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Analysis of the Effects of Peer to Peer Lending to Rural Bank's Loan in Indonesia : Complimentary or Substitution?

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ABSTRACT

This study was conducted to analyze the impact of the growth of Peer to Peer Lending (P2PL) on the loan growth of Rural Bank during the Covid-19 pandemic. The research was conducted using loan distribution data from these two financial institutions for the year of 2020 and 2021. Previously, another study by Kohardinata et al. (2020) related to the analysis of the impact of P2PL on Rural Bank's loan after the signing of a memorandum of understanding between the Indonesian Fintech Association and the Indonesian Rural Banks Association using panel data regression with the loan distribution data of the year of 2018 and 2019, where in 2018 P2PL is a substitutive and in 2019 it is changed to be a complementary to the Rural Bank's loan. The results of this study indicate that P2PL is complementary to the Rural Bank's loan. This result is in line with the Indonesian Financial Services Authority's plan to collaborate the business model of both Rural Bank and P2PL. Furthermore, it is hoped that Indonesian Financial Services Authority as the regulator of financial institutions in Indonesia can make a standard provision as the basis for the collaboration between these two financial institutions.

1. INTRODUCTION

The innovation strategy cannot be separated from the technological aspect, where the technological aspect is an important element in strategic information systems and still has the opportunities that can be used to improve the performance of a company (Kohardinata et al., 2020; Hariyati, et al., 2019). One type of information technology that is best known and most widely used today is Financial Technology (fintech). Currently, fintech has become a separate phenomenon in modern life, where the rapid development of information technology that occurs in all parts of the world is maximized in various sectors, including the financial sector. The use of technology in the financial sector is accompanied by the emergence of various types of new technology infrastructure, resulting in various business model innovations in the financial sector.

In Indonesia, the fintech business model is divided into four types, that are financing, payment, wealth management, and capital market and insurance (Suryono et al., 2021). Based on data from the Indonesian Financial Services Authority (IFSA), which is the regulatory and supervisory agency for Financial Services Institutions in Indonesia, in 2021, 40% of all fintech which operating in Indonesia is the fintech based on funding businesses or more commonly known as the Peer to Peer Lending (P2PL).

According to Suryono et al. (2021), P2PL is a new business model that allows the meetings between borrowers and lenders in a single platform. P2PL also has an intermediation function like the intermediation function that has been owned by the banking sector. This causes the presence of P2PL to raise concerns for banking sector players, especially for Rural Banks which have almost the same target market as P2PL, which are the Micro, Small and Medium Enterprises (MSME) sector, as well as communities in suburban and rural areas.

When compared to commercial banks, rural banks have a more limited operational scope, so lending is the core business of rural banks. Based on IFSA data as of September 2021, there are 110 commercial bank entities in Indonesia with the total loan distribution of Rp11,157 trillion, while rural banks amount to 1,481 entities with a total credit distribution of Rp114.69 trillion.

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The presence of P2PL companies is considered to be a threat to the business continuity of the banking sector, especially the rural banks, on one hand, but on the other hand, there are some assumptions that the presence of P2PL can actually be a new opportunity for the development of the banking sector business, while at the same time increasing the level of financial inclusion. This is important because based on the results of the National Survey of Financial Literacy and Inclusion in Indonesia, the level of financial literacy and inclusion in Indonesia are classified as low at the Southeast Asian regional level, namely 30.03% for the literacy level and 76.19% for the financial inclusion level (IFSA, 2019). The level of financial inclusion that is higher than the level of financial literacy indicates a high potential risk because the use of financial products and services by the public is not accompanied by adequate knowledge about these financial products and services.

Based on previous research conducted by Kohardinata et al. (2020) regarding the impact of P2PL on rural bank's loan after the signing of a cooperation agreement between the Indonesian Fintech Association and the Indonesian Rural Banks Association in the final quarter of 2017, P2PL can act as a substitute and complementary to rural bank's loan. Based on the results obtained from panel data regression to 2018 loan distribution data, P2PL is a substitute for rural bank's loan, but in 2019 it is a complementary.

