



Evaluation of the Effect of Noncurrent Assets on Profitability in Nigerian Banking Sector: Evidence From Panel Data

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Abstract

This study examined the effect of noncurrent assets on profitability of sampled Nigerian commercial banks. Secondary data were used in this study. The data was obtained from annual reports accounts of ten (10) Nigerian commercial Bank purposefully selected from 2006 to 2017. Panel Data analysis technique was used to analyse the effect of independent variables (Building, Land, Leasehold premises, fixtures and fitting, and investment in computers) on dependent variable (Net profit). Results showed that there is a positive significant effect of BDG, ICT, MACH on NETPR ($\beta = .0052578; .0195288; .0719033$ $t = 0.001, 0.000; 0.009 < 0.05$). ($\beta = .0195288, t = 0.000 < 0.05$). LEASE, LAND, and FIXF also had positive significant effect of LEASE on NETPR ($\beta = .0434922; .1678305; .0499863$ $t = 0.007; 0.005; 0.000 < 0.05$). In conclusion, investments in noncurrent assets had positive significant impact on the Nigerian Banks' profitability. Noncurrent assets are used to generate revenue for the benefits of shareholders. It is recommended that banks should establish efficient noncurrent asset management and optimization program in the bank in order to improve their profitability. This program should be designed to eliminate or reduce the effect of carry cost for assets that are no longer needed or used in the bank. Banks should also improve the investments in noncurrent assets in terms of ICT so as to boost their profitability.

Keywords: Noncurrent assets; Panel Data; Net profit; Commercial banks; Investment;

JEL Codes: G21

1. Introduction

Background to the study

No firms can grow and sustain without investment in noncurrent asset. Investment in noncurrent assets like land, building, plant and machinery, fixtures, fittings and motor vehicle it is imperative for every organisation with profit motive. Investment in noncurrent assets enhances the productive capacity of firms and generates long term profitability (Olatunji and Adegbite, 2014). Noncurrent asset investment decisions are among the most important decisions taken by firms because they affect shareholders

wealth, the long-term perspective of the firm's survival, a competitive advantage and also the overall economic welfare of society. Every firms invest considerable amounts of money on noncurrent asset in order to increase financial performance, maximize revenue, and maintain the competitive position in the market. Noncurrent asset are the category of assets that generally indicate the most important use of a company's resources. Investments in noncurrent assets such as buildings, equipment and machinery increase the firm's production capacity in order to increase the long-term profit of the

company. This category of assets does not change frequently and they are purchased to produce and sell more. Assets have significant role in determining the efficiency and the profit ratio of a firm. Since a firm acquires plant and machinery and other productive noncurrent assets for the purpose of generating sales. Therefore, efficiency in the use of noncurrent assets should be judged in relation to sales. Olatunji and Adegbite, (2014) asserted that noncurrent assets turnover ratio measures the efficiency with which a firm is utilizing its investment in noncurrent assets. It also indicates the adequacy of sale in relation to investment in noncurrent assets. Generally, a high noncurrent assets turnover ratio indicates efficient utilization of noncurrent assets in generating sales, while a low ratio indicates inefficient management and utilization of noncurrent assets.

Banking sector just as firms in the brewery and other industries require a large amount of noncurrent asset investment in large capital equipment while, service companies and computer software producers need a relatively small amount of noncurrent assets. Effective organization of noncurrent assets is one of the most important parts of the entire corporation and in creating value for shareholders. The main purpose of any firm is to reduce the cost of production in order to maximize their profit. But, maintaining liquidity of the firm also is an important objective. The problem is that increasing profits at the expense of noncurrent asset can bring serious problems to the firm. Yet, some organisations find it difficult to increase their investment in noncurrent asset. Olatunji and Adegbite (2014) analysed the effect of investment in fixed assets on profitability of selected Nigerian banks with Pearson product moment correlation and multiple regressions. Why did the study employ Pearson product moment correlation and multiple regressions?

This study employed panel data to examine the effect of investment in noncurrent asset on profitability of selected Nigerian banks. It also analyses the relationship between noncurrent assets values and Return on

Investment (ROI) and determines the effect of noncurrent assets investment on Net profits of sampled Nigerian commercial banks.

