Efficiency, Performance, Potential Improvement And Dual Banking Analysis of BPR & BPRS In West Java

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MSMEs are crucial to reviving the national economy in times of economic globalization and the Covid-19 pandemic. One of the tactics required to boost the competitiveness of MSMEs is to take use of efficient financing options offered by banks. This study compares the effectiveness, effectiveness, and improvement potential of BPR and BPRS in West Java and their applicability to MSMEs. Data Envelopment Analysis (DEA) is the analysis employed, and the study period is from 2016 to 2021. The banking sector in Indonesia includes BPR and BPRS. In order to successfully navigate the era of economic globalization and national economic recovery, it is critical to assess the degree to which these two banks can collaborate in the best possible way to promote increased prosperity and competitiveness of MSMEs, primarily through productive financing. In West Java, 20 BPRs and 20 BPRS served as the research samples. The information used is secondary information gleaned from each bank's annual financial reports for the years 2016 through 2021. The study's input variables are third-party money, operating costs, and fixed assets. Operating income and provided funding are additional output variables. The findings of this study demonstrate that efficiency trends for BPR and BPRS in West Java varied across the study period of 2016–2021. While BPRS saw a considerable reduction throughout the epidemic, West Java's BPR efficiency remained constant. Furthermore, in West Java, BPRs are more efficient than BPRS when comparing the two types of banks. This study also examines potential changes that could be made to programs to reduce input and output-related inefficiencies. Furthermore, the output variables, notably the financing variables offered, are generally the root of the two types of banks' most important inefficiencies. Additionally, this study makes recommendations to academics, practitioners, and regulators.

Keywords: BPR; BPRS; MSMEs; Efficiency; DEA

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INTRODUCTION

Not only the health sector was significantly damaged by the Covid-19 pandemic in Indonesia; the social, economic, and financial sectors were also negatively impacted, particularly the banking sector (Nicola et al., 2020). Additionally, as a result of this shock, the stability of the banking sector was compromised (Sholihah, 2021). The stability of the financial sector will greatly influence how quickly the actual national economy grows (Masrizal et al., 2022). Additionally, banking functions as an intermediary institution by engaging in microlending for people and businesses (Siringoringo, 2007).

Rural Credit Banks, which operate under both conventional and sharia systems, are one type of banking that concentrates on directing credit to the MSME sector (Supeno & Herdarsih, 2020). Rural banks' financing plans and services are tailored to the needs of those who are not eligible for the financing provided by commercial banks (Hasbi & Apriyana, 2021). BPR and BPRS are crucial for boosting the local economy, especially for MSMEs (Maryati, 2014). This is due to the fact that capital is frequently the MSMEs' biggest issue. The Micro, Small, and Medium Enterprises (MSMEs) sector, which accounts for 99.9% of all firms in Indonesia, was the country's most powerful economic entity in 2019, according to data from the Ministry of Cooperatives and SMEs. This number is rising every year, even during pandemics. Due to their enormous contribution to Indonesia's GDP and employment of up to 97% of the country's workforce, MSMEs play a key role in the country's economic growth (Yasin & Fisabilillah, 2020). With 238 BPR banks (15.8%) and 27 BPRS (16.6%), West Java, the most populous province in Indonesia, has a great deal of potential to contribute to national economic progress (OJK, 2020). West Java's economy rose by 2.76% (qt) per quarter in 2022, according to Bank Indonesia's economic report data, more than the third quarter of 2021's 0.78% growth rate (qt). With a proportion of 13.02%, West Java is also a pillar of the national economy, ranking third after East Java (14.46%) and DKI Jakarta (17.17%).

Additionally, West Java's credit distribution keeps getting better in line with the country's recovery from the Covid-19 pandemic. The second quarter of 2022 saw loan disbursement in West Java reach IDR 809.01 trillion, up 9.25% (YoY) from the first quarter's growth of 5.42% (YoY). Additionally, lending for MSME, business, and household loans increased (BI, 2022).

The best way to maximize MSMEs' contributions to national economic growth is to boost them access to financing from the banking industry (Rural Bank), which can be done in a number of ways. According to Hartono (2008), even if BPR is viewed as having a small scale economically, its role might be highly important for the sustainability of MSMEs. As a result, BPR performance is essential to assessing how effectively banks finance the activities of MSMEs (Marsondang et al., 2019).

This study focuses on comparing the effectiveness of BPRs and BPRS in West Java to maximize MSMEs, taking into account the crucial role that MSMEs play in economic growth in the context of the Covid-19 pandemic phenomenon in Indonesia. In earlier research, Maryati (2014) explored how BPRS helped the West Sumatra region's MSMEs in the agribusiness sector grow. The effectiveness of BPRS financing for agricultural products in Bantul Regency, Yogyakarta, was examined in a different study by Utami (2018), which concluded that BPRS financing was highly enough. According to earlier studies, this research was successful in bridging the gap in the debate on the comparative analysis of the effectiveness of BPRs and BPRS in West Java with the research year period of 2016–2021.

Based on the background above, the purpose of this study is as follows: (1) To see the level of performance efficiency and potential for improvement of BPR and BPRS in West Java during the 2016-2021 period; (2) Look at the comparison of the efficiency of BPRs and BPRS in West Java during the 2016-2021 period; (3) To find out the role of BPR and BPRS for MSMEs.

LITERATURE REVIEW

Rural banks (BPR)

OJK claims that Rural Banks conduct their business operations via traditional methods or in accordance with sharia principles. Because of this, BPRs are divided into two categories: Sharia BPRs and Conventional BPRs, based on how they are managed. The underlying ideas employed by the two institutions are fundamentally different. Based on impartial Islamic principles, BPRS conducts its business (Wasiaturrahma et al., 2020). This is due to Islam forbidding interest, which is referred to as az-ziyadah, or additional or popularly known as usury, multiple times in the verses of the Qur'an (Ar-Ruum: 39; Al-Baqarah: 130; Al-Baqarah: 278-279). Additionally, conventional BPRs operate differently from BPRS in that they charge

interest on the loans they give to customers (Yuwana et al., 2012). According to Chaudhry (1999), usury gives vital assets an additional advantage over those that are not connected to the real economy. Because of this, usury is viewed as an act of injustice.

