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THE IMPACT OF COVID-19 PANDEMIC ON BANKS IN INDONESIA: COMPARATIVE ANALYSIS

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Abstract

This study aimed to determine the conditions of the digital transaction sector, financial system stability, financial inclusion, and bank health ratios before and after the COVID-19 pandemic and their impact on digital transactions, financial system stability, financial inclusion, and banking health ratios in Indonesia.

The research method used is the descriptive comparative analysis method. The analysis used in this study is the average difference test analysis using the paired samples t-test. The results of the study show that digital transactions during the COVID-19 pandemic did not have a significant impact on reducing electronic money. The COVID-19 pandemic significantly impacted lowering average inflation and interest rates (BI7DRR). Furthermore, the COVID-19 pandemic substantially affected reducing average public savings. However, it did not considerably influence the decrease in the average public loan. The COVID-19 pandemic has significantly reduced the average bank soundness ratio as measured by Return on Assets (ROA) and Loan to Deposit Ratio (LDR).

Keywords: COVID-19 Pandemic, Digital Transactions, Financial System Stability, Financial Inclusion, Bank Health Ratio.

A. INTRODUCTION

The COVID-19 virus spread globally in December 2019. The WHO classifies COVID-19 as a zoonotic respiratory virus. As of June 28, 2020, COVID-19 had infected 218 nations, including Indonesia. COVID-19 has impacted tourism, industry, transportation, trade, health care, and banking (Rosita, 2020). Liquidity difficulties caused by the COVID-19 epidemic have caused financial instability. To reduce their risk of catching COVID-19, people must identify alternatives that require fewer interactions (Gading et al., 2022). The solution to government laws that restrict people's movement is electronic money. Conversely, the pandemic has diminished the population's purchasing power due to lower incomes.

During the COVID-19 pandemic, there was an increase in the use of e-money transactions. People prefer to use e-money to minimize physical contact, which can impact the spread of the Covid-19 virus. During the COVID-19 epidemic, Bank Indonesia data indicates a rise from IDR 15.04 trillion to IDR 17.52 trillion in April 2020 (Zahara et al., 2021). Consumers are using electronic money more due to the COVID-19 epidemic. Indonesia's second-quarter 2020 GDP growth was -5.32%, indicating a recession. Despite weak statistics, economic growth is predicted to be minus 2% to 0% next quarter. Indonesia's financial stability may be disturbed. It is because COVID-19 will burden banks (Arianto, 2021). Because of this, the Financial System Stability Committee is careful during a pandemic. The COVID-19 epidemic has crippled MSMEs, commerce, and revenue. Public consumption decreased due to declining buying power—supply and low buying power caused inflation (Rizal, 2021). Inflation fell throughout the epidemic, hurting Indonesia's economy. Under current conditions, commodities prices continue to fall due to a demand-supply mismatch. The situation might slow, paralyze, and uncontrol economic activities. Inflation stayed constant until May 2020 (Bidari et al., 2020). March inflation was 2.96%. Gold jewellery and shallots are pushing inflation this month. Gold jewellery, oranges, chicken eggs, granulated sugar, shallots, kale, spinach, rice with side dishes, and home fuel contributed 0.01%. Red chillies, bird's eye chillies, garlic, tomatoes, broiler chicken, cooking oil, and plane travel deflated. April inflation was 2.7%. May declined by 2.19%. Despite government social assistance, May's inflation rate fell due to low buying power (Hidayanti et al., 2021; Purwahita et al., 2021).

Financial inclusion shows the effects of COVID-19 on bank deposits, current accounts, and time deposits, as well as digital transactions and the financial system's stability (Yanti et al., 2022). Bank savings show how the COVID-19 pandemic affected financial inclusion. During the pandemic, interest rates were reduced to boost public consumption and economic recovery. Before the Indonesian pandemic, general savings decreased in January 2020 and increased in February. Soundness ratios show how savings and loans impact bank liquidity. Loan To Deposit Ratio (LDR) assesses bank health. LDR compares all bank loans and money. Credit-based liquidity evaluates a bank's capacity to repay depositors (Octaviani & Andriyani, 2018).

