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Risk Committee's Influence on Enterprise Risk Management

Onipe Adabenege Yahaya [1]*, Ishaku Yakubu [2]

[1&2] Department of Accounting, Faculty of Management Sciences, Nigerian Defence Academy, Kaduna, Nigeria
* Correspondence: yoadabenege@nda.edu.ng

Abstract: Risk is real and it is particularly very serious in the case of managing banks in Nigeria because of several reasons; including the fact that it is an emerging economy. It can affect a bank's bottom-line to say the least and even its survival. It is in view of this that this article links risk committee effectiveness with risk management by banks in Nigeria. Using 130 observations (13 banks, 10 years) for 2012-2021, we employ a correlational research design to develop a panel model linking risk committee characteristics with risk management. We use descriptive statistics, correlation matrix and regression to analyse the data after accounting for outliers, normality and homoscedasticity of residual, multicollinearity, model specification error, and panel effects tests. The findings show that risk committee presence and size have negative and significant effect on risk management. It also shows that risk committee independence, gender diversity, and meetings show positive and significant effect on risk management. On these bases, we conclude that risk committee presence and size negative determinants while risk committee independence, gender diversity and meetings are positive determinants of risk management. We suggest that risk committee should be merged with the audit committee of the board across banks. We also suggest that risk committee size should be reduced in order to cut costs. Further, we recommend that risk committee independence should be enhanced by appointing more non-executive directors to the committee. We also recommend that more women directors should be appointed into the risk committee of banks. Finally, we recommend that there should be more meetings for members of risk committee. Regulators and stakeholders stand to benefit from the study as more empirical evidence on the role of board risk committee is provided. The findings are limited to stakeholders in banks since there are variations in different sectors. The study is also limited due to the period covered and therefore, the validity of its findings is restricted to the years covered. Also, the choice of methods used may be subject of debate since different methods produce different results. Finally, broader set of variables may be used in future research effort linking risk committee with risk management.

Keywords: bank, gender diversity, independence, meeting, Nigeria, presence, size, risk committee, risk management,

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1. Introduction

A number of empirical studies have examined the association between risk management committee (RMC) or also known as risk committee (RC) and firm probability or financial performance (Abubakar et al., 2018; Addae & Gamfi, 2022; Alabdullah et al., 2021; Ames et al., 2018; Battaglia & Gallo, 2015; Chukwujekwu et al., 2020; Darmawan et al., 2021; Oboreh et al., 2022; Elamer & Benyazid., 2018; Elbahar, 2016; Erin et al., 2020; Fali et

al., 2020; Gontarek, 2017; Jia & Bradbury, 2021; Kemboi et al., 2019; Lamidi et al., 2022; Maher & Andersson, 1999; Malik et al., 2020; Masood, 2020; Nahar et al., 2016; Odubuasi et al., 2022; Okpe, 2017; Shatnawi et al., 2019; Shivaani, 2018; Ugwu et al., 2021; Yahaya & Ogwiji, 2021; Zemzem & Kacem, 2014). Some others have examined the link with market performance or firm value (Da Silva et al., 2020; Husaini & Saiful, 2018; Kakanda et al., 2018; Rahayu et al., 2022; Rustiarini & Suryandari, 2021; Scordis, 2018). Yet, others have examined the bond with it and audit report lag, auditor choice, audit opinion or audit fees (Ahmed & Che-Ahmad, 2016; Alkelani et al., 2020; Harymawan et al., 2021; Hines et al., 2015; Ishak, 2015). Some others have related audit committee with risk management (Al-Hajri, 2018; Omer et al., 2020; Nguyen, 2021; Nguyen, 2022). Yet, some have related corporate governance with risk management (Bhatta, 2008; Nareswara & Dewiyanti, 2021; Dionne & Triki, 2005; Fida & Naveed, 2020; Hsiao et al., 2022; International Finance Corporation, 2012; Karaca et al., 2018; Sum & Khalik, 2020; McNulty et al., 2012; Ngu & Amran, 2020; Rimin et al., 2019; Tao & Hutchinson, 2013; Wachira, 2019). Some others related board of directors with risk management (Achour, 2021; Adusei et al., 2014; Altin et al., 2022; Al-Zobi et al., 2019; Habtoor et al., 2019; Hassan et al., 2021; Kurniawanto, 2020; Nasiru & Ahmed, 2021; Nugraheni & Muhammad, 2019; Sithipolvanichgul, 2021; Tarus & Tenai, 2019). Still, some authors tried to establish the determinants of risk committee effectiveness (Gatzert & Martin, 2013; Golshan & Abdul-Rasid, 2012; Hines, 2012). Some other scholars researched into its association with market risk disclosures (Al-Hadi et al., 2015). Some researchers linked it with tax aggressiveness (Aronmwan & Ogbaisi, 2022). Some others linked it with prevention of financial crimes (Abdullah & Said, 2019). Some others linked it with investments (Scherbina et al., 2013). Another scholar linked it with financial distress (Jia, 2019). Some others linked it with the role of chief financial offer (Ojeka et al., 2019).

Very few studies have examined the correlation between risk committee and risk management (Bhuiyan et al., 2017; Ittner & Keusch, 2015; Rahma & Almilia, 2018; Stulz et al., 2021; Subramaniam et al., 2009). For example, Bhuiyan et al. (2017) studied the influence of the detached risk committee on corporate risk-taking and firm value. The authors found corporate risk-taking decline significantly for firms that have a detached risk committee compared with firms that have a joint audit and risk committee. The authors also found that the presence of a detached risk committee is positively connected with firm value. Similarly, Ittner and Keusch (2015) examined the influence of board risk oversight responsibilities and practices on the maturity of the firm's risk management processes and risk-taking. They found the location of board risk oversight responsibilities to be a major determinant of board risk oversight practices. Further, Rahma and Almilia (2018) analyzed the effect of risk management committee, size, leverage on the disclosure of risk management of 35 Indonesia companies for 2011-2015. The results of this study showed that risk management committee has an effect on risk management disclosure, size has no effect on risk management disclosure, leverage has an effect disclosure risk management. Stulz et al. (2021) developed a theory of bank board risk committees and found that risk committees are valuable even though there is no expectation that bank risk is lower if the bank has a well-functioning risk committee. As predicted by their theory, many large and complex banks voluntarily chose to have a risk committee, and also establishing a board risk committee does not reduce a bank's risk on average. Also, Subramaniam et al. (2009) examined how a risk management committee functions as a key governance support mechanism in the oversight an organisation's risk management strategies, policies and

processes of 300 Australian Stock Exchange listed companies. The results indicated that those with a separate RMC are more likely to have higher financial reporting risk.

