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## Comparison Analysis of Peer-to-Peer Lending Performance During COVID-19 Activity Restrictions in Indonesia

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**Abstract:** In recent years the peer-to-peer lending industry has been popular and growing in Indonesia, however activity restrictions due to Covid 19 had an impact on the global economy, especially on financial institutions including peer-to-peer lending. The Indonesian government has determined activity restrictions due to Covid-19 in March 2020 and activity restrictions will be lifted in December 2023. Researchers conducted an analysis to see the stability of peer-to-peer lending by comparing performance data of peer-to-peer lending companies through loan default and the number of loan distributions in the period before, during and after there were no restrictions on Covid 19 activities. The sample in this study used a purposive sampling technique of 72 samples of monthly peer-to-peer lending statistical data that had been registered and supervised by Otoritas Jasa Keuangan in 2018-2023, research was conducted using the General Linear Model Repeated Measure Test and the Friedman Test to determine whether there were significant differences between the three groups, namely the period before, during and after there were no restrictions on Covid 19 activities. The results of the analysis showed that there were significant differences in the loan default statistical values between the group before and during restrictions, the group after and during the Covid 19 pandemic restrictions with p values respectively 0.012 and 0.005. The average amount of loan disbursement has increased every year, but it was found that there was no significant difference between conditions before and during the Covid-19 pandemic restrictions.

**Keyword:** *Loan Default, Loan Disbursement, Peer-to-peer lending, Covid-19*

## INTRODUCTION

The development of technology and information has contributed to innovation in the Non-Bank Financial Industry, specifically in peer-to-peer lending. P2P lending services have made borrowing and lending easier over the past few years by facilitating direct connections between lenders and borrowers without the involvement of traditional banks. The advancement of information technology supports the acceleration of P2P lending by making it accessible online. P2P lending platforms can perform more accurate credit risk evaluations

and extend credit access to consumers who are underserved by traditional banks. P2P lending is considered to be more efficient than the average banking group, due to technology enabling precise credit evaluations, more complex algorithms, and alternative data sources that conventional financial institutions like banks cannot access (Hughes et al., 2022).

According to a study on the characteristics of P2P lending borrowers in China by (Lin et al., 2017), 10 out of 14 variables, including gender, age, marital status, education level, length of employment, company size, monthly payment, loan amount, debt-to-income ratio, and records of defaults over seven days in the past, influence loan defaults in P2P lending. Smaller companies, by structure, are riskier and have higher interest rates compared to other secured loans with restrictions (De Roure et al., 2022). Research by (Butler et al., 2017) found a relationship between banking and P2P lending, indicating that borrowers with good financial data request lower interest rates from P2P lending platforms. Thus, as a substitute for traditional banking, P2P lending offers the advantage of credit flexibility.

On December 31, 2019, the Wuhan Health Commission reported the first case of coronavirus spread, noting a cluster of pneumonia cases in Wuhan, Hubei Province, China. On January 10, 2020, the WHO issued comprehensive technical guidelines on detecting, testing, and managing potential COVID-19 cases, based on previous encounters with Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (WHO, 2024). The first coronavirus case in Indonesia was announced on March 2, 2020, by President Joko Widodo. Subsequently, the COVID-19 pandemic was declared a national emergency on March 10, 2020, and a Task Force for the Acceleration of COVID-19 Handling was formed.

Activity restrictions due to COVID-19 impacted the global economy, causing economic contraction in Indonesia by -2.07% in 2020 compared to economic growth in 2019. According to data from the Central Statistics Agency (BPS), Indonesia's Gross Domestic Product (GDP) in 2020 experienced the largest contraction in the transportation industry, at -15.04%, while the health services industry saw positive growth at 11.60%, followed by the information technology industry with growth of 10.58% (Badan Pusat Statistik Indonesia, 2021). Measures to curb the spread of COVID-19 included restricting human mobility in each country through lockdowns. These restrictions disrupted supply and demand, leading to permanent business closures (Yu et al., 2022). Government lockdown policies affected GDP growth in various countries, with a more significant impact on developing countries compared to developed ones. Globalization has shown that countries are interconnected, resulting in economic downturns affecting all nations (Gagnon et al., 2023).

