225	0.4711
AuditCommitteeNumberofMeetings	3.17644e + 09	1.41532e + 09	2.244	0.1105
StrategyCommitteedummy	3.76524e + 10	1.81802e + 10	2.071	0.1301
StrategyCommitteeSize	1.94612e + 09	1.40576e + 09	1.384	0.2602
StrategyCommitteeNumberofMeetings	−2.31519e + 09	2.02841e + 09	−1.141	0.3366
RiskCommitteedummy	3.18577e + 10	2.02574e + 10	1.573	0.2139
RiskCommitteeSize	2.97484e + 09	3.50202e + 09	0.8495	0.4580
RiskCommitteeNumberofMeetings	1.63187e + 09	7.31829e + 08	2.230	0.1120
Mean value of the dependent variable	1.11e + 10	**Standard deviation of the dependent variable**		1.16e + 10
Sum of squared errors	1.92e + 19	**Standard error of the model**		2.53e + 09
***R* square**	0.992088	**Corrected R square**		0.95252
***F*(15, 3)**	25.07713	***P* value (*F*)**		0.011061
Log likelihood	−420.7797	**Akaike criterion**		873.5595
Schwarz criterion	888.6705	**Hannan–Quinn criterion**		876.1169
***rho* parameter**	−0.466542	**Durbin-Watson statistic**		2.295005

Source: Gretl.

The plot of residuals revealed heteroscedasticity, i.e., random errors have an uneven dispersion:

$V(\text{å}_i) = \sigma_i^2 \neq \text{const}$.

The consequences of heteroscedasticity are the inefficiency of OLS coefficient estimates and incorrect calculation of t statistics due to the bias and invalidity of coefficients' standard errors.

Since heteroscedasticity in most cases always occurs in the real data, it is customary to apply ***robust standard errors***.

After adding robust standard errors, we built a new OLS model (Table 5). Four factors turned out to be significant: the share of women on the BD, presence of an audit committee, number of meetings of the risk and strategy committees. In addition, the model is significant overall: the *p-value* is smaller than the significance level.

Table 5. *OLS* with robust errors. Dependent variable *Y*

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
Const	9.08459e + 09	1.14853e + 10	0.7910	0.4648	
BoardSize	−4.42807e + 08	2.07885e + 09	−0.2130	0.8397	
IndependentDirectors	−8.36947e + 09	2.50591e + 10	−0.3340	0.7519	

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
FemaleDirectors	−1.14558e + 11	2.33699e + 10	−4.902	0.0045	***
ForeignDirectors	3.39598e + 09	2.37880e + 09	1.428	0.2128	
BoardMeetings	−4.12233e + 08	2.12278e + 08	−1.942	0.1098	
AuditCommitteedummy	−3.09504e + 10	7.78422e + 09	−3.976	0.0106	**
AuditCommitteeSize	−2.61342e + 09	4.72623e + 09	−0.5530	0.6041	
AuditCommitteeCEOparticipati	−1.41583e + 10	1.96991e + 10	−0.7187	0.5045	
AuditCommitteeNumberofMeeti	3.17644e + 09	2.31218e + 09	1.374	0.2279	
StrategyCommitteedummy	3.76524e + 10	3.00924e + 10	1.251	0.2662	
StrategyCommitteeSize	1.94612e + 09	2.10301e + 09	0.9254	0.3972	
StrategyCommitteeNumberofMe	−2.31519e + 09	5.69684e + 08	−4.064	0.0097	***
RiskCommitteedummy	3.18577e + 10	3.13783e + 10	1.015	0.3566	
RiskCommitteeSize	2.97484e + 09	3.98657e + 09	0.7462	0.4891	
RiskCommitteeNumberofMeeti	1.63187e + 09	2.69099e + 08	6.064	0.0018	***
Mean value of the dependent variable	1.11e + 10	**Standard deviation of the dependent variable**		1.16e + 10	
Sum of squared errors	1.92e + 19	**Standard error of the model**		2.53e + 09	
***R* square**	0.992088	**Corrected R square**		0.952526	
***F*(15, 5)**	1.29e + 15	***P* value (*F*)**		6.24e − 38	
Log likelihood	−420.7797	**Akaike criterion**		873.5595	
Schwarz criterion	888.6705	**Hannan–Quinn criterion**		876.1169	
***rho* parameter**	−0.466542	**Durbin-Watson statistic**		2.295005	

Notes: * Designates significance at a 10% level; ** Designates significance at a 5% level; *** Designates significance at a 1% level.

Source: Gretl.

Furthermore, we conducted the ***Ramsey test*** (*RESET*) - an ***endogeneity test*** that indicates whether the supposition of regressor exogeneity is true. The regressor is considered to be exogenous if it does not correlate to a random error in the model. H_0 indicates that the specification of the initial model is correct. As long as ***p-value* = *P*(*F*(2.1) > 2.75063) = = 0.002,** which is less than the critical value, the zero hypothesis is rejected. Consequently, the specification of the constructed model may be considered incorrect, i.e., it is necessary to convert data. For this reason, we used the logarithm of the dependent variable *Y*, which represents the banks' NAV, to build the third model with converted data (Table 6).

