

Study on The Efficiency of Indonesian Sharia Rural Banks: An Empirical Analysis According to the Regional Zone

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Abstract

In this case, one unique characteristic of Sharia Rural Bank (BPRS) as compared to commercial banks is that its operation is limited only to one provincial base. On the basis of this characteristic, the paper aims to measure the efficiency level of BPRS in Indonesia over the period of 2012 to 2015 in accordance with the regional zones. The first stage was conducted by measuring the bank's efficiency level with Data Envelopment Analysis, while the second stage was done by analyzing factors influencing the efficiency level of a bank by panel data regression method. Test results show that the average efficiency of BPRS in each region has not reached an optimal level of efficiency. Some of the internal factors that affect the efficiency level are the ratio of Operational Revenue Operational Ratio indicating a negative and significant effect while the Minimum Capital Adequacy Ratio delineating a positive and significant effect on bank efficiency. Meanwhile, Total Assets, Non Performing Financing and Return on Assets have no significant effect on efficiency. The macro factors of interest rate variables or BI Rate and inflation are proven to have a positive and significant effect on the efficiency of BPRS.

Keywords: Efficiency, internal factor and macro factor, Two Stage Approach

JEL Classification: G21

1. Introduction

For over more than two decades since its inception in 1992, the development of the sharia banking industry has been showing a favorable growth pace. It has experienced varied growth rates in line with the economic conditions and various influential factors. As of November 2016, the sharia banking industry has established a network of 13 Sharia Banks (BUS), 34 Sharia Business Units (UUS) and 164 Sharia Rural Banks (BPRS) with a total network of offices reaching 2,465 which is almost evenly spread throughout the archipelagic country of Indonesia. In terms of micro-scale BPRS also pinpointed a positive growth. This is delineated by the total assets of BPRS during 2012 to 2016 which kept on increasing by 94.89% to Rp9.15 trillion or soaring to 23.72% annually. In the same period, BPRS' asset growth was also accompanied by increasing Third Party Funds and financing by 98.15% and 87.35% to Rp5.82 trillion and Rp 6.66 trillion or having an increase of 24.54% and 21,84% respectively annually (Otoritas Jasa Keuangan, 2017).

BPRS was initially established to serve people who have no access to modern banking services. On this account, BPRS is consistently encouraged to develop its business for having an important role in increasing the growth of small and medium micro enterprises (SME's) as the main financing objects of BPRS to drive the economy of the real sector. This is in line with the research conducted by Anwar (2010)

highlighting that sharia banks have better performance than conventional banks on models that incorporate SME sector financing elements as one of the output components of the model. Shariah-compliant banks have higher average of SME sector financing portfolios than those of conventional bank.

Table 1. BPRS Financing Based on Financing Groups

Financing Groups	2013	2014	2015	2016			
				AGS	SEP	OKT	NOV
SME's	2,620,263	3,005,858	3,377,987	3,643,769	3,473,147	3,467,101	3,498,449
Portion of total (%)	59	60	59	56	54	53	53
Besides SME's	1,813,230	1,999,051	2,387,184	2,842,086	2,974,698	3,026,501	3,092,767
Portion of total (%)	41	40	41	44	46	47	47
Total	4,433,492	5,004,909	5,765,171	6,485,856	6,447,845	6,493,602	6,591,216

Source: Statistik Perbankan Syariah Tahun 2016

BPR and BPRS have different characteristics as compared to public banks. The fact that its operation is limited to one province makes its performance be determined by the different characteristics of each region. In accordance with the Regulation of Financial Services Authority (POJK) Number 3 / POJK.03 / 2016 on Sharia People Financing Bank, the rules governing BPRS are divided into four zones. The division of the zone is based on the regional economic potential and the level of competition of financial institutions in the area concerned. Higher economic potential and tighter competition between financial institutions is classified as zone one, while zone four is normally indicated with lower economic potential and less competitive financial institutions. Thus, BPRS performance in big cities will be different from that in small towns because of ease of access to public banks in these areas. For example, BPRS located in the region of East Indonesia is expected to perform better than the Jabodetabek area. This is due to the fact that the public banks in East Indonesia are more difficult to access with the looser competition level than banks in the Greater Area of Jakarta which has easier access and tighter competition levels. Thus, the people in the East Indonesia Region will use BPRS services more frequently than those of commercial banks which encourages higher performance.

Although the performance of BPRS in small towns is thought to be better than that in big cities, it is disconcerting that the current development of BPRS faces major challenges. The current tendency of general banks to expand its business into small towns and villages creates tighter competition between BPRS and commercial banks. In addition, financial support, information technology and qualified human resources have pushed public banks to expand their micro-market. Given such conditions, BPRS are required to increase its resilience and competitiveness by enhancing bank efficiency. This is in line with the policy direction of the Financial Services Authority from 2017 to 2020 on the efficiency of the Financial Services Industry to support increasing competitiveness in an effort to lower credit interest rates or lower

capital costs (Otoritas Jasa Keuangan, 2017). Measurement of efficiency levels is increasingly needed along with the rapid development of the banking industry in Indonesia.

Measurement of efficiency levels is increasingly needed along with the rapid development of the banking industry in Indonesia. In order to survive amidst tighter competition with commercial banks, especially in microfinance segments, it is important that BPRS measure its efficiency level and determine the remedial measures to make it more efficient. Knowing the efficiency level of the bank will lead the bank to know its ability in optimizing its resources (M. F. Firdaus & Hosen, 2013). Until now, several studies on the level of efficiency of BPRS have been carried out, but measurements on efficiency and solution have been generalized. There have been no studies that measure the level of efficiency of BPRS by considering the characteristics of each region. Considering that BPRS has different characteristics between regions, in this study efficiency measurements were carried out by classifying BPRS based on regional zones. Grouping based on regional zones aims to see whether BPRS located in regions that have higher economic potential and tighter competition of financial institutions make banks more efficient or vice versa. By knowing the level of efficiency of BPRS according to the regional zone, the formulation of strategies and corrective steps can be adjusted to the conditions of each region.