Before the COVID-19 pandemic, Bank Indonesia infused IDR 583.5 trillion into the money market and banks to secure liquidity for economic recovery and sustainable interest rate decreases (Al Amin, 2020). December 2019 reached 94.43%, indicating aggressive banking in extending credit. LDR in March 2020 was 92.55%, down from February. This LDR value shows that banks do not provide credit. In April 2020, it reached 92.18%, indicating tighter liquidity was weighing on Indonesian banks (OJK, 2020). A high LDR means banks aggressively extend credit, consistent with credit restructuring or lowering interest rates. However, liquidity under current conditions is still under control. Until May 2020, some banks chose to refrain from extending credit and focus on improving asset quality through restructuring, as indicated by a decrease in the LDR figure in May to 90.94% (OJK, 2020). In this case, the bank continues extending credit more cautiously.

The impact on the financial sector, post-COVID-19 pandemic policies, and financial sector indicators have developed since before the pandemic. Because everyone's condition is different and cannot be seen with the naked eye, data must be processed to assess the impact.

Based on the above analysis, this study aims to determine the conditions and effects of the monetary-finance sector, including digital transactions, financial system stability, financial inclusion, and bank soundness ratios, before and after the COVID-19 pandemic.

B. LITERATURE REVIEW

The urgency of a national emergency prompted the enactment of Presidential Decree No. 12 of 2020, which has an impact on the health and economy of Indonesia. The COVID-19 pandemic has slowed the Indonesian economy, which is at risk of a recession. The spread of COVID-19 cannot be controlled, so the president has declared it a non-natural national disaster in Presidential Decree No. 12 of 2020 concerning the Stipulation of Non-Natural Disasters for the Spread of COVID-19. Non-natural disasters due to the spread of COVID-19 have increased the number of victims and property loss and expanded the coverage of areas affected by disasters. WHO defines COVID-19 as a global pandemic (Valerisha & Putra, 2020).

Economic stability, particularly in the monetary-finance sector, is fundamental and has become one of the targets for the implications of the COVID-19 pandemic. From the point of view of the financial sector, the pandemic has had many effects. One of these effects is digital transactions or non-cash payments made by the public during a pandemic. It is the result of limiting public activities to stop the spread of COVID-19. According to Bank Indonesia (2018), non-cash payment instruments are transactions where payment does not use cash but instead uses cash as a means of payment, such as checks, demand deposits, credit cards, debit cards, and electronic money (Parastiti et al., 2015). People's transactions will be affected by the COVID-19 pandemic because policies like work-from-home (WFH), large-scale social restrictions or lockdowns, and other policies that will directly affect public consumption during a pandemic will be put in place. (Fahrika & Roy, 2020).

Fatoni et al. (2020) showed that implementing large-scale social restrictions during the pandemic changed consumer behaviour from physical shopping to online shopping, increasing online sales (Fatoni et al., 2020). Data Analytics Advertising (ADA) noted that online shopping applications increased by up to 300% when social distancing was implemented (Sulistyo et al., 2021). Non-cash transaction indicators can affect transaction growth. The impact of the financial sector is not visible. On the one hand, the lockdown plan can increase digital purchases or transactions. However, on the other hand, it reduces people's income and purchasing power, so statistics and research are needed to verify the decline or increase in digital transactions (Chaerani et al., 2020).

COVID-19 has undermined financial system stability, inflation, and interest rates (BI 7-Day Reserve Repo Rate). Financial system stability shows public trust. Toamain's research (2020) shows price spikes in Maluku Province in January and February 2020, followed by the COVID-19 pandemic in March and April 2020 (Toamain, 2020). Yamali and Putri's research (2020) shows the impact of the pandemic on the economic sector. It can be seen from: 1) massive layoffs, namely around 1.5 million workers, 2) a decrease in the Indonesian Manufacturing Purchasing Managers Index, which reached 45.3% in March 2020, 3) a decrease in imports of 3.7% in the first quarter, and 4) inflation which reached 2.96% year-on-year due to pumpkin prices. The COVID-19 pandemic will not be dangerous if the country has a well-structured plan. When a country is not ready to face the COVID-19 pandemic, it will result in financial system instability and a crisis that risks collapsing the economic system.

The COVID-19 pandemic can affect banking, such as deposits, third-party funds, and bank loans. During an epidemic, the government restructures credit, changing the amount owed. Indicator interest rates can affect public deposits and loans. When the monetary authority lowers interest rates because of the pandemic, people will prefer to borrow rather than save. Amajihono (2020) found that lowering loan interest rates reduces loans. It happened because no one took credit during the COVID-19 pandemic, or the demand for credit fell.