Table 6. *OLS*: dependent variable ln *Y*

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
Const	19.2758	1.54466	12.48	<0.0001	***
BoardSize	−0.0960308	0.250281	−0.3837	0.7170	
IndependentDirectors	0.0504522	4.37744	0.01153	0.9912	
FemaleDirectors	−7.04002	4.76878	−1.476	0.1999	
ForeignDirectors	2.63506	0.348869	7.553	0.0006	***
BoardMeetings	−0.0355600	0.0303296	−1.172	0.2938	
AuditCommitteedummy	−3.21682	1.40427	−2.291	0.0706	*
AuditCommitteeSize	−0.215873	0.565690	−0.3816	0.7184	

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
AuditCommitteeCEOparticipati	1.29983	0.322810	4.027	0.0101	**
AuditCommitteeNumberofMeeti	0.193918	0.146682	1.322	0.2434	
StrategyCommitteedummy	6.15598	2.40423	2.560	0.0506	*
StrategyCommitteeSize	0.100167	0.113199	0.8849	0.4167	
StrategyCommitteeNumberofMe	−0.184176	0.180378	−1.021	0.3541	
RiskCommitteedummy	1.67363	2.14385	0.7807	0.4703	
RiskCommitteeSize	0.236691	0.135748	1.744	0.1417	
RiskCommitteeNumberofMeeti	0.124198	0.0419622	2.960	0.0315	**
Mean value of the dependent variable	22.15727	**Standard deviation of the dependent variable**		1.746957	
Sum of squared errors	0.113276	**Standard error of the model**		0.194316	
***R* square**	0.997938	**Corrected R square**		0.987628	
***F*(15, 5)**	3.59e + 14	***P* value (*F*)**		1.53e − 36	
Log likelihood	21.70263	**Akaike criterion**		−11.40526	
Schwarz criterion	3.705761	**Hannan–Quinn criterion**		−8.847877	
***rho* parameter**	−0.276441	**Durbin-Watson statistic**		2.054812	

Source: Gretl.

The model's explanatory power increased in comparison to the previous model (R^2 = 0.997), the indicator of the share of foreign directors was added to significant factors. However, the Ramsey test once again demonstrated that the model specification is incorrect. Missing data that impacts the model may be one of possible reasons. Therefore, we made the decision to add the missing values.

For this purpose, we constructed an OLS model for all observations without missing values. The obtained coefficients were used to forecast the lacking values. Thus, we obtained a balanced panel that presents the data for all observations.

OLS of an Balanced Panel

Now the OLS model was constructed on the basis of new data, and robust errors and logarithmation were taken into consideration. Thus, the new model turned out to be significant overall, however, the perfect collinearity of the factor representing the bank CEO's participation in the risk committee was revealed. Apart from that, the correlation matrix shows a strong relationship of this factor with all the other factors related to the risk committee: its presence, size and number of meetings per year.

As a result of analysis of the correlation matrix, we decided to eliminate the factor of CEO's participation in the risk committee from the model. Thus, the model utilizes 16 factors. The new OLS model has a high value of R^2 = 0.98 (Table 7).

Table 7. *OLS* of balanced data. Dependent variable ln *Y*

	Coefficient	Standard error	*t* statistics	*p*-value
IndependentDirectors	−60.1611	66.2420	−0.9082	0.3988
FemaleDirectors	−1.12108	12.5312	−0.08946	0.9316
ForeignDirectors	1.29677	4.60411	0.2817	0.7877
AuditCommitteeSize	2.94006	4.33491	0.6782	0.5229
AuditCommitteeCEOparticipation	−26.0268	40.0120	−0.6505	0.5395
AuditCommitteeNumberofMeetings	0.351006	1.07810	0.3256	0.7558
StrategyCommitteeSize	−0.138428	0.893606	−0.1549	0.8820
StrategyCommitteeCEOparticipation	17.1378	19.9800	0.8577	0.4240
StrategyCommitteeNumberofMeetings	0.852699	1.48833	0.5729	0.5875

	Coefficient	Standard error	*t* statistics	*p*-value
RiskCommitteeSize	–1.21310	4.29278	–0.2826	0.7870
RiskCommitteeNumberofMeetngs	0.489926	0.351709	1.393	0.2130
BoardSize	1.79396	1.36986	1.310	0.2382
BoardMeetings	0.367144	0.339293	1.082	0.3208
Mean value of the dependent variable	21.59839	**Standard deviation of the dependent variable**		1.905989
Sum of squared errors	126.8300	**Standard error of the model**		3.395586
Uncentred *R* square	0.988756	**Centered *R* square**		–0.517937
Log likelihood	–54.03205	**Akaike criterion**		134.0641
Schwarz criterion	149.3788	**Hannan–Quinn criterion**		138.1271
***rho* parameter**	–0.106979	**Durbin-Watson statistic**		1.596886

Source: Gretl.

The Ramsey test showed that the model specification is correct: ***p-value* = 1.33e – 11**. In addition, all factors turned out to be insignificant, which gives reason to suggest that a partial multicollinearity of factors is still present.