Currently, the bank's efficiency rating in many countries worldwide has continued to grow since efficiency level in the banking industry is one of the performance parameters. Staub et al. (2008) conducted a study on bank efficiency levels in Brazil indicating that banks in Brazil tend to have lower economic costs than those in Europe and the United States. Meanwhile, sharia banks in Indonesia are still less efficient compared to conventional banks, primarily because sharia banking is still in the stage of expansion and has not reached the economic scale as that of conventional banks. As disclosed by Firdaus & Hosen (2013) the level of efficiency of sharia banks in Indonesia has not reached an optimal level of efficiency. Meanwhile, Fadhlullah (2015) through a case study at BPD Syariah Bank in Indonesia concluded that the technical efficiency of BPD bank has not reached the optimal efficiency level of 100 percent. On average, BPD with bigger assets tends to be more efficient than those with medium and small assets.

The progresses on efficiency measurement have called for a research procedure known as Two-Stage Data Envelopment Analysis (M. F. Firdaus & Hosen, 2013). This approach will provide a comprehensive overview of the efficiency level of a bank as well as determine the determinants of efficiency (Subandi & Ghazali, 2013). Research on efficiency determination has been conducted in various countries, one of which is the one by Harimaya & Kondo (2016) which addresses the impact of branch opening on bank efficiency in Japan. The results reveal that regional banks can lower cost inefficiencies by expanding branch networks to a certain level. Delis & Papanikolaou (2009) who conducted a research on bank efficiency determinants by using semi-parametric methods concluded that some determinants such as bank size, industry concentration and investment environment have a positive impact on bank efficiency.

Another study conducted by Omar et al. (2006) delineated that bank size is proven to have no significance in improving bank efficiency, but the utilization of technology and human resource capability has a major impact on high productivity growth. According to Hassan & Sanchez (2007) who took a banking case study in Latin America, it is proven that the level of capitalization, profitability ratio, interest rate differential and GDP growth positively affect bank efficiency, while inflation rate has a negative effect on efficiency. Meanwhile, Abidin & Endri (2009) who conducted a research on macroeconomic variables and banking efficiency in Indonesia revealed that interest rate variables affect the technical efficiency of the bank negatively, while inflation and exchange rates are positively affected.

Based on some of the previous researches, it is necessary to re-examine the efficiency and efficiency determinants in particular for BPRS. To obtain a comprehensive overview of the efficiency level of BPRS, a Two-Stage Methodology approach was developed. The first step employs the measurement of efficiency with the Data Envelopment Analysis (DEA) method, and the second step looks at internal factors and external factors that affect the efficiency level of BPRS. Given the different characteristics of BPRS between regions, this study will measure the efficiency level of BPRS based on 4 regional zones. Knowing the efficiency level, it will be possible to determine the improvement steps for BPRS that are yet to achieve 100% efficiency. Furthermore, a new test was conducted on determination or factors affecting the efficiency level of BPRS. It is expected that this study will be considered as an input for policy stakeholders in formulating strategic measures to encourage BPRS competitiveness in accordance with the potential of the region.

2. Research Methodology

The data were obtained from financial statements published by Indonesian Bank and Financial Services Authority. The sampling was conducted by way of purposive sampling based on BPRS criteria that semi-annual financial report is available in full during the period of 2012 to 2015. The sample was selected based on the completeness of data owned by BPRS especially information on total assets, operational costs, operating income, financing, non-performing loan (NPL), Return on Assets (ROA) and others. The sample of BPRS was selected based on regional zone divided into four zones in accordance with the Regulation of Financial Services Authority (POJK) Number 3 / POJK.03 / 2016 on Sharia Rural Banks.

Table 2. Data Sharia Rural Bank (BPRS) According to the Regional Zone
(Data as of Desember 2015)

Regional Zone	Sampel Area	Sampel BPRS
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Zone 1	Kota Medan, Kota Jakarta Selatan, Kab Bandung, Kab Bogor, Kab Semarang, Kab Tangerang	16
Zone 2	Kota Banda Aceh, Kab. Deli Serdang, Kaota Pekanbaru, Kab Cianjur, Kab Bekasi, Kota Depok, Kota Cimahi, Kab Cilacap, Kab Banyumas, Kab Magelang, Kab Klaten, Kota Surakarta/Solo, Kota Yogyakarta, Kab Kediri, Kab Malang, Kab Sidoarjo, Kab. Gresik, Kab Pamekasan, Kab Serang, Kab Bandung	27
Zone 3	Daerah Istimewa Yogyakarta dan Jawa Timur	3
Zone 4	Kab Aceh Tengah, Kab Aceh Besar, Kab Pidie, Kab Aceh Jeumpa, Kota Langsa, Kota Lhokseumawe, Kab Agam, Kab Solok, Kota Sawahlunto, Kab Kampar, Kab Way Kanan	13
Total		59

The division of regional zones is determined based on the economic potential of the region and the level of competition of financial institutions in the relevant district or city area. Zone 1 shows areas with higher economic potential and more stringent financial competition, while zone 4 shows the region with lower economic potential and the looser competition of financial institutions. List of Regency and City Name according to the zones is contained in the attachment of the Power Distribution Services Authority Number 46 / SEOJK.03 / 2016.

