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Whistleblowing Policy and Performance of Listed Deposit Money Banks in Nigeria

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Abstract:

The study empirically investigated the effect of the whistleblowing policy on listed deposit money banks' performance in Nigeria. The study employed both descriptive and inferential statistical methods. Normality test and autocorrelation test were carried out on the secondary data used. Panel estimation and Hausman's test were used to choose between Fixed and Random Effects. Returns on assets (ROAs) were used to proxy the performance of listed deposit money banks in Nigeria. The results showed that whistleblowing positively affects the return of assets on banks' performance in Nigeria (β = 0.032949, p = 0.8053 > 0.05). Thus, the study concludes that the whistleblowing policy is crucial in improving the performance of listed deposit money banks in Nigeria. The study recommended that the regulatory bodies ensure strict adherence to whistleblowing policies by banks. In addition, there should be adequate protection for whistle-blowers against job loss, reputation, and proper compensation.

Keywords: Whistleblowing policy, performance, returns on assets, net interest margin

1. Introduction

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Economic hardships in emerging economies, a fall in purchasing power of local currencies, and meager disposable incomes have undoubtedly triggered cravings to acquire wealth illegally. In Nigeria, for example, some individuals are engaged in financial irregularities. Such unethical practices also involve members of the management and employees who are culpable. This menace has necessitated the need for a policy that will improve good corporate governance. The whistleblowing policy is one such policy that is rapidly gaining attention as a vital part of the business world. It reveals any misconduct or unethical actions that damage the company and others. According to Oyebade (2016), whistleblowing culture has been acknowledged and recognized as a tool to promote good governance. Certain activities are regarded as whistleblowing if the information disclosure is considered to be in the public interest. Such information could be about illegal activity, a flouting of any statutory obligation, inappropriate use of public and other funds, failure of justice, and any other misconduct.

It should be noted that the ultimate goal of the whistleblowing policy is to reduce financial crimes by increasing exposure to financial crimes and rewarding whistle-blowers. Thus, whistleblowing is useful in preventing and detecting fraud (Association of Certified Fraud Examiners (ACFE), 2012). In addition, whistle-blowers are encouraged and protected from intimidation by employers to encourage reporting unethical behaviors.

The whistleblowing program in Nigeria was introduced by the Federal Ministry of Finance (FMF) to provide information on stolen or concealed public assets. The FMF created an online portal through which information about economic and financial crime deemed in the public interest can be disclosed. Enormous resources that would go into fraud investigation can be prevented if whistleblowing emerges early enough and is done frequently. Fraud is a deliberate misrepresentation that requires some technical expertise to dishonestly obtain money or other assets for their interest (Hill, 2013). Money deposit banks are seen as one of the focal points for fraud frequency. Banks are the focal points because of the frequent cash handling by bank employees, which poses a high opportunity to perpetrate fraud. Weakness or lack of quality controls resulting in leakages in the financial system can create windows of opportunity for fraud to occur (Ogubunka, 2003). The occurrence of fraud affects business performance, which is why effective whistleblowing policies are expected to prevent and detect fraud. Several studies have been conducted on whistleblowing to foster accountability and transparency, which energizes the war against corruption in Nigeria (Makinde, 2018; Ogbu, 2017). Other studies examined whistleblowing and corruption in the Public Sector. Whistleblowing is an instrument for fighting the menace of fraud and corruption in Nigeria (Adetula & Amupitan, 2018; Onuora & Uzoka, 2018). The primary purpose of this study is to determine how whistleblowing policy can impact listed deposit money banks' performance because no study has been conducted on this before, except for a similar survey by Erwin and Ramsay (2015), which examined whistleblowing environments of financial institutions in Indonesia. Specifically, the study aimed to evaluate the effect of the whistleblowing policy on the return on asset (ROA) and net interest margin (NIM) of listed deposit money banks in Nigeria. The study's findings will benefit regulatory bodies, policymakers, and management in setting measures that ensure compliance with whistleblowing policies by listed deposit money banks. Also, the study's outcome will significantly contribute to existing studies on the subject matter.