2. Literature Review

Empirical Review

Olatunji and Adegbite (2014) examined the effect of investment in fixed assets on profitability of selected Nigerian banks. The study also analyzed the significant components of fixed assets investment of selected Nigerian Commercial Banks. Data were obtained from annual reports and accounts of selected Nigerian commercial Banks. Pearson product moment correlation and multiple regressions were employed to analyze the relationship between the dependent variable (Net profit) and independent variables (Building, Land, Leasehold premises, fixtures and fitting, and investment in computers.). Findings showed that there is a significant relationship between dependent variable (Net Profit) and the independent variables (Building, information communication and technology, machinery, leasehold, land and fixture and fitting) with the adjusted R^2 @ 96%. Therefore, investments in fixed assets have strong and positive statistical impact on the profitability of banking sector in Nigeria.

Ibam (2007) argued that a company's investment in fixed asset is dependent, to a large degree, on its line of business. Some businesses are more capital intensive than others. According to Ibam (2007) fixed asset turnover ratio looked at asset over time and compares the ratio to that of competitors. This gives the investor an idea of how effectively a company's management is using fixed asset. It is a rough measure of the productivity of a company's fixed assets with respect to generating sales. The higher the number of times turned over, the better. However investors look for consistency or increasing fixed assets turnover rates as positive balance sheet investment qualities (Ibam, 2008).

Eriotis *et al.* (2000) investigated the relationship between debt to equity ratio and firm's profitability taking into consideration

the level of a firm's investment and the degree of market power. The study used panel data for various industries, covering a period 1995-96. They concluded that firms which prefer to finance their investment activities through self-finance are more profitable than firms which finance investment through borrowed capital. According to them, firms used their investment in fixed assets as a strategic variable to affect profitability.

Berger and DeYoung (1997) indicated that most research on bank efficiency is mainly weighted on cost efficiency; Zheng et al. (2007) as stated in Alayemi (2013) also emphasized the cost efficiency of small and mid-sized banks in Taiwan. It was not until recently that profit efficiency began to be noticed. The study of profit efficiency considers both the cost efficiency and earning efficiency. Berger and DeYoung (1997) pointed out that while conducting research on cost efficiency, profit must be assumed to reach its maximum level under the pre-determined bank inputs and outputs. However, the above assumption may be inconsistent with reality due to the ignorance of quality problems. For instance, higher quality banks may have higher costs that induce cost inefficiency. However, the higher quality banks may generate higher earnings and profits, thus it makes profit efficiency.

Sayeed and Hogue (2009) studied the impact of assets and liability management on profitability of public and private commercial banks in Bangladesh. According to them, banks' profitability is almost always of concern in modern economy. Banks are in business to receive deposits or liabilities and to issue debt securities on the one hand and create or invest in assets on the other hand. Thus commercial banks incur cost for their liabilities and earn income from their assets. Thus profitability of banks is directly affected by management of their assets and liability. Their study examined how assets and liability management together with external variable such as degree of market concentration and inflation rate impact the profitability of selected commercial banks in

Bangladesh. The study also dealt with the impact of Assets and Liability Management (ALM) on the profitability of the sixteen Bangladesh commercial banks classified into private and public. The results show that the use of total income the dependent variable for private and public banks show evidence that all of the assets have significant contribution to total income of the private banks.

Beneish *et al.* (2001), and Fairfield, Whisenant and Yohn (2003), among others have identified a rather strong negative relationship between investment intensity and profitability. Gautam (2008) found out that high fixed cost can deplete a company's profit especially if sales fall. The revelation that other variables do not have significant impact on profit after tax may be explained by the fact that companies probably adjust selling prices of their products to take care of changes in variable cost other than fixed cost.

Khalid (2012) examined the relationship between the asset quality management proxies and profitability nexus. Using the return on assets and profitability ratios as proxies for bank profitability for the period 2006-07 to 2010-11, operating performance of the sample banks is estimated with the help of financial ratios. Also multiple regression model was employed to examine if bank asset quality and operating performance are positively correlated. The results showed that a bad asset ratio is negatively associated with banking operating performance, after controlling for the effects of operating scale, traditional banking business concentration and the idle fund ratio.