In view of this scenario, this will examine the effect of board risk committee on risk management in banks. Regulators, shareholders, boards of directors would benefit from the paper particularly on the effectiveness of risk committee. Also, lenders, external auditors, clients, customers, investors, and the wider community stand to benefit from the results of the study. The remaining part of the paper is divided into five major parts, namely; literature review and hypotheses, materials and methods, findings, discussion and conclusion.

2. Literature Review and Hypotheses

2.1 Decision Making Power of the Risk Committee

The risk committee (RC) of the board is an independent committee that has responsibility for the oversight of the risk management policies and practices of the organization, inclxuding both local and foreign operations. RC oversees risks and risks assessment within its scope of responsibility. It assists the board to oversee implementation of an effective risk management frasmework reasonably designed to identify, assess, and monitor risks faced by the company. It is made up of non-executive directors, not fewer than 3 members. It is important to note that the risk committee is at the pleasure of the board of directors. In this paper, risk committee effectiveness is measured by its characteristics: presence (existence), size, independence, gender diversity, and meetings.

2.2 Enterprise Risk Management

Corporate risk also known as business risk results from significant conditions, events, actions, or inactions that could adversely affect an organization's ability to achieve its goals. It is true that the success or otherwise of the business depends on its ability to manage risks. Several scholars have shown interests in risk management in the past studies (see Hubbard Douglas, 2009; Mark Dorfman, 2007; Flyvbjerg & Budzier, 2011), and others, too many to mention here. Enterprise Risk management (ERM) is the process of identifying, evaluating, prioritizing, and coordinating risks as to reduce, monitor and control the likelihood their occurrence. It involves six steps: identifying the risk, measuring the risk, examining potential solutions, implementing the solutions, monitoring the results, and creatng awareness about the potential damages from the risk factors. Therefore, ERM involves five strategies: reduce the risk, mitigate it, avoid the risk, transfer the risk, or accept the risk. In another context, ERM encompasses the process of identificatyion, analysis and response to risk determinants that are part of the life of a business. Therefore, effective RM encompasses efforts to control future results by taking proactive steps, thus, ERM consists of steps to manage potential influence of undesirabe incidents.

There are five best practices that corporations can adopt in order to manage risks: involving stakeholders, support in fighting risk from the top, regular communications, clear risk management policies, and coninous riks monitoring. In order to manage risk effectively, one needs to involve critical stakeholders at every step of the way in risk management. Stakeholders may include managers, clients, customers, lenders, employees,

shareholders, regulators, unions, etc. Some of these stakeholders may have the magic wand to mitigate against the risk as each of them represents different sectors or roles. Also, there is need to create a strong risk management culture across the organization. The culure will covers the organization's values, beliefs, core competences, attitudes, about risks. There is also the need to enjoy from top management critical support in addressing and communicating risks across the levels in the organization. There is also need for the establishment of clear risk management policies, starting with a plan and frequently comparing this plan with the realities of business cycle. This singular act provides the basis for continuous risk monitoring and evaluation in the organization.

2.2.1 Utility Theory

The utility theory was first propounded in 1738 by Daniel Bernoulli who said that the decision making process shoud get managers' attention to the size of the influences of different outcomes. It was described in the thesis provided by Bulmer (2003). The purpose of this theory to is to quantify the risk consequences by estimating the loss quantity derivable from similar incident(s) likely to happen.

2.2.2 Regression Theory

The regression theory was used at the beginning of 19th Century. It was later established that the rule of regression theory in several siuations vacillate from computation of the chances of risks and ending with the prediction of corporate life cycle volatility. The aim of the theory is to estimate the changes in outcome as a result of changes in inputs. The theory was reechoed in 2016 by the work of Stan Uryasev.

2.2.3 Diversification Theory

The diversification theory requires that investment portfolio been diversified as propounded by Markowitz (1952). The paper provided the allocation of investments to reduce volatility from the expected rate of return. The purpose of the theory is to estabish a mix of investment portfolios to contain different assets and investment vehicles in order to minimise exposure to uncertainities. It suggests that risks can be reduced by spreading investments across financial derivatives, industries, sectors, and businesses.

2.3 Risk Committee and Enterprise Risk Management

Kleffner et al. (2003) examined the use of enterprise risk management (ERM) and their characteristics by companies in Canada. They obtained data from the responses to a mail survey sent to Canadian Risk and Insurance Management Society members as well as telephone interviews with 19 of the respondents. The results indicated that the firms had adopted ERM and that reasons for adopting it include the influence of the risk committee. Also, Ng et al. (2013) used 329 observations in identifying the relationships between risk management committee characteristics and risk taking of the Malaysia's insurance companies, from 2003-2011. Findings showed that size and committee independence are negatively associated with underwriting risk. Meanwhile, the frequency of risk

management committee meetings is insignificant in this study. Malik et al. (2020) examined whether firm performance is strengthened or weakened by the establishment of a board-level risk committee. They used 260 observations from UK FTSE350 firms during 2012–2015 and found risk management significantly and positively affected firm performance. They also found strong board-level risk committee governance complements this relationship. Also, Tao and Hutchinson (2013) examined the role of risk committees in managing and monitoring the risk behaviour of Australian financial firms in the period leading up to the global financial crisis (2006–2008). Using 711 observations of financial sector firms, they demonstrated how risk management committees reduce information asymmetry. The study showed that the composition of risk committees is positively associated with risk management.

2.3.1 Risk Committee Presence and Enterprise Risk Management

Beasley et al. (2005) examined factors associated with the stage of ERM implementation of 123 organizations. They found that the stage of ERM implementation to be positively related to the presence of a chief risk officer (a proxy of risk committee). Also, Aebi et al. (2012) investigated whether the presence of a chief risk officer (CRO) in a bank's executive board was associated with a better bank performance during the financial crisis of 2007/2008. Their results indicated that banks, in which the CRO directly reports to the board of directors and not to the CEO, exhibit significantly higher stock returns. Fajembola et al. (2018) examined bank stability and its relationship with the RMC and the chief risk officer (CRO) and how these could aid the board in ensuring that banks are stable in Nigeria. Using data from 2006-2016, they found that the RMC and the CRO could not effectively restrain the excesses from management.In view of these findings, we suggest that:

H_1: Risk committee presence (existence) is significant to enterprise risk management.