Despite the differences in the two banks' operational systems, both conventional and sharia BPRs are essential to the economy because they serve as bridges between individuals and the financial or economic sector in the microdomain (Nashihin & Harahap, 2014). According to Material et al. (2022), BPRs and BPRS perform the same responsibilities and tasks while offering low-income individuals and the MSME sector financial products and services. Budiyanti (2020), who claimed that the primary function of BPRs is to provide credit finance for small enterprises and people in rural areas, made a similar explanation. The following is also in line with Naufal (2017), who claims that BPRS actively contributes to the development of the weaker sectors of the economy, such as the MSME sector, which is frequently capital-constrained. BPR banks' capacity to offer broader financial services to the MSME sector in Indonesia cannot be understated and is very significant to notice, despite the fact that their economic scale is very small. (Hartono et al., 2008).

BPR efficiency

Efficiency is a financial concept that assesses how well inputs invested might result in outputs or profits (Blanes et al., 2015). If a production process can generate as much output from its input as possible, it is technically efficient (Jatmiko, 2017). The operational efficiency of BPRs must be continually increased, just like that of Commercial Banks. Scale efficiency, or a bank experiencing efficiency in consistent returns to scale, and scope efficiency, or coverage efficiency, can both be attained if a bank is able to operate in a variety of locations. Allocative efficiency, or the ability of a bank to provide a variety of outputs that can maximize profitability and technical efficiency, is the definition of efficiency (technical efficiency). Specifically, this efficiency typically conveys how a production's inputs and outputs are related (Muharami, 2007).

Efficiency can be improved in a number of ways, such as by increasing the concentration and profitability of microfinance firms and the volume of loans (Hartarska et al., 2013, Bos and Millone, 2015). Furthermore, according to Amran et al. (2014), the profit component or the amount of margin they employ affects BPR efficiency. Nevertheless, it is crucial to gauge a company's efficiency in order to assess its performance (Abidin & Endri, 2009).

Micro, Small, and Medium Enterprises (MSMEs)

Researchers have always been interested in studying MSMEs further from a variety of angles, including financing, resilience, loan acquisition, and business management. MSMEs must be able to continue to exist, especially given the current global economic storm (Sarah et al., 2019). MSMEs were one of the industries most severely impacted by Covid-19 during the pandemic (Hardilawati, 2020).

As evidenced by the fact that MSMEs are one of the major contributors to the national GDP, the function of MSMEs in the economy is crucial and critical (Yasin & Fisabilillah, 2020). Additionally, MSME is one of the business sectors that is the immediate assistance and can absorb many workers, according to Sarah et al. (2019). Additionally, Supriyanto in Suci (2017) demonstrated that MSMEs could help Indonesia reduce its poverty. However, in performing their duties, MSMEs frequently encounter a variety of issues, ranging from marketing and money to management, with capital being the primary issue for MSMEs (Maryati, 2014).

Previous Research

The efficiency of BPRs and BPRS has been the subject of numerous earlier research. Anwar et al. (2021) conducted a comparison of the efficiency levels of BPRs in Bali and West Java as one of these research. According to his research, BPRs in Bali were more efficient than those in West Java. It also clarified the significance of efficient resource management, excellent loan administration, and the preservation of sufficient capital in bank operations. This is important in order to compete with other banks, particularly when offering MSMEs microfinance. The research conducted in 2021 by Hasbi and Apriyana examines the efficiency of BPRs and BPRS in West Java during the Covid-19 pandemic. The Covid-19 epidemic has significantly impacted the efficiency of BPRs and BPRS, however some BPRs and BPRS still have constant efficiency levels, according to the researcher's research findings. Following that, Yasin and Fisabilillah (2021) compared the financial performance of BPR before and during the Covid-19 epidemic. Additionally, his research's findings indicate that while BPRs may endure shocks brought on by the Covid-19 epidemic, cost efficiency and credit distribution quality must still be preserved.

Agustina et al. (2019), who examined the level of BPRS efficiency in Indonesia between 2011 and 2016, is another study that covers BPR efficiency. Based on

Data Envelopment Analysis, Houdini and Wibowo (2021) compare the effectiveness of regular banks and Islamic banks in Indonesia. Salihah (2021) examines the banking industry's financial performance and effectiveness during a pandemic. Supino and Hendarsih (2020) looked at how the Covid-19 Pandemic affected BPR profitability based on credit performance. Additionally, a study by Murningsih et al. (2020) assesses the impact of efficiency and competition on BPR lending in Indonesia.

It can be inferred from the numerous studies mentioned above that none of them specifically address the efficiency of BPRs and BPRS in West Java for the period of 2016–2021 and their significance to MSMEs.

METHODOLOGY

Based on a random sampling methodology and secondary data, this study (random cluster sampling). BPR and BPRS in West Java are the DMUs that were taken. Secondary data is gathered from quarterly financial reports made available on the Financial Services Authority's official website (OJK). Profit and loss reports and balance sheets are the financial reports that are analyzed. Several financial elements that can be used as input and output variables in this study are discussed in the paper. 50 BPRs and 20 BPRS from West Java were collected as panel data for this study over a five-year period, from 2016 to 2021.

