The Influence of Electronic Banking and Fee Based Income on Profitability in The Banking Industry Registered on Indonesia Stock Exchange

Adji Suratman, Indriyani, Elon Manurung,Auditya.

STIE Y.A.I, Jl. Salemba Raya 7 Jakarta Pusat, Indonesia

Email. adji.suratman@stie-yai.ac.id

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ABSTRACT: This study aims to know and test whether fee-based income and electronic banking affect profitability in the banks companies listed on the Indonesian stock exchange period 2016-2020. The goal of this study is to examine the extent to which electronic banking and fee based income influence the profitability of the banking companies.

This research uses secondary data. The sampling method used was the purposive sampling method which obtained 10 sample companies chosen based on specified criteria. This research uses quantitative methods. The data analysis used are descriptive statistics, classical assumption test, multiple linear regression analysis panels by using the Eviews 10 program. Based on the results of the study, it was found that electronic banking and other operating income had a positive and significant effect on profitability. Meanwhile, fees and commissions have no negative and significant effect on profitability. The regression coefficient shows a positive result with a value of 0.6333 or 63.33%. These results indicate that the higher the fee-based income and the more intensive e-banking transactions, the higher the profit should be obtained.

Keywords: *Fee Based Income, Electronic Banking, Fees and Commissions, Other Operating Income, Profitability.*

I. INTRODUCTION

Banking business is a service business that is growing rapidly, so that improving the quality of service is a very decisive factor for business success. Every bank faces a very competitive business environment. The more competitive the level of competitive satisfaction can quickly change (Eshangi, Kumar Roy and Ganguli, 2008).

According to Anindyntha (2016), bank sources of income are interest income and fee-based income. Banks are now aggressively looking for other income interest income. This is done to increase the potential for digital transactions and banking. In addition, the business also aims to anticipate a decrease in margins due to the estimated interest rate in the next few periods.

Kasmir's statement in his book entitled "Banks and Other Financial Institutions" states that what is meant by Fee Based Income is profit obtained from transactions or other bank services based on spreads. According to Kustina and Dewi (2016), a strategy that is now widely applied in the banking industry in an effort to grow profits is to increase fee-based income.

Along with its development, the fee-based trend has increased, in the previous 10 years fee-based income was only 15% of the bank's total income. In the next five years, fee-based income will increase to 26% and interest income will decrease from 85% to 74% (Indonesian Banking Statistics in Anindyntha, 2016). This phenomenon has made the banking world start competing to increase profits by relying on several strategies to attract customers to use banking services. One of them by utilizing technological developments. One form of technological development that brought a revolution in the world of information and communication technology is the internet.

According to Utaminingsih and Sularto (2015), the leading technology in helping to improve services to customers is Electronic Banking or E-Banking. however, most Indonesians still prefer manual transactions. The bank in assessing internet banking stated that the risk would be small, but if it had to be done further, this service was also risky which could reduce the interest of online banking service users. The banking sector itself needs to study and need to know what factors can be used to develop and improve this service. Many customers who have internet banking facilities have used it, because the operation does not seem complicated and not everyone understands how to use it. Another factor is the level of customer ability to use computers, these factors also affect customer interest in using internet banking services.

Putu Ayuni Kartika Putri Suardana, Ketut Tanti Kustina (2017) concluded that feebased income had a positive and *significant* effect on changes in earnings at PT. Bali Regional Development Bank, while electronic banking transactions

have a positive but *insignificant* effect on changes in earnings. on the otherhand Midian CristiRori, Herman Karamoy, Hendrik Gamaliel (2017) study on Indonesia banks showed negative effects on third party funds. And LantoMiriatinAmali, Selvi (2021) showed that for the use of E Banking (Internet Banking and SMS Banking) is proven to be able to improve financial performance (profitability). And there is a positive impact on ROEC of banking companies even though it was not significant.

In this study, it can be seen how much influence the e-banking and fee-based income to the profitability of banks listed on the Stock Exchange had an impact on profitability growth bank, and it is concluded that if the effect of fee-based income is high and income on the growth of bank profitability from year to year. This is what makes the author chose fee based income as an intervening variable.

The focus of the main study in this article is the influence of electronic banking and fee based income on the profitability in banking industry registered on Indonesia Stock Exchange for the 2016-2020 period.