2.3.2 Risk Committee Size and Enterprise Risk Management

Abubakar et al. (2018) investigated the effect of RMC size on the financial performance of listed banks in Nigeria using 14 banks for 2014-2016. The result indicated that RMC size exhibited a positive insignificant relationship with finncial performance. Furthermore, Fali et al. (2020) evaluated the effect of risk management committee size on financial performance of listed insurance companies in Nigeria from 2012 to 2018. They found evidence that RMC size does not influence financial performance. Also, Chukwujekwu et al. (2020) investigated the effect of RMC size on the financial performance of listed banks on Nigeria Stock Exchange for the periods 2009 to 2018. The results indicated that RMC size was negative and had no significant effect on financial performance. Ugwu et al. (2021) assessed the effect of corporate RMC size on performance of 18 banks in Nigeria from 2009-2019 and found RMC size was insignificant. Also, Lamidi et al. (2022) examined the influence of RMC size on the financial performance of 13 deposit money banks in Nigeria. Using a fixed effect model, the study discovered that the size of risk management

committees has a negative impact on the financial performance of deposit money banks in Nigeria. In view of these findings, we suggest that:

H_2: Risk committee size is significant to enterprise risk management.

2.3.3 Risk Committee Independence and Enterprise Risk Management

Abubakar et al. (2018) also investigated the effect of RMC independence on the financial performance of listed banks in Nigeria and the result indicated that RMC independence exhibited a significant negative relationship with financial performance (evidence of risk reduction). Also, Fali et al. (2020) evaluated the effect of risk management committee independence on financial performance of listed insurance companies in Nigeria from 2012 to 2018. They found evidence that risk management committee independence does not influence financial performance. Lamidi et al. (2022) also examined the influence of RMC independence on the financial performance of 13 deposit money banks in Nigeria. Using a fixed effect model, the study discovered that the independence of risk management committees has a negative impact on the financial performance of deposit money banks in Nigeria. In view of these findings, we suggest that:

H_3: Risk committee independence is significant to enterprise risk management.

2.3.4 Risk Committee Gender Diversity and Enterprise Risk Management

Erin et al. (2017) examined the impact of risk management committee gender diversity on enterprise risk management (ERM) of 40 companies from the period 2012 to 2016. The result showed RMC gender diversity is statistically significant. Furthermore, Chukwujekwu et al. (2020) investigated the effect of RMC gender diversity on the financial performance of listed banks on Nigerian Stock Exchange for the periods 2009 to 2018. The results indicated that RMC gender diversity has positive statistical significant effect on financial performance of banks in Nigeria. Odubuasi et al. (2021) investigated the effect of RMC gender diversity on the performance of 9 banks in Nigeria from 2010 to 2019. The results indicated that RMC gender diversity had inverse effect. Also, Lamidi et al. (2022) examined the influence of RMC gender diversity on the financial performance of 13 deposit money banks in Nigeria. Using a fixed effect model, the study discovered that the gender diversity has a significant positive impact on the financial performance of banks in Nigeria. In view of these findings, we suggest that:

H_4: Risk committee gender diversity is significant to enterprise risk management.

2.3.5 Risk Committee Meetings and Enterprise Risk Management

Ugwu et al. (2021) also assessed the effect of corporate RMC meetings on performance of 18 banks in Nigeria from 2009-2019. They found RC meetings are positively significant. Lamidi et al. (2022) examined the influence of RMC meetings on the financial performance of 13 deposit money banks in Nigeria. Using a fixed effect model, the study discovered that the meetings of risk management committees have negative impact on the financial performance of deposit money banks in Nigeria. In view of these findings, we suggest that:

H_5: Risk committee meetings are significant to enterprise risk management.

3. Materials and Methods

3.1 Data and Sample Selection

There are 15 quoted banks on the website of the Nigerian Exchange Group as at 8 August, 2022. However, Jaiz Bank was excluded from the study because of year of listing, which was outside the period covered. Ecobank was also excluded because the study preferred comparative data to be in same currency, the Naira. As a consequence, only data from the 13 banks was obtained from the website of the Nigerian Exchange Group (www.ngxgroup.com) based on their annual reports and accounts for 2012 to 2021.

3.2 Model Specification

The model of the paper was adapted from Rahma and Almilia (2018) by the inclusion of three control variables: listing age, audit committee size and board of directors' size. It is should be noted that listing age of the banks is the most common denominator among them. Also, some banks have the roles of risk committee embedded into the tasks performed by the audit committee. In addition, there is no doubt that the risk committee of a bank is at the pleasure of its board of directors. Thus, the model is as follows:

$$RM_{i,t} = \beta_0 + \beta_1 RCP_{i,t} + \beta_2 RCS_{i,t} + \beta_3 RCI_{i,t} + \beta_4 RCGD_{i,t} + \beta_5 RCM_{i,t} + \beta_6 LAGE_{i,t} + \beta_7 ACS_{i,t} + \beta_8 BSZ_{i,t} + \varepsilon_{i,t}$$

Whereas:

RM = Risk management, measured by two variables: loan-to-deposit ratio (total loans divided by total deposits) and nonperforming loans (value of non-performing loans) (Rahma & Almilia, 2018; Yahaya et al., 2015).

RCP = Risk committee presence, measured by dummy variable 1, if there is RC, 0 or else, in year t (Da Silva et al., 2020; Rahayu et al., 2022).

RCS = Risk committee size, measured as is the total directors and non-directors in the risk committee (Addae & Gamfi, 2022; Alabdullah et al., 2021).

RCI = Risk committee independence, measured as the number of non-directors and non-executive directors in the risk committee divided by risk committee members size (Fida & Naveed, 2020; Hsiao et al., 2022).

RCGD = Risk committee gender diversity, measured as the number of female risk committee members divided by risk committee members size (Achour, 2021; Altin et al., 2022).

RCM = Risk committee meetings, measured as number of meetings held by the risk committee members in a year (Habtoor et al., 2019; Hassan et al., 2021).