In this work, non-parametric quantitative research is the main topic. The Data Envelopment Analysis (DEA) approach gauges the efficiency of decisions (DMU). The objective of the Data Envelopment Analysis (DEA) output approach employed in this study is to increase output while keeping input constant. Operational Costs, Third Party Funds, and Fixed Assets are the input variables used. Marketing, R&D, administration, and other operational expenditures are included under operational costs. Third Party Funds are made up of Mudharabah deposits, Wadiah savings, and Mudharabah savings, as well as fixed assets calculated using fixed asset estimates less depreciation costs. Operational Income and Credit/Financing in the form of Mudharabah, Murabahah, and Musyarakah financing are the output variables utilized for BPRS, whereas all forms of credit financing are used for BPR.

The DEA, originally developed by Charnes, Cooper & Rhodes in 1978 and refined by Banker, Charnes & Rhodes in 1984, can be used to measure the productivity and efficiency of business units. According to Houdini & Wibowo (2021), the advantage of employing Data Envelopment Analysis (DEA) is that it can test a case with a complex relationship between the input and output that cannot be successfully solved by other analytical techniques. A company's variable inputs and variable outputs can be used to calculate efficiency levels using the Data Envelopment Analysis (DEA) approach. As a result, DEA can produce more accurate results than financial ratio analysis, according to Hadad et al. (2003).

Sharma et al. (2013) found that in various empirical studies on efficiency, the DEA approach is utilized to measure technological efficiency, including that of financial institutions. The DEA technique can also learn more about the Decision Making Unit's (DMU) inefficiency in using inputs as well as the causes of this inefficiency. To reach the optimum level of efficiency, the DEA technique can identify input or output variable values that must be met or modified.

Since its introduction in 1984, the Banker, Charnes, and Cooper (BCC) model and the Charnes, Cooper, and Rhodes (CCR) DEA model are the two DEA models that are most frequently employed today (Coelli et al., 2005). One of the two core models in the DEA technique is the Charnes, Cooper & Rhodes (CCR) model, which complies with the Constant Return to Scale (CRS) assumption. The production function is taken to be fixed, and the change in output value from the generated DMU is taken to be constant (same). Second, the Variable Return to Scale model is equivalent to the Banker, Charnes & Rhodes (BCR) (VRS) model (VRTS). In contrast to the first model, the second one assumes that each change in the value of the DMU output is distinct from each change in the value of a specific input. As a result, it is true that not all inputs will result in the same output value. In this study, the CRV and VRS models are compared to reflect banking activities and assess the level of banking efficiency.

This study focuses on the efficiency of banks. By contrasting the costs incurred by several banks to generate at the same level of output, one can evaluate bank efficiency. If there is healthy competition, a bad company will be driven out of the market. Only a successful company can endure in the market. Similar to this, only powerful banks will be able to successfully compete in the banking industry (Acharya and Yumanita, 2009). Based on the relative performance level of financial institutions compared to the best financial institution performance estimates in the industry, according to research by Bauer et al. (1998), the efficiency limit of financial institutions is

determined. It should be noted, however, that all of these financial institutions must deal with the same market conditions. Studies using DEA in measuring BPR/S and other Islamic banks have been carried out by several researchers, for example Rani et al., (2017), Rusydiana et al., (2019), Rusydiana (2019), and Tyas & Rusydiana (2021).

RESULTS AND DISCUSSION

RESULTS

Descriptive Statistics of BPR and BPRS in West Java

Below is a table that provides information on the input and output variables of BPRs and BPRS in West Java from 2016 to 2021.

Table 1: BPR Descriptive Statistics in West Java

Variable	Means	Min	Max	Std. Dev
Inputs				
Fixed assets	IDR 2,943,317,408	IDR 4,496,000	IDR 26,687,710	IDR 4,382,718,976
Operational Costs	IDR 2 0,298,369.44	IDR 190,957	IDR 111,897,128	IDR 25,085,305.99
Third-party funds	IDR 81,978,874.44	IDR 275,689	IDR 536,766,616	IDR 121,595,069.6
Output				
Financing	IDR 78,553,786.95	IDR 322,167	IDR 507,847,479	IDR 100,911,385.9
Operating Income	IDR 24,300,281.56	IDR 396,529	IDR 115,264,028	IDR 29,959,002.23

Table 2: BPRS Descriptive Statistics in West Java

Variable	Means	Min	Max	Std. Dev
Inputs				
Fixed assets	IDR 7,909,351.083	IDR 1,095,000	IDR 85,960,753	IDR 15,696,956.93
Operating Costs	IDR 13,430,859.37	IDR 31,159	IDR 103,212,106	IDR 18,694,530.06
Third-party funds	IDR 86,664,563.96	IDR 29,518	IDR 860,388,007	IDR 124,810,014.6
output				
Financing	IDR 36,169,908.23	IDR 34,583	IDR 284,097,361	IDR 46,895,527.29
Operating Income	IDR 16,831,922.92	IDR 5,555	IDR 157,589,095	IDR 26,118,168.02

Tables 1 and 2 show that the average value of the BPR input and output variables is higher than the input and output values of the BPRS.

Summary of BPR and BPRS Efficiency Panel per year

Every year, the common border is used to analyze the efficiency level of BPRs and BPRS in West Java using the DEA approach. The technical efficiency (TE), pure technical efficiency (PTE), scale efficiency (SE), and average values for the years 2016 (Panel A), 2017 (Panel B), 2018, 2019 (Panel D), 2020 (Panel E), and 2021 (Panel F) are shown in Table 3 below (Panel G).