II. LITERATURE REVIEW

A. Signaling Theory

Signaling theory according to Brigham and Houston (2001: 39) is an action taken by the company's management that provides instructions for investors about how management views the company's prospects. Signaling theory explains the reason why companies have incentives to voluntarily report information to the capital market even though there is no mandate from regulatory agencies is to retain investors who are interested in the company.

B. Bank

Based on Law Number 10 of 1998, the definition of a bank is a business entity that collects funds from the public in the form of deposits and distributes them to the public in the form of credit and / or other forms step up to improve the standard of living of the people at large.

According to Kasmir, SE, MM (2008: 25), a bank can simply be defined as a financial institution whose business activities are collecting funds from the public and channeling these funds back to the public and providing other bank services.

C. Profitability

Profitability definition by SofyanSyafriHarahap (2009: 304) is "Describing the company's capability to earn profits through all the existing abilities and resources such as sales activities, cash, capital, number of employees, number of business branches, and etc". On the basis of the opinion of the experts above, it can be concluded that the undertaking can generate profits by making maximum use of existing resources, so that the company can achieve satisfactory final results.

The level of profitability is measured using the Return On Assets (ROA) ratio because ROA focuses more on the company's ability to earn earnings in its operations as a whole and part of its fund assets come from public deposits, so that ROA is more representative in measuring the level of profitability. According to (Taswan, 2010), the greater the ROA, the better the company's performance.

The ratio used in this analysis is :

$$ROA = \frac{\text{Profit after tax}}{\text{Total assets}}$$

D. Fee Based Income

Fee-based income is the income obtained by a bank financial institution or a non-bank financial institution from an operational expense and others for services provided by these institutions.The definition of fee based income according to kasmir (2001: 109) is fee based income is the profit obtained from transactions provided in other bank services or in addition to spread based.

Fee Based Income is one type of non-interest bank operating income. There are several elements for bank income that can be categorized as Fee Based Income:

a. Fees and commission income, fees are fees received or paid in connection with the facilities provided or received, while commissions are fees or intermediary services received or paid for a basic transaction or activity.
b. Foreign Exchange Transaction Income, income arising from foreign exchange transactions usually comes from foreign exchange differences.
c. Other Income, other operating income is the receipt of dividends from subsidiaries or investment in shares, profit or loss from the sale of capital market securities and others.
IAI (2004: 23.1), fee based operations or off balance sheet activities are other services in bank operational activities other than investment in productive assets, namely credit and securities.

E. Electronic Banking

According to Utaminingsih and Sularto (2015) *Electronic Banking*, or *EBanking* can be interpreted as a medium for automatic delivery of banking services and products directly to customers via electronics with the types of products offered, namely: ATM (*Automated Teller Machine*), *Phone Banking* ,SMS*Banking & Mobile Banking*, and *Internet Banking.*
Statement by Khairy Mahdi, Internet banking services are the use ofinternet technology as a method for carrying out banking transactions. This business uses the internet network as a link between banking clients and banks. In addition, the form of transactions is virtual or without the need for a personal process between the customer and the bankingofficer involved.

F. Research Design

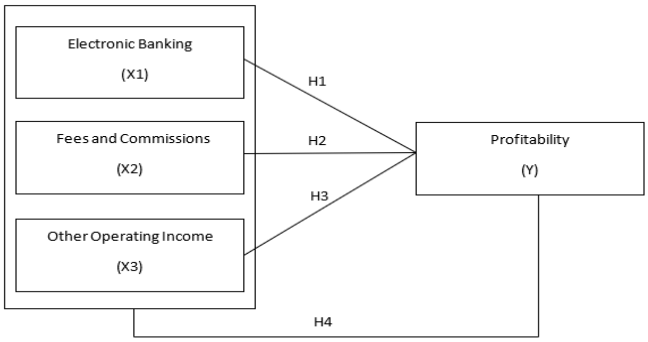

Figure 1. Research Design

III. RESEARCH METHODOLOGY

This type of research is quantitative research. The population and the samplein this study is the annual financial statements of banking companies listed on the Indonesia Stock Exchange (IDX) for the period 2016-2020, totaling 46 banking companies**.** Sample was performedusing a purposive sampling approach. Based on the sample criteria in this study, 10 companies were eligible to be selected.The data analysis technique used is descriptive statistics, panel data regression analysis, and classical assumption test using Eview 10 software

IV. RESULT AND DISCUSSIONS

A. Descriptive Statistic

Descriptive statistic provide an overview of data that can be seen from the mean, standard deviation, maximum and minimum values. The research data that become the dependent variable (Y) are profitability, while the independent variable areelectronic banking (X1), fees and commissions (X2), and other operating income (X3).

