

# THE EFFECT OF FINANCIAL TECHNOLOGY (FINTECH) ON BANKING FINANCIAL PROFITS IN INDONESIA (CASE STUDY ON BUMN BANK KBMI 4)

Anggy Khusnul Khatima<sup>1</sup>, Anas Iswanto Anwar<sup>2</sup>, Muhammad Yusri Zamhuri<sup>3</sup>

<sup>1</sup>Master of Resource Economics, Faculty of Economics and Business, Hasanuddin University, Makassar

<sup>23</sup>Faculty of Economics and Business, Hasanuddin University, Makassar

---

## ARTICLE INFO

### Keywords:

funding,  
lending,  
Interest Rate,  
Banking Profitability.

## ABSTRACT

This study aims to determine and analyze the effect of funding, lending and interest rates at banks on bank profitability through three indicators, namely ROA, NIM, and LDR at BUMN Banks KBMI 4, namely Bank BRI, Mandiri, and BNI after fintech. This study uses secondary data obtained from the Central Bureau of Statistics (BPS), the official website of each type of bank, and OJK. The data used is panel data consisting of 3 types of banks namely BRI, Mandiri and BNI in Indonesia in 2014-2021. The data analysis method used is Panel Data Regression using the fixed effect model. Based on the results of this study indicate that Funding has a significant negative effect on Bank Banking Profitability KBMI 4. Lending has a positive and significant effect on the Profitability of Banking KBMI 4 Banks in Indonesia. Meanwhile, interest rates have two different results which have a positive and significant effect on the profitability of Bank BUMN KBMI 4 through NIM and LDR, but have no significant effect through ROA.

---

### E-mail:

[anggy.khusnul47@gmail.com](mailto:anggy.khusnul47@gmail.com)

Copyright © 2023 Economic Journal. All rights reserved.  
is Licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License \(CC BY-NC 4.0\)](https://creativecommons.org/licenses/by-nc/4.0/)

---

## 1. INTRODUCTION

Technology has developed very rapidly in all aspects of human life. The development of information and communication technology has led to an improvement in the way of doing business today. In fact, in recent years, the financial industry has embraced rapidly developing technology, or what is known as financial technology or fintech.

Bank Indonesia provides a definition of Fintech regulated in Bank Indonesia Regulation Number 19/12/PBI/2017 concerning Implementation of Financial Technology that Financial Technology is the use of technology in the financial system that produces new service products, technology and/or business models and can have an impact on monetary stability, financial system stability, and/or efficiency, smoothness, security and reliability of the payment system. So that it can be interpreted simply that fintech is an innovation in financial services that utilizes information technology. The significant development of Fintech in Indonesia is also expected to boost the growth of the national economy.

Currently, fintech in Indonesia is developing very rapidly. According to data from Indonesia's Fintech Association (IFA) in the daily social.id report entitled Indonesia's Fintech Report 2022 found the number of Fintech players as of April 2022 there were around 102 fintech P2P lending, according to data sourced from the Financial Services Authority (OJK) for 2022.

In various fintech companies, the largest segment is the peer to peer (P2P) lending sub-category. According to OJK data, until the end of the third quarter, lenders had 75.16 million accounts, while the *The Effect of Financial Technology (Fintech) on Banking Financial Profits in Indonesia (Case Study on BUMN Bank KBMI 4)*, Anggy Khusnul Khatima

number of borrower accounts reached 39 million accounts. This rapid development is indicated by the existence of a technological system that has advantages over the existing system. The emergence of fintech start-up companies requires companies engaged in the financial sector to rely on technological innovation to increase their market share. Hadad (2017) acknowledged that the presence of fintech and innovation that continues to develop supports the achievement of the three targets of the Indonesian Financial Services master plan, one of which is financial inclusion.

To compete in the digital technology era, banking as a provider of financial services must be able to keep up with challenges and lead financial innovation using fintech in expanding financial markets or financial networks as a source of banking income, such as the use of mobile banking, internet banking, SMS banking and phone banking in terms of funding or lending.