LAGE = Listing age of the bank, measured by the number of years between 2021 and year of listing of firm i (Yahaya & Tijjani, 2021).

ACS = Audit committee size, measured as is the total directors and non-directors in the audit committee (Fali et al., 2019).

BSZ = Board committee size, measured as the total numbers of all directors of a company including the Chairman +Vice Chairman +CEO/Managing director + Executive Directors +Non-Executive Directors or Independent Directors but excluding the company secretary (Yahaya & Ahmed, 2022; Yahaya & Apochi, 2022; Yahaya, 2022).

β_0 = Model constant

β_{1-8} = Beta coefficients

i,t = Firm and year scripts

ε = Idiosyncrasy error term

4. Findings

This section is divided into five subsections, covering descriptive statistics, correlation, OLS regression, regression diagnostics and final regression. Subsection 1 deals with the descriptive statistics showing the number of observations, central mean,

standard deviation, minimum and maximum means. Table 1 presents the descriptive statistics.

Table 1. Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
LDR	130	70.01	30.527	3.55	294.116
NPL	130	8.94	14.168	0	86.852
RCP	130	.985	.124	0	1
RCS	130	6.946	2.314	0	14
RCI	130	64.502	18.615	0	100
RCGD	130	15.712	15.913	0	66.667
RCM	130	4.123	1.604	0	9
LAGE	130	27.385	15.258	11	50
ACS	130	6.054	.454	4	9
BSIZ	130	13.438	3.446	5	21

Source: From STATA 14 based on data

As clearly indicated in Table 1, the number of observations is 130 (13 banks over 10 years) and loan-to-deposit ratio (LDR) averages 70.01% with spread of 30.527% and minimum and maximum means of 3.55% and 294%, respectively. According to the rule of thumb, the ideal LDR ratio is 80-90%, however, on the average, it is approximately 70% in the case of banks sampled, which falls short of expectation. Also, it suggests that some banks have 294% ratio, meaning that they have large deposits compared with loans taken by customers, may be this scenario was occasioned by the bank consolidation exercise of 2005. Non-performing loans (NPL) averages 8.94% with spread of 14.168% and minimum and maximum means of 0% and 87%. The standard deviation figure is greater than the mean indicates a volatile situation about non-performing loans. The 0% is an indication that some of the banks do not have non-performing loans, while, the maximum figure of 87% is an indication of how terrible it is for some of the banks under consideration. Risk committee presence (RCP) averages .985 with spread of .124 and minimum and maximum means of 0 and 1. These figures are evidence that some of the banks do not have risk committees, while some others have.

Risk committee size (RCS) averages 7 members with spread of 2 members and minimum and maximum means of 0 and 14 members. Risk committee independence (RCI) averages 65% with a spread of 19% and minimum and maximum means of 0% and 100%. The level of independence of some of the banks' risk committees is fairly high, however, it also indicates that some banks' risk committee independence is zero percent. Further, risk committee gender diversity (RCGD) averages 16% with spread of 16% and minimum and maximum means of 0% and 67%. These figures show that in some banks, there are no female members in the risk committee; while on the average, the percentage is 16%, which is very low when compared with Beijing Declaration of 35%. Finally, risk committee meetings (RCM) averages 4 times with a spread of 2 times and minimum and maximum means of 0 times and 9 times. It means that some banks' risk committee either do not meet at all or that such banks do not have risk committee. In terms of the control variables, listing age (LAGE) averages 27 years with a spread of 15 years and minimum and maximum means of 11 years and 50 years. These results suggest that some of the banks were 11 years in existence before their listing, while some others were 50 years old before their listing on the floor of the Nigerian Exchange Group. Audit committee size (ACS)

averages 6 members with a spread of 1 member and minimum and maximum means of 4 members and 9 members. Finally, board of directors' size (BSZ) averages 13 members with a spread of 3 members and minimum and maximum means of 5 members and 21 members.

We also conduct a correlation matrix which shows the bivariate relationship between two variables in Table 2.

Table 2. Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) LDR	1.000									
(2) NPL	-0.119	1.000								
	(0.177)									
(3) RCP	-0.005	0.054	1.000							
	(0.952)	(0.540)								
(4) RCS	-0.196*	-0.163	0.377*	1.000						
	(0.026)	(0.064)	(0.000)							
(5) RCI	0.249*	-0.005	0.435*	-0.296*	1.000					
	(0.004)	(0.956)	(0.000)	(0.001)						
(6) RCGD	0.039	-0.105	0.124	0.108	0.014	1.000				
	(0.660)	(0.234)	(0.160)	(0.222)	(0.872)					
(7) RCM	0.219*	0.091	0.322*	-0.069	0.441*	0.132	1.000			
	(0.012)	(0.304)	(0.000)	(0.434)	(0.000)	(0.134)				
(8) LAGE	-0.160	-0.023	0.102	0.322*	-0.115	0.242*	0.186*	1.000		
	(0.070)	(0.798)	(0.249)	(0.000)	(0.194)	(0.006)	(0.034)			
(9) ACS	-0.025	-0.014	0.015	0.106	-0.131	0.175*	-0.147	0.046	1.000	
	(0.781)	(0.870)	(0.867)	(0.230)	(0.138)	(0.046)	(0.094)	(0.602)		
(10) BSIZ	-0.156	-0.191*	-0.002	0.415*	-0.272*	0.022	-0.167	0.290*	0.118	1.000
	(0.076)	(0.030)	(0.980)	(0.000)	(0.002)	(0.808)	(0.058)	(0.001)	(0.179)	

**** p<0.01, ** p<0.05, * p<0.1*

Source: From STATA 14 based on data

From Table 2, three main results are feasible: (1) risk committee size is negatively significant with loan-to-deposit ratio (coeff = -.196, p-value = .026) and board size (as a control variable) is also negatively significant with non-performing loan (coeff = -.191, p-value = .030); (2) Risk committee independence (RCI) and meetings (RCM) are positively significant with loan-to-deposit ratio; (3) other bivariate relationships between risk committee and risk management are not significant. The practical and policy implications of these findings are that risk committee size, independence, meetings and board size are the determinants of risk management practices of banks in Nigeria. Further, the results in Table 2 clearly indicate that there is no evidence of multicollinearity among the predictors since none of the coefficients is up to 80%. More importantly, we discontinue with the non-performing loan (NPL) model since none of the proxies of risk committee is significant.

