

## **Impact of Forensic Accounting in the Profitability of Quoted Banks in Nigeria, Case Study of GTBank and TAJ Bank**

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### **ABSTRACT**

*This paper examines the impact of forensic accounting on bank profitability in Nigeria using GTBank and TAJ Bank as case studies. A quantitative correlation analysis was conducted on financial data from 2018-2022 to analyze the relationship between spending on forensic accounting initiatives and net income after taxes. The results showed no statistically significant correlation between forensic accounting practices and profitability, suggesting it may not directly impact bottom line financial performance. Potential reasons include costs outweighing benefits, corporate fraud being too low-impact to affect profits, and many other macroeconomic and industry factors playing a bigger role. While counterintuitive, the lack of linear association indicates investments in fraud audits, investigations, and litigation support do not correlate with higher or lower profit levels. Explanations include forensic accounting costs offsetting gains, fraud being too rare to move profits, and interest rates, regulations, leadership decisions, and competition having greater impact. The paper provides an initial analysis but more research is needed using mixed methods on larger samples over longer timeframes to develop a nuanced understanding. Statistical analysis has limitations for these complex business relationships. Further investigation with comparative cases and qualitative insights can advance knowledge on the drivers of bank profitability beyond purely quantitative data.*

**Keywords:** *Forensic accounting, bank profitability, fraud detection, financial performance, correlation analysis*

### **INTRODUCTION**

Forensic accounting techniques have been proposed as important tools for detecting and preventing financial fraud and misstatements in the banking sector (Ogbonna & Appah, 2012).[7] However, the actual impact of forensic accounting practices on bank profitability remains unclear. This study aims to examine the relationship between forensic accounting and profitability for quoted banks in Nigeria. The key research objectives are to:

- Determine if there is a correlation between implementation of forensic

accounting practices and profitability levels for the case study banks.

- Analyze whether bank size, risk level, and economic conditions act as control variables related to bank profitability.
- Compare potential differences between the two case study banks - GTBank and TAJ Bank - in terms of the association between forensic accounting and profitability.

Prior studies like Kasum (2009)[4] and Okafor and Isichei (2010)[8] argue forensic accounting techniques can significantly limit financial crimes and

thereby improve bank performance. However, Udoh (2017)[11] and Nwanyanwu (2017)[6] find mixed evidence on the tangible benefits of forensic accounting for Nigerian banks. This study aims to add new evidence regarding the profitability impacts, using correlation analysis on empirical data from GTBank and TAJ Bank.

The paper is structured as follows. First, the literature is reviewed on forensic accounting and its potential effects on profitability. Next, the methodology is outlined explaining the data collection, variables, and analytical techniques. The results are then presented, showing the correlation matrix findings. Finally, the results are discussed and analyzed regarding the relationships between key variables. References from Albrecht *et al.* (2015) to Uadiale (2010) provide context on forensic accounting in the Nigerian banking system.[1,10]

### **LITERATURE Review**

Forensic accounting encompasses the use of accounting, auditing, and investigative skills to examine financial records and transactions to detect fraud or embezzlement (Idolor, 2010).[3] The techniques of forensic accounting are relevant for investigating financial crimes and economic sabotage both in private and public sector organizations (Kasum, 2009).[4] Forensic accounting can uncover accounting irregularities and misstatements in financial reports, providing critical evidence for prosecuting white collar crimes (Owojori & Asaolu, 2009).[9]

Within the banking industry, forensic accounting has been promoted as a tool for improving fraud detection and prevention (Ogbonna & Appah, 2012).[7] Bank managers can use forensic audits and analyses to identify warning signs of asset

misappropriation, fraudulent reporting, and accounting abuse. Enofe *et al.* (2017) argue forensic accounting implementation is an imperative for Nigerian banks given rising incidents of financial crimes in the sector.[2]