Table 1. Descriptive Statistics

Sample 2016-2020

	ROA	EB	FAC	OOI
Mean	0.017152	323.8597	55551.17	8696.794
Median	0.018195	20.65500	10356.00	3159.224
Maximum	0.031348	2720.000	790000.0	29463.00
Minimum	0.000671	1.003000	5.613000	349.7510
Std. Dev.	0.008461	662.9019	152492.9	9346.504
Skewness	-0.139764	2.034690	3.323654	0.991499
Kurtosis	2.162025	6.102474	13.78394	2.536747
Jarque-Bera	1.625705	54.55250	334.3332	8.639347
Probability	0.443591	0.000000	0.000000	0.013304
Sum	0.857588	16192.99	2777559.	434839.7
Sum Sq. Dev.	0.003508	21532508	1.14E+12	4.28E+09
Observations	50	50	50	50

Source: Eviews 10 processed data for 2021

1) Profitability (ROA)

Based on the result of data processing in table 2 above it is known that the highest return on assets (ROA) was 0.31348 and the lowest ROA is 0.000671. Thestandard deviation of0.008461. The mean and median value are 0.017152 and 0.018195. The mean value of return on assets is greater than the standard deviation value, so it can be concluded that the average of all data on the dependent variable return on assets is able to describe the data well.

2) Electronic Banking

The highest electronic banking (EB)was 2720.000and the lowest is 1.003000. The standard deviation of 662.9019. The mean and median value are 323.8597and 20.65500. The mean value of electronic banking is smaller than standard deviation, so it can be concluded that the average of all data in the independent electronic banking variable is not able to describe the data properly.

3) Fees and Commissions

The highest fees and commissions was 790000.0 and the lowest is 5.613000 .The standard deviation of 152492.2. The mean and median value are 55551.17 and 10356.00. A standard deviation value higher than the mean value implies that abnormal and biased distribution of data and it can be inferred that there is a large fluctuation in growth of banking companies.

4) Other Operating Income

The highest other operating income was 29463.00 and the lowest in 349.7510. The standard deviation of 9346.504. The mean and median are 8696.794 and 3159.224. The mean value of electronic banking is smaller than standard deviation, so it can be concluded that the average of all data in the independent electronic banking variable is not able to describe the data properly.

B. Classic Assumption Testing

1) Normality test

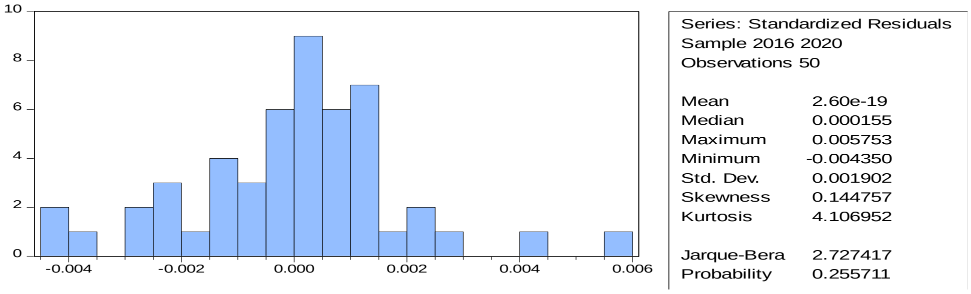

Figure 2. Normality Test
Source : Data processed with e views 10,2021

Based on Figure 2, it is known that the value of prob. JB count 0.2557> 0.05, this indicates that the residuals have been normally distributed, which means that the classical assumptionsabout normality have been met.

2) Multicollinearity test

A good regression model should not have a correlation between independent variables. The data does not occur multicollinearity, if the coefficient value < 0.80 or the data has multicollinearity, if the coefficient value > 0.80.
The results of the multicollinearity test in the study are presented in the following:

Table 2. Multicollinearity Test

	EB	FAC	OOI
EB	1	**0.35793**	**0.57412**
FAC	**0.35793**	1	**0.44344**
OOI	**0.57412**	**0.44344**	1

Source : Data processed with e views 10,2021

Based on table, the correlation coefficient between the independent variable electronic banking, fees and commissions and other operating income is smaller (<) 0.80, so it can be concluded that theregression model and the three independent variables do not experience multicollinearity problems.