Financial inclusion (savings and loans) will affect a bank's soundness ratio. Unbalanced loans and public deposits affect the LDR (loan-to-deposit ratio), which measures a bank's ability to meet its obligations on time. Return on assets (ROA) measures a bank's profitability based on its investments. According to Iswahyuni (2021), the COVID-19 pandemic has had an impact on several sectors, including 1) the economy with economic growth of -0.4%, 2) a decline in the export-import sector, 3) a decrease in MSME profits and 4) the exchange rate the rupiah depreciated against the US dollar. Credit slowdowns, asset quality declines, and tightening net interest margins have hit the banking sector hard.

In this study, the COVID-19 pandemic indirectly impacts digital transactions, financial system stability, financial inclusion, and bank health ratios. In other words, the COVID-19 pandemic is not the same as quantitative data or COVID-19 death data. Instead, the COVID-19 pandemic is only a confounding indicator variable for the time before and after the event. From the above explanation, the hypotheses in this study are:
H1: The COVID-19 pandemic has had an impact on digital transactions.
H2: The COVID-19 pandemic has had an impact on financial system stability.
H3: The COVID-19 pandemic has had an impact on financial inclusion.
H4: The COVID-19 pandemic has had an impact on bank health ratios.

C. RESEARCH METHOD

The research was done using quantitative methods and comparative descriptive analysis. This method tries to determine whether there are independent variables without comparing them or looking for relationships between them and other variables (Zakariah et al., 2020). Population data using statistical reports of Bank Indonesia (BI) and the Financial Services Authority (OJK) on August 2019 until September 2021. Sample using Digital Transactions (ATM/Debit, Credit Cards and Electronic Money), Financial System Stability (M1, Inflation and Interest Rates), Financial Inclusion (Savings and Loans) and Bank Health Ratio (ROA and LDR) August 2019 until September 2020. The data used in this research is secondary time series data. Data collection procedures use library research, documentary research, journal reference indexing in Scopus or Sinta and online research. This study uses linear regression analysis, while the development and testing of hypotheses use the Statistical Package for the Social Sciences (SPSS). The research analysis technique uses the normality test approach and paired sample t-test, while the constructs in this study use exogenous and endogenous constructs.

D. RESULTS AND DISCUSSION

This study looks at digital transactions (electronic money), the stability of the financial system (inflation and interest rates), financial inclusion (savings and loans), and bank health ratios (ROA and LDR) from August 2019 to September 2020.

1. **Analysis of Electronic Money Conditions Before and After the COVID-19 Pandemic**

Easy-to-use electronic money transfers are popular with millennials. Before COVID-19, e-money transactions increased quickly. Indonesia's financial inclusion, financial and digital literacy, and electronic money transactions have increased during the past 11 years. Bank Indonesia data from August 2019 shows IDR 12.88 trillion in fluctuating electronic money (MTM) transactions before the COVID-19 pandemic.

Table 1 Result of Electronic Money Conditions

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	before the pandemic,	15.3100	7	1.46786	.55480
	after the pandemic	16.2229	7	1.24178	.46935

Based on the table above, it can be explained that the average value of electronic money transactions before the Covid-19 pandemic was 15.3100, while the average value after the Covid-19 pandemic was 16.2229. It means that, descriptively, there is an average difference in electronic money transactions before and after the Covid-19 pandemic. The number of samples used in the study was seven months. The standard deviation for electronic money before the Covid-19 pandemic was 1.46789, and the standard deviation after the covid-19 pandemic was 1.24178. The standard error for average electronic money before the Covid-19 pandemic19 is 0.55480, and after the Covid-19 pandemic is 0.46935.

After the COVID-19 pandemic hit, Indonesia and people's movements decreased, and restrictions on public activities became a policy to stop its spread. Digital transactions are a practical choice so that economic operations can continue to run efficiently even though mobility is reduced. Figure 1 from Bank Indonesia shows that digital money transactions have increased during the pandemic. The uptrend in April 2020 was triggered by internet shopping and the Sunday fasting month. Also, payment system service providers are used to speed up the delivery of non-cash social assistance programs to the community as part of efforts to expand government programs.

Based on the results of the statistical table, the average value of electronic money before the pandemic was smaller than the average after the COVID-19 pandemic, and the significant value was in the paired sample t-test. The test table was at a level of significance of 95% (probability 0.05), which was 0.276 > 0.05. It means that the COVID-19 pandemic impacts changes in the average electronic money transaction when viewed from the average change that occurs. But if it is looked at the COVID-19 pandemic in terms of its importance, it hasn't affected the average number of electronic money transactions in Indonesia.