Consumer credit data in Lithuania indicates significant growth in P2P lending, with a 700% increase in volume and a 300% increase in loan amounts when comparing data from 2020 to 2016. This significant growth does not reflect the market share of P2P lending in the financial industry, as the P2P lending market segment only accounts for 5% to 10% of total loans in Lithuania. The COVID-19 pandemic caused a decline in the number and nominal value of loans by 20% in the second quarter of 2020, but there was an increase in both the number and volume of loans in the third and fourth quarters (Taujanskaitė & Milčius, 2022).

The research conducted by (Anh et al., 2021) on Lending Club, the largest peer-to-peer lending platform in the United States, investigated the relationship between loan default status and COVID-19. The study found that loan defaults were related to borrower characteristics, loan characteristics, and credit assessment characteristics. COVID-19 significantly impacted peer-to-peer lending, with notable differences in total loan volume and loan default status in Lending Club's data from 2017 to 2020. Similarly, research by (Nigmonov & Shams, 2021) on the Mintos lending market examined the effects of COVID-19 on the probability of loan defaults. Their findings indicated that the pandemic increased the likelihood of loan defaults, with regression tests showing a rise in default probability from

0.056 before COVID-19 to 0.079 after the onset of the pandemic. This significant impact was particularly evident between May and June 2020.

Previous research has identified a gap in the literature regarding the impact of COVID-19 on peer-to-peer lending in Indonesia. While prior studies have examined the relationship between COVID-19 and loan defaults in the United States and other lending markets, there is a significant lack of studies investigating the differences in loan amounts and default rates before, during, and after COVID-19 activity restrictions in Indonesia. This research is necessary to understand how the pandemic has affected loan performance and borrower behavior in Indonesia, which will provide a more comprehensive global perspective on the impact of COVID-19 on the peer-to-peer lending industry.

The research aims to achieve the following objectives: to identify the differences in the amount of loans issued by peer-to-peer lending companies in Indonesia before, during, and after the activity restrictions imposed due to COVID-19, and to examine the variations in loan defaults by these companies across the same time periods. This involves a comparative analysis of loan amounts and default rates, providing insights into how the pandemic and its associated restrictions impacted the peer-to-peer lending sector in Indonesia.

## **METHOD**

This study adopts a comparative analytical approach with a quantitative method using secondary data from publications of peer-to-peer lending companies registered with the Financial Services Authority. It compares the data on loan disbursement amounts and loan defaults among peer-to-peer lending companies during the periods before, during, and after COVID-19 restrictions in Indonesia. Both primary and secondary data are utilized, with secondary data obtained from peer-to-peer lending statistics in Indonesia registered with the Financial Services Authority, covering the period from 2018 to 2023. These data are examined to identify differences in loan defaults and loan disbursement amounts among peer-to-peer lending companies during the periods before, during, and after COVID-19 restrictions. The population of the study consists of all peer-to-peer lending companies in Indonesia registered and supervised by the Financial Services Authority. The sample is selected using purposive sampling, consisting of 72 monthly statistical data samples of peer-to-peer lending registered and supervised by the Financial Services Authority from 2018 to 2023. The main focus of the research is on loan defaults and loan disbursement amounts among peer-to-peer lending companies in Indonesia during three different periods (before COVID-19 restrictions, during COVID-19 restrictions, and after the removal of COVID-19 restrictions). Data collection was conducted in Jakarta in February 2024, using aggregated secondary statistical data on peer-to-peer lending in Indonesia obtained from the official website of the Financial Services Authority covering the period from 2018 to 2023. Data processing involves descriptive analysis to provide an overview of the performance of peer-to-peer lending companies before, during, and after COVID-19 restrictions. Comparative analysis is then conducted by comparing the mean values between groups at different times to identify differences among these groups. The groups referred to are the peer-to-peer lending data during the periods before restrictions, during restrictions, and after the removal of COVID-19 restrictions.