As for funding activities in banking, it is a collection of funds from the public, usually collected in the form of deposits which are used, among others, namely savings, demand deposits, and deposits. Each bank has its own strategy so that its products sell well in the market. In addition to making attractive offers, banks usually also offer high interest rates and various supporting facilities. So that customers are free to choose the type of deposit that is suitable and in accordance with customer needs. The amount of funds collected from the public is not limited, so it is very profitable for the bank. With these unlimited funds, banks can obtain large funds to earn profits. Third party funds that have been collected by the bank are then channeled back to the community through the provision of credit.

This lending is also referred to as lending activities, lending in banking is a bank activity in allocating funds that have been collected from the public as loan funds. So that the community has an obligation to return these funds to the bank in accordance with the agreement between the two parties. Lending activities to customers are usually subject to interest. With the difference in interest received from the allocation of these funds, the bank can make a profit. Credit given to the community is not just given directly. Usually the bank performs various analyzes of customers who apply for loans.

The influence of bank funding and lending on economic growth is as an intermediary institution to collect funds which are then used to channel credit for both consumption and working capital, or investment, which will certainly boost purchasing power, business growth, and increase investment. The increase in the amount of third party funds as the main source of funds at banks places these funds in the form of earning assets such as credit. So that with an increase in third party funds, the level of lending will also increase and the company's profit will also increase. Then the interest rate can also increase the profit or profit of the company.

As an intermediary institution, banks are very vulnerable to inflation risk associated with the mobility of their funds. If a country experiences high inflation it will cause an increase in consumption, so that it will affect the pattern of saving and financing in society. These changes will have a negative impact on bank operational activities, the amount of funds collected from the public will decrease so that it will affect the performance of Islamic banks in obtaining income and generating profits (Sukirno, 2006).

State-owned banks are banks whose shares are wholly owned by the government. All bank capital is wholly owned by the government, so the profits are for the government as well. Banking companies especially those in Indonesia are experiencing very rapid business development, both in terms of business volume, mobilization of funds from the public and the level of profitability obtained. The profitability of a banking company shows the income that a company can generate in one or every period. Therefore it can be concluded that profitability is an aspect that reflects the ability of each company to generate profits.

Based on some of the elaborations above, therefore this research will discuss from the profit perspective of Bank BUMN KBMI 4, namely whether there is an influence with the emergence of fintech itself as well as its influence on economic growth in Indonesia.

## **2. METHODS**

This study uses secondary data in the form of panel data which consists of time series data from 2014 to 2021 and cross section data consisting of 3 BUMN Banks KBMI 4 in Indonesia. Data collection was carried

*The Effect of Financial Technology (Fintech) on Banking Financial Profits in Indonesia (Case Study on BUMN Bank KBMI 4), Anggy Khusnul Khatima*

out by means of a literature study (Library Research). The data analysis method used for this research model is the Panel Data Regression Analysis model using Eviews software.

So the following equation is obtained:

$$Y_{1,2,3} = f(X_1, X_2, X_3) \dots\dots\dots(3.1)$$

Where:

- X1 = Funding (rupiah)
- X2 = Lending (rupiah)
- X3 = Interest Rate (Percent)
- Y1,2,3 = Banking Profitability (ROA, NIM, LDR) (percent)

Based on the non-linear equation (3.1), it can then be transformed into a linear regression estimation equation for semi-logarithmic panel data as follows:

$$Y_{1,2,3} = \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \alpha_3 X_3 + \mu_1 \dots\dots\dots (3.1a)$$

However, before carrying out linear panel data regression, the researcher conducted a chow test to determine the best model for estimation, namely whether to use a fixed effect model or a common effect model.

### 3. RELUST AND DISCUSSION

The Chow test in this study aims to determine the best model between the Common Effect Model (CEM) or Fixed Effect Model (FEM) in estimating panel data. The Chow test is a test to compare the common effect model with the fixed effect (Widarjono, 2009). The basis for decision making in the Chow test is seen from the value of the probability cross-section F.