Table 2: BPR and BPRS Efficiency Panel in West Java

Years/Type of Efficiency	Means		Min		Max		Std. Dev	
	RB	BPRS	RB	BPRS	RB	BPRS	RB	BPRS
Panel A (2016)								
TE	0.508	0.328	0.096	0.116	0968	1,000	0.283	0.184
PTE	0.713	0.582	0.111	0.182	1,000	1,000	0.265	0.217
SE	0.695	0.565	0.325	0.379	0.999	1,000	0.226	0.162
Panel B (2017)								
TE	0.502	0.301	0.133	0.166	1,000	0.588	0.247	0.110
PTE	0.740	0.583	0.283	0.258	1,000	0.930	0.220	0.179
SE	0.670	0.536	0.306	0.325	1,000	0.919	0.232	0.164
Panel C (2018)								
TE	0.575	0.413	0.194	0.144	1,000	0921	0.236	0.221
PTE	0.757	0.611	0.356	0.277	1,000	1,000	0.221	0.215
SE	0.751	0.658	0.415	0.364	1,000	0.994	0.183	0.193
Panel D (2019)								
TE	0.578	0.436	0.203	0.089	1,000	1,000	0.257	0.299
PTE	0.771	0.655	0.342	0.152	1,000	1,000	0.219	0.270
SE	0.739	0.636	0.395	0.225	1,000	1,000	0.208	0.240
Panel E (2020)								
TE	0.556	0.310	0.201	0.075	1,000	1,000	0.257	0.237
PTE	0.748	0.561	0.346	0.170	1,000	1,000	0.226	0.250
SE	0.732	0.530	0.406	0.262	1,000	1,000	0.204	0.193
Panel F (2021)								
TE	0.553	0.225	0.216	0.080	1,000	0.437	0.228	0.106
PTE	0.763	0.499	0.425	0.149	1,000	0913	0.199	0.231
SE	0.718	0.486	0.374	0.186	1,000	0.802	0.198	0.159
Panel G (All Years)								
TE	0.545	0.336	0.096	0.075	1,000	1,000	0.254	0.217
PTE	0.748	0.582	0.111	0.149	1,000	1,000	0.227	0.234
SE	0.717	0.569	0.306	0.186	1,000	1,000	0.211	0.197

The table demonstrates how the effectiveness of BPR and BPRS in West Java has changed over time. The lowest Technical Efficiency (TE) score was in 2020, with a score at TE BPR 0.630 and TE BPRS 0.597, according to the average Technical Efficiency (TE) and Pure Technical Efficiency (PTE) scores at BPRs and BPRS in West Java. Additionally, in 2017 TE at BPR and BPRS reached its greatest value, with values of 0.672 and 0.633. The average Pure Technical Efficiency (PTE) score for the lowest and highest BPR was then 0.686 and 0.723 in 2016 and 2019, respectively. Additionally, with values of 0.641 and 0.709, 2020 and 2016 had the lowest and highest BPRS, respectively.

BPR and BPRS Efficiency Scores in West Jawa

Table 3: Average BPR Efficiency Score in West Java

DMU	CCR Model	BCC Model	
	CRS	VRS	SE
BPR Dana Mandiri Bogor (PT) Bogor	0.836	0.976	0.854
BPR Karya Remaja (PD) Indramayu	0.374	0.972	0.384
PERUMDA BPR Bank Cirebon	0.425	0.969	0.436
Perumda BPR Sukabumi	0.268	0.700	0.384
PT BPR Bumi Bandung Kencana	0.440	0.631	0.695
PT BPR Artha Karya Usaha Kota Bandung	0.408	0.616	0.637
PT BPR Arthia Sere Cirebon	0.354	0.577	0.590
PT BPR Banjar Arthasariguna Tasikmalaya	0.212	0.421	0.507
PT BPR Danamasa Cimahi	0.949	0.955	0.994
PT BPR Daya Lumbung Asia Bandung	0.795	1.000	0.795
PT BPR Duta Pakuan Mandiri Bogor	0.634	0.693	0.917
PT BPR Hisobhan Cirebon	0.537	0.809	0.666
PT BPR Kencana Cimahi	0.488	0.648	0.741
PT BPR Metro Asia Mandiri Bandung	0.202	0.384	0.525
PT BPR Parasahabat Bekasi	0.873	0.922	0.945
PT BPR Pola Dana Tasikmalaya	0.645	0.764	0.846
PT BPR Rama Ganda Bogor	0.595	0.869	0.688
PT BPR Sumber Sibapudung Cirebon	0.623	0.641	0.973
PT BPR Tata Artha Sadaya Cimahi	0.384	0.463	0.879
PT BPR Trisurya Marga Artha Bandung	0.865	0.960	0.895

It is known from the CRS assumption that no BPRs in West Java attain optimal efficiency levels (1,000) during the six-year observation period based on the table of average BPR efficiency scores for each year. However, when measured from the highest CRS score, BPR Danamasa Cimahi had the highest average CRS score (0.949), and BPR Metro Asia Mandiri Bandung had the lowest average CRS score (0.202). The BCC Model must then be used to do additional analysis using the VRS and SE assumptions. It is known that BPR Daya Lumbung Asia Bandung has attained maximum efficiency based on the VRS assumption (1,000). BPR Metro Asia Mandiri Bandung had the lowest average VRS score, coming in at 0.384.