The Covid-19 pandemic that has occurred since March 2020 has had a negative impact on various sectors, including the financial sector. Various policies decided by the government to prevent the transmission of the Covid-19 virus have an impact on social restrictions, so that face-to-face business activities experience a setback, including banking activities. Rural banks that still run their business in conventional ways and rely on a direct approach to their target market are certain to experience difficulties in running their business. This is inversely proportional to P2PL, which is experiencing rapid progress because its business model is in accordance with the lifestyle of the community during the pandemic.

Based on the things that have been written previously, we want to know whether the Covid-19 pandemic has changed the complementary effect of P2PL on rural bank's loan as the results of previous research. Furthermore, it is known that Indonesia is an archipelagic country with a wide geographical range which causes IT infrastructure development to be not optimal and evenly distributed throughout the country, so we are interested in researching the impact of P2PL on rural bank's loan in each province of Indonesia and determining whether the impact is the same or different in each province.

It is hoped that this research can contribute to the literature in three ways. Firstly, as a reference for practitioners to be able to learn more about P2PL and rural bank. Secondly, as a study on the development of related topics as well as a source of reference. Thirdly, as a reference to regulators in setting standard provisions related to collaboration between P2PL and rural bank as the efforts made by the IFSA as the regulator of financial institutions in Indonesia to encourage cooperation between these two financial institutions.

2. THEORETICAL REVIEW

Rural bank are one type of bank in Indonesia that operates conventionally and is known to serve the market of rural communities and does not provide payment services (Kohardinata et al., 2020). Meanwhile, according to Wasiaturrahma et al. (2020), rural banks were initially classified as Microfinance Institutions (MFIs) in Indonesia, but after Law no. 7 of 1992 amended by Law no. 10 of 1998, rural banks are officially classified in the Indonesian banking sector, where in the law it is explained that rural banks run the same business as the banking business, both conventionally and Sharia, but do not provide services in payment traffic in their activities. Although it has been classified as a bank, there are some basic differences between rural banks and Commercial Banks, including the minimum required core capital for rural banks is less than the minimum core capital for Commercial Banks, besides that the target market for rural banks is limited to farmers, fishermen, small-scale traders, employees, retirees and lower-class people who are not covered by Commercial Bank services (Iswandari and Anan, 2015; Wasiaturrahma et al., 2020).

Based on the Indonesian Banking Statistics (2021), currently the number of rural banks in Indonesia is 1,481 entities, with more than 5,200 office networks spread throughout Indonesia. This causes rural



banks to be able to reach people to rural areas, even those that cannot be reached by commercial bank services. However, limited services and the distribution of credit that is not so wide raises many basic questions related to the impact of the presence of P2PL which also targets public markets that are not covered by Commercial Bank services (Kohardinata, et al., 2020).

Fintech is defined as the latest benefits in technology and changing business models that have the potential to transform the provision of financial services through the development of innovative instruments, channels and systems (World Bank Group, 2020). It can be said that fintech has the potential to disrupt the functioning of traditional financial markets by offering significant opportunities to increase the reach of its financial services to segments of society that have not been reached by formal financial services.

One type of Fintech is Peer to Peer Lending (P2PL). According to IFSA (2021), P2PL is a direct lending and borrowing service between lenders and borrowers based on information technology. P2PL allows financing to be channeled to individuals or MSMEs through applications, the prospective borrower's application is then processed and examined for feasibility through a credit score that can be obtained by an algorithm (Bollaert, et al., 2021).

The credit score research process is carried out as a step in the risk classification carried out by the P2PL implementing company in order to conduct an initial analysis as well as loan grade (Thakor, 2020). In this process, the P2PL organizing company simultaneously combines lenders with offers from borrowers who qualify as determined by the company. Basically, P2PL companies do not invest by providing loans to borrowers as is done by banks in general. Until the last quarter of 2021, there were 104 P2PL entities registered and licensed at the IFSA.