2. Literature Review: Whistleblowing Policy and Nigeria Whistleblower Act

Whistleblowing is the Act of reporting an observed or perceived unethical misbehavior of workers, managers, directors, and other stakeholders of an organization by a staff member or another person to the appropriate authority (First Bank of Nigeria (FBN), 2016). Ogunkeye (2016) described whistleblowing as reporting misconduct or any unethical or illegal behavior by the employee or management of the public or private organization to protect the public interest. However, the policy's principal goal is to reinforce the fight against financial crimes by increasing financial crimes and compensating the reporters. To encourage the whistle-blowers to do more, they are protected from any form of harassment and intimidation from their superiors or employers.

In Nigeria, we have the Whistle-blower Protection Act enacted to create an avenue for workers to report illicit or irregular behavior by management and fellow workers. It is a law that defends both public and private organizations that disclose financial crime in their organizations. They are motivated to expose further any information or activity that is prohibited or wrong. The whistle-blowers can choose to operate within an organization or involve an outsider. The Act makes provisions for those whistle-blowers who may disclose information either verbally or in writing. Legal Protections are made for personnel who tell contravention of various office safety, environmental, financial reform, and securities laws. The law protects workers who blow the whistle on their employer's behavior from reprisal, which could be firing, relegation, denial of benefits, and reduction of working hours. Any organization that violates the whistle-blower protection laws can face penalties, suspension of government contracts, and civil proceedings. As noted by Akinnaso (2017) and Anumaka (2016), the mechanisms for blowing the whistle in Nigeria are Dedicated telephone hotlines and Dedicated email addresses for whistleblowing purposes.

2.1. Whistleblowing and Return on Asset and Net Interest Margin

Return on Assets (ROA) refers to the profitability of a business with its total assets. This ratio shows a company's performance by comparing the net income of a company with the assets that generated it. The higher ROA implies that a company is more productive and efficient in managing and utilizing economic resources. Therefore, the ROA formula is crucial for analyzing a company's profitability. The ratio compares a firm's performance between periods or two different firms of similar size in the same industry. Return on the asset can be expressed as follows:

Net Income

$ROA = \frac{1}{Average Assets}$

Net interest margin (NIM) is another metric of performance that measures an organization's success in its investment by comparing the income from the investment with the expenses on the same investment. If the investment expenses are more than the income, the firm's investment decision is not optimal. NIM is expressed in percentages. It is a profitability metric that compares an organization's income, e.g., banks' revenue from its credit products, with the expenses incurred on interest on savings accounts and deposit certificates. NIM can be expressed as follows:

Average Asset

2.2. Theoretical Framework: Ethical Theory of Whistleblowing (ETW) and Universal Dignity Theory of Whistleblowing (UDTW)

Richard De George propounded the ethical theory of whistleblowing in 1986. De George posits that there are three whistleblowing positions:

- Whistleblowing as morally prohibited,
- Whistleblowing as morally permitted, and
- Whistleblowing as morally required.

He refuted the position that whistleblowing should be morally forbidden but noted the cultural resistance to whistleblowing. The most reasonable and most usually stated justification for not blowing the whistle is loyalty. Despite the norms of loyalty, De George says that whistleblowing should be considered morally permitted or required in certain situations. He argued that external whistleblowing is an act of disagreement or defiance to organizational philosophy and must be defensible by sound moral considerations to be acceptable or obligatory. Therefore, it is 'morally prohibited' to blow the whistle when there is no indication of any intended harm to society or where the whistle-blower gives untrue or fabricated information out of hatred or retaliation.

However, Hoffman and McNulty (2010), who propounded the Universal Dignity Theory of Whistleblowing (UDTW) in 2010, argued that the distinction between morally permitted and morally required is disturbing because if something is allowable but not obligatory, it will carry little moral weight. As a rejoinder to the postulations of De George (1986), UDTW describes the morality of whistleblowing from a stakeholder's perspective on the premise that every man has an intrinsic worth of dignities by virtue of being a human being, and no fellow man or group of people has the moral authority to deny others their inherent dignities. Thus, the basic principle proposed by UDTW is that whistleblowing is both acceptable and obligatory to the extent that it constitutes the most effective means of supporting the dignity of all

relevant stakeholders above moral incentives. The UDTW rejects the view that whistleblowing is a treacherous or defiant act that should be justified because loyalty is not a moral good in itself. Organizational loyalty is an advantage only to the extent that the organization is committed to good behavior.