Table 4: Average BPRS Efficiency Score in West Java

DMU	CCR	BCC	
	CRS	VRS	SE
BPRS Botani Bina Rahmah Bogor	0.281	0.349	0.805
BPRS Al Salaam Amal Salman (PT) Kota Depok	0.577	0.718	0.710
BPRS Insan Cita Artha Jaya (PT) Bogor	0.246	0.450	0.535
PT BPRS Harum Hikmahnugraha	0.264	0.531	0.490
PT BPRS Al Hijrah Amanah Depok	0.306	0.423	0.703
PT BPRS Al Ihsan Bandung	0.689	0.763	0.875
PT BPRS Al Wadi'ah Tasikmalaya	0.355	0.515	0.623
PT BPRS Almadinah Tasikmalaya Perseroda	0.318	0.497	0.636
PT BPRS AlMasoem Bandung	0.334	0.851	0.381
PT BPRS Amanah Insani Bekasi	0.233	0.572	0.442
PT BPRS Amanah Rabbaniah Bandung	0.387	0.751	0.518
PT BPRS Amanah Ummah Bogor	0.156	0.419	0.372
PT BPRS Artha Madani Bekasi	0.385	0.833	0.442
PT BPRS Baiturridha Pusaka Kota Bandung	0.435	0.768	0.564
PT BPRS Bina Amwalul Hasanah Depok	0.397	0.637	0.657
PT BPRS Daarut Tauhiid Cimahi	0.210	0.281	0.665
PT BPRS Harta Insan Karimah Bekasi	0.246	0.433	0.525
PT BPRS Harta Insan Karimah Parahyangan	0.456	0.901	0.491
PT BPRS PNM Mentari Garut	0.307	0.668	0.461
PT BPRS Riyal Irsyadi Bekasi	0.130	0.276	0.477

The CRS and VRS hypotheses indicate that there are no BPRS in West Java that achieve optimal efficiency levels (1,000) during the six-year study period, based on the table of average BPRS efficiency scores for each year. However, when measured from the lowest CRS score, BPRS Amanah Ummah Bogor had an average CRS score of 0.156, and BPRS Riyal Irsyadi Bekasi had the lowest VRS score of 0.276. Additionally, BPRS Harta Insan Karimah Parahyangan received the highest average CRS and VRS scores, with values of 0.456 and 0.901, respectively.

Efficiency Trends of BPR and BPRS West Java

In order to determine how well these two types of banks function, this study also compares the efficiency of BPR and BPRS in West Java. The following graph compares the two types of banks and shows the efficiency trend for BPR and BPRS in West Java.

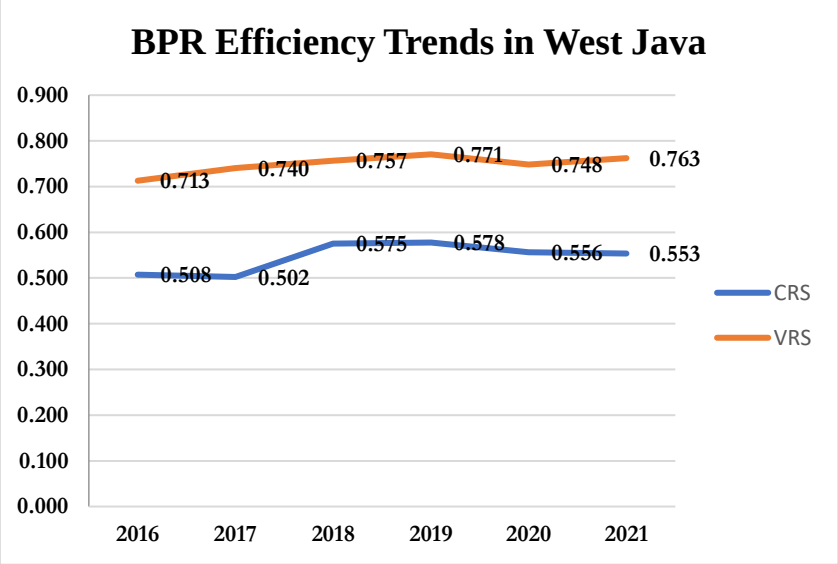

Figure 1: BPR Efficiency Trends in West Java

The trend of BPR efficiency in West Java from 2016 to 2021 is shown in Figure 1. Technical Efficiency (CRS) exhibits movements that often fluctuate from year to year, according to the efficiency chart. Additionally, Pure Technical Efficiency (VRS) exhibits an upward trend through 2019, a downward trend through 2020, and an upward trend through 2021. West Java BPRs' efficiency value improved in 2017 based on the CRS assumption, and from 2019 to 2021, the efficiency level had a changing trend.

Furthermore, this research also observes the efficiency trend of BPRS in West Java. The CRS and VRS trend analysis results can be seen in the image below.

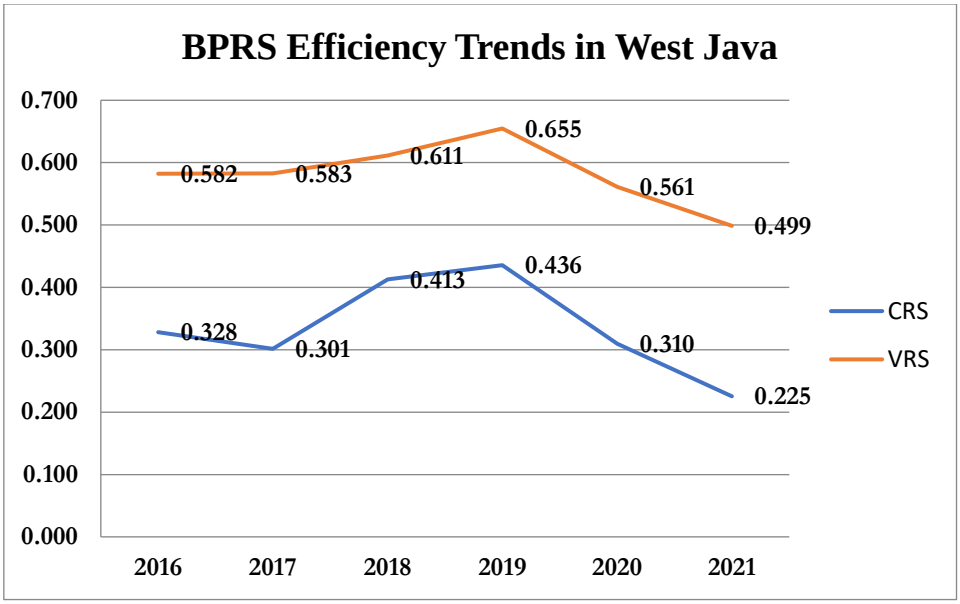

Figure 2: BPRS Efficiency Trends in West Jawa

The trend of West Java's BPRS efficiency from 2016 to 2021 is shown in Figure 2. Technical Efficiency (CRS) exhibits movements that often fluctuate from year to year, according to the efficiency chart. From 2017 to 2019, the West Java BPRS' efficiency value increased; from 2019 to 2021, it fell. Additionally, Pure Technical Efficiency (VRS) demonstrated a peak in efficiency growth in 2019 before declining until 2021.