## **RESULTS AND DISCUSSION**

### **Normality Test Results**

Normality tests are conducted to assess whether data are normally distributed or not. Data are said to have a normal distribution if the p-value is greater than 0.05. If the data consist of 50 or fewer observations, the Shapiro-Wilk test is used. Conversely, the Kolmogorov-Smirnov test is used if the data consist of more than 50 observations. Table 4.4

shows the distribution of normal data on the number of loan disbursements with significant p-values  $> 0.05$ , while the distribution of non-normal data is observed in the loan default normality test because one of the variables has a p-value  $\leq 0.05$ . Table 4.5 presents the distribution of normal data on the number of loan disbursements by geographical area (Java and non-Java), with significant p-values  $> 0.05$ .

**Table 1. Normality Test Results Data**

Period of Covid-19 Restrictions	Number (n)	P Value
<b>Loan Disbursements</b>		
Before	12	0,099*
During	12	0,073*
After	12	0,240*
<b>Loan Default</b>		
Before	12	0,327*
During	12	0,368*
After	12	0,009

Note: Normality test using Shapiro-Wilk test; \*p-Value $\geq 0.05$  indicates normal data distribution

**Table 2. Normality Test Results for Java and Non-Java Regions**

Period of Covid-19 Restrictions	Number (n)	P Value
<b>Java</b>		
Before	12	0,090*
During	12	0,107*
After	12	0,410*
<b>Non Java</b>		
Before	12	0,162*
During	12	0,196*
After	12	0,472*

Note: Normality test using Shapiro-Wilk test; \*p-Value $\geq 0.05$  indicates normal data distribution

### General Linear Model – Repeated Measure Test Results

The GLM Repeated Measure test was conducted to observe differences among several groups with normal data distribution. Tables 4.4 and 4.5 display the normal data distribution in the amount of loan disbursement. There are significant differences in the amount of loan disbursement provided by peer-to-peer lending in Indonesia during the periods before, during, and after the COVID-19 restrictions. The p-value as an indicator shows 0.001 with a significance level of  $\leq 0.05$ , indicating that there are at least two groups with significantly different loan disbursement amounts. A post hoc pairwise comparisons test shown in Table 4.7 was conducted to examine the significant differences between groups in more detail. The results of this test indicate a significant difference between the post-restriction period compared to the pre-restriction and during restriction periods, with a p-value of 0.001. However, there is no significant difference in loan disbursement between the pre-restriction and during restriction periods, with a p-value of 0.784.

**Table 3. GLM Repeated Measure Test Results of Loan Disbursement Amount Peer-to-Peer Lending in Indonesia**

COVID-19 Restriction Period	Number (n)	Mean $\pm$ SD (Billion Rupiah)	p-Value
Before	12	5,507.91 $\pm$ 1,448.45	0.001
During	12	6,176.80 $\pm$ 2,632.67	

After	12	19,594.87 ± 1,730.62
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Note: The GLM Repeated Measure test indicates significant differences with a p-value < 0.05.

**Table 4. Post Hoc Pairwise Comparisons Test Results of Loan Disbursement Amount Peer-to-Peer Lending in Indonesia**

COVID-19 Restriction Period	Number (n)	p-Value
		Before
Before	12	-
During	12	0.784
After	12	0.001

Note: The Post Hoc Pairwise Comparisons test indicates significant differences with a p-value < 0.05.

**Table 5. GLM Repeated Measure Test Results of Loan Disbursement Amount Peer-to-Peer Lending in Java Region**

COVID-19 Restriction Period	Number (n)	Mean ± SD (Billion Rupiah)	p-Value
Before	12	4,698.13 ± 1,230.12	0.001
During	12	5,188.27 ± 2,041.13	
After	12	15,261.45 ± 1,238.66	

Note: The GLM Repeated Measure test indicates significant differences with a p-value < 0.05.

**Table 6. Post Hoc Pairwise Comparisons Test Results of Loan Disbursement Amount Peer-to-Peer Lending in Java Region**

COVID-19 Restriction Period	Number (n)	p-Value
		Before
Before	12	-
During	12	0.853
After	12	0.001

Note: The Post Hoc Pairwise Comparisons test indicates significant differences with a p-value < 0.05.