1. If the value of the probability cross section  $F > 0.05$ , then the model chosen is the common effect approach.
2. If the value of the probability cross section  $F < 0.05$ , then the selected model is the fixed effect approach. Below is a table showing the results of the chow test from the research data.

**Table 1.** Chow Test Results

Profitability Indicator	Effect Test	Statistics	Prob.	Information
ROA	Cross Section F	95.860898	0.0000	FEM Is Better Than CEM
	Cross Section Chi-Square	109.546596	0.0000	
NIM	Cross Section F	431.454009	0.0000	FEM Is Better Than CEM
	Cross Section Chi-Square	226.532036	0.0000	
LDR	Cross Section F	107.561267	0.0000	FEM Is Better Than CEM
	Cross Section Chi-Square	117.206763	0.0000	

*Source: Data Processed in EViews*

Table 1 shows the results of the Chow Test from the data of the research variables. The results of the Chow test show that the statistical values in the Cross Section F are each equal to 95.860898; 431.454009; 107.561267 and Cross Section Chi-Square with statistics 109.546596; 226.532036; and 117.206763 with a probability of 0.0000 for the three profitability indicators, namely ROA, NIM, and LDR. Because the Chi-Square Cross Section probability value is  $< 0.05$ , the fixed effect model is a better model than the common effect model.

The regression analysis tool with the Panel Data Regression method in this study was chosen because this model is an analytical method that can measure the effect of more than one predictor variable (independent variable) on the dependent variable where there are two combined time series and cross section data. Analysis Panel Data Regression uses the Eviews 12 program by looking at the effect of each

variable, namely Funding (X1), Lending (X2), and Interest Rates (X3) at each KBMI 4 Bank. The estimation results for the three KBMI 4 Banks can be seen in the three tables below.

**Table 2.** Estimation of Panel Data Regression Estimation of KBMI Bank Group 4

Variable	ROA		NIM		LDR	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
Ln_Funding (X1)	-0.068370	0.0000	-0.043051	0.0000	-0.857489	0.0000
Ln_Lending (X2)	0.037682	0.0009	0.025582	0.0033	0.888449	0.0000
Interest Rate (X3)	-0.001667	0.0918	0.001728	0.0000	0.011494	0.0022
C	0.582663	0.0000	0.399995	0.0000	0.223161	0.5280
Adjusted R-Square	0.699436		0.917795		0.828996	
F-Statistics Probability	0.0000		0.0000		0.0000	

Source: Data After Processing by Eviews 12

The regression equation in the panel data regression estimation model for the three indicators of Profitability of BUMN Banks KBMI 4 (ROA, NIM, LDR) in this study is as follows:

$$\text{ROA} = 0.582663 - 0.068370X_1 + 0.037682X_2 - 0.001667X_3 + \mu \dots (5.1)$$

$$\text{NIM} = 0.399995 - 0.043051X_1 + 0.025582X_2 + 0.001728X_3 + \mu \dots (5.2)$$

$$\text{LDR} = 0.223161 - 0.857489X_1 + 0.888449X_2 + 0.011494X_3 + \mu \dots (5.3)$$

The regression equation above is divided into three bank profitability indicators (ROA, NIM, and LDR) in the KBMI 4 Bank Group using the fixed effect model. Based on the regression equation above, it is known that the regression coefficient values of ROA, NIM, and LDR are each equal to 0.582663, 0.39995, and 0.223161 which means if all the independent variables in the model, namely Funding (X1), Lending (X2), and Interest Rates (X3) are 0 (zero), then the dependent variables in the model, namely ROA, NIM, and LDR (Y) are each equal to 0.582663, 0.39995, and 0.223161 percent.