The following analysis compares the efficiency of BPR and BPRS in West Java. Comparing the two types of banks uses the average CRS efficiency score over the six-year observation period. The results are as follows.

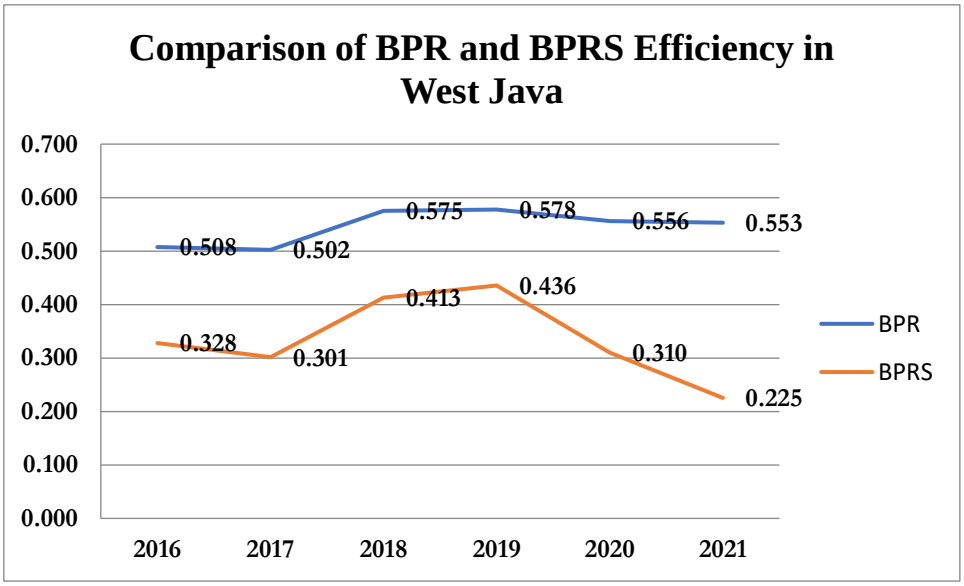

Figure 3: Comparison of BPR and BPRS Efficiency in West Java

It is clear from Figure 3 above that the BPR has a better efficiency rating than the BPRS. The two types of banks' efficiency trends typically fluctuate annually and exhibit a decline in efficiency levels. Although the increases in efficiency tended to be modest, both BPR and BPRS efficiency increased in 2019. Between 2020 and 2021, efficiency trends at the two banks decreased.

BPR and BPRS Efficiency in West Java During the Covid-19 Pandemic

Up until this point, the Covid-19 pandemic outbreak has been a big catastrophe for the financial sector, especially the microfinance sector, including BPR and BPRS. The efficiency of BPRs and BPRS in West Java as a result of the Covid-19 epidemic is shown in the image below.