3) Heteroscedasticity Test

The criteria for testing carried out are: there is no heteroscedasticity problem with the data, if the value of Prob. > alpha level 0.05 or the data have heteroscedasticity problems, if the value of Prob. < 0.05 alpha level.

Table 3. Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.011409	0.022488	-0.507363	0.6149
EB	0.001543	0.000856	1.802395	**0.0796**
FAC	0.001960	0.001665	1.176915	**0.2467**
OOI	-0.001837	0.002180	-0.842566	**0.4049**

Source: Data processed with eviews 10,2021

The results of the heteroscedasticity test in Table 3 show that the prob of each independent variable, namely electronic banking (EB), fees and commissions (FAC) and other operating income (OOI) has a value > alpha 0.05 of 0.0796, 0.2467 and 0.4049, so that the obtained conclusion that the regression model does not have heteroscedasticity problems.

4) Autocorrelation Test

The autocorrelation test aims to see whether in a linear regression model there is a correlation between the error of the intruder in period t and the error of the intruder in period t-1 on the data arranged in time series. To determine whether autocorrelation exists or not, it can be seen in the Durbin Watson test results as follows:

Table 4. Autocorrelation Test

Durbin-Watson stat	DU
1.7294	1.6739
a = 5 %	N = 50 , K = 3

Source: Data processed with e views 10,2021

From the table, it can be seen that the dw value is 1.7294 and the du value in the Durbin Watson table is 1.6739,so that the comparison is 1.6739 < 1.7294 < 2.3261 (4 – 1.6739) meaning that the data in the study does not experience autocorrelation problems.

C. Multiple Linear Regression Analysis

Table 5. Multiple Linear Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.012972	0.039912	0.325018	0.7470
EB	0.003109	0.001519	2.046770	0.0478
FAC	-0.011618	0.002955	-3.931100	0.0004
OOI	0.008781	0.003870	2.269195	0.0292
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.723117	Mean dependent var		0.007371
Adjusted R-squared	0.633317	S.D. dependent var		0.003615
S.E. of regression	0.002189	Akaike info criterion		-9.191797
Sum squared resid	0.000177	Schwarz criterion		-8.694671
Log likelihood	242.7949	Hannan-Quinn criter.		-9.002488
F-statistic	8.052547	Durbin-Watson stat		1.729496
Prob(F-statistic)	0.000000			

Source: Data processed with Eviews 10,2021

From processing using eviews10 above, the following equation is obtained:

ROA = 0.013 + 0.003 EB – 0.012 FAC + 0.009 OOI

The above equation can be explained that:

a. The constant is 0.013, meaning that if electronic banking, fees and commissions and other operating income are 0 (no change), the profitability is 0.013.

b. E-Banking regression coefficient has 0.003. This means that EB has a positive relationship to profitability, where if electronic banking increases by 1 percent, while other independent variables are fixed (no change), the profitability will increase by 0.3 percent.

c. The regression coefficient for fees and commissions is -0.012. This means that FAC has a negative relationship to profitability, where if fees and commissions decrease by 1 percent, while other independent variables are fixed (no change), the profitabilitywill increase by 1.12 percent.

d. The regression coefficient for other operating income is 0.009. This means that OOI has a positive relationship to profitability, where if other operating income increases by 1 percent, while other independent variables are fixed (no change), the profitability will increase by 0.9 percent.

D. Hypothesis test

1) Determination Coefficient Test (R2)

The results of the coefficient of determination in table 5, show the adjusted r square value of 0.6333, which indicates that the proportion of the influence of electronic banking, fees and commissions and other operating income on profitability in banking companies listed on the Indonesia Stock Exchange for the 2016-2020 period is 63.33% while the remaining is 63.33 percent. 36.67% (100 – 63.33%) is influenced by other variables not examined in the study.

2) Simultaneous Significant Test (F Test)

Based on table 5, the probability value of F-statistic is smaller than alpha (0.05) which is 0.0000 < 0.05 and f count > f table is 8.05 > 2.81, this shows that electronic banking, fees and commissions and other operating income simultaneously affects the profitability of banking companies listed on the Indonesia Stock Exchange for the 2016-2020 period. The conclusion of the study is to accept the fourth hypothesis, namely that there is an effect of electronic banking, fees and commissions and other operating income on profitability.