There are significant differences in the amount of loan disbursement provided by peer-to-peer lending in the Java region during the periods before, during, and after the COVID-19 restrictions. The p-value as an indicator shows 0.001 with a significance level of  $\leq 0.05$ , indicating that there are at least two groups with significantly different loan disbursement amounts. A post hoc pairwise comparisons test shown in Table 4.9 was conducted to examine the significant differences between groups in more detail. The results of this test indicate a significant difference between the post-restriction period compared to the pre-restriction and during restriction periods, with a p-value of 0.001. However, there is no significant difference in loan disbursement between the pre-restriction and during restriction periods, with a p-value of 0.853.

### Friedman Test Results on Loan Default

The Friedman test conducted on the loan default variable shows a significant difference with a p-value of 0.013, as seen in Table 4.12. The Wilcoxon test was subsequently performed to examine the differences between the groups. Table 4.13 reveals that there are significant differences between the pre-restriction and during restriction periods, and between the post-restriction and during restriction periods of the COVID-19 pandemic, with p-values of 0.012 and 0.005, respectively. There is no significant difference in loan defaults between the pre-restriction and post-restriction periods, with a p-value of 0.480.

**Table 7. Friedman Test Results on Loan Default in Peer-to-Peer Lending**

Period	Number (n)	Mean (Min – Max)	p-Value
Before	12	2.82% (1.57% - 3.98%)	0.013



During	12	5.70% (1.59% - 8.88%)
After	12	2.96% (2.69% - 3.47%)

Note: The Friedman test indicates significant differences with a p-value < 0.05.

**Table 8. Wilcoxon Test Results on Loan Default in Peer-to-Peer Lending**

Period	Number (n)	p-Value
		Before
Before	12	-
During	12	0.012
After	12	0.480

Note: The Wilcoxon test indicates significant differences with a p-value < 0.05.

**Table 9. GLM Repeated Measure Test Results of Loan Disbursement Amount**  
Peer-to-Peer Lending in Non-Java Region

COVID-19 Restriction Period	Number (n)	Mean $\pm$ SD (Billion Rupiah)	p-Value
Before	12	809.77 $\pm$ 220.27	0.001
During	12	988.53 $\pm$ 626.37	
After	12	4,333.42 $\pm$ 537.45	

Note: The GLM Repeated Measure test indicates significant differences with a p-value < 0.05.

**Table 10. Post Hoc Pairwise Comparisons Test Results of Loan Disbursement Amount**  
Peer-to-Peer Lending in Non-Java Region

COVID-19 Restriction Period	Number (n)	p-Value
		Before
Before	12	-
During	12	0.734
After	12	0.001

Note: The Post Hoc Pairwise Comparisons test indicates significant differences with a p-value < 0.05.

There are significant differences in the amount of loan disbursement provided by peer-to-peer lending in the Non-Java region during the periods before, during, and after the COVID-19 restrictions. The p-value as an indicator shows 0.001 with a significance level of  $\leq 0.05$ , indicating that there are at least two groups with significantly different loan disbursement amounts. A post hoc pairwise comparisons test shown in Table 4.11 was conducted to examine the significant differences between groups in more detail. The results of this test indicate a significant difference between the post-restriction period compared to the pre-restriction and during restriction periods, with a p-value of 0.001. However, there is no significant difference in loan disbursement between the pre-restriction and during restriction periods, with a p-value of 0.734.

## Hypothesis Testing

### Discussion on Loan Disbursement Analysis

On average, there was an increase in the amount of loan disbursement during the periods before, during, and after the COVID-19 restrictions. The comparative test conducted showed a p-value of 0.001 with a significance level of  $\leq 0.05$ , indicating that at least two groups had significantly different amounts of loan disbursement. The post hoc pairwise comparisons test was conducted to examine the significant differences between groups in more detail. The results indicated a significant difference between the period after the COVID-19 restrictions and the periods before and during the restrictions, with a p-value of 0.001. However, there was no significant difference in loan disbursement between the periods before and during the COVID-19 restrictions, with a general p-value of 0.784, a p-value of 0.853 for the Java region, and a p-value of 0.734 for the Non-Java region. Therefore, the first

hypothesis (H1) is rejected, indicating no significant difference in loan disbursement between the periods before and during the COVID-19 restrictions, consistently across all regions in Indonesia, including Java and Non-Java.