We subsequently analyzed the correlation matrix between all variables and noted a strong correlation of the binary variable of the presence of a strategy committee with the following factors related to this committee:

the number of meetings of the strategy committee per year $r = 0.739$;

the size of the strategy committee $r = 0.911$;

CEO's participation in the strategy committee $r = 0.795$.

Values of the correlation ratio exceeding 0.8 are usually indicative of a strong interrelation between variables.

In a similar way, we revealed a strong correlation between the corresponding factors in regard to the audit committee.

In order to make sure that the conclusions made as a result of analysis of correlation matrices are correct, we conducted the ***multicollinearity test***.

The Belsley-Kuh-Welsch (*BKW*) test diagnosed the presence of data collinearity. The indices calculated on the basis of this test are indicative of the strength of interrelation between the variables. According to *BKW,* if the obtained index value exceeds 30, it reveals a strong (close to linear) dependence, while a value in the range of 10 to 30 is indicative of a moderate dependence.

Thus, we verified the variables of the three committees (the risk, strategy and audit committee), and assessing four factors in regard to each: dummy, CEO's participation, number of meetings and committee size.

As a result of the conducted tests, collinearity was not found in the risk and audit committee, while in the strategy committee the committee size parameter revealed the index value of 21.6 (>10). It means that this factor has a moderately strong relationship with other parameters. Thus, we excluded the *StrategyCommitteeSize* factor from the model.

Then we constructed a new model with regard to the excluded factor (Table 8).

Table 8. *OLS* of balanced data. Dependent variable ln *Y*

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
Const	17.8792	2.14471	8.336	<0.0001	***
BoardSize	0.291603	0.265856	1.097	0.3012	
IndependentDirectors	–0.696860	1.36285	–0.5113	0.6214	
FemaleDirectors	–3.25271	1.95492	–1.664	0.1305	
ForeignDirectors	0.809417	0.643148	1.259	0.2399	
BoardMeetings	0.00425396	0.020326	0.2093	0.8389	
AuditCommitteedummy	0.879120	1.26036	0.6975	0.5031	
AuditCommitteeSize	0.0660033	0.199987	0.3300	0.7489	
AuditCommitteeCEOparticipation	–2.03148	1.00668	–2.018	0.0744	*
AuditCommitteeNumberofMeetings	0.0389559	0.0485224	0.8028	0.4428	

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
StrategyCommitteedummy	0.195874	1.65653	0.1182	0.9085	
StrategyCommitteeCEOparticipation	4.21506	1.45409	2.899	0.0176	**
StrategyCommitteeNumberofMeeetings	−0.156576	0.0956471	−1.637	0.1361	
RiskCommitteedummy	3.32764	3.15767	1.054	0.3194	
RiskCommitteeSize	0.284131	0.239014	1.189	0.2650	
RiskCommitteeNumberofMeetings	0.142983	0.0615514	2.323	0.0453	**
Mean value of the dependent variable	21.22325	**Standard deviation of the dependent variable**		1.681836	
Sum of squared errors	4.357507	**Standard error of the model**		0.455522	
***R* square**	0.957207	**Corrected R square**		0.926641	
Log likelihood	−12.92889	**Akaike criterion**		57.85779	
Schwarz criterion	83.63248	**Hannan–Quinn criterion**		66.94457	
***rho* parameter**	0.312358	**Durbin-Watson statistic**		0.616400	

Source: Gretl.

The Ramsey test indicates that even when the elimination of multicollinearity is taken into consideration, model specification is incorrect again. This problem may occur in case of a high value of the determination coefficient and a large number of regressors. Therefore, it is best to eliminate some of them relying not merely on econometric results, but also on the cause-and-effect relationship between the factors in actual life.

As long as all binary variables are related to the factors associated with them (for example, if a committee does not exist, all the other indicators for this committee will be zero), it is reasonable to use only dummy variables in the model. Therefore, all regressors related to CEO participation, committee size and number of its meetings per year were excluded from the model.

Now the OLS model consists of an equation with eight variables and a constant (Table 9). The determination coefficient decreased significantly, i.e., multicollinearity had been eliminated. However, the Ramsey test indicates that the model specification is incorrect ((***p-value* = 0.001,** which is smaller than the significance level).

Table 9. *OLS* with seven factors. Dependent variable ln *Y*

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
Const	15.4587	0.821465	18.82	<0.0001	***
BoardSize	0.528190	0.0898649	5.878	<0.0001	***
IndependentDirectors	0.508225	0.637996	0.7966	0.4350	
FemaleDirectors	−1.50849	1.09859	−1.373	0.1849	
ForeignDirectors	0.258631	0.616665	0.4194	0.6794	
BoardMeetings	0.0252048	0.0153989	1.637	0.1173	
AuditCommitteedummy	0.153450	0.362111	0.4238	0.6763	
StrategyCommitteedummy	−0.118317	0.431540	−0.2742	0.7868	
RiskCommitteedummy	0.955509	0.472413	2.023	0.0567	*
Mean value of the dependent variable	20.50812	**Standard deviation of the dependent variable**		1.594168	
Sum of squared errors	84.97872	**Standard error of the model**		0.940848	
***R* square**	0.678479	**Corrected R square**		0.651686	

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
***F*(8, 20)**	6,903489	***P*-value (*F*)**		0.000221	
Log likelihood	–137.8817	**Akaike criterion**		293.7633	
Schwarz criterion	317.6490	**Hannan–Quinn criterion**		303.4423	
***rho* parameter**	0.814419	**Durbin-Watson statistic**		0.293595	

Source: Gretl.