3) Partial Test (T-test)

T test was conducted to determine whether the independent variables (ROI, CR, DER) partially affect the dependent variable (DPR). For this analysis t-test uses a significance value or an alpha value of (0.05). The findings of the t-test can be explained as follows, based on the results of table 5:

1. The probability value of electronic banking (EB) < alpha 0.05 is 0.0478 < 0.05 and t count > t table is 2.0468 > 2.0085, this shows that electronic banking has an effect on profitability. The regression coefficient has a positive value 0. This means that electronic banking has a positive and significant effect on profitability. The conclusion of the study is to accept the first hypothesis.

2.The probability value of fees and commissions (FAC) < alpha 0.05 is 0.0004 < 0.05 and t count > t table is 3.9311 > 2.0085, this shows that fees and commissions affect profitability. The regression coefficient has a negativevalue -0.012. This means that fees and commissions have a negativeeffect on profitability. The conclusion of the study is to reject the second hypothesis.

3. The probability value of other operating income (OOI) < alpha 0.05 is 0.0292 < 0.05 and t count > t table is 2.2692 > 2.0085, this shows that other operating income has an effect on profitability. The regression coefficient has a positive

value 0.009. This means that other operating income has a positive and significant effect on profitability. The conclusion of the study is to accept the third hypothesis.

E. Discussion of result

The discussion in this study is intended to explain the results of the research with research objectives. The results of the further discussion are described in the following points:

1) Influence of Electronic Banking on Profitability

The test results show that electronic banking has a positive effect on profitability, this is in accordance with the results of the significance of t for the electronic banking variable, which is 0.0478 < 0.05 and t arithmetic > t table of 2.0468 > 2.0085, this is in accordance with the proposed hypothesis. And the regression coefficient of 0.003 with a positive direction means that electronic banking has a positive relationship to profitability, where if electronic banking increases by 1%, while other independent variables are fixed, then profitability in banking companies listed on the Indonesia Stock Exchange for the 2016-2020 period will increased by 0.3%. Then the hypothesis is accepted, meaning that electronic banking transactions have an effect on profitability.

2) Influence of Fees and Commissions on Profitability

Based on the t-test coefficient value. Based on the t-test the negative coefficient values obtained through the regression model indicate that fees and commissions have a negative influence on the company's profitability. This test is in accordance with the hypothesis that has been proposed previously that fees and commissions have no significant effect on profitability. This is supported by the commission regression coefficient of -0.012 in a negative direction. This means that fees and commissions have a negative relationship to profitability, where if fees and commissions decrease by 1%, while other independent variables are fixed (no change), the profitability of banking companies listed on the Indonesia Stock Exchange for the 2016-2020 period will increase 1.12%.

3) Influence of Other Operating Income on Profitability

The test results show that operating income has a significant effect on profitability, this is in accordance with the significance value of t for other operating income variables, which is 0.0292 < 0.05 and t count > t table is 2.2692 > 2.0085, this is in accordance with the proposed hypothesis. And the regression coefficient is 0.009 with a positive direction. This means that other operating income has a positive relationship to profitability, where if other operating income increases by 1%, while other independent variables are fixed (no change), the profitability of banking companies listed on the Indonesia Stock Exchange for the 2016-2020 period will increase. by 0.9%. This shows that other operating income has an effect on profitability.

4) Influence of Electronic Banking, Fees and Commissions, Other Operating Income on Profitability

The results of the coefficient of determination (R^2), show the adjusted r square value of 0.6333, which indicates that the proportion of the influence of electronic banking, fees and commissions and other operating income on profitability in banking companies listed on the Indonesia Stock Exchange for the 2016-2020 period is 63.33% while the remaining is 63.33 percent. 36.67% (100 – 63.33%) is influenced by other variables not examined in the study.

V. CONCLUSION

Based on the results of the research and discussion conducted in this study to determine the impact of electronic banking and fee based income on the profitability (ROA) in the banking companies listed in the Indonesia Stock Exchange (IDX). This researcher drew several conclusion as follow :

1. Electronic Banking as an individual variable, does have a positive and significant effect on profitability towards banking companies listed in the Indonesia Stock Exchange (IDX).
2. Fees and Commissions as an individual variable, does have a negative and not significant affecton profitability towards banking companies listed in the Indonesia Stock Exchange (IDX).
3. Other Operating Income as an individual variable, does have a positive and significant effect on profitability towards banking companies listed in the Indonesia Stock Exchange (IDX).
4. Electronic Banking, Fees and Commissions, and Other Operating Income has an affect as large as 63.33% towards the banking companies profitability (ROA) . This means that the higher fee based income and the more intensive e-banking transactions, the higher the profit should be obtained.

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