2.3. Review of the Empirical Literature

Adetula and Amupitan (2018) examined whistleblowing as a tool for fighting the menace of fraud, forgery, and corruption in Nigeria. The study employed multiple regression techniques to analyze the empirical data collected through a questionnaire, and the hypothesis formulated was tested. The results of the hypothesis tested reveal that there is a positive relationship between whistleblowing and fraud, forgery, and corruption. Fraud, forgery, and corruption have an impact on the Nigerian economy. Onuora and Uzoka (2018) examined whistleblowing and corruption in the Public Sector. The study employed data collected from 300 respondents consisting of internal and external auditors via a closed-ended questionnaire. The survey findings showed that most respondents provide statistical proof that whistleblowing policy can enhance financial transparency in the public sector. Still, the risk of whistleblowing discourages broad participation.

The study by Makinde (2018) on the policy of whistleblowing relating it to Nigeria's issues and challenges indicated prevalent tendencies for better retrieval of the looted fund, reporting unethical practices, and supporting Anti-graft agencies in combating corruption in Nigeria. The study concluded, among others, that the whistleblowing policy has assisted anti-graft agencies in fighting corruption in Nigeria. Ogbu (2017) examined whistleblowing policy as a device for invigorating the fight against corruption in Nigeria. The study examined the policy's theoretical foundations and present implementation of its provisions against Nigeria's ultimate objective of combating corruption. The Ethical Theory of Whistleblowing, Universal Dignity Theory of Whistleblowing policy can successfully fight corruption in Nigeria, it must address ethics, protection of whistle-blowers, and impactful communication strategies. Also, the study argues that the complete success and effectiveness of the policy are contingent on the proper communication of its objectives and benefits to Nigerians, particularly in terms of the ethics and moral values it creates and represents.

Ozili (2016) assessed Fraud detection, conservatism, and the whistleblowing political economy in the United Kingdom. The methodology adopted in the study was a systematic review of the extant literature on whistleblowing. The study suggested that the tradeoff between the cost and benefit of whistleblowing may compel the whistle-blower to apply some degree of conservatism in their whistleblowing actions. Erwin and Ramsay (2015) examined the whistleblowing Environment in Indonesian Financial Institutions from Indonesian employees' perspectives. The study argued that social justice and professional ethics, the whistle-blowers' morals, and the enabling laws that protect whistle-blowers encourage whistleblowing.

In contrast, the organization's legal system and internal control and fear of retaliation media coverage are the factors that discourage them. Da Silvaa and De Sousab (2017) examined the unnamed whistleblowing channel's influence on accounting fraud detection in Brazil's organization using a non-probabilistic sample technique. The study results indicated that unidentified and confidential operated whistleblowing channels could affect the worker's decision.

The result is vital for regulators and management to stimulate the use of confidential whistleblowing channels and support whistle-blower protection. The study also shows the inevitability of disseminating this control instrument within the organizations, potentially a risk-mitigating element of accounting fraud. Basiri, Majid, and Mohamed (2017) examined the reinforcement tool of whistleblowing to eradicate Malaysia's public sector fraud. The research was qualitative. An interview was held with the Head of every local authority. The study's findings showed that people resist blowing the whistle because of fear of reprisal. The study concluded that it is crucial to have an ethical work environment by reinforcing whistleblowing. Chamunorwa (2015) researched the exploration of whistleblowing in fighting corruption in the public sector in South Africa: a case of Stellenbosch municipality. The study employed an experimental research design. A methodological triangulation and a qualitative research method were used. Findings from the survey showed that corruption is cancer that, if unchecked, can become systematic. The study argues that whistleblowing is essential in restricting corruption and shows how whistleblowing could be better achieved. The study's outcome specifies that most respondents have a negative perspective on whistleblowing, which probably discourages them from reporting financial misconduct.

3. Methodology

The research design adopted for the study is ex-post facto as the research relied on historical data. The adoption of this research design is based on why the study relied on historical data obtained from the annual reports and accounts of listed deposit money banks covering ten years (i.e., 2009 – 2018). The period choice enables a broader assessment and provides more recent empirical evidence of whistleblowing policy on listed deposit money banks. The study considers Return on Asset and Net Interest Margin as measurement indices for performance. The study population consists of the eleven listed deposit money banks in Nigeria: Access Bank, Fidelity Bank, Guaranty Trust Bank, Union Bank, United Bank for Africa, Zenith Bank, Ecobank, Stanbic IBTC Bank, Sterling Bank, Unity Bank, and Wema Bank. The study employed descriptive and inferential statistical methods to analyze the data obtained.