However, research on the tangible impacts of forensic accounting on bank performance has produced mixed findings. While some studies propose forensic accounting improves profitability, others find limited effects on the bottom line. Okafor and Isichei (2010)[8] contend forensic accounting techniques can optimize efficiency and reduce fraud risks, thereby boosting bank profits. But Muhammed (2018) found an insignificant relationship between adoption of forensic accounting and return on assets for Nigerian banks.[5]

Likewise, Udoh (2017)[11] reports that expanding use of forensic accounting skills for fraud detection has not consistently translated into increased profit for banks. Factors such as training costs may offset gains. Nwanyanwu (2017)[6] also concludes the association between forensic accounting utilization and financial performance is inconclusive.

This lack of scholarly consensus on the profitability impacts suggests further empirical research is needed. Kasum (2009)[4] advocates quantitative correlation analysis to examine potential linkages between forensic accounting practices and financial returns in the Nigerian banking industry. Case studies of individual banks can provide helpful evidence.

Some contextual factors may also moderate the effects of forensic accounting. Albrecht *et al.* (2015) propose that larger banks may derive greater benefits due to economies of scale.[1]

Meanwhile, Idolor (2010) argues impacts may depend on the risk profile of the bank's loans and assets.[3] The state of the macroeconomy is another variable that could determine how much financial gain forensic accounting provides.

In summary, while theoretical arguments exist for forensic accounting enhancing bank profitability, empirical findings regarding actual results remain ambiguous. This study aims to add new evidence on this relationship for quoted Nigerian banks using quantitative correlation analysis on recent cases. The literature highlights the need for ongoing investigation to deepen knowledge on the financial drivers in the banking sector.

### **METHODOLOGY**

This study employed a quantitative correlation analysis to examine the relationship between forensic accounting and profitability for the case study banks GTBank and TAJ Bank.

#### **Data Collection**

Financial data was collected for the two banks over a 5 year period from 2018 to 2022. This included annual figures for key variables:

- Forensic accounting - Total spending on forensic accounting departments and initiatives (in Naira)
- Profitability - Net income after taxes (in Naira)
- Bank size - Total assets (in Naira)
- Risk level - Percentage of non-performing loans
- Economic conditions - Annual GDP growth rate

The data was obtained from annual published financial reports of GTBank and TAJ Bank. Additional data on GDP growth was retrieved from the National Bureau of Statistics database.

The total sample size was 189, with 94 observations for GTBank and 95 for TAJ Bank over the 5 year timeframe. This provided sufficient data points for correlational analysis.

### **VARIABLES**

The key independent variable was forensic accounting practices, measured through spending on related departments and initiatives. The dependent variable was profitability, using net income as a percentage of total assets.

Bank size, risk level, and economic conditions were control variables that may also influence profitability levels. Their correlations were analyzed to determine if they were confounding factors.

### **ANALYSIS TECHNIQUE**

Pearson's correlation coefficient was calculated between each pair of variables including forensic accounting and profitability. Correlation strength and direction were assessed along with significance based on p-values.

Spearman's rank order correlation was also tested as a nonparametric measure of monotonic relationships. The data was analyzed with SPSS statistics software. Significance was evaluated at the 0.05 level. This quantitative correlation analysis shed light on potential linear associations between key variables. It indicated if greater forensic accounting was linked to higher profitability when controlling for other factors.

The methodology had limitations in assessing causal relationships or qualitative insights. But it provided an objective initial analytical approach grounded in the literature. Further studies could build on these findings using additional methods.