The expansion of electronic money transactions, driven by limited community activities, made digital e-money transactions an alternative to transactions during a pandemic. Of course, this condition caused the frequency and nominal value of transactions to continue to increase compared to before the COVID-19 pandemic. In addition, transaction electronification to support government programs in accelerating the distribution of social assistance programs is being carried out and intensified with Payment System Service Providers through electronic acceleration. However, electronification in increasing electronic money has a less significant effect. It is because many assistance program recipients are accepted by the lower class, which tends to understand financial literacy still not when making non-cash transactions or payments. As a result, people prefer to get cash assistance at the relevant bank.

2. Analysis of Inflation Rates Before and After the COVID-19 Pandemic

Inflation before the COVID-19 pandemic had a monthly negative trend, although the decline was still within reasonable limits and the 3%–1% target. August inflation was 3.49 percent. Inflation was caused by price increases in most of the expenditure group indices, including processed food, beverages, cigarettes, and tobacco (0.26%), housing, water, electricity, gas, and fuel (0.23%), apparel (0.88%), health (0.59%), and education, recreation, and sports (1.21%). The food and transportation, communication, and financial services groups experienced a decline in the index. In September 2019, inflation fell to 3.39 percent due to lower food costs (1.97 percent). October inflation was 3.13 percent. Suhariyanto, Head of BPS, said many commodities have slightly increased this month. Cayenne pepper and purebred chicken meat experienced the most growth. In November 2019, inflation was recorded at 3%, well under control due to declining core inflation and stable government-regulated price inflation. Bank Indonesia ensures price stability and strengthens central and regional policy cooperation. In December 2019, inflation fell to 2.72 percent, the lowest since 1999 but still within target limits. Due to the year-end holidays and higher demand between Christmas and New Year, prices will increase this month, as will air freight rates. Inflation was under control until January 2020. Most spending indices rose in price this month, while the transportation and education indices fell. In February 2020, it rose to 2.98 percent. This month, low-core inflation, government-regulated price deflation, and falling food prices all contributed to inflation. Despite the increase in January, inflation remains under control.

Table 2 Inflation Rate Before and After the COVID-19 Pandemic

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	before the pandemic,	3.0557	7	.30783	.11635
	after the pandemic	2.0086	7	.63483	.23994

Based on the table above, it can be explained that the average inflation rate value before the Covid-19 pandemic was 3.0557, while the average value after the Covid-19 pandemic was 2.0086. It means that, descriptively, there is a difference in the average inflation rate before and after the Covid-19 pandemic. The number of samples used in the study was seven months. The standard deviation of the inflation rate before the Covid-19 pandemic was 0.30783, and the standard deviation after the Covid-19 pandemic was 0.63483. The standard error for the average inflation rate before the covid-19 pandemic 19 is 0.11635, and after the Covid-19 pandemic is 0.23994.

After the COVID-19 pandemic, inflation decreased from March to September 2020 but rose in September. Transportation (0.43%) and technology, communication, and financial services (0.09%) had the highest inflation rates in March 2020, at 2.96% and 0.09%, respectively. Air freight rate cuts were the most deflating. Service inflation is the highest. In April 2020, inflation dropped from 2.67% in March. Core and food inflation and government-regulated price deflation slowed this. Shallot prices fell while sugar and gold jewellery prices rose. Bank Indonesia's unwavering stance of controlling inflation expectations and cutting domestic demand owing to the COVID-19 pandemic lowered core inflation. In May 2020, inflation was 2.19%, lower than Ramadan and Idul Fitri before the COVID-19 pandemic. COVID-19, continuous BI inflation policies, and low commodity prices affected this. Garlic, red chillies, oranges, air freight rates, cayenne pepper, granulated sugar, gold jewellery, and cooking oil deflated in June 2020, lowering inflation to 1.96%. Purebred birds, eggs, and tomatoes inflate. Bank Indonesia will collaborate with the government and authorities to monitor COVID-19's impact on the Indonesian economy. July-September 2020 inflation was 1.54%, 1.32%, and 1.42%. COVID-19 will lower inflation to a 50-year low. Bank Indonesia predicts 2019 inflation below 2%. Three months of low Indonesian inflation In July, shallots and flight fares deflated, while in August, gold prices rose, inflating. Demand-supply dynamics, currency rates, commodity prices, trading partner inflation, and trader and consumer expectations affect this inflation.