Okwo *et al.* (2012) studied the investment in fixed assets and firm profitability, evidence from the Nigerian Brewery Industry. A cross sectional data was gathered for the analysis from the annual reports of the sampled brewery firms for a period of 1995 to 2009. The four brewery firms that constitute the sample were those quoted on the Nigerian Stock Exchange and their inclusion in the analysis is based on the availability of data

for the sample period. The brewery firms that constitute the sample are: Nigerian Breweries Plc, Guinness Nigeria Plc and International Breweries Plc, Champion Breweries Plc. The result of the tested hypothesis showed that the level of investment in fixed assets does not strongly and significantly impact on the level of reported profit of breweries in Nigeria.

3. Methodology

Secondary data were used in this study. The data was obtained from annual reports accounts of ten (10) Nigerian commercial Bank purposefully selected from 2006 to 2017. Panel Data analysis technique was used to analyse the effect of independent variables (Building, Land, Leasehold premises, fixtures and fitting, and investment in computers) on dependent variable (Net profit).

Model Specification

Net profit is the explained variable in this model, while the explanatory variables are book values of Building, Land, Leasehold premises, fixtures and fitting, and investment in computers. Thirteen Nigerian Commercial Banks were purposively selected for the survey and analysis. This study employs annual data on the effect of investment in fixed asset on profitability of selected Nigerian banks from the period of 2006 to 2017.

$$P = f(X1, X2, X3, X4, X5, X5, \mu) \quad (1)$$

A regression model relates Y to a function of X and μ

Where:

P - Dependent variable, i.e Profitability
 $X1 - X5$ - Independent variables i.e investment in fixed assets by description
 μ - Error term

$$\sum_{i=1}^n NETPR = a0 + \sum_{i=1}^n a1BDG + \sum_{i=1}^n a2ICT + \sum_{i=1}^n a3MACH + \sum_{i=1}^n a4LEASEH + \sum_{i=1}^n a5LAND + \sum_{i=1}^n a6FIXF + \mu1 \quad (2)$$

Transforming equation (1) to the natural logarithm it changed to

$$\sum_{i=1}^n LOGNETPR = a0 + \sum_{i=1}^n a1LOGBDG + \sum_{i=1}^n a2LOGICT + \sum_{i=1}^n a3LOGMACH + \sum_{i=1}^n a4LOGLEASEH + \sum_{i=1}^n a5LOGLAND + \sum_{i=1}^n a6LOGFIXF + \mu3 \quad (3)$$

Where:

NETPR – Net profit
BDG – Building
ICT – Investment in computer
MACH – Machinery
LEASEH – Leasehold Premises
LAND – Land
FIXF – Fixtures and Fitting

4. Results and Discussion

Table 1: Pooled effect Model on effect of Noncurrent assets investment on Net profit

Dependent variables	Independent variables	Coefficient	Standard error	T	P> T	(95% conf. Interval)
LOGNETPR	LOGBDG	.0114622	.0214881	3.98	0.004	-.0315975 .053311
	LOGICT	.0203016	.0171476	4.61	0.000	-.0136985 .054143
	LOGMACH	.0763049	.0514375	4.22	0.001	-.028427 .1731567
	LOGLEASE	-.0413753	.0444736	3.89	0.011	-.1296911 .0469405
	LOGLAND	.2792015	.1436933	3.00	0.019	-.0061449 .564548
	LOGFIXF	-.0942741	.1689904	5.30	0.000	-.4298556 .2413073
	CONSTANT	14.61139	2.846329	5.13	0.000	8.959143 20.26363
R-squared = 0.6768		Adj R-squared = 0.6377		Prob > F = 0.0005		

Source: Researcher's Computation (2018)