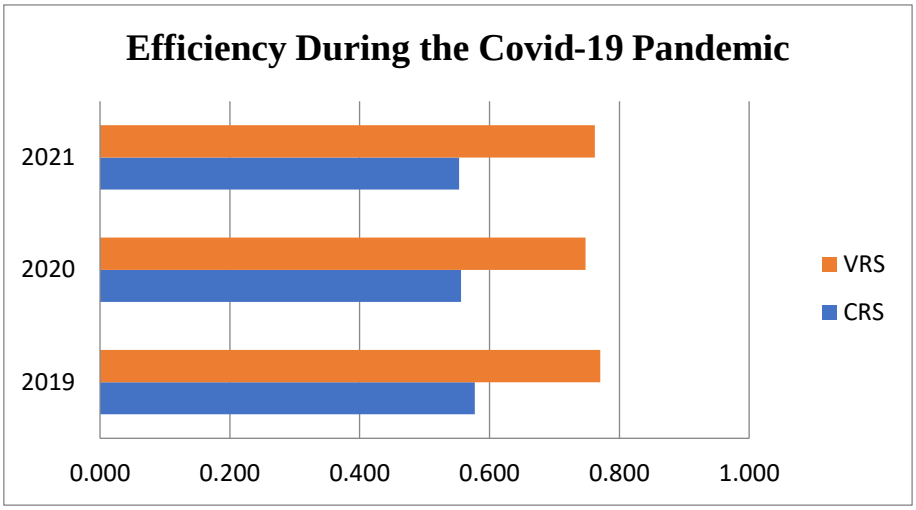

Figure 2: BPR Efficiency During the Covid-19 Period

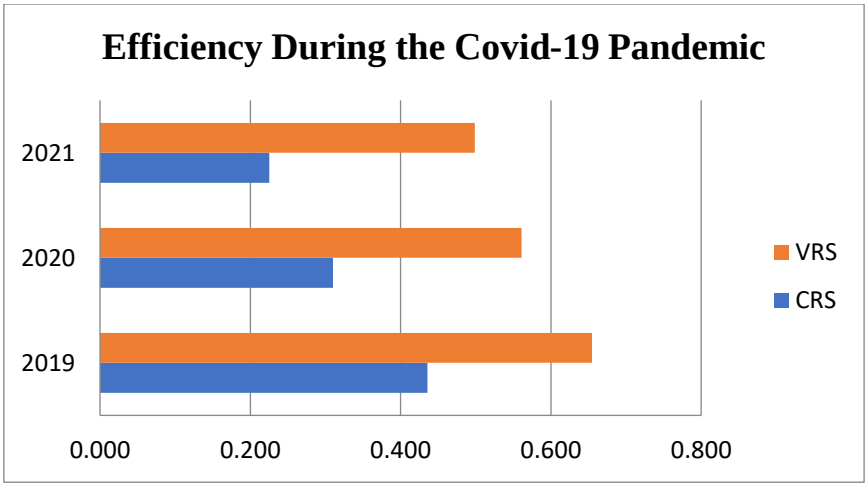

Figure 4: BPRS Efficiency During the Covid-19 Period

The efficiency of BPRs and BPRS in West Java between 2019 and 2021 is depicted in Figures 3 and 4. It may be said that West Java's BPR and BPRS are less effective in terms of CRS (Constant Return to Scale) and VRS (Variable Return to Scale) study. Compared to 2019, West Java's BPRs and BPRS displayed a decreased degree of efficiency in 2020. This was caused by the Covid-19 pandemic, which first appeared towards the end of 2019 and started to spread rapidly in 2020. The two banks' efficiency trends kept declining until 2021.

Potential Improvements

The DEA method is known to be used to obtain values that need to be fixed by BPRs and BPRS in West Java in order to attain the highest level of efficiency. This information is then used to determine which variables need to be improved by the two different types of banks. The values that must be attained are then examined separately from earlier years, using 2021 as the last year of observation.

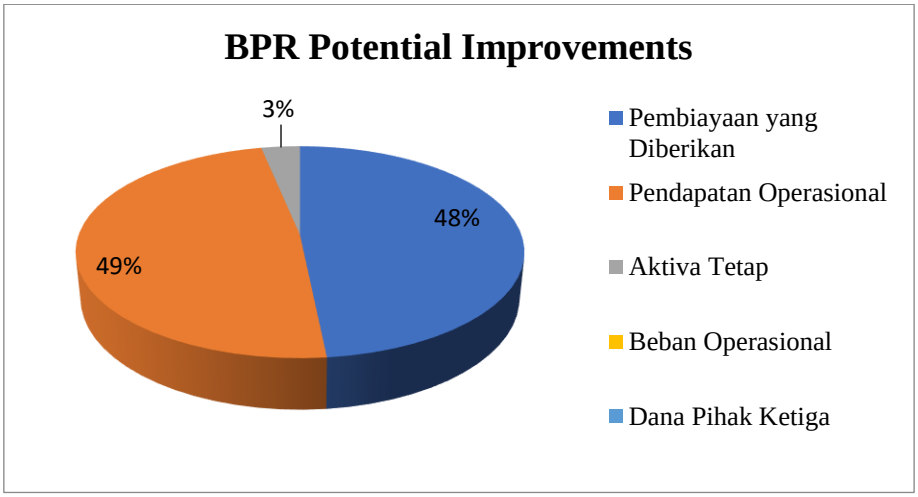

Figure 5: Potential Improvement of BPR in West Java

Input and output variables that contribute to BPR inefficiency in West Java are depicted in general terms in Figure 5. Only fixed assets are used as the input variable in West Java BPRs, which results in inefficiencies. Additionally, operating revenue and provided financing are the sources of BPR inefficiency in the output variable. According to the possible improvement analysis, fixed assets must be decreased by 3% for BPRs in Sumatra to reach the ideal level of efficiency. Then, a 48% and 49% rise in the finance output variable supplied and operational income is required.

Next is an analysis of the *potential improvement* of BPRS in West Java. The results of the analysis are represented in the image below.

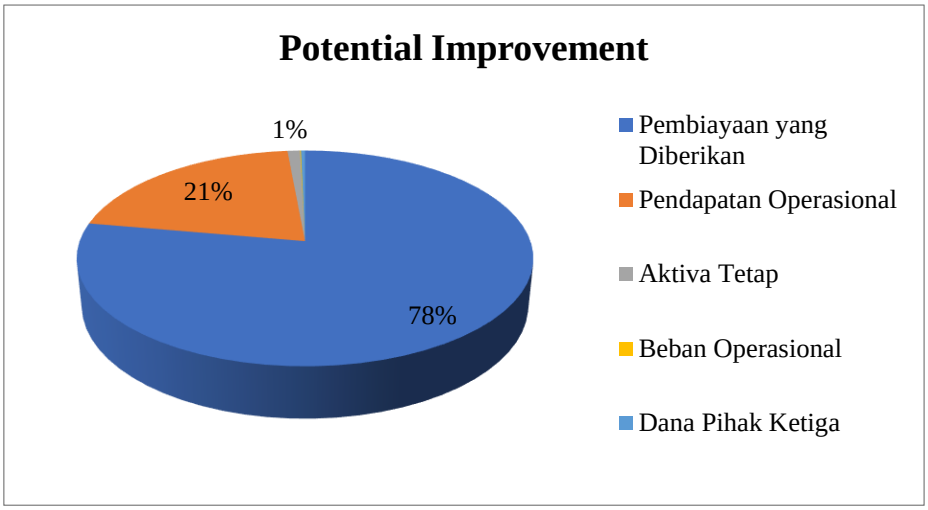

Figure 6: BPRS Potential Improvement in West Java

The possible improvement of the BPRS in West Java reveals the root of inefficiency, much as the potential improvement of the BPRS in West Java. In BPRS, fixed assets, which are input variables, are the only source of inefficiency. Regarding the output variables, specifically the volume of finance given and operating revenue. The amount of money provided by the BPRS in West Java must increase by 78%, and operating revenue must increase by 21%, in order for the BPRS to operate at maximum efficiency. Exciting findings came from West Java's prospective BPRS upgrade. The finance offered is specifically the most major source of inefficiency.