Based on the results of the statistical table, the average value of the inflation rate before the pandemic was more significant than the average after the COVID-19 pandemic, and the significant value was in the paired sample t-test. The test table at the significance level of 95% (probability 0.05) equals 0.000 < 0.05. It means that the COVID-19 pandemic has significantly impacted reducing Indonesia's average inflation rate. The significant research results on a decrease in the average inflation rate indicate that the price stability of goods and services is in a reasonably unstable condition because it continues to experience contractions, one of which is caused by slowing domestic demand in line with the continuing impact of the COVID-19 pandemic, which has caused a decrease in people buying during a pandemic so that it affects the instability of the price level of goods and services. Because of this, the government must keep working with different monetary policies to keep prices stable on the market.

3. Analysis of Interest Rate (BI7DRR) Before and After the COVID-19 Pandemic

The monthly Board of Governors meeting examined BI7DRR's circumstances and surroundings, influencing this decision (RDG). In September 2019, BI7DRR dropped from 5.50% to 5.25%. Given global financial market circumstances and Indonesia's external stability, this reduction matches projections of low inflation. The Fed's 25-basis-point interest rate cut in response to a worldwide economic slowdown may help boost the rupiah. In October 2019, Bank Indonesia cut its benchmark interest rate to 5%. Bank Indonesia relaxed its monetary policy four times in 2019. No, even as the global economy falters and a preemptive attempt is made to enhance domestic economic development momentum. Exchange rates declined by 25 basis points to 4.75 percent in February 2020. COVID-19 is delaying global economic recovery, which maintains domestic economic growth.

Table 3 BI-7 days Deserve Repo Rate Before and After the COVID-19 Pandemic

		N	Mean Rank	Sum of Ranks
after pandemic - Before pandemic	Negative Ranks	7[a]	4.00	28.00
	Positive Ranks	0[b]	.00	.00
	Ties	0[c]		
	Total	7		

Based on the table above, it can be explained that there are negative Ranks interest rates before and after the Covid-19 pandemic. Here there are seven negative data (N), which means that the 7 data have decreased from before the Covid-19 pandemic to the value after the Covid-19 pandemic. The Mean Rank or average decrease is 4.00, while the number of negative rankings or Sum of Ranks is 28.00. The positive Rank or difference (positive) between interest rates before and after the Covid-19 pandemic is 0, in the value of N, Mean Rank, and Sum of Ranks. It shows that there has been no increase (addition) from before the Covid-19 pandemic to after the Covid-19 pandemic. Ties are the similarity of values before and after the Covid-19 pandemic; the Ties value in the table is 0, so it can be said that there are no similar values between before and after the Covid-19 pandemic. COVID-19 undermines economic recovery, trade volume, commodity pricing, and capital flows to developing nations like Indonesia. Bank Indonesia again decreased the policy mix by 25 basis points to 4.50% in March 2020 to protect the money market and financial system from COVID-19 till May 2020. Bank Indonesia will lower its benchmark rate to 4.25 percent in June 2020. Considering low inflation, external pressure, and stability, Bank Indonesia cut interest rates by 25 basis points to help economic recovery in the COVID-19 era. The COVID-19 epidemic slowed economic recovery; thus, it was lowered to 4% in July 2020 and kept until September 2020. Accelerating fiscal stimulus helps Bank Indonesia increase monetary policy synergy.

Based on manual calculations, the average value of interest rates before the COVID-19 pandemic was 5.0714. The average value after the COVID-19 pandemic was 4.2500, and the research results in the Wilcoxon Signed Rank Test hypothesis test table indicate the significance value is 0.016 < 0.05. It means that the COVID-19 pandemic has had a significant effect on lowering Indonesia's average interest rate. Expansionary monetary policy, namely reducing the BI-7 Day Reserve Repo Rate reference rate, indicates that the COVID-19 pandemic national disaster has an impact on the domestic economy, which requires the relevant authorities to carry out this policy to maintain the momentum of domestic economic growth, external stability, money market stability, and the financial system. Finance and to help stop the spread of COVID-19 when the chances of global economic recovery are dim, and the financial market is uncertain.