These results are consistent with the tests conducted on the loan disbursement amounts of peer-to-peer lending companies in Indonesia, both in general and specifically in the Java and Non-Java regions. These findings do not align with previous research that suggested that the average loan transaction amounts in the peer-to-peer lending sector were higher before the COVID-19 pandemic compared to during the pandemic (Subagia & Effendi, 2023). Research by (Cumming et al., 2022) indicated that the total loan amount significantly decreased during the COVID-19 period, with an average decline of 57% compared to the period before COVID-19. In contrast, the current study found that, on average, the amount of loan disbursement increased across the periods before, during, and after the COVID-19 restrictions. However, the difference between the periods before and during the restrictions was not significant, suggesting that loan disbursement did not vary greatly during these periods due to risk considerations related to borrowers' ability to repay loans during the pandemic. The increase in loan disbursement after the COVID-19 restrictions indicates a significant stabilization of economic activity in Indonesia.

### **Discussion on Loan Default Analysis**

There is a significant difference in loan defaults for peer-to-peer lending companies in Indonesia during the periods before, during, and after the COVID-19 restrictions. The minimum and maximum loan default rates during the restriction period show a large disparity, with values of 1.32% and 8.88%, respectively. This resulted in a higher standard deviation of 2.37% during this period compared to before and after the restrictions. The comparative test conducted showed significant differences between the periods before and during the restrictions, and between the periods after and during the COVID-19 restrictions, with p-values of 0.012 and 0.005, respectively. Therefore, the second hypothesis (H1) is accepted, indicating a significant difference with p-values  $\leq 0.005$  in loan defaults for peer-to-peer lending between the periods before and during the restrictions, and after and during the COVID-19 restrictions in Indonesia.

These findings are consistent with previous research that found an increase in the probability of loan default during the COVID-19 period. (Nigmonov & Shams, 2021) found that the probability of loan default increased from 0.056 before COVID-19 to 0.079 after COVID-19. Other studies on peer-to-peer lending in Indonesia during COVID-19 also showed significant differences in non-performing loan (NPL) rates before and after the onset of COVID-19 (Louise & Yanuar, 2022; Situmorang et al., 2023).

The researcher found that the average loan default rate was higher during the first 12 months of the restrictions, at 5.70%. The increase in loan defaults for peer-to-peer lending in Indonesia during the COVID-19 restriction period was a result of mobility restrictions that affected supply and demand, consistent with the research by (Yu et al., 2022). The risk of increased loan defaults can occur in both retail and business consumer segments. In 2019, economic and business activities were generally stable, but conditions declined in 2020 with the onset of the COVID-19 pandemic. For example, businesses in the hotel industry, which had business-to-business partnerships, faced significant loan defaults due to closures and layoffs or furloughs when the hotel business shut down.

### **CONCLUSION**

The activity restrictions during the COVID-19 pandemic had a significant impact on the loan defaults of peer-to-peer lending companies in Indonesia, with an average loan default rate of 3.16% and a maximum rate of 8.88% occurring in August 2020. The amount of loan

disbursement by peer-to-peer lending companies in Indonesia increased annually from 2018 to 2023. There was a significant difference in the amount of loan disbursement between the periods during and after the COVID-19 restrictions across all regions in Indonesia, including both Java and Non-Java regions. However, there was no significant difference in loan disbursement amounts between the periods before and during the COVID-19 restrictions, consistently observed across all regions in Indonesia, including both Java and Non-Java regions.