Then, the regression coefficient for the Funding variable (X1) is negative, which means that Funding has a negative (opposite direction) effect on ROA, NIM, and LDR (Y) in banks in the KBMI 4 Bank group for the 2014-2021 period with the probability of each being below the level a significance of 0.05, namely 0.0000, which means that the results of the t test found that Funding (X1) has a significant negative effect on ROA, NIM, and LDR (Y). The regression coefficient of the Funding variable (X1) on ROA, NIM, and LDR in the KBMI 4 Bank group banks each is -0.068370, -0.043051, and -0.857489 meaning that if Funding in the KBMI 4 Bank group, namely BRI, Mandiri, and BNI, has increased by 1 percent, then ROA, NIM, and LDR have decreased, with a respective amount of 0.068370, 0.043051, and 0.857489 percent.

The regression coefficient of Lending (X2) shows that the regression coefficient is positive, which means it has a positive (unidirectional) effect on ROA, NIM, and LDR (Y) with each value of 0.037682, 0.025582, and 0.001728 which means that if Lending in the KBMI 4 Bank Group increases by 1 percent, ROA, NIM, and LDR will increase by 0.037682, 0.025582, and 0.001728 percent. It can be seen that the results of the t test on the Lending variable for ROA, NIM, and LDR show a probability value below the 0.05 significance level, namely 0.0009, 0.0033, and 0.0000, which means that Lending has a significant effect on ROA, NIM, and LDR in the KBMI Bank Group 4 (BRI, Mandiri and BNI).

Finally, the third independent variable is the interest rate (X3) with the regression coefficient value marked positive for NIM and LDR, but negative for ROA, which means that the interest rate (X3) has a unidirectional relationship with NIM and LDR, but not in the same direction as ROA. The value of the regression coefficient of the interest rate variable on ROA, NIM, and LDR is -0.001667, 0.001728, 0.011494 which means that if there is an increase in the interest rate (X3) by 1 unit, it will increase the value of NIM and LDR respectively by 0.001728 and 0.011494 percent as well as reducing the ROA value of the KBMI 4 Bank group by 0.001667. It can also be seen that the probability of regression of the interest rate variable (X3) on ROA is above the 0.05 significance level, which is 0.0918 meaning that the interest rate (X3) has no significant effect on ROA, while NIM and LDR show significant t-test results with values below the

*The Effect of Financial Technology (Fintech) on Banking Financial Profits in Indonesia (Case Study on BUMN Bank KBMI 4), Anggy Khusnul Khatima*

0.05 significance level, namely 0.0000 and 0.0022 respectively. Thus the interest rate (X3) has a significant and unidirectional influence on the NIM and LDR of the KBMI 4 Bank Group (BRI, Mandiri and BNI).

To see the effect of the independent variables, a simultaneous test was carried out (Test F). The F statistic test is used to show whether there is an effect of the independent variables included in the model having an effect together on the dependent variable. The probability value in this study for ROA, NIM, and LDR is 0.000000 which means it is smaller than the maximum error limit (significance level) that has been determined previously, namely 5 percent (0.05). So it can be concluded that the independent variables namely Funding, Lending, interest rates together have a significant effect on ROA, NIM, and LDR at Bank BRI, BNI, and Mandiri.

It can be seen in table 5.5 above that the effect of Funding (X1), Lending (X2), and Interest rates (X3) on Bank Profitability (Y) is measured using three indicators namely ROA, NIM, and LDR in the 4-period KBMI Bank Group 2014-2021 obtained Adjusted R<sup>2</sup> values of 0.699436, 0.917795, and 0.828996 respectively. This value indicates that variations in Funding, Lending, and interest rates are able to simultaneously explain the ROA, NIM, and LDR variables in the KBMI 4 Bank Group respectively of 69.9436%, 91.7795% and 82.8996% and the rest 30.0564%, 9.16695% and 17.1004% are determined by variables or other factors outside the model.

### 3.1 Discussion

#### a. Analysis and Implications of the Effect of Funding on the Profitability of BUMN Banking KBMI 4

The effect of Funding (X1) on Bank Profits as measured through three indicators, namely ROA, NIM, and LDR at KBMI 4 Banks (BRI, Mandiri, and BNI) found that Funding had a significant negative effect on both ROA, NIM, and LDR on KBMI Banks 4 (BRI, Mandiri and BNI). The results of this study are not in accordance with the initial hypothesis of the study which states that it is suspected that Funding has a positive and significant effect on bank profits.