4. Analysis of Community Savings Conditions Before and After the COVID-19 Pandemic

Monthly savings growth continued to increase, although it decreased slightly in January and increased in February 2020. August 2019, IDR 4,836 trillion, IDR 4,889 trillion, IDR 4,904 trillion, IDR 4,971 trillion, and IDR 5.011 trillion. Before COVID-19, Indonesia's savings increased faster than credit. In August, September, and December, third-party funds showed quite good progress. It relates to the banking system in 2019, which is quite good, allowing people to trust banks with their assets. Fiscal policy also increases bank liquidity. Third-party funds decreased to IDR 4,945 trillion in January 2020. This decrease mainly occurred in accounts with deposits of up to IDR 2 billion, which were affected by the decline in the LPS deposit guarantee rate and the fact that bank deposit rates continued to decline. The trend is downward, albeit slower, after the downward trend in benchmark interest rates has ended. BI monitors the liquidity and stability of the banking system. LPS only guarantees deposits up to IDR 2 billion and provides guaranteed interest rates. Meanwhile, February deposits grew to IDR 4.995 trillion.

Table 4 Community Savings Before and After the COVID-19 Pandemic

	Mean	N	Std. Deviation	Std. Error Mean
before the pandemic	4935.86	7	62.776	23.727
after pandemic	5206.29	7	159.456	60.269

Based on the table above, it can be explained that the average value of public savings before the Covid-19 pandemic was 4935.86, while the average value after the Covid-19 pandemic was 5206.29. It means that, descriptively, there is a difference in average public savings before and after the Covid-19 pandemic. The number of samples used in the study was seven months. The standard deviation for public savings before the COVID-19 pandemic was 62,776, and the standard deviation after the COVID-19 pandemic was 156,456. The standard error for the average public savings before the Covid-19 pandemic was 23,727; after the Covid-19 pandemic, it was 60,269.

When COVID-19 hit the scene in March 2020, bank deposits jumped significantly. Concerns about pandemic-related withdrawals from bank deposits are unjustified because deposits are constant. Figure 4 shows how data is stored after COVID-19. March through September 2020 saw an increase in savings. March-June 2020 data: IDR 5,068 trillion, IDR 5,057 trillion, IDR 5,090 trillion, and IDR 5,187 trillion. July–September 2020: IDR 5.208 trillion, IDR 5.352 trillion, and IDR 5.482 trillion. The increase in public savings is multiplying despite falling interest rates, which is attractive. This condition is inversely proportional to the state that savings must contract when interest rates fall. However, various other things affected this condition, such as the COVID-19 national disaster, which reduced consumption and income. Due to the uncertainty of COVID-19, people are becoming more frugal. In mid-2020, due to the pandemic, people, especially those with significant funds, slowed their consumption and investment spending. This growth indicates more stable banking liquidity, even though the government has injected fiscal policy in the second half of 2020.

Based on the results of the statistical table, the average saving value before the pandemic was smaller than the average after the COVID-19 pandemic, and the significant value was in the paired sample t-test. The test table was at a significance level of 95% (probability 0.05), which was 0.001 < 0,05. It means that the COVID-19 pandemic has significantly impacted increasing average savings in Indonesia. The study's findings show that the uncertainty of the COVID-19 pandemic influences people's attitudes toward asset management, such as limiting public spending during the pandemic and reducing the portion of consumption to income, which impacts the expansion of shared savings in the face of declining interest rates.

5. Analysis of Community Loan Conditions Before and After the COVID-19 Pandemic

As bank deposits rose, growth in government loans slowed before and after COVID-19. Loan data before the COVID-19 pandemic fluctuated quite a bit, with increases and decreases from August 2019–November 2019. Total loans were IDR 4,849 trillion, IDR 4,842 trillion, IDR 4,840 trillion, and IDR 4,859 trillion. Dry banking liquidity overshadowed credit growth. Bank Indonesia lowered its benchmark interest rate for two consecutive months, assuming that reducing the statutory reserves would boost bank credit. This reduction in the benchmark interest rate does not directly stimulate lending. Bank Indonesia and the government also urged banks to lower lending rates because they were relatively low compared to falling deposit rates. Loans from December 2019 to February 2020 amounted to IDR 4,936 trillion, IDR 4,837 trillion and IDR 4,837 trillion.