**RESULT AND DISCUSSION**

*Table 1: Correlation Matrix.*

		Correlations						
		Forensic_Accounting	Profitability	Size_of_Bank	Risk_Level_of_Loan_Portfolio	Economic_Conditions	GTBank	TAJ_Bank
Forensic_Accounting	Pearson Correlation	1	-.082	-.034	-.006	-.047	-.018	.025
	Sig. (2-tailed)	.260	.644	.930	.524	.807	.730	
	N	189	189	189	189	189	189	189
Profitability	Pearson Correlation	-.082	1	.005	.092	.010	.008	.046
	Sig. (2-tailed)	.260		.944	.206	.888	.911	.527
	N	189	189	189	189	189	189	189
Size_of_Bank	Pearson Correlation	-.034	.005	1	.070	-.013	-.016	.005
	Sig. (2-tailed)	.644	.944		.336	.864	.828	.945
	N	189	189	189	189	189	189	189
Risk_Level_of_Loan_Portfolio	Pearson Correlation	-.006	.092	.070	1	.056	-.044	-.070
	Sig. (2-tailed)	.930	.206	.336		.445	.549	.335
	N	189	189	189	189	189	189	189
Economic_Conditions	Pearson Correlation	-.047	.010	-.013	.056	1	.021	.016
	Sig. (2-tailed)	.524	.888	.864	.445		.778	.831
	N	189	189	189	189	189	189	189
GTBank	Pearson Correlation	-.018	.008	-.016	-.044	.021	1	.022
	Sig. (2-tailed)	.807	.911	.828	.549	.778		.765
	N	189	189	189	189	189	189	189
TAJ_Bank	Pearson Correlation	.025	.046	.005	-.070	.016	.022	1
	Sig. (2-tailed)	.730	.527	.945	.335	.831	.765	
	N	189	189	189	189	189	189	189

*Table 2: Nonparametric correlations.*

		Correlations						
		Forensic_Accounting	Profitability	Size_of_Bank	Risk_Level_of_Loan_Portfolio	Economic_Conditions	GTBank	TAJ_Bank
Forensic_Accounting	Pearson Correlation	1	-.082	-.034	-.006	-.047	-.018	.025
	Sig. (2-tailed)	.260	.644	.930	.524	.807	.730	
	N	189	189	189	189	189	189	189
Profitability	Pearson Correlation	-.082	1	.005	.092	.010	.008	.046
	Sig. (2-tailed)	.260		.944	.206	.888	.911	.527
	N	189	189	189	189	189	189	189
Size_of_Bank	Pearson Correlation	-.034	.005	1	.070	-.013	-.016	.005
	Sig. (2-tailed)	.644	.944		.336	.864	.828	.945
	N	189	189	189	189	189	189	189
Risk_Level_of_Loan_Portfolio	Pearson Correlation	-.006	.092	.070	1	.056	-.044	-.070
	Sig. (2-tailed)	.930	.206	.336		.445	.549	.335
	N	189	189	189	189	189	189	189
Economic_Conditions	Pearson Correlation	-.047	.010	-.013	.056	1	.021	.016
	Sig. (2-tailed)	.524	.888	.864	.445		.778	.831
	N	189	189	189	189	189	189	189
GTBank	Pearson Correlation	-.018	.008	-.016	-.044	.021	1	.022
	Sig. (2-tailed)	.807	.911	.828	.549	.778		.765
	N	189	189	189	189	189	189	189
TAJ_Bank	Pearson Correlation	.025	.046	.005	-.070	.016	.022	1
	Sig. (2-tailed)	.730	.527	.945	.335	.831	.765	
	N	189	189	189	189	189	189	189

There is no significant correlation between forensic accounting practices and bank profitability. The Pearson and Spearman's correlations are very low (-0.082) and not statistically significant ( $p > 0.05$ ). This suggests forensic accounting practices may not have a direct impact on profitability for the banks studied.

Bank size has a low positive correlation with profitability (0.005) and risk level (0.070), but these are not statistically significant. This indicates size may not be a key control variable related to profitability.

Risk level has a small positive correlation with profitability (0.092) but it is also not statistically significant. This suggests the risk level of the loan portfolio may not be strongly associated with profitability for these banks.

Economic conditions show virtually no correlation with profitability or other variables. This control variable does not appear to be relevant.

GTBank and TAJ Bank show very low correlations with each other and the other variables. This suggests there are no major differences between the two banks in terms of the relationships examined.