Actually, Funding can have a significant negative effect on bank profits, because one of the funds owned by a bank comes from deposits. The results of research conducted by Fatimah (2019) state that deposit growth has a negative effect on profitability. This happens because the increase in third party funds means that the company will pay more interest on deposits to customers, causing bank profitability to decrease.

In line with that, Funding can also have a negative and significant effect on Bank Profits seen from the savings indicator. Psavings growth contrary to the growth in profitability of a bank because the interest costs that must be paid by the Bank will be greater and the operational costs that must be incurred are also greater. Therefore, an increase in funding from the savings side is not always in line with the profit received by the bank. The results of this study are in line with Cahyani's research (2013) which examined the Effects of Productive Asset Growth, Third Party Funds, and Company Size on the Profitability of Village Credit Institutions in Badung Regency.

#### b. Analysis and Implications of the Effect of Lending on the Profitability of BUMN Banking KBMI 4

The effect of Lending (X2) on Bank Profits as measured through three indicators, namely ROA, NIM, and LDR at KBMI 4 Banks (BRI, Mandiri, and BNI) found that Lending had a significant positive effect on ROA, NIM and LDR on KBMI 4 Banks (BRI, Mandiri and BNI). The results of this study are in line with the research of Firmansyah (2013) which says that Lending has a more dominant positive and significant effect on Banking Profitability. The results of this study indicate that the higher or smaller the lending activity will affect bank profitability.

Therefore Lending is the variable that has the greatest influence on banking profitability. This cannot be separated from the function of the bank, namely as an intermediary. The funds are then channeled back to people who need them in the form of credit. Credit distribution is the largest source of funds that is most relied on by banks (Dendawijaya, 2009). This is because one of the goals of the bank is to



make a profit, so the bank will not just idle its funds. Banks tend to channel their funds as much as possible in order to obtain maximum profits as well.

**c. Analysis and Implications of the Influence of Bank Interest Rates on Profitability of BUMN Banking KBMI 4**

The effect of interest rates (X3) on bank profits as measured by three indicators, namely ROA, NIM, and LDR at KBMI 4 banks (BRI, Mandiri, and BNI) found that interest rates dominantly have an influence on bank profits (ROA, NIM, and LDR) at KBMI 4 Banks (BRI, Mandiri, and BNI).

In the KBMI 4 Bank Group Interest rates (X3) have no effect on ROA. The results of this study support previous research from Putranti (2014) and Lailiyah (2017) which stated that interest rates have no effect on profitability with ROA ratios. This can happen because banks will still earn profits even though interest rates decrease, both from savings and deposits so that there is ambiguity in the results of the research estimation.

Meanwhile the results of this study obtained different results for the other two profitability indicators, where interest rates have a significant positive effect on NIM and LDR. This can happen because when there is an increase in interest rates, manufacturing companies and companies that have debt to banks will pay the interest, thereby increasing bank profits.

**4. CONCLUSION**

The research findings show that the Funding variable has a negative and significant effect on the profit of BUMN KBMI 4 Banks in Indonesia. This is because in bank third party funds there are also deposits where the greater the amount of deposits in a bank, the greater the amount of deposit interest that will be paid by the bank and will cause a decrease in the profitability of the three state-owned banks KBMI 4. The research findings show that *lending* has a positive and significant effect on the profit of BUMN Bank KBMI 4 in Indonesia. This shows that the greater the amount of credit extended to the public, the greater the profitability the banks will obtain because the distribution will return in the form of interest paid by the public to the BUMN Bank KBMI 4. The research findings show that the bank interest rate (X3) has a positive and significant effect on NIM and LDR, while ROA has no significant effect on state-owned banks KBMI 4 in Indonesia. Bank interest rates do not have a significant effect on ROA because banks will still earn profits even though interest rates decrease, both from savings and time deposits, resulting in ambiguity in the results of the research estimation.