This research consisted of two stages. The first stage was efficiency measurement of efficiency with DEA non parametric approach using Banxia software, while the input and output variables were determined using intermediation approach. To see the difference in the level of efficiency according to the regional zone, one way Anova was tested. The second step involved estimation of external and internal factors affecting bank efficiency as illustrated in the following work frame:

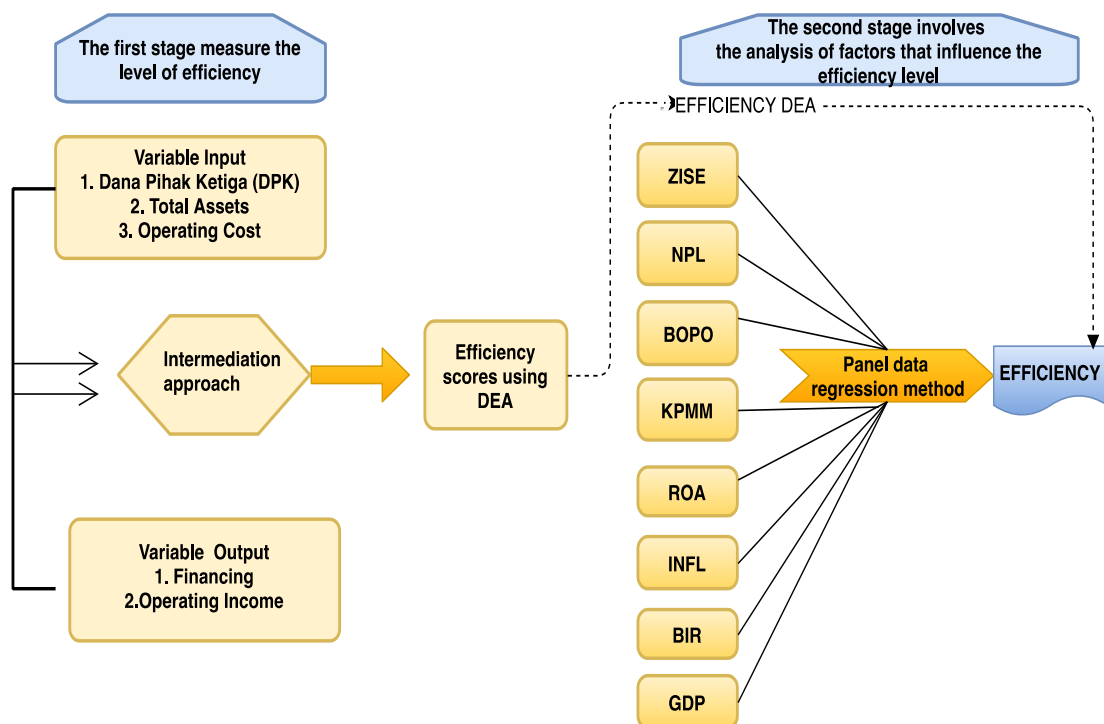


Figure 1. Thinking Framework

Specification of Bank Input and Output

Considering that the intermediation approach is the right approach to evaluate the performance of financial institutions in general because of their characteristics as financial intermediation, this study used intermediation approaches to determine banks' inputs and outputs. In addition, the intermediation approach is known to have been widely used in research to measure the level of banking efficiency undertaken in different countries. An intermediary approach looks at banking institutions as intermediaries between surplus units and deficit units. In other words, the intermediation approach considers the bank as an intermediary between depositors and lenders. The difference between the production approaches and the intermediation approach lies in the determination of inputs and outputs. In a third-party deposit or deposit production approach, it is considered as an output or a product produced by a bank, while in the intermediary deposit approach or DPK it is considered an input which will eventually result in an outflow of output to the public. Thus, the inputs in intermediation approaches are deposits and resources used, while the outputs are loans and other income.

Data Analysis Method

1). The First Phase of Efficiency Measurement with Data Envelopment Analysis (DEA).

To measure the banking efficiency in this study, the researcher used a non parametric approach known as Data Envelopment Analysis (DEA). DEA is a measure of efficiency by involving a number of inputs to produce a number of outputs to be used for decision making and efficiency improvements. The advantages of the non parametric approach are that they do not require too much information, assumptions and samples (Subandi & Ghozali, 2013). In this case the DEA is able to suggest the extent of the improvements the company needs in terms of inefficient resource use. Therefore, this research uses DEA non parametric method by using Banxia Frontier software in measure efficiency level.

There are two models commonly used in the DEA approach: the Constant Return to Scale (CRS) model and the Variable Return to Scale (VRS) model. The result of DEA calculation with CRS approach is also known as the Overall Effectiveness (Overall Efficiency). The result of DEA calculation using VRS approach is also referred to as Technical Efficiency. Data Envelopment Analysis (DEA) is used to estimate the technical efficiency score (TE), pure technical efficiency (PTE), and efficiency scale (ES) by using intermediation approach. The TE and PTE scores ranged from 0-1. The value of closer to 1 indicated that the bank was judged to be more efficient. The division of TE scores by the PTE score will produce ES ranging from 0-1.

$$SE = TE / PTE$$

Where:

SE = Scale Efficiency

TE = Overall Efficiency (CRS model)

PTE = Technical Efficiency (VRS model)

Selection of input and output variables to measure efficiency level using DEA method is as follows:

Table 3. Input-output of the DEA model

Variable	Definition	Reference
Input		
DPK	Wadiah Deposits Fund	Firdaus and Muhammad, (2013)
Total assets	Total assets	Widiarti et al. (2015)
Operating cost	Operating cost	
Output		
Financing	Murabahah Financing	Firdaus and Muhammad, (2013)
Operating Income	Funds distribution income	Widiarti et al. (2015)

After carrying out efficiency measurement using DEA, the next step was to look at the differences in the efficiency of BPRS from four zones. The analytical method used is an average difference test using One Way Anova.