Operations with primary data usually help to improve the model – by means of data conversion application of logarithmation, the first-order difference and other changes. In order to understand whether conversions are required, one has to analyze the initial variables. Only 8 out of 18 initial factors are still present in the model:

- three dummy variables indicating the presence or absence of functioning committees of the BD;
- three regressors that represent the share of women, foreigners or independent directors on the BD are relative variables;
- two factors in absolute terms – *BoardSize* and *BoardMeetings*.

The last two regressors may mispresent coefficients in the model and influence the results due to the fact that they are not normalized. Therefore, we presented box-and-whisker descriptive statistics for these regressors. The constructed graphs indicate that there are outliers in both cases. The median of the *BoardMeeteings* variable is close to the higher quartile, while the whiskers of the *BoardSize* factor are nonproportional. The above allows us to conclude that in both cases data is distributed in a non-normal way, therefore it requires standardization, which will be performed by means of logarithmation.

After the logarithmation of the *BoardSize* and *BoardMeetings* factors, we obtained the model with $R^2 = 0.66$ and four significant factors apart from the constant, which are: the share of women on the board of directors (*FemaleDirectors*), the presence of a risk committee (*RiskCommitteedummy*), the logarithm of the number of meetings of the board of directors per year (ln *BoardMeetings*) and the logarithm of the size of the board of directors (ln *BoardSize*). The Ramsey test showed that the model specification is correct because ***p-value* = 0.397,** which exceeds the threshold significance level (Table 10).

Table 10. *OLS* with ln *BoardSize* and ln *BoardMeetings*. Dependent variable ln *Y*

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
Const	7.53600	1.16456	6.471	<0.0001	***
IndependentDirectors	0.374311	0.476878	0.7849	0.4345	
FemaleDirectors	–1.93003	0.794519	–2.429	0.0170	**
ForeignDirectors	0.368774	0.326375	1.130	0.2614	
AuditCommitteedummy	0.270962	0.334256	0.8106	0.4196	
StrategyCommitteedummy	–0.00837847	0.252711	–0.03315	0.9736	
RiskCommitteedummy	1.18262	0.255035	4.637	<0.0001	***
ln *BoardMeetings*	1.18516	0.297310	3.986	0.0001	***
ln *BoardSize*	4.40150	0.376219	11.70	<0.0001	***
Mean value of the dependent variable	20.51396	**Standard deviation of the dependent variable**		1.600760	
Sum of squared errors	90.68009	**Standard error of the model**		0.976999	
***R* square**	0.656424	**Corrected R square**		0.627492	
***F*(8, 95)**	22.68799	***P*-value (*F*)**		5.40e-19	
Log likelihood	–140.4428	**Akaike criterion**		298.8857	
Schwarz criterion	322.6852	**Hannan–Quinn criterion**		308.5276	
***rho* parameter**	0.774356	**Durbin-Watson statistic**		0.341886	

Source: Gretl.

Thus, the final OLS model may be presented as the following regression equation:

$$ln\ Y = 7.54 + 0.374 \cdot IndependentDirectors -$$
$$-1.93 \cdot \boldsymbol{FemaleDirectors} +$$
$$+0.369 \cdot ForeignDirectors +$$
$$+0.270 \cdot AuditCommitteedummy$$
$$-0.0083 \cdot StrategyCommitteedummy +$$
$$+1.18 \cdot \boldsymbol{RisksCommitteedummy} +$$
$$+4.40 \cdot \boldsymbol{ln\ BoardSize} +$$
$$+1.18 \cdot \boldsymbol{ln\ BoardMeetings}.$$

It is reasonable to only interpret the influence of the four factors that turned out to be significant.

As long as the coefficient of the *FemaleDirectors* variable is high, i.e., it significantly exceeds 0.1, modulo, the calculation of influence based on an approximation formula may distort the results, so we have to refine the calculations:

$$\boldsymbol{ln\hat{y}_1 - ln\hat{y}_0 = -1.93;}$$

$$\boldsymbol{ln}\left(\frac{\hat{y}_1}{\hat{y}_0}\right) = -1.93;$$

$$\frac{\hat{y}_1}{\hat{y}_0} = \boldsymbol{e}^{-1,93} = 0.145;$$

$$\frac{\hat{y}_1 - \hat{y}_0}{\hat{y}_0} = -0.86.$$

Consequently, when the *FemaleDirectors* variable increases by one, the dependent variable *Y* decreases by 86%. Hence, if a risk committee starts functioning on the BD (dummy variable equals 1), the bank's NAV will decrease by 86%.