Table 3 reports the ordinary least regression results for the purpose of regression diagnostics and thus, does not require analysis.

Table 3. OLS Regression

LDR	Coef.	St.Err.	t-val	p-val	[95% Con	Interval]	Sig
RCP	-33.896	29.372	-1.15	.251	-92.045	24.253	
RCS	-.296	1.58	-0.19	.852	-3.425	2.832	
RCI	.317	.195	1.63	.106	-.068	.702	
RCGD	.122	.172	0.71	.481	-.219	.463	
RCM	3.817	1.925	1.98	.05	.007	7.627	**
LAGE	-.33	.194	-1.70	.092	-.714	.054	*
ACS	2.243	5.928	0.38	.706	-9.494	13.98	
BSIZ	-.168	.867	-0.19	.847	-1.885	1.549	
Constant	65.05	42.154	1.54	.125	-18.404	148.505	
R-squared		0.128	Number of obs			130	
F-test		2.224	Prob > F			0.030	

*** p<.01, ** p<.05, * p<.1*

Source: From STATA 14 based on data

Table 4 reports statistics relating to the regression diagnostic tests.

Table 4. Regression diagnostic test results

Tests	Chi^2	p-value
Normality of residual	-	.02781
Homoscedasticity of residual	37.88	.429
Multicollinearity (Mean)	-	1.52
Model specification error:		
Linktest (hatsq)	-	.984
Omitted variables	.73	.5365
Panel effects	.00	1

Source: From STATA 14 based on data

The results in Table 4 speak volumes: first, the results of normality of residual indicate that the residual is not normally distributed; second, there are no het, multicollinearity, model specification errors, panel effects and therefore, the OLS regression is appropriate. In view of the first result, we conduct a transformation test and the results are reported in Table 5.

Table 5. Transformation Options for Model's Residual

Transformation	formula	$chi^2(2)$	$p(chi^2)$
Cubic	e^3	18.29	.000
Square	e^2	9.48	.009
Identity	e	3.70	.015
Square root	**sqrt (e)**	**1.97**	**.374**
Log	**log (e)**	**1.21**	**.546**
1/square root	**1/sqrt (e)**	**1.42**	**.492**
Inverse	1/e	2.95	.228
1/square	1/e^2	9.47	.009

1/cubic	1/e^3	19.01	.000

Source: From STATA 14 based on data

From the results in Table 5, any of the three transformations (square root, log and 1/square root) can make the residual to be normally distributed. Thus, we pick log (e), which has the highest p-value (.546) to normalize the residual and generate a new LDR (NLDR), which is used as the new dependent variable. Table 6 reports the results of the final regression after accounting for regression diagnostics.

Table 6. Final regression

NLDR	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
RCP	-.5007081	.0135513	-36.95	0.000	-.5275364	-.4738797
RCS	-.0024025	.000729	-3.30	0.001	-.0038459	-.0009592
RCI	.004534	.0000898	50.48	0.000	.0043562	.0047118
RCGD	.0018567	.0000795	23.37	0.000	.0016993	.002014
RCM	.0531094	.0008879	59.81	0.000	.0513515	.0548673
LAGE	-.0050854	.0000895	-56.80	0.000	-.0052626	-.0049081
ACS	.0328309	.0027352	12.00	0.000	.0274157	.038246
BSIZ	-.0020535	.0004001	-5.13	0.000	-.0028455	-.0012615
_cons	4.173849	.0194486	214.61	0.000	4.135345	4.212353

Source: From STATA 14 based on data

From Table 6, two broad findings are clear: first, risk committee presence, size, listing age and board size are negatively significant in relation to risk management (NLDR). Second, risk committee independence, gender diversity, meetings and audit committee size are positively significant in relation to risk management.

5. Discussion

Based on the findings from the final regression in Table 6, RMC presence is significant (p-value = .000). This result is consistent with the results of Beasley et al. (2005), Aebi et al. (2012), and Fajembola et al. (2018). Further, the influence of RMC size on ERM is significant (p-value = .001). This result is consistent with the results of Abubakar et al. (2018), Fali et al. (2020), Chukwujekwu et al. (2021), Ugwu et al. (2021), and Lamidi et al. (2022). Also, in terms of RMC independence influence on ERM, the effect is significant (p-value = .000), which is in line with the results of Abubakar et al. (2018), Fali et al. (2020), and Lamidi et al. (2022). In the case of RMC gender diversity's influence on ERM, the result is significant (p-value = .000). This is in line with the results of Erin et al. (2017), Chukwujekwu et al. (2020), Odubuasi et al. (2021), and Lamidi et al. (2022). Finally, in terms of RMC meetings' influence on ERM, the result is significant (p-value = .000), which is consistent with the results of Ugwu et al. (2021) and Lamidi et al. (2022).

6. Conclusions

This paper examines the influence of risk committee characteristics on risk management of Nigeria quoted banks. Two broad conclusions can be drawn from the final regression results: risk committee presence, size, listing age and board size are negative determinants of risk management. Second, risk committee independence, gender diversity, meetings and audit committee size are positive determinants of risk management. We suggest that risk committee should be merged with the audit committee of the board across banks. We also suggest that risk committee size should be reduced in order to cut costs. Further, we recommend that risk committee independence should be enhanced by appointing more non-executive directors to the committee. We also

recommend that more women directors should be appointed into the risk committee of banks. Finally, we recommend that there should be more meetings for members of risk committee.

References

Abdullah, M., Shukor, Z. A., & Rahmat, M. M. (2017). The influences of risk management committee and audit committee towards voluntary risk management disclosure. *Jurnal Pengurusan*, *50*.

Abdullah, W. N., & Said, R. (2019). Audit and risk committee in financial crime prevention. *Journal of Financial Crime*, 26(1), 223-234. https://doi.org/10.1108/JFC-11-2017-0116.

Abubakar, A. H., Ado, A. B., Mohamed, M. I., & Mustapha, U. A. (2018). The effect of risk management committee attributes and board financial knowledge on the financial performance of listed banks in Nigeria. *American International Journal of Business Management*, *1*(5), 7-13.

Achour, Z. (2021). Board gender diversity and firm risk. *Corporate Governance - Recent Advances and Perspectives*, IntechOpen, doi: 10.5772/intechopen.100189/hal-03471445.