2). The Second Phase: Determination of Data Efficiency with Data Panel

The first step in this research is the estimation of efficiency score using DEA. The second stage will analyze the effect of internal and external bank factors as independent variables to dependent variables, namely the efficiency of the DEA measurements using panel data regression. Panel data regression was used in view of the efficiency determination because the data panel form is a combination of Sharia BPRS latitude data and semester time series of the period of 2012 to 2015. In the data panel model analysis, there are three types of approaches consisting of common effect approach, fixed effect approach, and random effect approach. The three approaches used in data panel analysis are explained below:

1. Pooled Least Square (PLS) approach or common effect

Estimation of common effects is a simple regression technique for estimating panel data. Basically, estimates on common effects combine only time-series data with cross-sectional data regardless of time and individual differences. Thus, OLS method can also be used in estimating panel data models. The assumption of data behavior is considered to be equal regardless of time.

2. Constant Slope Approach but with Different Intercept between Individuals (Fixed Effect).

One of the challenges of data panel procedures is the difficulty to meet the consistent intercept assumption and slope assumptions. To overcome this, the researcher inserted the dummy variables in the data panel to enable different parameter values between cross-section and time-series.

3. Random Effect Approach

The decision to include dummy variables in a fixed effect model is known to reduce the degree of freedom that will ultimately reduce the efficiency of the estimated parameters. The data panel model

which involves correlation between error terms due to time change because of different observation is solved by error component model or also called random effect model.

Given that panel data is a combination of time-series and cross-section, the model can be written with the following:

$$EFF_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 NPL_{it} + \beta_3 BOPO_{it} + \beta_4 KPMM_{it} + \beta_5 ROA_{it} + \beta_6 INFL_{it} + \beta_7 BIR_{it} + \beta_8 GDP_{it} + \mu_{it}$$

$$i = 1, 2, \dots, N ; t = 1, 2, \dots, T$$

where:

EFF = Efficiency

SIZE = Total Assets

NPL = Non-Performing Loan to Total Credit

BOPO = Operational Costs on Operating Revenue

KPMM = Minimum Capital Adequacy Requirement

ROA = Profit Before Taxes to Average Total Assets

INFL = Inflation

BIR = BI Rate

GDP = Regional GDP

3. Results And Discussion

3.1.1 Measurement of Islamic Bank Sharia Efficiency Level (BPRS) Semester I Year 2012 to Semester II Year 2015

This discussion will highlight the measurement of efficiency level of Syariah Rural Banks (BPRS) using Banxia Frontier Analysis (BFA) software. Overall, the efficiency level of efficiency of BPRS in four regional zones throughout the period of 2012 to 2015 has fluctuated and thus overall has yet to reach an optimal level of efficiency. Based on the measurement results through the Frontier Analysis method, the efficiency score is 0 and 1 which means that the BPR Syariah is said to be very efficient when the score is 1. In contrast, the efficiency score which is far from 1 or approaching 0 indicates that BPRS is inefficient. The efficiency level of each BPRS will be presented in the table in annex one.

3.1.1.1 Efficiency Level of BPRS in Zone 4

The samples taken for zone 4 were 13 BPRS located in the provinces of Aceh, North Sumatra, West Sumatra, Riau and Lampung.