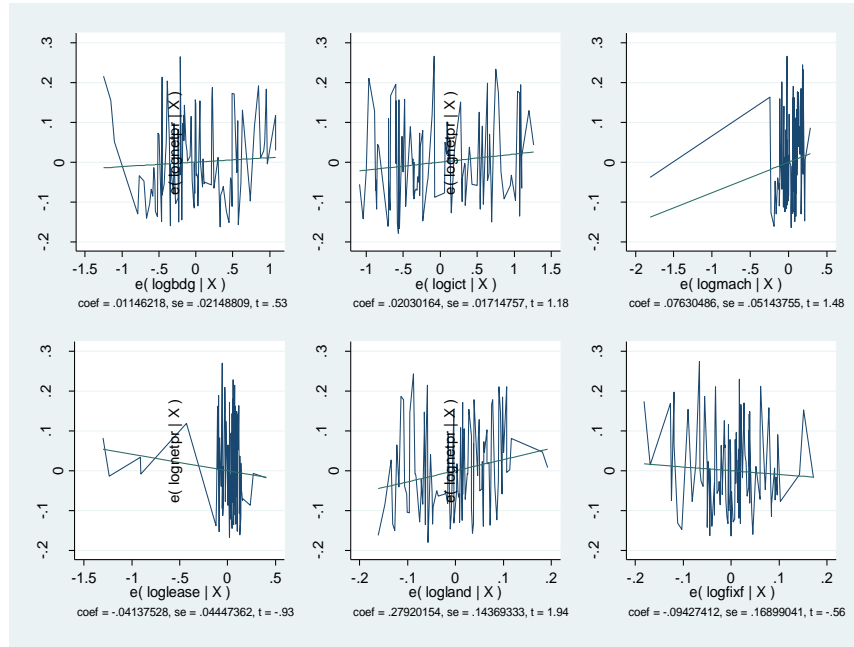


Fig.1 - Regression plots of the effect of Noncurrent assets investment on Net profit

Table 1 and Fig. 1 showed the effect of BDG, ICT, MACH, LEASE, LAND and FIXF on NETPR. 1% increase in BDG reduces NETPR by 0.011%, it shows that there is a positive significant effect of BDG on NETPR ($\beta = .0114622$ $t = 0.004 < 0.05$). 1% increase in ICT increases NETPR by 0.020%, it shows that there is a positive significant effect of ICT on NETPR ($\beta = .0203016$, $t = 0.000 < 0.05$). 1% increase in MACH increases NETPR by 0.076%, it shows that there is a positive significant effect of MACH on NETPR ($\beta = .0763049$, $t = 0.001 < 0.05$). Contrarily 1% increase in LEASE reduces NETPR by 0.041%, it shows that there is a negative significant effect of LEASE on NETPR ($\beta = -.0413753$, $t = 0.011 < 0.05$). 1% increase in LAND increases NETPR by 0.279 %, it shows that there is a positive significant effect of LAND on NETPR ($\beta = .2792015$,

$t = 0.005 < 0.05$). 1% increase in FIXF reduces NETPR by 0.049%, it shows that there is a positive significant effect of FIXF on NETPR ($\beta = -.0942741$, $t = 0.000 < 0.05$).

Given the coefficient of determination (R^2) as 0.6768 which is 68% supported by high value of adjusted R^2 as 64%, it presumes that the independent variables incorporated into this model have been able to explain the effect of E-HRM to 64%. That is, there is a significant effect of independent variables (E-RECRUIT, E-TRAIN, E-COMP, E-BENEF, E-SELECT and E-EVAL) on dependent variable E-HRM. The F Probability statistic also confirms the significance of this model. The adjusted R^2 of 0.6377 indicates that about 64% of total variation in the dependent variable is accounted for by the explanatory variables at level of 0.05 level of significance.

Table 2: Effect of Noncurrent assets investment on Net profit using Random effect model

Dependent Variable	Independent Variables	Coefficient	Standard Error	T	P>/T/	(95% conf. Interval)
LOGNETPR	LOGBDG	.0052578	.0214545	4.25	0.001	-.0367922 .0473078
	LOGICT	.0195288	.0169202	5.12	0.000	-.0136342 .0526918
	LOGMACH	.0719033	.0514583	3.59	0.009	-.0289531 .1727598
	LOGLEASE	.0434922	.0762714	3.79	0.007	-.1309993 .0394872
	LOGLAND	.1678305	.0210335	3.81	0.005	-.1028935 .5549898
	LOGFIXF	.0499863	.1796275	5.30	0.000	-.302077 .4020496
	CONSTANT	13.838	3.013088	8.59	0.000	7.932452 19.74354
R-sq: within = 0.0774 between = 0.0594 overall = 0.0714		sigma_u .02734533			Wald chi2 (6) = 2.96	
		sigma_e .1003095			Wald chi2(6) = 7.37	
		rho .0691750 (fraction of variance due to u_i)				

Source: Researcher's Computation (2018)