Operating on the premise that the coefficient of the binary variable *RisksCommitteedummy* is also rather high, the calculation of influence using an approximation formula may skew the results, so we have to refine the calculations:

$$\boldsymbol{ln\hat{y}_1 - ln\hat{y}_0 = 1.18;}$$

$$\boldsymbol{ln}\left(\frac{\hat{y}_1}{\hat{y}_0}\right) = 1.18;$$

$$\frac{\hat{y}_1}{\hat{y}_0} = \boldsymbol{e}^{1,18} = 3.25;$$

$$\frac{\hat{y}_1 - \hat{y}_0}{\hat{y}_0} = 2.25.$$

Consequently, when the *RisksCommitteedummy* variable increases by one, the dependent variable *Y* decreases by 225%. Hence, if a risk committee starts functioning on the BD (dummy variable equals 1), the bank's NAV will decrease by 225%.

Suppose $l\,BoardSize = \ln x_3$, then

$$\boldsymbol{d\left(lnY\right) = 4.4\frac{dx_3}{x_3}; \frac{dY}{Y} = 4.4\frac{dx_3}{x_3}; \frac{\Delta Y}{Y} = 4.4\frac{\Delta x_3}{x_3}}.$$

Consequently, when the *BoardSize* variable increases by 1%, variable *Y* (bank's NAV) will increase by 4.4%, i.e., if the number of BD members grows by 1%, the bank's estimate on the basis of NAV increases by 4.4%.

Suppose $\ln BoardMeetings = \ln\_x_4$, then

$$\boldsymbol{d\left(lnY\right) = 1.18\frac{dx_4}{x_4}; \frac{dY}{Y} = 1.18\frac{dx_4}{x_4}; \frac{\Delta Y}{Y} = 1.18\frac{\Delta x_4}{x_4}}.$$

Consequently, in case of an increase of the *BoardMeetings* variable by 1%, variable *Y* (bank's NAV) will increase by 1.18%, i.e., when the number of BD meetings per year grows twofold, the bank's estimate on the basis of NAV increases by 118%.

Verification of Model Quality

If we construct a graph of OLS model residues, it will reveal that they are distributed normally. Regardless of the several multicollinearity and heteroscedasticity tests (Ramsey test) we performed when building the OLS model and transforming it into the final form, it is necessary to ensure once again that the above-mentioned problems don't exist.

First, we conducted the multicollinearity test by means of the ***inflation factor method***.

The method implies the calculation of *VIF* (*variance inflation factors*) for each regressor to define the relationship between different factors. In order to calculate the coefficient, which corresponds to the $x^{(j)}$ factor, an additional regression needs to be constructed. In its equation, the $x^{(j)}$ regressor will be on the left and all the other regressors of the initial model will be on the right. Thus, we will calculate the multiple correlation coefficient for *j* variable and other factors (R_j^2). Then we will determine *VIF* coefficients according to the following formula:

$$\boldsymbol{VIF_j = \frac{1}{1 - R_j^2}}.$$

Thus, we obtained the coefficients of all regressors in the constructed OLS model (Table 11).

Table 11. *VIF* coefficients

Regressor	*VIF*
IndependentDirectors	1.154
FemaleDirectors	1.147
ForeignDirectors	1.085
AuditCommitteedummy	1.585
StrategyCommitteedummy	1.723
RiskCommitteedummy	1.425
ln *BoardMeetings*	1.251
ln *BoardSize*	1.165

Source: Gretl.

As long as the values of all coefficients do not exceed 10, we may conclude that ***there is no collinearity***.

Then we performed the White test, which verifies the zero hypothesis of absence of heteroscedasticity.

$$H_0 : \sigma_1^2 = \sigma_2^2 = \ldots = \sigma_n^2 = const \ .$$

The test statistics is as follows: $nR^2 \sim \chi^2(p)$, where p is the number of variables in the second regression, while the estimated value equals nR^2.

According to the White test, the *p-value* = $P(\chi^2(39) > 60.841024) = 0.014142$. Hence, since *p-value* exceeds the threshold significance level and the test statistics exceeds the estimated value, the zero hypothesis is not rejected, i.e., ***there is no heteroscedasticity in the model***. Consequently, random errors show homoscedasticity.

Building a Random Effects Model (GLS)

A prerequisite for the random effects model or GLS (generalized least squares) is the non-correlatability of unobserved effects μ_i with the regressor:

$$E(\mu_i | x_{i1}^{(1)}, x_{i2}^{(1)}, \ldots, x_{iT}^{(1)}, x_{i1}^{(2)}, \ldots, x_{iT}^{(2)}, x_{i1}^{(k)}, \ldots, x_{iT}^{(k)}) = E(\mu_i) = 0 \ .$$

The equation of the random effects model takes the following general form:

$$y_{it} = \alpha + \beta x_{it} + \upsilon_{it}, \text{ where } \upsilon_{it} = \mu_0 + \varepsilon_{it} \ .$$

The main advantage of this model in comparison with the fixed effects model is that it allows to evaluate regressor coefficients that remain unchanged within the predetermined period.

In the constructed GLS model, all coefficients except the ln *BoardSize* turned out to be insignificant (Table 12).