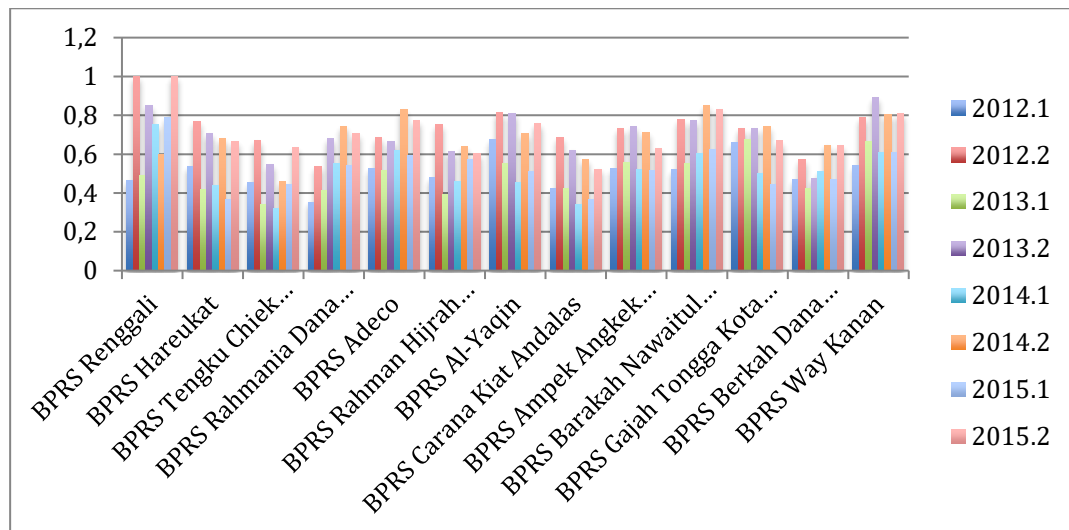


Figure 2. Efficiency Rate BPRS in Zone 4

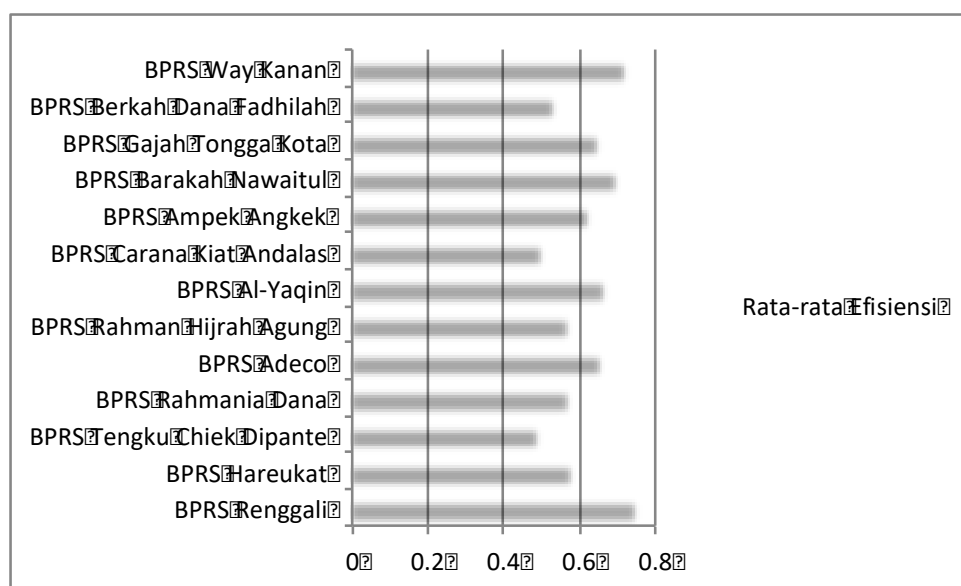


Figure 3. Average BPRS Efficiency Level in Zone 4

Overall, the efficiency level of 13 BPRS indicated a fluctuating trend, only the Renggali BPRS capable of achieving 100% efficiency level in the second half of 2015. On the other hand, the lowest efficiency level was achieved by BPRS Tengku Chiek Dipate in the first semester of 2014. On average it is indicated that the average efficiency of BPRS in zone 4 is about 0.6%. It is thus conclusive that the average level of efficiency of BPRS is still quite low. Zone 4 is a region which is less competitive and is usually located in the city district with low economic potential. In zone 4, rarely do we see easy access to

public banks. Hence, it is highly likely that BPRS becomes the potential first choice for people requiring banking services. In this case, the level of competition may positively and negatively affect the level of banking efficiency. This is due to high market concentration resulting in low competition in the banking sector leading to inefficient bank performance. Banks that are in a low competitive environment result in a lack of sustainability. This is in line with what is disclosed by Muljawan et al. (2014) that there is a negative correlation between the level of competition and efficiency. Lower level of banking competition can lead to lower bank efficiency. Furthermore, the inefficiency is compensated by raising the margin. On the contrary, a high level of competition can encourage banks efficiency to compete and maintain their business sustainability.

Apergis & Alevizopoulou (2011) also revealed that efficiency is one of the most important assets for banks as banking operates in highly competitive environments. By taking a banking case study in Europe, they revealed that overall Germany, Denmark and Australia have the most efficient banking system, while Luxembourg and France are in the final rank. Maudos et al. (2000) disclosed the reasons for the different level of efficiency of banking in Europe that is due to the bank's characteristic and market characteristic. In particular, the level of risk measured by capital costs and asset composition can affect the efficiency of the bank, while market characteristics such as environmental or regulatory conditions as well as banking technology can determine the level of bank efficiency. Environmental conditions as expressed by Lozato (1997) can be demonstrated by differences in demand for product and banking services. The difference in demand can be affected by population density and per capita income.

As of BPRS, it is known to have inefficient operational and difficulties to obtain capital assistance under structural problems. In order to increase its role, BPRS must be operated on a certain scale and should be supported by a larger Capital Adequacy Ratio (KPPM) ratio to absorb potential risks. Capital limitation is a major factor causing BPRS to not achieve economic scale. This is attributed to limited capital resulting in the inability to recruit qualified HR, inability to provide reliable IT facilities, inability to realize good corporate governance and inability to develop competitive products and services. All these things are known to trigger the potential of fraud and mismanagement deteriorating BPRS performance and leading to great losses impeding the realization of economic of scale. The inability to achieve economic of scale may lead to inefficiencies for BPR and BPRS. In order to increase the bank's ability to absorb the risk, Financial Services Authority issued the rules set out in POJK Number 3 / POJK.03 / 2016 that the amount of capital provision in the framework of establishment of BPRS is adjusted to the regional zone.

3.1.1.2 Efficiency of BPRS in Zone 3 Area

Out of the three BPRS samples located in zone 3, the level of efficiency was best achieved by BPRS Al Mabrur Babadan with average value of 0.90%. The increase in efficiency level significantly occurred in 2012 from the original value of 0.53% in the first semester to 100% in the second semester. In the next period, BPRS Al Mabrur Babadan was able to maintain its efficiency although the first and second semester

of 2015 experienced a slight decline. In this case, it was rare to find a bank capable of maintaining its efficiency value steadily from time to time. There are many factors to inhabit banks from maintaining its stable efficiency Widiarti et al. (2015) pointed out that internal bank factors such as Non Performing Loan (NPL), Loan to Deposit Ratio (LDR), Bank Size, Cost Efficiency Ratio, and Capital Adequacy Ratio (CAR) significantly affect the efficiency of banks in Indonesia.