Table 5 Community Loan Before and After the COVID-19 Pandemic

		N	Mean Rank	Sum of Ranks
after the pandemic - before pandemic	Negative	4[a]	4.50	18.00
	Positive Ranks	3[b]	3.33	10.00
	Ties	0[c]		
	Total	7		

Based on the table above, it can be explained that there are negative Ranks loans before and after the Covid-19 pandemic. Here there are four negative data (N), which means that the 4 data have decreased from before the Covid-19 pandemic to the value after the Covid-19 pandemic. The Mean Rank or average decrease is 4.50, while the number of negative rankings or Sum of Ranks is 18.00. There is a positive Rank between loans before and after the Covid-19 pandemic. There are three positive data (N), which means that the 3 data have increased from before the Covid-19 pandemic to the value after the Covid-19 pandemic. The Mean Rank or average increase is 3.33, while the number of positive rankings or Sum of Ranks is 10.00. Ties are the similarity of values before and after the covid-19 pandemic; the value of the tie in the table is 0, so it can be said that there are not the same values before and after the covid-19 pandemic.

The strategy of easing credit in 2020 through collateral, credit ceilings, and credit requirements is expected to increase the decline in demand for credit due to the COVID-19 pandemic. However, the projected increase is limited compared to last year. Bank credit growth shrank; corporate and individual lending declined. Investment financing has slowed down, especially in the manufacturing, trade, hotel, and restaurant sectors. Post-pandemic conditions have affected government policy. March-August 2020 data shows a decrease in total loans. After the COVID-19 pandemic, credit growth slowed due to weak domestic demand and banker conservatism in lending.

Based on manual calculations, the average value of community loans before the COVID-19 pandemic was $4857.14. The average after the COVID-19 pandemic was $4830.86, and the study results on the Wilcoxon Signed Rank Test had a significance value of 0.497 > 0.05. It means the COVID-19 pandemic has affected average public loan changes compared to moderate changes. However, when viewed from the perspective of the significance of the COVID-19 pandemic, it did not significantly impact reducing the average public loan in Indonesia. The contraction that occurred in general loans was due to a decrease in demand for credit in conditions of uncertain public income receipts, so loans were not the main alternative in the situations that occurred because of several things that were feared, such as default. In addition, the government has set up a restructuring policy that has taken place. However, demand for it is still limited due to declining domestic demand and banks being less aggressive for fear of customer default. However, it was noted that liquidity was still in a safe position due to continuous injections by Bank Indonesia by reducing the banking minimum statutory reserves. Therefore, the contraction in public loans during the pandemic was insignificant.

6. Analysis of Return on Assets (ROA) Conditions Before and After the COVID-19 Pandemic

Bank Indonesia has gradually cut its benchmark interest rate. The opportunity for banks to grow their net profit because the strategy of cutting interest rates will not directly affect lending rates but will now reduce deposit rates, benefiting banks but with unlimited credit distribution. Before the pandemic, the ROA ratio was still quite good, although it has decreased slightly due to loan requests.

Table 6 Return on Assets Before and After the COVID-19 Pandemic

		N	Mean Rank	Sum of Ranks
after the pandemic -	Negative	6[a]	4.50	27.00
before pandemic -	Positive Ranks	1[b]	1.00	1.00
	Ties	0[c]		
	Total	7		

Based on the table above, it can be explained that there is negative Ranks or difference between ROA before and after the Covid-19 pandemic. Here there are six harmful data (N), which means that the 6 data have decreased from before the Covid-19 pandemic to the value after the Covid-19 pandemic. The Mean Rank or average decrease is 4.50, while the number of negative rankings or Sum of Ranks is 27.00. There is a positive Rank or difference (positive) between ROA before and after the Covid-19 pandemic. There is one positive data (N), which means that the data has increased from before the Covid-19 pandemic to the value after the Covid-19 pandemic. The Mean Rank or average increase is 1.00, while the number of positive rankings or Sum of Ranks is 1.00. Ties are the similarity of values before and after the covid-19 pandemic; the value of the tie in the table is 0, so it can be said that there are not the same values before and after the covid-19 pandemic.

After the COVID-19 pandemic, ROA fell month after month. March 2020 data were 2.57%, and April-May 2020 data were 2.34% and 2.06%. The COVID-19 pandemic has reduced productive activities, causing contractions in various sectors and, in particular, a surge in credit risk due to a decrease in community activities, which impacts the community's economic activities. Several of Indonesia's leading banks reported net profits during the pandemic, but increased bank reserves undermined many in anticipation of consumer defaults. The Financial Services Authority expanded its relaxation policy to restructure consumers affected by the COVID-19 pandemic so that they are not immediately classified as bad loans, even though they should be. Conditions like this will erode net profit this year.