Table 12. The random effects model (*GLS*). Dependent variable ln *Y*

	Coefficient	Standard error	*z*	*p*-value	Significance
Const	18.7573	1.35161	13.88	<0.0001	***
IndependentDirectors	0.145897	0.384911	0.3790	0.7047	
FemaleDirectors	−0.446829	0.657920	−0.6792	0.4970	
ForeignDirectors	0.588857	0.513720	1.146	0.2517	
AuditCommitteedummy	0.100629	0.107172	0.9390	0.3478	
StrategyCommitteedummy	0.327719	0.322139	1.017	0.3090	
RiskCommitteedummy	0.00161951	0.177536	0.009122	0.9927	
ln_*BoardMeetings*	−0.162665	0.196014	−0.8299	0.4066	
ln_*BoardSize*	0.883519	0.480911	1.837	0.0662	*
Mean value of the dependent variable	20.51396	**Standard deviation of the dependent variable**		1.600760	
Sum of squared errors	218.9924	**Standard error of the model**		1.510355	
Log likelihood	−186.2912	**Akaike criterion**		390.5824	
Schwarz criterion	414.3819	**Hannan–Quinn criterion**		400.2243	
***rho* parameter**	0.450087	**Durbin-Watson statistic**		0.711062	

Source: Gretl.

The regression equation takes the following form:

$$ln\ Y = 18.8 + 0.146 \cdot IndependentDirectors - 0.447 \cdot FemaleDirectors + 0.589 \cdot ForeignDirectors + $$
$$+ 0.101 \cdot AuditCommitteedummy + 0.328 \cdot StrategyCommitteedummy + 0.00162 \cdot RisksCommitteedummy - $$
$$- 0.163 \cdot + 0,884 \cdot ln.$$

Building a Fixed effects Model

In the last evaluated model– the fixed effects model – only the constant was found to be significant, while all factors turned out to be insignificant (Table 13).

Table 13. The fixed effects model. Dependent variable ln *Y*

	Coefficient	Standard error	*t* statistics	*p*-value	Significance
Const	20.4042	1.12498	18.14	<0.0001	***
IndependentDirectors	−0.114379	0.492655	−0.2322	0.8188	
FemaleDirectors	−0.108947	0.559222	−0.1948	0.8475	
ForeignDirectors	0.649975	0.547888	1.186	0.2494	
AuditCommitteedummy	0.00457190	0.138197	0.03308	0.9739	
StrategyCommitteedummy	0.589526	0.394195	1.496	0.1504	
RiskCommitteedummy	0.0431834	0.153967	0.2805	0.7820	
ln *BoardMeetings*	−0.268975	0.204445	−1.316	0.2032	
ln BoardSize	0.237635	0.380486	0.6246	0.5393	
Mean value of the dependent variable	20.51396	**Standard deviation of the dependent variable**		1.600760	
Sum of squared errors	4.971401	**Standard error of the model**		0.257459	
***LSDV R* square**	0.981164	**Within *R* square**		0.560325	
Log likelihood	10.54623	**Akaike criterion**		36.90754	
Schwarz criterion	113.5949	**Hannan–Quinn criterion**		67.97583	
***rho* parameter**	0.450087	**Durbin-Watson statistic**		0.711062	

Source: Gretl.

The regression equation takes the following form:

$$\ln Y = 20.4 - 0.114 \cdot IndependentDirectors -$$
$$-0.109 \cdot FemaleDirectors +$$
$$+0.650 \cdot ForeignDirectors +$$
$$+0.00457 \cdot AuditCommitteedummy$$
$$+0.590 \cdot StrategyCommitteedummy +$$
$$+0.0432 \cdot RisksCommitteedummy - 0.269 \cdot + 0.238 \cdot .$$

Choosing the Best Model

In this research we applied three approaches to the evaluation of panel data and constructed the corresponding models: the OLS model (pooled regression), the random effects model (GLS), and the fixed effects model (FE).

We summarized the obtained estimates in Table 14.

Table 14. Comparison of models

Model	*OLS*	*GLS (RE)*	*FE*
Const	7.54 (***)	18.76 (***)	20.40 (***)
IndependentDirectors	0.37	0.15	−0.11
FemaleDirectors	−1.93 (**)	−0.45	−0.11
ForeignDirectors	0.37	0.59	0.65
AuditCommitteedummy	0.27	0.10	0.005
StrategyCommitteedummy	−0.008	0.33	0.59
RiskCommitteedummy	1.18 (***)	0.0016	0.04
ln *BoardMeetings*	1.19 (***)	−0.16	−0.27

Model	*OLS*	*GLS (RE)*	*FE*
ln *BoardSize*	4.40 (***)	0.88 (*)	0.24
Individual effects	No	Yes	Yes
Number of observations	150	150	150
R^2	0.66	-	0.56

Notes: Significance of coefficients is indicated in brackets.

Source: Gretl.

In order to choose one of the models, it is necessary to apply specification tests (Table 15).

Table 15. Specification tests

Test	Models
Hausman	*FE* and *RE*
Breusch-Pagan	*RE* and *OLS*
Linear restriction test	*FE* and *OLS*

Source: Compiled by the author.

First, we applied the ***Hausman test,*** which compares the estimates in the random effects model with those obtained by means of an intragroup transformation in the fixed effects model. The zero hypothesis states that the estimates of the random effects model are consistent:

$\boldsymbol{H}_0 : \mu_0$ do not correlate with $x_{ioto}\ \forall\ \boldsymbol{i}, \boldsymbol{i}_0, \boldsymbol{t}_0$.