From the perspective of the consumer theory, a new service will function as a complementary service when used with other services and can replace the same existing service, while substitute products or services tend to have universal applications in order to replace other similar products or services. (Kohardinata, 2020; Phan et al., 2019; Aaker & Keller, et al. 1990).

The introduction of a complementary product or service can allow users to find other functions or added value from a pre-existing product or service, while substitute products are interchangeable (Zhang & Bockstedt, 2020).

According to Pindyck & Rubinfeld (2013), Consumer Behavior can describe how consumers allocate their funds to buy certain goods or services to improve their standard of living. This allocation can then affect the demand for these goods or services.

Wang et al. (2022) stated that Self Service Technologies (SST) in service and service sales systems lead to interface technologies that allow consumers to create their own service experiences without intervention from the service provider. SST provides the same benefits for service providers and service recipients, where for service providers SST can reduce costs, especially costs related to the number of workers, accuracy and operational working time, while for service recipients, it can increase comfort because privacy is maintained, and high flexibility because the interaction that occurs is human interaction with technology. Because of these advantages, SST began to be used by many people to then be able to replace direct human-to-human services in various services such as banking and retail.

Although SST is no longer a new thing introduced to modern society, the Covid-19 pandemic that occurred gave a great impetus to the public to be able to use SST (Wang et al., 2022). Fintech is one type of SST. The presence of Fintech and the rapid development of its products and services in the market, accompanied by Big Tech companies also joining alternative finance activities, have begun to lead to a new competitive environment in the financial industry, which has been dominated by stable financial institutions (Bellardini et al., 2021).

Related to the condition of the presence of P2PL in the rural bank's market, then P2PL can act as a complement or a substitute for rural bank's loan. In certain circumstances, such as in a condition where the banking sector is more stable and more liquid, P2PL and rural bank will not have the same customers so that they can operate together as a complement. Conversely, if the banking sector is less stable then P2PL will act as a direct substitute for rural bank's loan (Hodula, 2021).

Based on the results of IDC's Digital Transformation in Banking Study survey on Global Respondent Banks' Perceptions of the Presence of Fintech in 2016, 23.4% of respondents considered fintech as a threat or bank competitor, while 34.2% considered fintech as a party to work with (IFSA, 2021). Seeing the threat of P2PL to its business processes, the Rural Banks Association took the initiative to sign a cooperation agreement with the Indonesian Fintech Association in the last quarter of 2017 regarding cooperation opportunities that can be mutually beneficial for both parties (Kohardinata et al., 2020).

3. RESEARCH METHOD

This research is a descriptive research using secondary data obtained from several sources including IFSA and the Central Statistics Agency. The data in question are Rural Bank, P2PL and Commercial Bank loan data, as well as Gross Regional Domestic Income (GDP) data in 2020 and 2021 nationally and in 33 provinces in Indonesia, apart from North Kalimantan province, because for Commercial Bank credit data the position is 2020, the province of North Kalimantan has not been specifically classified.

This study uses panel data regression with the data used is the number of P2PL and rural banks loans nationally and in each province in Indonesia per position in 2020 and 2021 in order to see the effect of the Covid-19 pandemic on the credit growth of these two financial institutions both nationally and provincially.