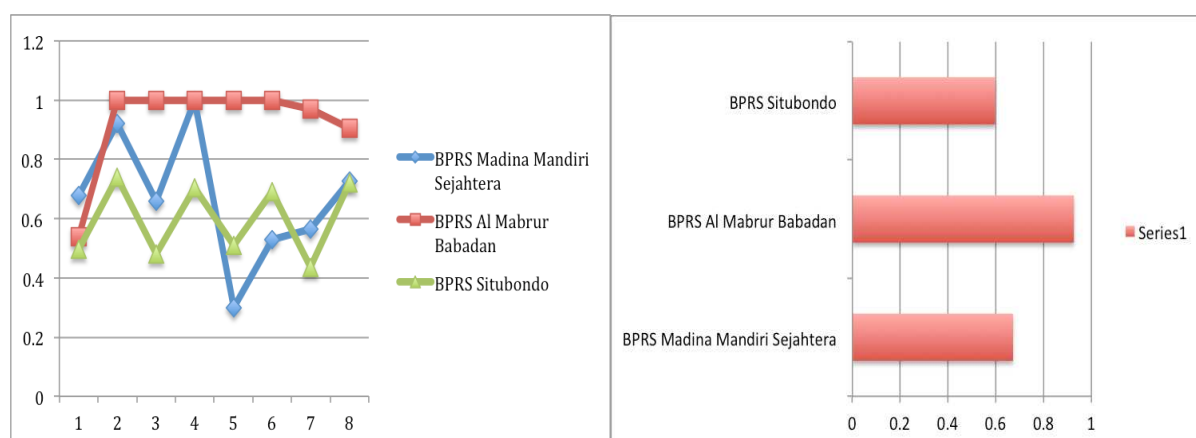


Figure 4. Efficiency and Average Efficiency Level of 3 BPRS in the Area of Zone 3

As for intermediary function, Third Party Funds in the form of savings are known to be inputs owned by the bank, while channeling funds to the public in the form of financing is an output for the bank. Measurement of bank efficiency will see how the input can produce levels of output. Banks are said to be efficient when it can manage inputs in such a way to produce optimal output. In fact, it is not easy to realize an efficient bank performance and not all banks can achieve 100% of efficiency.

3.1.1.3 BPRS Efficiency in Zone 2

Zone 2 consists of 103 (one hundred three) areas but this study only involved 27 BPRS from the provinces of Aceh, North Sumatra, Riau, West Java, Central Java, DIY, East Java, Banten and Bali. Based on the measurement of BPRS efficiency level during the first semester of 2012 until the second semester of 2015, it was revealed that those banks experienced a fluctuating trend. During the research period, there were several BPRS that could achieve optimal efficiency level. Those with the 100% efficiency level were

BPRS Arta Fisabilillah in the second half of 2013, BPRS Al Barokah in the second semester of 2012 and 2013, BPRS Al Hijrah Amanah in the first half of 2012, BPRS Bhakti Haji in the first semester of 2015, BPRS Unawi Barokah in the first semester of 2014 and last was BPRS Syariat Fajar Sejahtera Bali in the first and second semester of 2013 and 2014 as well as the second semester of 2015.

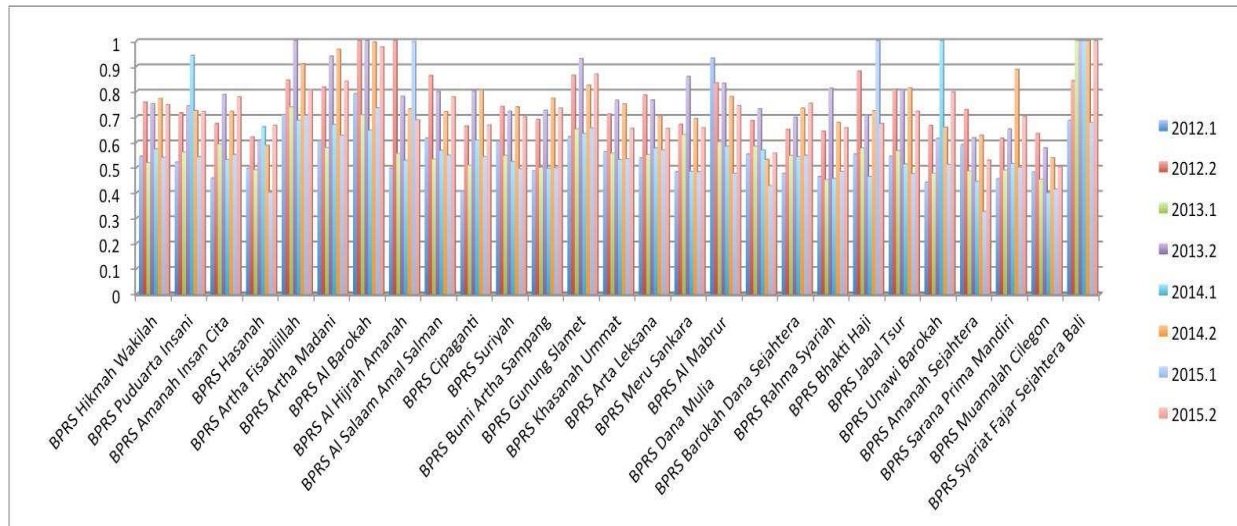


Figure 5. Efficiency Rate BPRS in Zone 2

The benefit of efficiency measurement using DEA is that it can suggest how much improvements are needed by companies that are inefficient in terms of use of resources. Suppose that the BPRS Hasanah in the second semester of 2015 has an efficiency value of 0.6664 or 66.64%. To make it achieve 100% efficiency level, the bank is encouraged to raise the total financing and operating income of 50.06%.