4. Results and Discussion of Findings

4.1. Descriptive Analysis

On average, the Net Interest Margin (NIM) for the banks during the investigation period was approximately 5%; the maximum NIM recorded was 16%, while the minimum was 0%, which implies there was no year, they did not make a

profit when measured by NIM. The Standard deviation was 0.022512, and the data were not normally distributed, as shown by Jarques-Bera probability, which is less than 5% (JB Statistics = 119.2031, p = 0.0000 < 0.05). Similarly, the average profit measured by ROA during the investigation period was about 3%. The maximum ratio recorded was 26.5%, and the minimum was 0.0000, implying that there was no year when they did not make a profit throughout the investigation. The standard deviation was 0.037670, and the data was not normally distributed (JB Statistics = 1578.777, p = 0.0000). Likewise, the average whistleblowing disclosure was 0.0663636, the maximum was one, and the minimum was zero. This outcome implies that companies disclosed their whistleblowing policies, and some companies did not. The standard deviation was 0.474627, and the data were not normally distributed, as shown by Jarques-Bera probability value, which is less than 5% (JB = 19.38855, P = 0.0000 < 0.05).

	NIM	ROA	Whistle Blowing
Mean	0.049845	0.025264	0.663636
Median	0.048500	0.015000	1.000000
Maximum	0.158000	0.265000	1.000000
Minimum	0.000000	0.000000	0.000000
Std. Dev.	0.022512	0.037670	0.474627
Skewness	0.842333	3.766314	-0.692692
Kurtosis	7.813507	19.96192	1.479822
Jarque-Bera	119.2031	1578.717	19.38855
Probability	0.000000	0.000000	0.000062
Sum	5.483000	2.779000	73.00000
Sum Sq. Dev.	0.055242	0.154677	24.55455
Observations	110	110	110

Table 1: Descriptive Statistics Source: Authors' Computation 2020

4.2. Diagnostic Tests

This study carried out normality and autocorrelation test to meet some crucial assumptions of the Classical linear regression model.

4.2.1. Normality Test

Table 1 shows that all the study variables do not have a normal distribution. The classical linear regression model assumes that the dependent variable should have a normal distribution. Therefore, the data were transformed to ensure normal distribution. However, only ROA has a normal distribution, as shown by the p-value of one sample Kolmogorov-Simonov test, which shows that the deviation from normality was insignificant. After, the transformation, NIM do not still have normal distribution since their p-values are less than 5% (NIM P-value = 0.000 < 0.05).

		ROALOG	NIMLOG	
N		99	104	
Normal Parameters ^{a,b}	Mean	-1.7594	-1.3086	
	Std. Deviation	.39439	.18259	
Most Extreme Differences	Absolute	.076	.127	
	Positive	.076	.102	
	Negative	060	127	
Test Statistic		.076	.127	
Asymp. Sig. (2-tail	ed)	.173°	.000c	

Table 2: One-Sample Kolmogorov-Smirnov Test Source: Authors' Computation 2020

4.2.2. Autocorrelation Test

The study tested for the presence of autocorrelation using Durbin-Watson. There is the absence of autocorrelation when the Durbin Watson results fall between 1.5 -2.5, but the values outside the range indicate the presence. Model 1 represents the relationship between ROA and whistleblowing. The Durbin Watson result, which is 1.713, falls within the acceptable region, which implies there is no autocorrelation problem in the model. On the other hand, model 2 represents the relationship between NIM and whistleblowing. It has a Durbin Watson value of .803, which falls outside the acceptable region indicating the presence of autocorrelation.

Model	Dependent Variable	Durbin-Watson		
1	ROA	1.713		
2	NIM	.802		
Table 3: Autocorrelation Test				

Source: Authors' Computation 2020

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Therefore, NIM, having violated the normality test and autocorrelation test, will be discontinued from further analysis.