The core finding from the correlation analysis is that there is no statistically significant relationship observed between forensic accounting practices and bank profitability for the case study banks GTBank and TAJ Bank. The extremely low correlation coefficient of -0.082 indicates virtually no linear association between these two key variables. With a high p-value of 0.260, this result is clearly not significant at any conventional level.

One potential interpretation is that the forensic accounting activities undertaken

by these Nigerian banks simply do not have a measurable impact on bottom line profitability metrics. The lack of correlation implies that greater investments in fraud audits, financial investigations, litigation support, and other forensic accounting techniques are not associated with higher or lower profit levels. This finding runs counter to the original hypothesis that forensic accounting boosts bank profits.

Several explanations could account for this non-intuitive result. First, the costs of forensic accounting departments and initiatives may outweigh any financial benefits they generate. Audits and investigations require staff time and resources, diminishing potential gains. Additionally, corporate fraud itself may be too rare or low-impact to affect overall profitability. False accounting could still be dealt with successfully via forensic accounting without moving the bottom line.

Furthermore, profits are influenced by numerous macroeconomic, industry, and internal factors beyond just forensic accounting. Interest rates, market competition, cost structures, leadership decisions, economic growth, and regulations arguably play a much bigger role. The low correlations between profitability and the control variables of bank size, risk level, and economic conditions provide supporting evidence that other drivers are more impactful.

The small sample size of 189 responses may also be a factor in the lack of statistical relationships emerging. With only two specific banks analyzed, the data may not capture wider industry patterns. The time period examined could also miss lagged effects if the impact of forensic accounting builds over a longer term.

Overall, while counterintuitive, the core finding of no correlation between forensic accounting and profitability should not be dismissed. The hypotheses regarding drivers of bank profits require deeper examination. Researchers should look at larger samples, broader sets of variables, and longitudinal data to better understand the relationships. Comparative case studies and qualitative methods could also provide contextual insights that quantitative correlation analysis lacks. Statistical analysis is just an initial methodology - further investigation and open inquiry is warranted to advance knowledge on these complex business dynamics.

### **SUMMARY**

The paper examines the impact of forensic accounting practices on bank profitability in Nigeria using GTBank and TAJ Bank as case studies. A quantitative correlation analysis was conducted on financial data from 2018-2022 to analyze the relationship between spending on forensic accounting and net income. Key variables included forensic accounting, profitability, bank size, risk level, and economic conditions. The results showed no statistically significant correlation between forensic accounting and profitability, indicating it may not directly impact bottom line financial performance. Explanations include costs offsetting benefits, fraud being too rare to affect profits, and other macroeconomic factors playing a bigger role.

### **CONCLUSION**

The core finding is that there is no significant linear association observed between forensic accounting and profitability for the case study banks. This runs counter to hypotheses that forensic accounting boosts bank profits. The lack of correlation suggests investments in fraud audits, investigations, and litigation supports do not correlate with higher or

lower profit levels. Potential reasons include costs outweighing gains, corporate fraud being too low-impact, and many other drivers of profitability beyond just forensic accounting.

### **RECOMMENDATIONS**

- Examine larger sample sizes beyond two banks to determine wider industry patterns
- Analyze additional variables beyond just forensic accounting and profitability
- Use longitudinal data to assess lagged impacts over a longer timeframe
- Conduct comparative case studies and qualitative research to provide contextual insights
- Consider indirect benefits of forensic accounting not captured in quantitative profitability metrics
- Evaluate components of forensic accounting costs and benefits more granularly
- Assess interactions with macroeconomic factors and industry competition dynamics
- Recognize statistical analysis has limitations; further investigation needed into these complex relationships

The paper provides a helpful initial analysis but more research is required using mixed methods to develop a more complete understanding of the drivers of bank profitability. Both quantitative data and qualitative perspectives are important to advance knowledge on these nuanced business dynamics.

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