Table 4. BPRS Hasanah Target Input and Output (Second Semester Period 2015)

	Variable	Actual (Juta Rupiah)	Target (Juta Rupiah)	Potential Improvement
Input	Wadiah Savings	174,94	174,94	0%
	Total assets	7883535	7883535,00	0%
	Operating costs	1470674	1470674,00	0%
Output	Financing	6298660	9451989,19	50.06%
	Operating Income	1553943	2331901,14	50.06%

Source: Data Processed

3.1.1.4 Efficiency of BPRS in Zone 1

Zone 1 is an area with higher economic potential and more rigorous financial competition. The high levels of competition between banks are required so banks can manage their existing funds more efficiently. The challenges faced by BPRS located in zone 1 are not only competition between sharia banks but competition with conventional commercial banks. Ease of access to public banks in this region resulted in the public having many alternative choices in using banking services. Hence, the following figure will explain whether higher competition in this area can be followed by increasingly higher competitiveness:

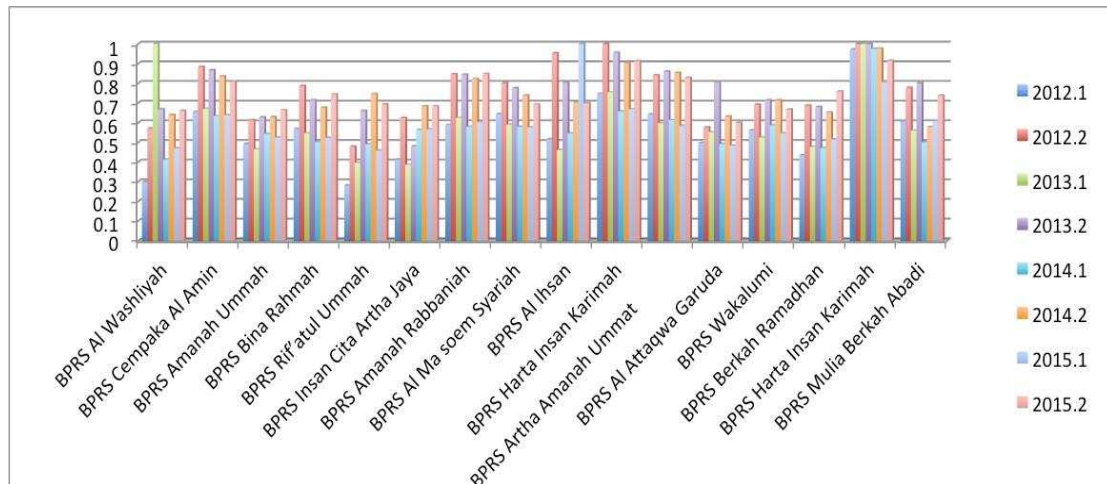


Figure 6. Efficiency Rate BPRS in Zone 1

Based on the testing results, it is known that BPRS achieving 100% of efficiency was BPRS Al Washliyah in the first semester of 2013, BPRS Al Ihsan in the first semester of 2015, BPRS Harta Insan Karimah Parahyangan in the first semester of 2012 and BPRS Harta Insan Karimah in the second half of the year 2012 until the second semester of 2013. The best efficiency performance was shown by BPRS Harta Insan Karimah with an average efficiency value of 0.95% during the research period. Meanwhile, the lowest efficiency level occurred in BPRS Rif'atul Ummah with a value of 0.28% in the first semester of 2012. A potential improvement for BPRS Rif'atul Ummah is by way of lowering the wadiah savings target of 80.95%. In addition to achieving 100% efficiency level, BPRS Rif'atul Ummah also needs to increase its funding and operating income by 254.40%.

Tabel 5. BPRS Rif'atul Ummah Target Input dan Output (Second Semester Period 2013)

Variable		Actual (Juta Rupiah)	Target (Juta Rupiah)	Potential Improvement
Input	Wadiah Savings	2342,32	446,19	-80,95%
	Total Assets	11647467,00	11647467,00	0%
	Operating cost	329063,00	329063,00	0%
Output	Financing	6939486	24593569,19	254,40%
	Operating Income	423071,00	1499365,50	254,40%

Source: Data Processed

In this case, it is possible to measure efficiency level through two approaches, namely input approach and output approach. The input approach sees how much inputs can be reduced to produce the same quantity of output, while the output approach answers how much quantity of output can be proportionally increased. Overall, the average efficiency level amounted to 0.67%. Thus, it is conclusive that the efficiency level of BPRS in zone 1 has not been optimal. Many factors are known to contribute to the failure of BPRS in achieving efficient level. Rahmawati & Hosen (2012) revealed that at the moment the competition between banks, especially sharia banks has returned to the level of profit sharing, which differs sharply between sharia banks. Bank Perkreditan Rakyat is widely known by the public as a bank with public financing as

its primary activity. However, in its operational activities financing activities can only be made when the bank receives funds from the public. Thus, the main challenge faced by BPRS is to build the public trust to save their funds in the bank. Many strategies can be made to attract Third Party Funds, one of which is by promising high yields.

However high yields also result in cost inefficiencies. Hence, the challenge not only lies in how to boost high deposit funds but also on how to manage them to produce optimal output. Some effort to be taken by the bank is by trying to improve internal efficiency first before taking other external measures. Internal efforts can be made by allocating optimal inputs and minimizing costs as low as possible. According to Mardanugraha (2005), the best way to improve the employees' productivity is by managing funds. It can be done through the bank's operational activities such as collecting and channeling funds. For this purpose, the bank requires a reliable Human Resources (HR) to maintain the prudential principle.