## REFERENCES

- Anh, N. T. T., Hanh, P. T. M., & Le Thu, V. T. (2021). Default in the US peer-to-peer market with covid-19 pandemic update: An empirical analysis from lending club platform. *International Journal of Entrepreneurship*, 25(7), 1–19.
- Badan Pusat Statistik Indonesia. (2021). *Ekonomi Indonesia 2020 Turun sebesar 2,07 Persen (c-to-c)*. <https://www.bps.go.id/id/pressrelease/2021/02/05/1811/ekonomi-indonesia-2020-turun-sebesar-2-07-persen--c-to-c-.html>
- Butler, A. W., Cornaggia, J., & Gurun, U. G. (2017). Do Local Capital Market Conditions Affect Consumers' Borrowing Decisions? *Management Science*, 63(12), 4175–4187. <https://doi.org/10.1287/mnsc.2016.2560>
- Cumming, D. J., Martinez-Salgueiro, A., Reardon, R. S., & Sewaid, A. (2022). COVID-19 bust, policy response, and rebound: Equity crowdfunding and P2P versus banks. *The Journal of Technology Transfer*, 47(6), 1825–1846. <https://doi.org/10.1007/s10961-021-09899-6>
- De Roure, C., Pelizzon, L., & Thakor, A. (2022). P2P Lenders versus Banks: Cream Skimming or Bottom Fishing? *The Review of Corporate Finance Studies*, 11(2), 213–262. <https://doi.org/10.1093/rcfs/cfab026>
- Gagnon, J. E., Kamin, S. B., & Kearns, J. (2023). The impact of the COVID-19 pandemic on global GDP growth. *Journal of the Japanese and International Economies*, 68, 101258. <https://doi.org/10.1016/j.jjie.2023.101258>
- Hughes, J. P., Jagtiani, J., & Moon, C.-G. (2022). Consumer lending efficiency: Commercial banks versus a fintech lender. *Financial Innovation*, 8(1), 38. <https://doi.org/10.1186/s40854-021-00326-1>
- Lin, X., Li, X., & Zheng, Z. (2017). Evaluating borrower's default risk in peer-to-peer lending: Evidence from a lending platform in China. *Applied Economics*, 49(35), 3538–3545. <https://doi.org/10.1080/00036846.2016.1262526>
- Louise, L., & Yanuar, Y. (2022). Pengaruh Covid-19 terhadap Pertumbuhan Fintech Pinjaman di Indonesia. *Jurnal Manajemen Bisnis Dan Kewirausahaan*, 6(3), 283. <https://doi.org/10.24912/jmbk.v6i3.18660>
- Nigmonov, A., & Shams, S. (2021). COVID-19 pandemic risk and probability of loan default: Evidence from marketplace lending market. *Financial Innovation*, 7(1), 83. <https://doi.org/10.1186/s40854-021-00300-x>
- Situmorang, K., Siregar, H., Zulfainarni, N., & Sembel, R. H. M. (2023). Performance Mapping Of Fintech Peer To Peer Lending (P2PL) in Indonesia. *Jurnal Aplikasi Bisnis Dan Manajemen (JABM)*, 9(2), Article 2. <https://doi.org/10.17358/jabm.9.2.501>
- Subagia, I., & Effendi, K. A. (2023). Analisis Pertumbuhan Fintech Sebelum dan Saat Pandemi Covid-19 di Indonesia. *Owner*, 7(4), 3052–3062. <https://doi.org/10.33395/owner.v7i4.1668>
- Taujanskaitė, K., & Milčius, E. (2022). Accelerated Growth of Peer-to-Peer Lending and Its Impact on the Consumer Credit Market: Evidence from Lithuania. *Economies*, 10(9), 210. <https://doi.org/10.3390/economies10090210>



- WHO. (2024). *Timeline: WHO's COVID-19 response*.  
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline>
- Yu, Z., Razzaq, A., Rehman, A., Shah, A., Jameel, K., & Mor, R. S. (2022). Disruption in global supply chain and socio-economic shocks: A lesson from COVID-19 for sustainable production and consumption. *Operations Management Research*, 15(1–2), 233–248. <https://doi.org/10.1007/s12063-021-00179-y>