Random effect needs to be tested because of the doubt that may arise with pooled result. Table 3 showed the effect of BDG, ICT, MACH, LEASE, LAND and FIXF on NETPR. 1% increase in BDG reduces NETPR by 0.005%, it shows that there is a positive significant effect of BDG on NETPR ($\beta = .0052578$, $t = 0.001 < 0.05$). 1% increase in ICT increases NETPR by 0.019%, it shows that there is a positive significant effect of ICT on NETPR ($\beta = .0195288$, $t = 0.000 < 0.05$). 1% increase in MACH increases NETPR by 0.071%, it shows that there is a positive significant

effect of MACH on NETPR ($\beta = .0719033$, $t = 0.009 < 0.05$). 1% increase in LEASE increases NETPR by 0.043%, it shows that there is a positive significant effect of LEASE on NETPR ($\beta = .0434922$, $t = 0.007 < 0.05$). 1% increase in LAND increases NETPR by 0.167%, it shows that there is a positive significant effect of LAND on NETPR ($\beta = .1678305$, $t = 0.005 < 0.05$). 1% increase in FIXF increases NETPR by 0.049%, it shows that there is a positive significant effect of FIXF on NETPR ($\beta = .0499863$, $t = 0.000 < 0.05$).

Table 3: Effect of Noncurrent assets investment on Net profit using Fixed effect model

Dependent Variable	Independent Variables	Coefficient	Standard Error	T	P>/T/	(95% conf. Interval)
LOGNETPR	LOGBDG	-.0120366	.0219562	-2.98	0.034	-.0556988 .0316257
	LOGICT	.0171874	.0168494	5.22	0.000	-.0163196 .0506943
	LOGMACH	.0748649	.0144186	4.32	0.003	-.0297371 .1794669
	LOGLEASE	.0655386	.0526006	4.91	0.001	-.1338697 .0363124
	LOGLAND	-.2218357	.2842970	3.00	0.011	-.7871915 .3435201
	LOGFIXF	.0125883	.2329301	2.31	0.023	.0743813

Dependent Variable	Independent Variables	Coefficient	Standard Error	T	P>/T/	(95% Interval)	conf.
	CONSTANT	15.63698	3.844094	4.07	0.000	7.992576 23.28138	1.000795
R-sq: within = 0.1268 between = 0.4996 overall = 0.0024		Prob > F = 0.0081		sigma_u .07470355 sigma_e .10030955 rho .35675724 (fraction of variance due to u_i)			

Source: Researcher's Computation (2018)

The result in Table 4 showed the effect of BDG, ICT, MACH, LEASE, LAND and FIXF on NETPR. 1% increase in BDG reduces NETPR by 0.012%, it shows that there is a negative significant effect of BDG on NETPR ($\beta = -.0120366$ $t = 0.034 < 0.05$). 1% increase in ICT increases NETPR by 0.0171%, it shows that there is a positive significant effect of ICT on NETPR ($\beta = .0748649$ $t = 0.003 < 0.05$). 1% increase in MACH increases NETPR by 0.074%, it shows that there is a positive significant effect of MACH on NETPR ($\beta =$

$.0748649$ $t = 0.003 < 0.05$). 1% increase in LEASE increases NETPR by 0.065%, it shows that there is a positive significant effect of LEASE on NETPR ($\beta = .0655386$ $t = 0.001 < 0.05$). 1% increase in LAND increases NETPR by 0.22%, it shows that there is a negative significant effect of LAND on NETPR ($\beta = -.2218357$ $t = 0.011 < 0.05$). 1% increase in FIXF increases NETPR by 0.0125%, it shows that there is a positive significant effect of FIXF on NETPR ($\beta = .0125883$ $t = 0.023 < 0.05$).

Table 4: Hausman test on the Effect of Noncurrent assets investment on Net profit

Dependent variables	Independent variables	Coefficient (b)	Coefficient (B)	(b-B) Difference	Sqrt (diag (v-b-v-B)) S.E
LOGNETPR	LOGBDG	.0052578	-.0120366	.0172943	-
	LOGICT	.0195288	.0171874	.0023415	.0015461
	LOGMACH	.0719033	.0748649	-.0029616	-
	LOGLEASE	-.0457561	-.0487786	.0030226	.0077884
	LOGLAND	.2260482	-.2218357	.4478839	-
	LOGFIXF	.0499863	.5375883	-.487602	-
b = consistent under Ho and Ha;	B = inconsistent under Ha, efficient under Ho	Test: Ho: difference in coefficients not systematic $\chi^2(6) = (b-B)'[(V_b - V_B)^{-1}](b-B)$ $= -7.14$ Prob> $\chi^2 = 0.3077$			

Source: Researcher's Computation (2018)

To decide between fixed or random effects, Hausman test was conducted where the null hypothesis is that the preferred model is random affects vs. the alternative the fixed effects (Green, 2008). It basically tests whether the unique errors (u_i) are correlated

with the regressors, the null hypothesis is they are not. If $\chi^2 < 0$ is greater than 0.05 (i.e. significant), random effects should be considered, therefore the null hypothesis is accepted.