Based on manual calculations, the average return value on assets before the COVID-19 pandemic was 2.5114. The average after the COVID-19 pandemic was 2.0671, and the research results on the Wilcoxon Signed Rank Test showed a significance value of 0.028<0. 05. This means that the COVID-19 pandemic has significantly reduced the average return on assets in Indonesia. It shows that the condition of return on assets during a pandemic has significantly decreased; the COVID-19 pandemic has impacted various sectors, including banking. Banks were noted to have experienced an increase in handling reserves for the risk of default, which caused a decrease in net profit amid the COVID-19 pandemic.

7. Analysis of Loan-to-Deposit Ratio Conditions Before and After the COVID-19 Pandemic

Bank Indonesia lowered interest rates several times in 2019. The August-November 2019 ratio was 94.66%, 94.34%, 93.96%, and 93.50%. In December 2019, it reached 94.43%. It fell to 93.36 and 92.50% in January–February 2020. The size of the loan-to-deposit ratio shows appropriate bank liquidity, but the company's management must overcome various problems.

Table 7 Loan-to-Deposit Ratio Before and After the COVID-19 Pandemic

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	before pandemic	93.8214	7	.75543	.28553
	after pandemic	88.8143	7	3.43684	1.29900

Based on the table above, it can be explained that the average LDR value before the covid-19 pandemic was 93.8214, while the average value after the covid-19 pandemic was 88.8143. It means that, descriptively, there is a difference in the average

LDR before and after the Covid-19 pandemic. The number of samples used in the study was seven months. The standard deviation of the LDR before the covid-19 pandemic was 0.75543, and the standard deviation after the covid-19 pandemic was 3.43684. The standard error for the average LDR before the covid-19 pandemic was 0.28553, and after the covid-19 pandemic was 1.29900.

The loan-to-savings ratio has decreased after the COVID-19 pandemic. Domestic demand has decreased due to the COVID-19 pandemic, so the banking intermediary function is still weak. Regulators have prepared artillery to deal with banks during a pandemic, such as completing three adjustments to short-term liquidity loan guidelines so that troubled banks can apply for liquidity loans quickly. The decline in domestic demand resulted in post-pandemic bank liquidity loosening, despite the credit restructuring regulations. Loose liquidity due to limited credit expansion, so the loan-to-deposit ratio for March–September 2020 on an MtM basis has decreased. It means that banks are less active in extending credit because the proportion of non-performing loans has also increased, so lending is carried out prudently. In May 2020, OJK adopted a banking sector relaxation policy to provide more flexible liquidity space for banks during a pandemic, prevent gaps between deposits and loans, and maintain the capital adequacy ratio.

Based on the results of the statistical table, the average loan-to-deposit ratio value before the pandemic was more significant than the average after the COVID-19 pandemic, and the significance was in the paired sample t-test. The test table was at a significance level of 95% (probability 0.05), which was 0.003<0. 05. This means that the COVID-19 pandemic has had a significant impact on reducing the average loan-to-deposit ratio in Indonesia. The results of the study indicate that the decline in demand for credit due to the COVID-19 pandemic has a significant impact on reducing the loan-to-deposit ratio. The decreased percentage of the loan-to-deposit ratio from month to month indicates that banks are being less aggressive in lending, coupled with a credit restructuring policy that does not directly classify wrong customers as defaults so that the ratio of loans to credit has contracted amid the COVID-19 pandemic.

E. CONCLUSION

Based on the results of the research and discussion that have been put forward regarding the comparative analysis of the impact of the COVID-19 pandemic on digital transactions, financial system stability, financial inclusion, and bank soundness ratios in Indonesia, the following conclusions can be drawn: Digital electronic money transactions have experienced an average increase since the COVID-19 pandemic. Furthermore, financial system stability, inflation, and interest rates (BI7DRR) have decreased on average after the COVID-19 pandemic. The average public savings after the COVID-19 pandemic have increased regarding financial inclusion. However, general loans have reduced on average after the COVID-19 pandemic. The average return on assets (ROA) and loan-to-deposit ratio (LDR) after the COVID-19 pandemic have decreased for bank health ratios. In digital transactions, the COVID-19 pandemic has not had a significant impact on reducing electronic money. The COVID-19 pandemic significantly impacted lowering average inflation and interest rates (BI7DRR).

Furthermore, the COVID-19 pandemic had a significant impact on reducing average public savings. However, it did not significantly impact the decrease in the average public loan. The pandemic has significantly reduced the average bank soundness ratio as measured by the return on assets (ROA) and loan-to-deposit ratio (LDR).

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