DISCUSSION

Some conclusions were reached based on the findings of the aforementioned investigation. Based on the BPR and BPRS efficiency scores, West Java from 2016 to 2021 saw variations during each of these observation periods. The two banks experienced a

considerable decline in efficiency in both 2019 and 2020, the first year that Covid-19 began to spread in Indonesia. The findings of this study concur with those of Natalie et al. and Sholihah (2021). The findings of the two studies showed that a fall in financing income, which had an impact on the amount of third-party funds collected, was one of the elements contributing to banking's loss of efficiency.

Additionally, the pandemic contributed to the fall in BPR and BPRS efficiency in West Java. Hasbi and Apriyana's investigation confirmed this in 2021. According to data from covid19.go.id in 2022, the island of Java had the greatest number of instances of the disease's transmission during the pandemic, which had a significant impact on the efficiency of BPRs and the spread of BPRS in West Java.

This study also came to the conclusion that the pandemic had an influence on the efficiency of BPRs and BPRS in West Java. It is well known that BPR and BPRS efficiency in West Java has drastically reduced, particularly for BPRS. According to Ningsih and Mahfuz (2020), the pandemic caused a reduction in financing/credit distribution at practically all Indonesian banks, which had an immediate impact on the efficiency of the banks. This is also consistent with Yasin & Fisabilillah's research (2021), which found that during the pandemic, BPRs and BPRS performed inefficiently since banks incurred more costs and expenses than they made. However, according to Sofyan's research, BPRs and BPRS are still in good condition and are continuing to grow in a favorable way. To ensure that banks can function at their best despite the uncertainties surrounding the pandemic in Indonesia, financial liquidity must be carefully maintained. As a result, Sholihah (2021) highlights the significance of the banking industry's involvement in preserving banking performance, particularly in optimizing the output from input that is available in banks.

Regulators also contribute to preserving the performance and liquidity of BPRs and BPRS in the middle of the pandemic's economic uncertainty. In particular, this is meant to maintain the stability of the development of BPRs and BPRS, which play a role in West Java's economic recovery as a result of the pandemic. Regulators can create a strong ecosystem to support the development of BPRs and BPRS in West Java. Pratomo & Ramdani (2021) and Tahliani (2020) provide support for the claim that the current financial environment requires a new strategy arrangement or adaptive roadmap. For instance, combining banking goods and services with digital ecosystems would enable BPRs and BPRS to be more adaptable, gain market share more quickly, and compete with financial institutions that operate only online (Sumadi, 2020; Rosidi & Zakiyya, 2022).

According to the conclusions of the possible improvement analysis, the quantity of funding granted is the main cause of inefficiency in West Java's BPRs and BPRS. The findings of this study are in agreement with studies by Ningsih & Mahfuz (2020) and Yasin & Fisabilillah (2021). Due to the fact that MSMEs are the primary objective of BPR and BPRS financial institutions when allocating financing, BPR and BPRS will have an influence on the micro sector, on which they are focused, when they experience inefficiencies. Which of these funding options has the potential to boost MSME revenue and business? In the framework of the economic recovery in West Java in particular, BPR and BPRS have indirect objectives and functions. Because MSMEs play a role in accelerating the economic recovery.

CONCLUSION

This study intends to assess the efficiency of BPRs and BPRS in West Java from 2016 to 2021. The efficiency of banks, particularly in BPR and BPRS, needs to be evaluated in order to decide future policy directions and for the role of MSMEs in the national economic recovery. According to the study's findings, the average BPR and BPRS efficiency scores in West Java during the study period varied from year to year as shown in the table. Additionally, BPRs tend to remain steady while BPRS exhibit varying and diminishing movements based on the efficiency of CRS and VRS. Additionally, when compared, BPR's efficiency level is higher than BPRS's. The efficiency level of BPRs remained steady during the Covid-19 pandemic era, which ran from 2019 to 2021, while BPRS saw a fall in efficiency. The finance given and operating income are also known to be the main causes of inefficiency in BPRs, according to the prospective improvement study. The money supplied is the main reason for inefficiency in BPRS.

Recommendation

For Banking Parties

- For banks, in particular BPRs and BPRS in West Java, to keep an eye out and increase their level of efficiency while taking the cause of inefficiency into consideration.

- It is anticipated that rural banks, particularly BPRS, will be able to boost fee-based income in order to generate more revenue. By increasing the volume of transactions, banks will operate more efficiently as a result of advancements on the finance or credit side.
- BPR and BPRS must innovate their financial service offerings, particularly their financing and credit offerings. This can be accomplished by altering or enhancing current digital banking services or by developing brand-new, MSME-friendly goods. The objective is to draw in more customers, particularly MSMEs.
- BPR and BPRS can establish an MSME community that will help MSMEs manage bank funds in a way that will maximize their potential for expanding and growing MSME enterprises.

For Regulators

- It is expected that regulators, whether BI or OJK, will pay attention to human resources in BPRs and BPRS in order to enhance the quality and performance of banks.
- Regularly evaluating the efficacy and performance of BPR and BPRS so that bank operations can function smoothly and finance or extend credit to MSME parties.
- It is believed that BI and OJK would be able to provide full assistance to BPRs and BPRS with appropriate laws, particularly in the area of microfinance, which has become the domain of BPRs and BPRS.

For Academics

This research cannot exist without limits. For example, not all BPRs and BPRS in West Java were included in the sample. Furthermore, this study does not conduct a comprehensive review of the causes of bank inefficiency. Academics can therefore update this research for the future. Using variables other than those contained in this study, for instance, one could conduct a more in-depth analysis of the causes of inefficiency in BPRs and BPRS and their effects on MSMEs, analyze the financial performance of BPRs and BPRS in West Java, and use other analytical tools pertinent to research, such as Two -Stages of DEA, MPI, and others, in order to obtain more objective results and recommend policies that are spot-on.

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