Fig. 2 - Panel Analysis plots on the effect of Noncurrent Assets on Net profit

Table-4. The Relationship between Noncurrent Assets and Net Profit

	LOGNET PR	LOGB DG	LOGI CT	LOGMA CH	LOGLEA SE	LOGLA ND	LOGFI XF
LOGNET PR	1.0000						
LOGBDG	0.6150*	1.0000					
LOGICT	0.9248*	-0.1823	1.0000				
LOGMA CH	0.7399*	0.0611	-	1.0000			
LOGLEA SE	0.5458*	0.0086	0.0290	0.0070	1.0000		
LOGLAN D	0.6940*	-0.1168	0.1520	0.0337	0.1773	1.0000	
LOGFIXF	0.4460	0.0108	0.0358	0.1411	-0.1190	0.3231*	1.0000

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed).

Source: Researcher's Computation (2018)

The table 4 shows the relationship between Noncurrent assets and Net Profit of sampled Nigerian commercial banks. The result in table 4 shows that investment in building (BDG) has positive relationship with net profit (NETPR) with coefficient 0.6150*. This result implies that an increase in investment in building contributes to increase in net profit. Investment in

computer (ICT) has positive relationship with net profit with coefficient of 0.9248*. This result implies that an increase in investment in computer (ICT) leads to increase in net profit. In the same vein, Plant and machinery (MACH) also has positive correlation with net profit, coefficient 0.7399*. This result implies that the increase

in Plant and machinery (MACH) Enhances net profit.

Investment in leasehold premises (LEASEH) also has positive significant relationship with net profit with coefficient of 0.5458*. Furthermore, the result also shows that land (LAND) also has positive correlation with net profit, coefficient 0.8992. This result implies that the increase in land (LAND) influences increase in net profit. Fixture and Fitting (FIXF) also influence increase in net profit in that FIXF has a positive correlation with return on investment with a coefficient of 0.4460. The table also revealed that all the predictor variables have positive relationship with net profit.

5. Summary and Conclusion

This study examined the effect of noncurrent assets on profitability of sampled Nigerian commercial banks. Secondary data were used in this study. The data was obtained from annual reports accounts of ten (10) Nigerian commercial Bank purposefully selected from 2006 to 2017. Panel Data analysis technique was used to analyse the effect of independent variables on dependent variable. Results showed that there is a positive significant effect of BDG, ICT, MACH on NETPR ($\beta = .0052578; .0195288; .0719033$ $t = 0.001, 0.000; 0.009 < 0.05$). ($\beta = .0195288, t = 0.000 < 0.05$). LEASE, LAND, and FIXF also had positive significant effect of LEASE on NETPR ($\beta = .0434922; .1678305; .0499863$ $t = 0.007; 0.005; 0.000 < 0.05$).

Investment in building, computer, and land had positive significant relationship with net profits. Similarly, lease exhibited negative relationship with NETPR indicating that the usage and not ownership has effect on return on investment. In the same vein, plant and machinery, also has positive correlation with Net profit. This result implies that the increase in machinery also leads to increase in return on investment as indicated by Olatunji and Adegbite (2014) Investment in leasehold premises also has positive significant relationship with return on investment with the value of 0.5458*. Fixture and fitting also

leads to increase in net profit that is there is a positive correlation with Net profit of Nigerian banks. The higher the level of investment in noncurrent assets, the higher will be the profit.

In conclusion, investments in noncurrent assets had positive significant impact on the Nigerian Banks' profitability. Noncurrent assets are used to generate revenue for the benefits of shareholders.

It is recommended that banks should establish efficient noncurrent asset management and optimization program in the bank in order to improve their profitability. This program should be designed to eliminate or reduce the effect of carry cost for assets that are no longer needed or used in the bank. Banks should also improve the investments in noncurrent assets in terms of ICT so as to boost their profitability.

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