Addae, J. A., & Gyamfi, E. N. (2022). Risk governance and bank performance: do risk committee activism and finance experts on the risk committee matter? In *Handbook of Research on New Challenges and Global Outlooks in Fin. Risk Mgt* (pp. 99-115). IGI Global.

Adusei, M., Akomea, S. Y., & Nyadu-Addo, R. (2014). Predicting bank credit risk: Does board structure matter?. *The International Journal of Business and Finance Research*, *8*(5), 59-70.

Aebi, V., Sabato, G., & Schmid, M. (2012). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking & Finance*, *36*(12), 3213-3226.

Ahmed, M. I., & Che-Ahmad, A. (2016). Effects of corporate governance characteristics on audit report lags. *International Journal of Economics and Financial Issues*, *6*(7), 159-164.

Alabdullah, T. T. Y., Ahmed, E. R., Almashhadani, M., Yousif, S. K., Almashhadani, H. A., Almashhadani, R., & Putri, E. (2021). How Significantly to Emerging Economies Benefit From Board Attributes and Risk Management in Enhancing Firm Profitability?. *Journal of Accounting Science*, *5*(2), 100-109.

Al-Hadi, A., Hasan, M. M., & Habib, A. (2016). Risk committee, firm life cycle, and market risk disclosures. *Corporate Governance: An International Review*, *24*(2), 145-170.

Al-Hajri, M. (2018). The relationship between audit committee's characteristics and risk management in Kuwait. *J. King Saud Univ., 27, Admin. Sci.* (2), Riyadh (2018/1440H.)

Alkelani, S. N. Z., Hussin, W. N. W., & Salim, B. (2020). The relationship between the characteristics of a risk management committee and the issuance of a modified audit opinion in the Jordanian context. *Asian Journal of Accounting and Finance*, *2*(2), 52-73.

Altin, D., & Jakaria, J. (2022). CEO Overconfidence and Risk-Taking Behaviour in Indonesian Banking Sectors. In: LePALISSHE 2021, 3 August 2021, Malang, Indonesia.

Al-Zobi, A., Shubita, M. F., Alomari, M., Almatarneh, Z. S., & Alrawashdeh, N. H. (2019). The Impact of Board and Audit Committee Characteristics on the Credit Risk in Jordanian Commercial Banks. *Int. Journal of Business Management & Economic Research*, *10*(5).

Ames, D. A., Hines, C. S., & Sankara, J. (2018). Board risk committees: Insurer financial strength ratings and performance. *Journal of Accounting and Public Policy*, *37*(2), 130-145.

Aronmwan, E. J., & Ogbaisi, S. A. (2022). The nexus between standalone risk committees and tax aggressiveness: evidence from Nigeria. *Future Business Journal*, *8*(1), 1-12.

Battaglia, F., & Gallo, A. (2015). Risk governance and Asian bank performance: An empirical investigation over the financial crisis. *Emerging Markets Review*, *25*, 53-68.

Beasley, M. S., Clune, R., & Hermanson, D. R. (2005). Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of accounting and public policy*, *24*(6), 521-531.

Bhatta, G. (2008). Public sector governance and risks: a proposed methodology to do risk assessments at the program level.

Bhuiyan, M. B. U., Cheema, M. A., & Man, Y. (2020). Risk committee, corporate risk-taking and firm value. *Mgrial Fin, 47*(3), 285-309.

Bulmer, M. F. (2003). *Pioneer of heredity and biometry*. The Johns Hopkins University Press.

Chukwujekwu, O. A., Theresa, O. N., & Pius, O. (2020). Risk management committee attributes and financial performance: empirical evidence from listed Nigeria banks.

Darmawan, R., Rombebunga, M., & Leon, F. M. (2021). The Effectiveness of the Risk Committee, Political Relations and Company Performance in the Banking Industry in Indonesia. *International Journal of Social Science and Business*, *5*(1), 76-85.

da Silva, A. F., Brunassi Silva, V., Sampaio, J. O., Silva, J., & Eckles, D. L. (2020). The Relationship between Chief Risk Officers and Firm Value: Its Complicated. *Available at SSRN 3355854*.

Dionne, G., & Triki, T. (2005). Risk management and corporate governance: The importance of independence and financial knowledge for the board and the audit committee. *Available at SSRN 686470*.

Dorfman, M. (2007). *Introduction to risk management and insurance.* Prentice Hall.

Elamer, A. A., & Benyazid, I. (2018). The impact of risk committee on financial performance of UK financial institutions. *International Journal of Accounting and Finance, Forthcoming*. Available at SSRN: https://ssrn.com/abstract=3140917

Elbahar, E. (2016). *Corporate governance, risk management, and bank performance in the GCC banking sector* (Doctoral dissertation, University of Plymouth).

Erin, O., Bamigboye, O., & Arumona, J. (2020). Risk governance and financial performance: an empirical analysis. *Verslas: Teorija ir praktika/Business: Theory and Practice*, *21*(2), 758-768.

Fajembola, O. D., Rahman, N. A. A., & Rus, R. M. (2018). The Relationship between the Risk Management Committee and the Chief Risk Officer with the Stability of Nigerian Banks. *system*, *13*(1), 73-86.

Fali, I. M., Alkassim, A., Udoh, E. M., Yahaya, O. A. (2019). Audit committee and earnings management of listed deposit money banks in Nigeria. *Research Journal of Finance and Accounting*, *10*(16), 115-125.

Fali, I. M., Philomena, O. N., Ibrahim, Y., & Amos, J. (2020). Risk management committee size, independence, expertise and financial performance of listed insurance firms in Nigeria. *Int. Journal of Research and Innovation in Social Science (IJRISS)*, *4*(5), 313-319.

Fida, S., & Naveed, M. (2021). Novel insights into banking risk structure: empirical evidence from nexus of financial, governance, and industrial landscape through nested tested modeling. *Cogent Business & Management*, *8*(1), 1869362.

Flyvbjerg, B., & Budzier, A. (2011). Risk management. *Harvard Business Review*, *89*(9), 601-603.

Gatzert, N., & Martin, M. (2015). Determinants and value of enterprise risk management: Empirical evidence from the literature. *Risk Management and Insurance Review*, *18*(1), 29-53.

Golshan, N. M., & Rasid, S. A. (2012). Determinants of enterprise risk management adoption: An empirical analysis of Malaysian public listed firms. *International Journal of Social and Human Sciences*, *6*(2012), 119-126.