The model used to examine the impact of P2PL on rural bank's loan growth is as follows :

$$LOANRB_{it} = +P2P_{jt} + LOANCB_{it} + GDP_t + \varepsilon_{ijt} \dots \quad (1)$$

where each variable indicates the test parameters as follows:

i indicates the provinces in Indonesia as listed in Table 3

j indicates island

t indicates month

ε_{ijt} describes random error containing other information not included in the study

$LOANRB_{it}$ is the percentage of monthly growth in each province

$P2P_{jt}$ is the percentage of monthly P2PL growth in each island

$LOANCB_{it}$ is a control variable that describes the monthly credit growth of commercial banks in each province

GDP_t representing GDP per month

Table 1. Test Variable

Variable	Measurement
Dependent Variable	
Rural Bank's Loan ($LOANRB$)	Rural Bank's loan monthly growth
Independent Variable	
P2PL (P2P)	P2PL accumulation monthly growth (<i>real growth</i>)
Control Variable	
Commercial Bank's Loan ($LOANCB$)	Commercial Bank Loan Monthly Growth
Gross Domestic Product (GDP)	GDP monthly growth



Panel data regression consists of Ordinary Least Square (OLS), fixed effects and random effects. Furthermore, the F-Test and Hausman Test were carried out to test the accuracy of the most suitable model to be used between random effects or fixed effects (Kohardinata et al., 2020; Dang, 2019). If the results of these two tests indicate that the random effect is a more appropriate model to use, then it can be continued by using the LaGrange Multiplier to test the accuracy of the method between OLS and random effects (Kohardinata, et al., 2020; Shawtari, 2018). Furthermore, autocorrelation and heteroscedacity problems can be detected and overcome with robust standard errors (Kohardinata, et al., 2020)

4. RESEARCH RESULT

Table 2 shows the results of data processing which contains a summary of descriptive statistics on research data in the position of January 2020 to December 2021, which is 24 months ($T = 24$) with a total of 792 observations ($N = 792$), which includes 33 provinces in Indonesia ($n=33$). On average, rural bank's loan growth in Indonesia (*LOANRB*) was 30,768 and ranged from 0.019 to 1,320,661. The average growth of P2PL (*P2P*) is 270,703 with a minimum value of 0.496 and a maximum value of 4,266,776. The average value of credit growth for commercial banks (*LOANCB*) is 1,685,122 with values ranging from 0.734 to 133,722,900. Meanwhile, the average GDP is 2,930.145 with the minimum and maximum numbers being 0.532 and 493,824.30.

Table 2. Descriptive Statistics

Variable	Mean (1)	Deviation Standars (2)	Min (3)	Max (4)
<i>LOANRB</i>	30,768	100,466	0,019	1.320,661
<i>P2P</i>	270,703	635,634	0,496	4.266,776
<i>LOANCB</i>	1.685,122	7.510,318	0,734	133.722,90
<i>PDRB</i>	2.930,145	25.051,97	0,532	493.824,30

(Source : research result)

Based on the available data, the mean for each test variable in Table 2, both in Panel A and B shows a positive value, which indicates a positive credit growth every month (Kohardinata et al., 2020) during the period from 2020 to 2021. This shows that the public's need for financing, as well as the provision of credit funds from financial institutions to the public, continues during the pandemic. In addition, the positive value which indicates credit growth is experiencing an increasing trend is in line with previous research conducted by Kohardinata et al. (2020), which obtained a positive mean value for the Rural Bank's loan variable every month due to the trend of Rural Bank's loan growth which continues to increase every month. Thus, it can be seen that the community has an interest in accessing credit through Rural Bank.

Furthermore, Table 3 shows the results of calculation and data processing per province, in particular the average value of credit growth for Rural Bank, P2PL, Commercial Banks and GDP, as follows:

Table 3. Descriptive Statistics

No	Province	<i>LOANRB</i>	<i>P2P</i>	<i>LOANCB</i>	<i>PDRB</i>
1	West Java	-52,11	1.598,40	1.064,70	-392,38
2	Banten	-0,74	623,51	223,21	-193,85
3	DKI Jakarta	16,95	1.664,43	-14.377,46	-510,26
4	DIY	34,67	62,53	102,55	328,39
5	Central Java	97,50	564,42	435,30	-100,69
6	West Java	3,70	699,97	-1.427,53	1.683,31
7	Bengkulu	0,11	11,22	137,18	176,30
8	Jambi	2,42	27,53	202,64	56,82
9	Acceh	-1,39	29,01	-119,16	309,32