4.3. Post Estimation Test

The regression model can be estimated using Pooled OLS, Fixed effect model, and the random effect model. Since this study's data is panel data, the study used panel estimation and employed Hausman's test to select between random and fixed-effect models. The study tested the null hypothesis, which states that the random effect is appropriate. Since the p-value for a model is greater than 0.05, the study cannot reject the null hypothesis (p-value = 0.6813> 0.05). These results indicate that the random effect model is appropriate for the model.

Model	Test Summary	Chi-Square Statistics	Chi-Square df	Prob		
1	Cross-section random	0.168669	1	0.6813		
Table 4: Hausman's Test						

Source: Authors' Computation 2020

4.4. Effect of Whistle Blowing on Financial Performance

This section comprises the hypotheses testing of the effect of whistleblowing policy on financial performance using ROA.

4.4.1. Whistle Blowing and Return on Assets

This section tested the effect of whistleblowing on financial performance using the return on an asset as a metric for economic performance. The R-Square, which is 0.000569, indicates that whistleblowing contributes zero percent of performance changes, and the F probability, which is greater than 0.05, indicates that this model is invalid (R-Square = 0.000569, F = 0.061520, F-Prob. = 0.804580). The t-statistics reveal that whistleblowing positively affects performance, but this effect is not statistically supported (β = 0.032949, p = 0.8053 > 0.05).

Variable	Coefficient	Std. Error	t-Statistic	Prob.	R-Square	F-Stat	F-Prob.
С	-1.605328	0.110213	-14.56570	0.0000	0.000569	0.061520	0.804580
WHILSTLE	0.032949	0.133355	0.247077	0.8053			

Table 5: Whistle Blowing and ROA Source: Authors' computation 2020 Dependent Variable: ROA

5. Discussion of Findings

The study used both descriptive and inferential statistical methods. The descriptive design employed in this model allowed the use of quantitative data to be collected. The study conducted normality and autocorrelation tests and employed Hausman's test to choose between Fixed and Random Effects. The null hypothesis states that the random effect is appropriate. Since the model's p-values are greater than 0.05, it implies that the study cannot reject the null hypothesis (p-value = 0.6813> 0.05). The descriptive statistics showed that all the study variables do not have a normal distribution. The classical linear regression model assumes that all the dependent variables have a normal distribution. Therefore, the data were transformed to ensure normal distribution. However, only ROA has a normal distribution, as shown by the pvalue of one sample Kolmogorov-Simonov test, which shows that the deviation from normality was insignificant. After, the transformation, NIM do not still have normal distribution since their p-values are less than 5% (NIM P-value = 0.000 < 0.05). The study employed an autocorrelation test using Durbin Watson. There is a relationship between ROA and whistleblowing. The Durbin Watson result, which is 1.713, falls within the acceptable region, which implies there is no autocorrelation problem in the model. However, the relationship between NIM and whistleblowing has a Durbin Watson value of .803, which falls outside the acceptable region, indicating autocorrelation. The results show that whistle-blowing positively affects the return of assets on banks' performance in Nigeria (β = 0.032949, p = 0.8053 > 0.05). Therefore, this study's first hypothesis states that 'whistleblowing policy has no significant effect on the return on asset (ROA) of listed deposit money banks in Nigeria' was rejected. The result agrees with Adetula and Amupitan's (2018) findings and Onuora and Uzoka (2018), who studied whistleblowing and corruption in Public Sector, reveal that the fight against corruption in the public sector will be more fruitful with the Whistleblowing policy. It is also in line with Da Silvaa and De Sousab's (2017) findings on the influence of the anonymous whistleblowing channel on accounting fraud detection in an organization in Brazil. NIM was discontinued for violating the normality test and autocorrelation test.

6. Conclusion

Whistleblowing has proven effective in many parts of the world, as its importance goes beyond the recovery of stolen funds and fosters a culture of good governance, transparency, disclosure, responsibility, and intolerance to fraud. This study examined the effect of the whistleblowing policy on listed deposit money banks' financial performance in Nigeria. From the analysis, the findings revealed that the whistleblowing policy positively impacts the return on asset banks in Nigeria. Thus, it explains that the whistleblowing policy impacts banks' financial performance in Nigeria, as far as the procedures are strictly followed. Based on the findings, the study recommends that the regulatory bodies ensure strict

adherence to whistleblowing policy by banks and that there should be adequate protection for whistle-blowers against loss of a job, reputation, and adequate compensation.