Gontarek, W. (2017). *Risk governance: Examining its impact upon bank performance and risk* (Doctoral dissertation, Cranfield University).

Habtoor, O. S., Hassan, W. K., & Aljaaidi, K. S. (2019). The impact of corporate ownership structure on corporate risk disclosure: Evidence from the Kingdom of Saudi Arabia. *Business and Economic Horizons (BEH)*, *15*(1232-2020-351), 325-356.

Hassan, M. K., Abdulkarim, M. E., & Ismael, H. R. (2021). Risk governance: exploring the role of organisational culture. *Journal of Accounting & Organizational Change*.

Harymawan, I., Prabhawa, A. A., Nasih, M., & Putra, F. K. G. (2021). Risk management committee, auditor choice and audit fees. *Risks*, *9*(9), 156.

Hines, C. S., Masli, A., Mauldin, E. G., & Peters, G. F. (2015). Board risk committees and audit pricing. *Auditing: A Journal of Practice & Theory*, *34*(4), 59-84.

Hsiao, C. Y., Yan, Q. R., & Di Yang, R. X. Z. (2022). Corporate Governance against Systematic Risk during COVID-19--Empirical Findings Based on fs/QCA. *Journal of Business*, *10*(1), 30-38.

Hubbard, D. (2009). *The failure of risk management: why it is broken and how to fix it?* John Wiley & Sons.

Husaini, H., & Saiful, S. (2018). Governance, Risk Management Index, and Performance: A Comparative Study of Indonesian Islamic Compliant and Non-Compliant Firms. In *Proceedings of the 1st International Conference on Finance Economics and Business, ICOFEB 2018*. European Alliance for Innovation (EAI).

International Finance Corporation (2012). Risk taking: A corporate governance perspective. IFC, World Bank.

Ittner, C. D., & Keusch, T. (2015). The influence of board of directors' risk oversight on risk management maturity and firm risk-taking. *AAA 2015 Management Accounting Section Meeting*.

Ishak, S. (2015). *The relationship between risk management committee characteristics and modified audit opinion in Malaysia* (Doctoral d issertation, Universiti Utara Malaysia).

Jia, J. (2019). Does risk management committee gender diversity matter? A financial distress perspective. *Managerial Auditing Journal*, *34*(8), 1050-1072. https://doi.org/10.1108/MAJ-05-2018-1874.

Jia, J., & Bradbury, M. E. (2021). Risk management committees and firm performance. *Australian J. of Management*, *46*(3), 369-388.

Karaca, S. S., Şenol, Z., & Korkmaz, Ö. (2018). Mutual interaction between corporate governance and enterprise risk management: A case study in Borsa Istanbul Stock Exchange. *Muhasebe ve Finansman Dergisi*, (78).

Kakanda, M. M., Salim, B., & Chandren, S. A. P. (2018). Risk management committee characteristics and market performance: empirical evidence from listed financial service firms in Nigeria. *International Journal of Management and Applied Science*, *4*(2), 6-10.

Kemboi, R. K., Naibei, I. K., Sirmah, P. K., & Cheruiyot, P. K. (2019). Relationship between risk committee existence and financial performance of commercial banks in Kenya. *International Journal of Engineering and Management Research*, *9*.

Kleffner, A. E., Lee, R. B., & McGannon, B. (2003). The effect of corporate governance on the use of enterprise risk management: Evidence from Canada. *Risk Management and Insurance Review*, *6*(1), 53-73.

Kurniawanto, H. (2020). Corporate Governance and Corporate Risk Disclosure Evidence From Malaysia. In *PROCEEDING ICTESS (Internasional Conference on Technology, Education and Social Sciences)*.

Lamidi, W. A., Adebayo, A. O., Olorere, T. E., & Oyekanmi, M. O. (2022). Risk Management Committees' Characteristics and the Financial Performance of Deposit Money Banks (Dmbs) in Nigeria. *The Journal of Accounting and Management*, *12*(1).

Maher, M., & Andersson, T. (2002). Corporate governance: effects on firm performance and economic growth. *Convergence and Diversity in Corporate Governance Regimes and Capital Markets, Oxford University Press, Oxford*, 386-420.

Malik, M. F., Zaman, M., & Buckby, S. (2020). Enterprise risk management and firm performance: Role of the risk committee. *Journal of Contemporary Accounting & Economics*, *16*(1), 100178.

Markowitz, H. M. (2009). *Selected works*. World Scientific-Nobel Laureate Series.

Masood, O., Javaria, K., & Majeed, E. (2020). Enterprise Risk Management Program Effectiveness, Determinants, Execution and effect on Financial Performance: Evidence from Global Takaful Industry. *Journal of Islamic Financial Studies*, *6*(2).

McNulty, T., Florackis, C., & Ormrod, P. (2012). Corporate Governance and Risk: A Study of Board Structure and Process. ACCA Research Report, 129.

Nahar, S., & Jahan, M. A. (2021). Do risk disclosures matter for bank performance? A moderating effect of risk committee. *Accounting in Europe*, *18*(3), 378-406.

Nareswara, F. A., & Dewiyanti, S. (2022). Bankruptcy risk and its effect on earnings management of Indonesian firms. ICOBAR 2022.

Nasiru, M., & Ahmed, H. S. (2021). Board attributes, ownership structure and risk management: A proposed model for insurance firms in Nigeria. *Journal of Economic Info*, *8*(3), 104-129.

Ng, T. H., Chong, L. L., & Ismail, H. (2013). Is the risk management committee only a procedural compliance? An insight into managing risk taking among insurance companies in Malaysia. *The Journal of Risk Finance*, *14*(1), 71-86.

Ngu, S. B., & Amran, A. (2018). Materiality disclosure in sustainability reporting: Fostering stakeholder engagement. Strategic Direction 34 (5): 1–4.

Nguyen, Q. K. (2021). Oversight of bank risk-taking by audit committees and Sharia committees: conventional vs Islamic banks. *Heliyon*, *7*(8), e07798.

Nguyen, Q. K. (2022). Audit committee effectiveness, bank efficiency and risk-taking: Evidence in ASEAN countries. *Cogent Business & Management*, *9*(1), 2080622.