Table 3. Descriptive Statistics (Continued)

No	Province	LOANRB	P2P	LOANCB	PDRB
10	North Sumatera	-3.93	148.65	-807.40	237.50
11	West Sumatera	1.98	42.61	161.42	243.86
12	Riau	-2.53	55.66	226.31	302.82
13	Riau Archipelago	-18.94	35.77	-16.69	247.98
14	South Sumatera	1.73	91.44	236.99	137.54
15	Babel	0.69	12.87	-122.50	205.05
16	Lampung	36.02	69.76	101.01	-203.42
17	South Kalimantan	-0.06	34.83	-258.94	344.12
18	West Kalimantan	3.93	30.92	181.53	445.16
19	East Kalimantan	0.10	56.01	-50.85	-464.83
20	Central Kalimantan	3.57	18.92	215.13	534.89
21	Central Sulawesi	1.13	16.29	122.59	597.95
22	South Sulawesi	-16.62	78.23	138.46	497.76
23	North Sulawesi	8.96	37.76	-8.70	622.13
24	South East Sulawesi	-0.79	16.36	144.26	413.87
25	West Sulawesi	0.14	4.86	62.29	169.46
26	Gorontalo	2.36	11.34	81.61	36.81
27	NTB	3.66	35.88	471.58	251.47
28	Bali	19.56	59.94	50.27	-124.98
29	NTT	2.37	9.10	172.29	331.15
30	Maluku	7.66	5.84	45.07	176.69
31	Papua	9.25	34.15	93.64	814.80
32	North Maluku	2.86	3.06	37.85	220.73
33	West Papua	1.66	5.30	53.28	217.70

(Source : Research Result)

Based on the data presented, the mean of each test variable in Table 3 in several provinces shows a positive value. The resulting positive value shows positive credit growth, both Rural Bank's loan, P2PL and Commercial Banks which show an increasing trend every month in 2020 and 2021. So it can be said that during the Covid-19 pandemic there was an increase in the number of Rural Bank's loan in those provinces. Meanwhile, there are nine provinces with a negative mean value of BPR credit growth. This shows that there was a downward trend in BPR credit growth in these provinces during the pandemic, while the growth of P2PL and commercial bank loans remained positive, which means an increase per month during the Covid-19 pandemic.

Furthermore, a multicollinearity test was conducted to show if there was a correlation between independent variables in a regression model. The results of the multicollinearity test are shown in Table 4

Table 4. Multicollinearity Test

Variable	VIF	1/VIF
Commercial Bank	1.27	0.785747
P2PL	1.27	0.786890
GDP	1.00	0.998088

(Source : Calculation Result)

Based on the results of the calculations carried out, the VIF value is low enough so that it can be ascertained that there is no multicollinear problem in the regression model used.



Furthermore, Hausman test and Chow test were also carried out with the results as shown in Table 5

Table 5. Uji Chow, Uji Hausman dan Variance Inflation Factor

	Result
Prob>F (Uji Chow)	0.0000
Prob>Chi2 (Hausman Test)	0.1230
VIF (<i>Variance Inflation Factor</i>)	1.18

(Source: Calculation result)

Hausman test is conducted to determine the best model between fixed effect or random effect with the result obtained is a value above 0.05 so that the best model used is random effect. Meanwhile, the Chow test was conducted to determine the best model between the common effect and the fixed effect and with the calculation results it was obtained that the value of Prob > F is smaller than 0.05 which means that the fixed effect is more effective to use.

Furthermore, data processing is carried out using equation (1) and the results are as set out in Table 6

Table 6. Results of Regression Analysis Between Variables

Variable	LOANRB(1)
P2PL	0.00705
LOANCB	0.00016
PDRB	-0.00002
Constant	28.641
R Square	0.0232

(Source : Calculation Result)

The growth of P2PL has a positive impact on Rural Bank's loan growth with a significance level of 0.0%. Meanwhile, commercial bank credit has a positive impact on rural bank loans with a significance of 0.0%. GDP does not have a very significant impact on Rural Bank's loan growth and the R-squared is 0.032.