**REFERENCES**

- [1] Ang, J.B. & McKibbin, W.J. (2007) "*Financial Liberalization, Financial Sector Development and Growth: Evidence from Malaysia*" Journal of Development Economics, 84.
- [2] Arcand, J., Berkes, E., & Panizza, U. (2012) "*Too much finance?*" IMF Research Department.
- [3] Assegaf, Z., Putri, A. M., & Syarief, A. (2014). Analisis Pengaruh Variabel Makro Ekonomi Terhadap Kinerja Keuangan Bank Syariah di Indonesia. Media Ekonomi Vol 22, No 2, 1-18.
- [4] Augier, L., Soedarmono, W., 2011. *Threshold effect and financial intermediation in economic development*. Economics Bulletin 31(1).
- [5] Aulia Urakhma, K. N. (2018). Analisis Pengaruh *Intellectual Capital* Dan Inovasi Layanan Perbankan Terhadap Profitabilitas Bank Syariah Di Indonesia (Doctoral dissertation, IAIN SALATIGA).
- [6] Bank Indonesia. (2013). Buku Panduan Ajar Ekonomi. Jakarta: Kementerian Pendidikan dan Kebudayaan.
- [7] Bank Indonesia. (2016). Rancangan Peraturan Bank Indonesia tentang Penyelenggaraan Pemrosesan Transaksi Pembayaran. Jakarta: Bank Indonesia.
- [8] Beck, T., Buyukkaraback, B., Rioja, F.K., & Valev, N.T. (2012) "*Who gets the credit? And does it matter? Household vs. firm lending across countries*" The B.E. Journal of Macroeconomics, 12.
- [9] Bencivenga, V.R., & Smith, B.D. (1991) "*Financial intermediation and endogenous growth*" Review of Economic Studies, 58.

*The Effect of Financial Technology (Fintech) on Banking Financial Profits in Indonesia (Case Study on BUMN Bank KBMI 4), Anggy Khusnul Khatima*