Nugraheni, P., & Muhammad, R. (2019). Board of directors and credit risk: An empirical study of Indonesian Islamic banks. *Jurnal Keuangan dan Perbankan*, *23*(4), 503-513.

Oboreh, M., Justina, D., Egberi, K. A., Egberi, M., & Onyeyime, E. (2022). Workforce Gender Diversity and Performance of Multinational Companies in Nigeria. *Journal of Positive School Psychology*, 1582-1590.

Odubuasi, A. C., Ofor, N. T., & Ilechukwu, F. U. (2022). Enterprise Risk Management, Risk Committee, and Earning Capacity of African Banks: A Comparative Approach. *Modern Economy*, *13*(1), 51-68.

Ojeka, S. A., Adeboye, A., & Dahunsi, O. (2021). Does audit committee characteristics promote risk management practices in Nigerian listed firms? *Accounting and Finance Research*, *10*(2), 70-77.

Okpe, I. I. (2017). Risk management committee, financial reporting quality and financial performance of banks: a lesson from Nigeria. *IOSR Journal of Current Issues in Arts and Humanities*, *3*(1), 59-69.

Omer, W. K. H., Aljaaidi, K. S., & AL-Moataz, E. S. (2020). Risk management functions and audit report lag among listed saudi manufacturing companies. *The Journal of Asian Finance, Economics and Business*, *7*(8), 61-67.

Rahayu, N. K., Harymawan, I., Nasih, M., & Nowland, J. (2022). Director pay slice, the remuneration committee, and firm financial performance. *Cogent Economics & Finance*, *10*(1), 2087291.

Rahma, N. N., & Almilia, L. S. (2018). The effect of public ownership, risk management committee, bank size, leverage, and board of commissioners on risk management disclosures (Empirical Studies in Banking Sectors Companies listed on Indonesia Stock Exchange for period 2011-2015). *The Indonesian Accounting Review*, *8*(1), 12-24.

Rimin, F., Bujang, I., Chu, A. W. S., & Said, J. (2021). The effect of a separate risk management committee (RMC) towards firms' performances on consumer goods sector in Malaysia. *Business Process Management Journal*.

Rustiarini, N. W., & Suryandari, N. N. A. Enterprise Risk Management Disclosure and Firm Value: The Role of Risk Monitoring Committee. Proceedings of the International Conference on Industrial Engineering and Operations Management Sao Paulo, Brazil, April 5 - 8, 2021.

Scherbina, T., Afanasyeva, O., & Lapina, Y. (2013). Risk management, corporate governance and investment banking: the role of chief risk officer. *Corporate Governance and Investment Banking: The Role of Chief Risk Officer*, 233-243.

Scordis, N. A. (2018). Influence of a Board-Level Risk Committee on Value. *Journal of Insurance Issues*, *41*(1), 111-134.

Shatnawi, S. A., Marei, A., Hanefah, M. M., Eldaia, M., & Alaaraj, S. (2022). The effect of audit committee on financial performance of listed companies in Jordan: the moderating effect of enterprise risk management. *J. of Mgt. Information & Decision Sciences*, *25*.

Sithipolvanichgul, J. (2021). Board of Directors' Effectiveness and Enterprise Risk Management: Do Effective Boards Improve Risk Oversight?. *Thammasat Review*, *24*(1), 133-167.

Shivaani, M. V. (2018). Does regulatory flexibility affect risk disclosures in annual report?. *Global Journal of Flexible Systems Management*, *19*(4), 321-336.

Stulz, R. M., Tompkins, J. G., Williamson, R., & Ye, Z. S. (2021). *Why do bank boards have risk committees?* (No. w29106). National Bureau of Economic Research.

Subramaniam, N., McManus, L., & Zhang, J. (2009). Corporate governance, firm characteristics and risk management committee formation in Australian companies. *Managerial Auditing Journal*, *24*(4), 316-339.

Sum, R. M., & Khalik, Z. A. (2020). The Influence of Corporate Governance on Enterprise Risk Management Implementation: A Study on Non-Financial Public Listed Companies in Malaysia: ERM Implementation and Corporate Governance. *Journal of Technology Management and Business*, *7*(1), 50-64.

Tarus, T. K., & Tenai, J. K. (2019). Board attributes and financial risk management: moderating effect of ownership structure among listed non-financial firms in Kenya. *Economic Research*, *3*(12), 1-20.

Tao, N. B., & Hutchinson, M. (2013). Corporate governance and risk management: The role of risk management and compensation committees. *Journal of Contemporary Accounting & Economics*, *9*(1), 83-99.

Ugwu, I. V., Ekwochi, E. A., & Ogbu, C. G. (2021). A critical study of corporate risk management committee impact on firm performance. *Management*, *5*(4), 24-39.

Uryasev, S. (2016). *Financial signal processing and machine learning.* In regression models in risk mgt. Wiley & Sons.

Wachira, M. (2019). Corporate governance and risk disclosures: An empirical study of listed companies in Kenya. School of Business and Economics. Daystar University Publications, Kenya.

Yahaya, O. A., Lamidi, Y. S., Kutigi, U. M., & Ahmed, M. (2015). The correlation between risk management and organizational performance: an empirical investigation using panel data. *Research Journal of Finance and Accounting, 6*(16), 136-146.

Yahaya, O. A., & Ogwiji, J. (2021). *Risk committee traits and profitability of Nigeria banking sector*. Nigerian Defence Academy and Kaduna State University Press ISBN: 978-978-47646-1-1.

Yahaya, O. A., & Tijjani, B. (2021). Size, age and leverage Nigeria quoted oil and gas corporations. *Advanced International Journal of Banking, Accounting and Finance, 3*(6), 51-60.

Yahaya, O. A. (2022). Corporate governance and profitability: an application of Agency Theory. *J. of Accg. Res., 34*(2), 406-421.

Yahaya, O. A., & Ahmed, M. (2022). Board of directors and financial statements fraud in Nigeria. *J. of Accg & Econ., 8*(3), 23-42.

Yahaya, O. A., & Apochi, J. G. (2022). The board of directors' influence on the intellectual capital of Nigeria listed firms. *Journal of Accounting, Auditing and Finance, 37*(2), 1-17.

Zemzem, A., & Kacem, O. (2014). Risk management, board characteristics and performance in the Tunisian lending institutions. *International Journal of Finance & Banking Studies (2147-4486)*, *3*(1), 186-200.