Furthermore, data processing is also carried out using data per province with the results as shown in Table 7

Table 7. Results of Regression Analysis Between Variables

LOANRB Province	P2PL	LOANCB	PDB	Constant
West Java	0,02784	-0,00011	-0,00002	8.347,086
Banten	0,00392	-0,00027	-0,00006	392,456
DKI Jakarta	0,00408	-0,00002	-0,00011	-4.397, 307
DIY	0,00303	-0,00021	-0,00016	2.917,519
Central Java	0,00490	-0,00010	-0,00001	23.873,639
East Java	0,03981	-0,00018	-0,00001	5.787,433
Bengkulu	0,00229	-0,00037	-0,00017	-2.869,772
Jambi	0,00601	-0,00020	-0,00002	-2.274,760
Aceh	0,00102	-0,00018	-0,00004	-2.915,382
North Sumatera	0,00400	-0,00006	-0,00002	-2.431,141
West Sumatera	0,00425	-0,00019	-0,00004	-1.761,438
Riau	0,00178	-0,00026	-0,00001	-2.636,701
Kepri	0,00902	-0,00022	-0,00001	2.079,942
Sumsel	0,05440	-0,00014	-0,00009	-1.897,690

Table 7. Results of Regression Analysis Between Variables (Source : Calculation Result)(continued)

LOANRB Province	P2PL	LOANCB	PDB	Constant
Babel	0,00410	-0,00010	-0,00003	-2.830,525
Lampung	0,00830	-0,00020	-0,00011	6.835,841
South Kalimantan	0,00593	-0,00002	-0,00002	-2.607,656
West Kalimantan	0,00103	-0,00009	-0,00004	-2.269,379
East Kalimantan	0,00440	-0,00017	-0,00001	-3.244,792
Central Kalimantan	0,00104	-0,00029	-0,00002	-2.444,669
Central Sulawesi	0,00220	-0,00001	-0,00004	-789,616
South Sulawesi	0,00018	-0,00019	-0,00001	-1.042.212
North Sulawesi	0,00289	-0,00002	-0,00001	-1.706,876
South East Sulawesi	0,00103	-0,00007	-0,00016	-2.760,736
West Sulawesi	0,00300	-0,00013	-0,00008	-2.866,461
Gorontalo	0,00249	-0,00011	-0,00003	-2.873,571
NTB	0,00207	-0,00018	-0,00004	-1.834,768
Bali	0,00297	-0,00005	-0,00002	8.431,796
NTT	0,00739	-0,00019	-0,00011	-2.318,285
Maluku	0,00208	-0,00012	-0,00002	-1.000,747
Papua	0,00109	-0,00003	-0,00004	-1.827,845
North Maluku	0,00936	-0,00017	-0,00004	-2.714,272
West Papua	0,00207	-0,00003	-0,00002	-2.349,108

(Source : Calculation Result)

The results of this study indicate that the growth of P2PL in 2020 and 2021 has a positive effect on the growth of Rural Bank's loan. In other words, P2PL is complementary to Rural Bank's loan. This is contrary to previous research conducted by Kohardinata et al. (2019), where the impact of P2PL on Rural Bank's loan is positive and complementary after being substitutive in the previous year. This is related to the signing of a cooperation agreement between the Indonesian Fintech Association and the Indonesian Rural Banks Association at the end of 2017.

The positive values generated from the results of data processing with the above model indicate that the growth of P2PL has a positive impact on the growth of Rural Bank's loan, both nationally and per province. This can happen because previously a Cooperation Agreement was signed at the Rural Banks association level and the Fintech Association in 2017, besides that there has been a study related to the Rural Bank and P2PL cooperation mechanism that allows these two entities to work well and mutually benefit.