At the same time, the estimated value of statistics is as follows:

$$\left(\hat{\beta}_{FE} - \hat{\beta}_{RE}\right)'\left(\hat{V}\left(\hat{\beta}_{FE}\right) - \hat{V}\left(\hat{\beta}_{RE}\right)\right)^{-1}\left(\hat{\beta}_{FE} - \hat{\beta}_{RE}\right) \sim \chi^2(k),$$

where k is the number of estimated variable coefficients of variables.

According to the performed test, $\chi^2(8) = 72.8498$, $p - value = 0.0617$. Thus, the *p-value* exceeds the 5% significance level. This allows to conclude that the zero hypothesis is not rejected, i.e., the estimates of the random effects model are consistent and we have to choose the random effects model (*RE*).

Then we conducted the ***Breusch-Pagan test,*** which allows to compare the OLS and *RE* models. According to the test, the OLS model may be used if there are no individual effects (μ_0). The zero hypothesis states that all objects of the *RE* model are homogeneous, i.e., the variance equals zero.

$$\boldsymbol{H}_0 : \mathbf{Var}(\mu_0) = \sigma_\mu^2 = 0 .$$

At the same time, the estimated value of statistics is as follows:

$$\boldsymbol{LM} = \frac{\boldsymbol{nT}}{2(\boldsymbol{T}-1)}\left(\frac{\sum_{i=1}^{n}(\sum_{i=1}^{T}\boldsymbol{e}_{it})^2}{\sum_{i=1}^{n}(\sum_{i=1}^{T}\boldsymbol{e}_{it})} - 1\right)^2 \sim \chi^2(1),$$

where $\boldsymbol{e}_{it}$ – model residuals ***OLS*** .

According to the conducted test, $\chi^2(1) = 87,7817$, $p - value = 0.1215$. Hence, *p-value* exceeds the threshold significance level, the zero hypothesis is not rejected, i.e., it is unnecessary to use the random effects model and we may apply an ordinary OLS model, which does not take random effects into consideration.

Thus, the regression evaluated by means of OLS (*pooled regression*) is the optimal model. It may be represented by the following equation:

$$= 7.54 + 0.374 \cdot IndependentDirectors -$$
$$-1.93 \cdot \boldsymbol{FemaleDirectors} +$$
$$+0,369 \cdot ForeignDirectors +$$
$$+0,270 \cdot AuditCommitteedummy$$
$$-0,0083 \cdot StrategyCommitteedummy +$$
$$+1.18 \cdot \boldsymbol{RisksCommitteedummy} +$$
$$= 4.40 \cdot \boldsymbol{ln\ BoardSize} + 1.18 \cdot \boldsymbol{ln}.$$

The obtained model may be interpreted as follows:

When the *FemaleDirectors* variable increases by one, the dependent variable *Y* is reduced by 86%. Hence, if the share of women increases by 1%, the bank's NAV will decrease by 86%.

If the *RisksCommitteedummy* variable increases by one, the dependent variable *Y* is reduced by 225%. Consequently, if a risk committee starts functioning on the BD (dummy variable equals 1), the bank's NAV will increase by 225%.

In case the *BoardSize* variable increases by 1%, variable *Y* (bank's NAV) will increase by 4.4%, i.e., if the number of the BD members grows by 1%, the bank's estimate on the basis of NAV will increase by 4.4%

In case of an increase of the *BoardMeetings* variable by 1%, variable *Y* (bank's NAV) will increase by 1.18%, i.e., when the number of BD meetings per year grows twofold, the bank's estimate on the basis of NAV increases by 118%.

Thus, we may make the following conclusions:

We cannot make a reliable conclusion concerning the first hypothesis, which states that the share of independent directors has a positive influence on Russian banks' valuation because this factor turned out to be insignificant.

The second hypothesis, which states that female representation on the board of directors has a positive effect on a bank's valuation is rejected with an error probability of 10%. In spite of the fact that the diversification of a bank's

board of directors usually exceeds its performance and, consequently, the company valuation, the model demonstrates that there is an opposite effect in Russian banks.

The third hypothesis about the significance of the presence of committees on the board of directors is accepted partially because only the presence of a risk committee turned out to be significant. We cannot make a reliable conclusion about other committees based on the studied sample.

Conclusion

Several financial crises allowed to detect the drawbacks of the Russian banking system, which may be eliminated only in case of a joint influence of the megaregulator and the internal arrangement of the financial sector companies.

In this research study we have analyzed various approaches to defining the notion of corporate governance. It may be characterized as the system of interrelations between the principal governance bodies of a JSC (GMS, BD and the executive board), which aims to improve the efficiency of corporate operations.

After the CB introduced the Corporate Governance Code, many companies implemented the recommendations of the Bank of Russia into their practice and started to disclose the information on corporate governance annually. The corporate governance requirements imposed by the Moscow Exchange on the companies that wish to obtain the 1st and 2nd listing levels also improve the quality of corporate governance.