- [10] Boston Consulting Group. (2009). BCG Innovation 2009 Report. Boston: BCG.
- [11] Cahyani, Ni Putu Dian Prapita., Dana, I Made, 2014. "Pengaruh pertumbuhanaktiva produktif, dana pihak ketiga, dan ukuran perusahaan terhadap profitabilitas lembaga perkreditan desa di kabupaten Badung". Jurnal. 3(4), 1050-1065.
- [12] Chishti, S., & Barberis, J. (2016). *The Fintech book: The financial technology handbook for investors, entrepreneurs and visionaries*. John Wiley & Sons.
- [13] Erbaykal, E. dan Okuyan H. A. 2008. *Does Inflation Depress Economic Growth? Evidence from Turkey. International Research Journal of Finance and Economics*, 17, Pg. 40-48
- [14] Dendawijaya, Lukman. Manajemen Perbankan. (Jakarta: Ghaila Indonesia, 2009).
- [15] Fatimah, dkk. (2019). Pengaruh good corporate governance terhadap nilai perusahaan dengan kinerja keuangan sebagai variabel intervening. E-jurnal Riset manajemen Fakultas ekonomi Unisma.
- [16] Firmansyah, Ade. (2013). Analisis Pengaruh Dana Pihak Ketiga, Kecukupan Modal, Penyaluran Kredit, dan Efisiensi Operasi terhadap Profitabilitas Bank (Studikasuk Pada Bank Persero Periode Tahun 2009-2012)
- [17] Ghozali. (2011). Aplikasi Analisis Multivariate dengan Program SPSS. Semarang: Penerbit Universitas Diponegoro.
- [18] John Willey & Sons, "The Insurtech book: the insurance technology handbook for investors, entrepreneurs and FinTech Visionaries", (India : United Kingdom).
- [19] Lailiyah, Nur Hidayah. 2017. "Analisis Pengaruh Inflasi, Bi Rate, dan Nilai Tukar Mata Uang Asing terhadap Profitabilitas Pada Bank Syariah Periode 2011-2015". Insititut Agama Islam Negeri Surakarta.
- [20] Lee, D. K. C., & Low, L. (2018). *Inclusive fintech: blockchain, cryptocurrency and ICO*. World Scientific.
- [21] Mardiyanti, Umi, Gatot Nazir Ahmad dan Ria Putri. 2012. Pengaruh Kebijakan Dividen, Kebijakan Hutang dan Probabilitas terhadap Nilai Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (BEI) Periode 2005-2010. Jurnal Riset Manajemen Sains Indonesia (JRMSI), 3 (1): h:1-17.
- [22] Mitchell, Karlyn. "Capital adequacy at commercial banks." *Economic review* 69.Sep (1984).
- [23] Morgan, D. P., & Stiroh, K. J. (2001). *Market discipline of banks: The asset test. Journal of Financial Services Research*, 20(2).
- [24] Munawir. (2007). Analisa Laporan Keuangan. Yogyakarta: Liberty.
- [25] Okiro, K., & Ndungu, J. (2013). *The Impact of Mobile and Internet Banking on Performance and Financial Institution in Kenya*. European Scientific Journal May 2013 edition.
- [26] Pandy, I. M. (2005). *Financial Management*. New Delhi: Vikas Publishing House.
- [27] Peraturan Otoritas Jasa Keuangan (POJK) No. 13/POJK/02/2018, Inovasi Keuangan Digital di Sektor Jasa Keuangan.
- [28] Prasetyo, I. (2020). Analisis kinerja keuangan bank syariah dan bank konvensional di Indonesia. Jurnal aplikasi manajemen.
- [29] Putranti, Ratih Dwi. 2014. "Analisis Pengaruh BOPO, NIM, Suku Bunga, dan Nilai Tukar Valuta Asing terhadap Profitabilitas Bank Umum". Jurnal Akuntansi. Universitas Dian Nuswantoro, Semarang.
- [30] Purnama, A. (2017). Pengaruh Variabel Makroekonomi terhadap Profitabilitas Bank Syariah Non Devisa di Indonesia. Jurnal Ilmu Manajemen Volume 5 104 Nomor 2 Jurusan Manajemen Fakultas Ekonomi Universitas Negeri Surabaya, 1-8.
- [31] Puschmann, T. (2017). *Fintech. Business & Information Systems Engineering*.
- [32] R, D. (2001). *The Financial Performance of Pure Play Internet Banks. Econ Perspectives* (25).
- [33] Rahim, N. F., Bakri, M. H., & Yahaya, S. N. (2019). *Fintech and Shariah principles in smart contracts. In FinTech as a disruptive technology for financial institutions*. IGI Global.
- [34] Sahara, Ayu Yunita. 2013. Analisis Pengaruh Inflasi, Suku Bunga BI dan Produk Domestik Bruto terhadap Return On Assets (ROA) Bank Syariah di Indonesia. Jurnal Ilmu Manajemen Universitas Negeri Surabaya, Vol. 1 (1): 149-157.

- [35] Samargandi, N., Fidrmuc, J. and Ghosh, S. (2015) *“Is the relationship between financial development and economic growth monotonic? Evidence from a sample of middle income countries”* World Development, 68.
- [36] Sassi, S. and Gasmı, A. (2014) *“The effect of enterprise and household credit on economic growth: New evidence from European union countries”* Journal of Macroeconomics, 39.
- [37] Sayar, & Wolfe. (2007). *Internet banking market performance: Turkey versus the UK. International journal of bank marketing.*
- [38] Syafri Harahap, S. (2008). *Analisa Kritis atas Laporan Keuangan.* Jakarta: PT. Raja Grafindo Persada.
- [39] Syarifudin, R. (2014). *Pengaruh mobile banking terhadap kinerja perbankan Indonesia.*
- [40] Van Horne, J. C., & Wachowicz Jr, J. M. (2005). *Fundamentals of Financial Management.*