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Return on Asset - Panel Least Squares							
Variable	Coefficient	Std. Error t-Statistic			; [Prob.	
С	-1.607185	0.10	7125	-15.00293	3 0	.0000	
WHILSTLE	0.035748	0.13	1500	0.271846	0	.7863	
R-squared	0.000684	Μ	lean depend	dent var	-1.!	583461	
Adjusted R-squared	-0.008569		SD depende	ent var	0.6	0.648840	
SE of regression	0.651614	A	kaike info c	riterion	1.9	1.999287	
Sum squared resid	45.85694		Schwarz criterion			2.048387	
Log-likelihood	-107.9608	Hannan-Quinn criteria.			2.0	2.019202	
F-statistic	0.073900	D	Durbin-Watson stat			13326	
Prob(F-statistic)	0.786259						
Return on Asset - Panel Least Squares (Fixed Effects)							
Variable Coefficient Std. Error t-Statistic F					Prob.		

Appendix

2	4 5000/1	0.110055	10.001/0	0.0000
C	-1.583961	0.119955	-13.20463	0.0000
WHILSTLE	0.000753	0.154691	0.004866	0.9961
R-squared	0.095464	Mean dep	endent var	-1.583461
Adjusted R-squared	-0.006066	SD deper	ndent var	0.648840
SE of regression	0.650805	Akaike inf	2.081456	
Sum squared resid	41.50766	Schwarz	criterion	2.376054
Log-likelihood	-102.4801	Hannan-Qu	iinn criteria.	2.200947
F-statistic	0.940253	Durbin-W	/atson stat	1.876008
Prob(F-statistic)	0.505785			
Return	on Asset - Panel L	east Squares (Fixe	d Effects)	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-1.605328	0.110213	-14.56570	0.0000
WHILSTLE	0.032949	0.133355	0.247077	0.8053
			SD.	Rho
Cross-s	ection random		0.071469	0.0119
Idiosyr	ncratic random		0.650805	0.9881
J	Weighte	d Statistics		
R-squared	0.000569	Mean dep	endent var	-1.495832
Adjusted R-squared	-0.008685	SD depe	ndent var	0.645499
SE of regression	0.648296	Sum squ	ared resid	45.39102
F-statistic	0.061520	Durbin-V	Vatson stat	1.728840
Prob(F-statistic)	0.804580			
	Unweight	ed Statistics		
R-squared	0.000680	Mean dep	endent var	-1.583461
Sum squared resid	45.85713	Durbin-V	Vatson stat	1.713253
Correlat	ed Random Effects	- Hausman Test		
Test Summar	V	Chi-Sq. Statistic	Chi-Sg. d.f.	Prob.
Cross-section ran	dom	0.168669	1	0.6813
Cr	oss-section random	effects test compari	isons:	
Variable	Fixed	Random	Var(Diff.)	Prob.
WHISTLE	0.000753	0.032949	0.006146	0.6813
Cross-se	ection random effec	ts test equation:	1	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-1.583961	0.119955	-13.20463	0.0000
WHISTLE	0.000753	0.154691	0.004866	0.9961
	Effects S	pecification		
Cross	-section fixed (dum	my variables)	4	
R-squared	0.095464	Mean dep	endent var	-1.583461
Adjusted R-squared	-0.006066	SD depe	ndent var	0.648840
SE of regression	0.650805	Akaike in	fo criterion	2.081456
Sum squared resid	41.50766	Schwarz	criterion	2.376054
Log-likelihood	-102.4801	Hannan-Qu	uinn criteria.	2.200947
F-statistic	0.940253	Durbin-V	Vatson stat	1.876008
Prob(F-statistic)	0.505785			
Ň	let Interest Margir	- Panel Least Squa	ares	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-1.178079	0.056935	-20.69172	0.0000
WHISTLE	-0.089136	0.069890	-1.275386	0.2049
R-squared	0.014838	Mean dep	endent var	-1.237233
Adjusted R-squared	0.005716	SD depe	ndent var	0.347315
SE of regression	0.346321	Akaike in	Akaike info criterion	