5. DISCUSSION

As we all know, the Covid-19 pandemic has drastically changed the lives of modern consumers (Zhang & Bockstedt, 2020). In addition, the pandemic has also had a direct impact that tends to be negative for the global economy. Since Covid-19 was declared a pandemic by the World Health Organization (WHO) in March 2020, humans have entered a new era of life where national borders are closed, the obligation to stay at home, the prohibition against mass activities in public areas, the occurrence of lockdown which causes disruption of human socioeconomic aspects (Siddik, 2020).

The Indonesian government has responded to the Covid-19 pandemic by issuing various policies, especially in the economic sector, which are expected to maintain Indonesia's economic conditions in an uncertain period. The government issued various economic stimulus, both fiscal and non-fiscal in order to handle the impact of Covid-19. Fiscal stimulus is implemented by way of tax relaxation, namely



PPh 21, PPh 22, PPh 25 and VAT refunds. Meanwhile, non-fiscal policies include simplifying export prohibitions and restrictions, simplifying import prohibitions and restrictions, and improving import-export process services through the development of the National Logistics System (NLS). Furthermore, the financial sector stimulus was carried out by IFSA by issuing POJK No. 11/POJK.03/2020 concerning National Economic Stimulus as a Countercyclical Policy for the Impact of the Spread of Corona Virus Disease 2019. The implication of this POJK is that the banking sector can implement policies that support economic growth stimulus for debtors affected by the spread of Covid-19. The stimulus policy in question includes the credit restructuring.

In the banking sector, banking credit growth has declined globally, this impact is increasingly felt in countries that have been badly affected by the pandemic. Nevertheless, there are several banks that can survive because they have good financial conditions, market structure and regulatory environment and can innovate by taking into account the needs of the community and the surrounding environment.

Indonesia is one of the countries that is a potential market for digital financial products in the world, however, the level of financial inclusion of the Indonesian people is still relatively low according to the results of the 2019 SNLKI. Most of the digital finance literature focuses on the positive consequences of using technology in the financial industry, where the consequences However, this technology also has a negative side if it is not properly regulated and supervised, and the community as users must have a high level of financial literacy and inclusion. This is what causes the level of financial literacy and inclusion to be important.

According to Thakor (2020), the use and utilization of technology in the financial sector is intended to:

1. Reduce the cost of matching parties to transactions
2. Achieve economies of scale in collecting and using big data
3. Achieve cheaper and safer information transition
4. Reduce verification costs

Fintech is the use of technology to provide and develop financial services (Thakor, 2020). Fintech provides financial services at more affordable prices for consumer welfare.

Meanwhile, P2PL is a product of business innovation in the banking sector, especially the credit business. As is well known, banks play a very important role as financial intermediaries in economic activity in almost all countries. Banks effectively convert public deposits they manage into various forms of investment and loans and therefore can support economic growth and social development (Cho & Chen, 2021). In a rapidly developing business environment, innovation is a must for companies to be able to improve their performance and stay afloat in the business environment. Companies that focus on continuous learning and innovation in accordance with the times must be able to integrate and configure internal and external capabilities so that they can continue to adapt to a rapidly changing environment. Thus, the company will get a large source of profit.

The P2PL platform provides alternative funding for the community, both individually and for Micro, Small and Medium Enterprises (MSMEs). These P2PL providers have a competitive advantage leading to substantive growth in lending volume and in the number of similar platforms. P2PL offers higher returns to lenders and wider access to people who have limited access to banking; however, this type of credit institution can perform much better than conventional financial institutions in the retail sector.

The pace of development of P2PL throughout the world, including in Indonesia, was even greater during the Covid-19 pandemic. With the provisions regarding social restrictions imposed by the government, people who need funds will find it difficult to visit the Bank's office and apply for credit. With this condition, P2PL is the only way out. This causes P2PL to develop very rapidly during the pandemic.