In this research, we have constructed three models, evaluating the panel data of 30 Russian banks, which are the largest in terms of assets and have the highest reliability. Initially, we added 18 regressors and one dependent variable – the banks' NAV. Due to an incorrect specification revealed by the Ramsey test, we eliminated several variables. The OLS model was verified for the absence of heteroscedasticity multicollinearity. Then we built two models, namely, random effects and fixed effects models. Comparison of all three models by means of specification tests led us to conclude that the OLS model with the explanatory power of 67% is optimal.

According to the regression equation, the presence of women among the directors worsens a bank's valuation, while the number of BD meetings, the number of directors and the presence of an audit committee have a positive impact on a bank's NAV. If the share of women increases by 1%, a bank's NAV will be reduced by 86%. If a risk committee starts functioning on the BD, the bank's NAV will grow by 225%. If the number of BD members increases by 1%, the bank's NAV will grow by 4.4%, and if the number of BD meetings per year increases twofold, it will grow by 118%.

Bank clustering, i.e., in terms of assets, may be a potential research perspective, in order to determine significant factors for each category. Apart from that, one may consider other corporate governance factors, for instance, those related to the organizational arrangement of a general shareholders' meeting.

References

1. G20/OECD Principles of corporate governance. Paris: OECD; 2015. 60 p. URL: https://www.oecd-ilibrary.org/docserver/9789264236882-en.pdf?expires=1680199640&id=id&accname=guest&checksum=25B7550D50D41C3111D63CE2124129F6 (accessed on 24.04.2022).
2. Kashanina T.V. Corporate law. Law of economic partnerships and companies. Moscow: Infra-M-Norma; 1999. 815 p. (In Russ.).
3. Sukhanov E.A. Comparative corporate law. Moscow: Statut; 2014. 456 p. (In Russ.).
4. Chistyakov A.E., Savicheva A.N., Antippova N.A., Ulanova A.V. Fundamental problems of companies estimation: Practical verification of theoretical approaches in the long term. *Teoreticheskaya ekonomika = The Theoretical Economy*. 2018;(3):181-188. (In Russ.).
5. Pakhomova N.N. Foundations of the corporate relations theory (legal aspect). Ekaterinburg: Nalogi i Finansovoe Pravo; 2004. 208 p. (In Russ.).
6. Tkachenko I.N. Corporate governance. Ekaterinburg: Ural State Economic University Publ.; 2001. 206 p. (In Russ.).
7. Corporate governance code. *Vestnik Banka Rossii = Bank of Russia Bulletin*. 2014;(40):1-63. URL: http://www.cbr.ru/publ/vestnik/ves140418040.pdf (accessed on 25.04.2022). (In Russ.).
8. Requirements for the issuer's corporate governance, compliance with which is a condition for the inclusion of shares in the First and Second levels. Moscow Exchange (MOEX). URL: https://www.moex.com/a2585 (accessed on 25.04.2022). (In Russ.).
9. Minervin I.G. Corporate governance: Trends and changes. *Sotsial'nye i gumanitarnye nauki. Otechestvennaya i zarubezhnaya literatura. Seriya 2: Ekonomika. Referativnyi zhurnal = Social Sciences and Humanities. Domestic and Foreign Literature. Series 2: Economics. Abstracts Journal*. 2018;(4):124-134. (In Russ.).
10. Dalton D.R., Daily C.M., Ellstrand A.E., Johnson J.L. Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*. 1998;19(3):269-290. https://doi.org/10.1002/(SICI)1097-0266(199803)19:3<269::AID-SMJ950>3.0.CO;2-K
11. Klapper L.F., Love I. Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*. 2004;10(5):703-728. https://doi.org/10.1016/S0929-1199(03)00046-4
12. Rachinsky A. Corporate governance and market

value of the company. Moscow: Center for Economic and Financial Research and Development; 2019. 141 p. (In Russ.).

13. Core J.E., Guay W.R., Rusticus T.O. Does weak governance cause weak stock returns? An examination of firm operating performance and investors' expectations. *The Journal of Finance*. 2006;61(2):655-687. https://doi.org/10.1111/j.1540-6261.2006.00851.x
14. Demsetz H., Villalonga B. Ownership structure and corporate performance. *Journal of Corporate Finance*. 2001;7(3):209-233. https://doi.org/10.1016/S0929-1199(01)00020-7
15. Black B. The corporate governance behavior and market value of Russian firms. *Emerging Markets Review*. 2001;2(2):89-108. https://doi.org/10.1016/S1566-0141(01)00012-7
16. Yermack D. Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*. 199;40(2):185-211. https://doi.org/10.1016/0304-405X(95)00844-5
17. Banking sector results for 2021. Moscow: Bank of Russia; 2022. 13 p. URL: https://www.cbr.ru/Collection/Collection/File/39722/presentation_20220128.pdf (accessed on 10.04.2022). (In Russ.).
18. On the development of the banking sector of the Russian Federation in March 2022. Moscow: Bank of Russia; 2022. 6 p. URL: https://www.cbr.ru/Collection/Collection/File/40940/razv_bs_22_03.pdf (accessed on 22.04.2022). (In Russ.).

The article **was submitted** 25.12.2022; **approved after reviewing** 23.01.2023; **accepted for publication** 10.02.2023.