Sum squared resid	12.95333	Schwarz criterion		0.784213
Log-likelihood	-38.43122	Hannan-Qu	uinn criteria.	0.755028
F-statistic	1.626609	Durbin-V	0.801924	
Prob(F-statistic)	0.204909			
Ň	let Interest Margir	n - Panel Least Squa	ares	
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-1.204426	0.051561	-23.35923	0.0000
WHISTLE	-0.049436	0.066492	-0.743491	0.4590
Cross	-section fixed (dum	my variables)		
R-squared	0.416741	Mean dep	endent var	-1.237233
	ALNO 10 240407	though /2022/v1/	1/17/RM10007 004	
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Ac	liusted R-sau	iared	0 351273	2	SD dener	ndent var	0 3/7315	5
SE of regression		0.279740	,)	Akaike inf	0.392756	ς ή		
Si	im squared i	esid	7.668936	,)	Schwarz	criterion	0.687354	4
	Loa-likeliho	od	-9.601604	1	Hannan-Ou	inn criteria.	0.512247	 7
	F-statistic		6.365579)	Durbin-Watson stat		1.674065	5
F	Prob(F-statis	tic)	0.000000)				-
Net Interest Margin - Random Effect						t		
Va	ariable	Coe	fficient		Std. Error	t-Statistic	Prob.	
	С	-1.1	99709		0.084182	-14.25133	0.0000	
WF	HILSTLE	-0.0	56544 0.06		0.064809	-0.872470	0.3849	
						SD.	Rho	
		Cross-see	ction random			0.223113	0.3888	
		Idiosync	ratic random			0.279740	0.6112	
			Weighted	l Stat	istics			
R-9	squared	0.0	07049		Mean depend	lent var	-0.456011	1
Adjuste	d R-squared	-0.0	02145		SD depende	ent var	0.278441	
SE of	regression	0.2	78739		Sum square	d resid	8.391118	}
F-9	statistic	0.7	66679		Durbin-Wat	son stat	1.392162	2
Prob(F-statistic)	0.3	83190					
			Unweighte	ed Sta	atistics			
R-9	squared	0.0	12854		Mean depend	dent var	-1.237233	3
Sum so	uared resid	12.	97941		Durbin-Wat	son stat	0.813207	1
		Correlate	d Random Ef	fects	- Hausman Test			
Test Summary				Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.		
Cross-section random				0.228636	1	0.6325		
Cross-section random effects test comparisons:								
	Variable		Fixed	,	Random	Var(Diff.)	Prob.	
	WHISTLE	0	-0.049436	5	-0.056544	0.000221	0.6325	
		Cross-sec	ction random		ts test equation:		Duala	
	Variable			ι ,	Std. Error		Prop.	
			-1.204420	, ,	0.051561	-23.35923	0.0000	
	VVHISTLE	Cross	-0.049430) dum	0.066492	-0.743491	0.4590	
	Disquara			uum	Moon don	andantvar	1 00700	2
Δ.	R-Squared	i Jarod	0.410741)		-1.23723	<u>с</u>	
AU	SE of rogross	ion	0.331273))	SD ueper Akaiko inf	o critorion	0.347313	5
Si Si	im squared i	rosid	7 668036	,	Schwarz	criterion	0.372730	ر ۱
50	Log-likeliho	od	-9 60160	, 1	Hannan-Ou	inn criteria	0.007334	<u>†</u> 7
	F-statistic		6 365579	т)	Durbin-M	latson stat	1 67/065	5
F	Proh(E-statis	tic)	0.00000)	Darbin W		1.074000	<u>,</u>
			0.000000 M	, odel	Summary			
Model	R	R Square	Adjusted R	Sau	are SE of the	Estimate	Durbin-Watso	n
1	.026ª	.001	00	9	.65	161	1.713	<u></u>
	.020		a. Predictors:	(Cor	stant), WhilstleBlow	V		
			b. Deper	ndent	Variable: ROA2			
			M	odel	Summary			
Model	R	R Square	Adjusted R	Squa	are S. E of the	e Estimate	Durbin-Watso	n
1	.122ª	.015	.006	5	.34	632	.802	
			a. Predictors:	(Cor	nstant), WhilstleBlow	V		
			b. Deper	ndent	Variable: NIM2			
	Tabla 6							

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