However, the P2PL business model is not without risks. With the various conveniences offered by the P2PL platform, there are various risks that may be detrimental to the customer and the P2PL provider company. For this reason, clearer and stricter regulations are needed related to the operations and supervision of P2PL companies in Indonesia.

The empirical test results presented in Tables 6 and 7 show that the growth in the number of P2PL loans in 2020 and 2021 has positive value for Rural Bank's loan growth, this means that P2PL is a complement for Rural Bank's loan.

This proves that the Covid-19 pandemic that has occurred has indeed affected the rate of credit growth of financial institutions. Especially P2PL and Rural Bank which have the same target market but run their business in very different ways; P2PL through an application, online, has easy requirements and does not require physical contact versus Rural Banks that run their business conventionally by making direct offers to their prospective customers, have several credit application requirements that are considered heavy, and the credit application process is relatively long.

From the perspective of consumer theory, people will tend to choose P2PL to apply for loans. P2PL tends to fulfill all three aspects of consumer theory, in this case, consumer preferences, budget constraints and consumer preferences. Regarding consumer preferences, a prospective debtor of these two financial institutions will consider many things before finally deciding which institution to borrow funds from. Things to consider include the speed of the process from the beginning of the loan application to the process of disbursing funds, time effectiveness, interest rates, accessibility and related to social restrictions related to preventing the transmission of the Corona virus which is intensively carried out by the government. Furthermore, related to budget constraints, people will tend to choose P2PL because its services tend to be cheaper because it is application-based. Prospective debtors do not need to pay for a trip to the bank office, doubling of proof of identity and many other things required by the BPR. This is what causes the number of P2PL credits to increase rapidly during the pandemic. However, the rapid development of P2PL has not caused a significant impact on BPRs because there has been an agreement between Fintech associations and BPR associations, and there are studies that lead to collaboration between Rural Banks and Fintechs carried out by IFSA so that the positive value obtained indicates that P2PL is complementary to Rural Bank's loan, although if viewed from the perspective of consumer theory, P2PL meets various community preferences as mentioned above.

Data processing of P2PL and BPR credit which is carried out nationally to see the impact of the presence of P2PL on BPR credit growth is also carried out in every province in Indonesia. This is done because of the assumption that Indonesia is an archipelagic country with a wide span of geographical control and causes uneven distribution of development, especially information technology infrastructure. However, after processing the data, the results show that the impact of P2PL on BPR credit growth in every province in Indonesia is the same as the results obtained nationally, which is positive based on credit data for 2020 and 2021.

6. CONCLUSION

Based on the results of research conducted, it can be concluded several things as follows:

The Covid-19 pandemic that occurred in early 2020 also affected the growth of P2PL and the growth of BPR credit, where various policies related to social restrictions affected people's preferences in choosing financial products and services. Based on the results of data processing, it is seen that P2PL has experienced a significant growth when compared to the growth of BPR credit. However, the growth of P2PL is positive for Rural Bank's loan growth, so it can be said that P2PL is complementary to Rural Bank's loan.

Calculations are also carried out using data per province to see the impact of P2PL on Rural Bank's loan based on credit data in 2020 and 2021 and the results of data processing show that the impact of P2PL on Rural Bank's loan is the same in all provinces in Indonesia, which is complementary.

Based on the results of existing research, there are several recommendations for related parties as follows:

The results of this study can then be used as a reference for practitioners to be able to study the relationship between P2PL and Rural Bank as well as the factors that can affect the substitutive and



complementary relationship between these two institutions.

The results of data processing and analysis show that the growth of P2PL during the pandemic, namely in 2020 and 2021 has a negative value on Rural Bank's loan, so it is hoped that future researchers can conduct the same research using data from 2022 onwards to see the relationship between the two institutions finance in the post-pandemic period.

For regulators of financial services institutions in Indonesia, in this case the IFSA, in order to issue a standard regulation related to cooperation between P2PL and Rural Banks, so that these two financial institutions can work together to achieve maximum results.

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