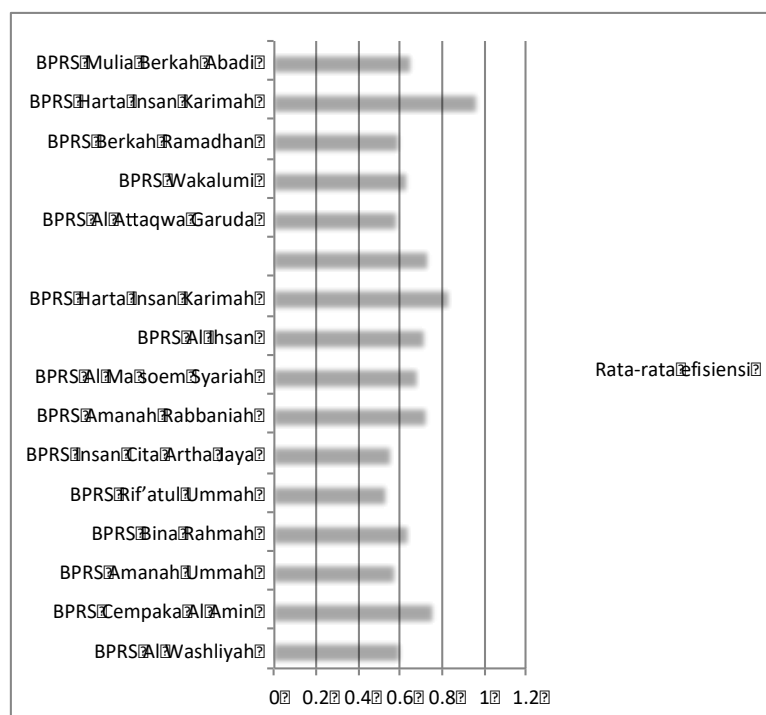


Figure 7. Average Efficiency of BPRS in Zone 1

3.1.1.4 Difference in the Level of Efficiency Among BPRSs

The measurement of BPRS efficiency in four regional zones discloses fluctuating efficiency levels, but overall it is conclusive that the average efficiency in each region has yet to reach optimal level. Although regional zoning divisions illustrate the level of competition and regional potential, it is not a major factor to determine the level of bank efficiency. Measurements of bank efficiency emphasize more on seeing how the input performance can produce certain output levels. In this case, the bank is said to be efficient when it is able to manage inputs in such a way as to produce maximum output.

The measurement of the average difference test shows that the level of efficiency of BPRSs in the four zones of the region does not have a significant difference. This can be seen from the results of the

Anova test which shows that the significance value is greater than alpha 5%. Thus it can be concluded that the level of efficiency of BPRS in regions that have economic potential and high levels of competition is not much different from BPRS located in zone four, namely regions with economic potential and low levels of competition.

Table 3.3 Results of Different Average Estimates

ANOVA					
Efficiency	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.049	3	.016	1.637	.191
Within Groups	.550	5	.010		
Total	.599	8			

Source: Data Processed BY SPSS

The level of efficiency that has not been optimal is due to the big challenges faced by BPRS throughout the region. Through PBI No. 14/22 / PBI / 2012, Bank Indonesia requires each Commercial Bank to channel MSME Credit or financing at least 20% of the total financing portfolio. This makes the competition level of Commercial Banks and BPRS almost evenly distributed throughout the region. In this case there is a potential for credit transfers from BPRS to commercial banks under the scheme of People's Business Credit (KUR). In addition, BPRSs compete with other financial institutions such as cooperatives and other microfinance institutions.

Hafidz, Rachmanira, & Octia (2013) measuring the level of competition of commercial banks with rural banks using the Herfindahl-Hirschman Index (HHI) and finding competition between commercial banks and rural banks in the provision of microcredit. BPRs and commercial banks also compete to give microcredits because they operate in the same areas. His research also links the level of competition and efficiency between Commercial Banks and Rural Banks. The results show that the level of efficiency in commercial banks is better when compared to rural banks. This is as a result of the high cost of Funds for Credit (HDPK) and overhead costs (OCH) borne by BPR. To attract markets, BPRs tend to provide higher interest rates on deposits compared to commercial banks. On the other hand, commercial banks are able to reduce operational costs because they have a wider market, more varied sources of funds, better infrastructure and facilities and more adequate human resources. Furthermore, the comparison between HII and efficiency shows that the higher level of competition results in lower levels of BPR efficiency. Similar things are also faced by Sharia Rural Banks (BPRS).

Although faced with the challenges of high competition, BPRS still have the opportunity to increase their existence through linkage programs with Commercial Banks. There are three linkage program models that can be carried out by BPRS namely executing, channeling and joint financing. With these partnership models, the relationship between BPRS and Commercial Banks can be complementary and supportive.

However, the concern is that so far the linkage program has become an expensive fund for BPRS, so it is necessary to review how the partnership program can become a low-cost fund for BPRS without reducing reasonable profits for commercial banks.

3.1.2 Estimated Factors to Affect Efficiency Level of BPRS

Based on panel data processing conducted in several stages, it came to light that the Random Effect model comes up with the best estimate result as shown in the followings.

Table 6. Estimates of Internal Factor Models and External Factors Affecting Efficiency

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.616981	0.052849	11.67451	0.0000
TA	1.15E-10	1.28E-10	0.896546	0.3704
NPF	-0.000182	0.000329	-0.551473	0.5816
BOPO	-0.253551	0.037729	-6.720268	0.0000
KPM	8.80E-05	3.91E-05	2.248306	0.0250
ROA	-2.31E-05	0.000212	-0.109012	0.9132
INFL	0.020721	0.003198	6.479547	0.0000
BIR	0.017470	0.007039	2.481968	0.0134
GDP	8.53E-08	1.02E-07	0.834698	0.4043
R-squared	0.218587	Mean dependent var		0.321804
Adjusted R-squared	0.205085	S.D. dependent var		0.134860
S.E. of regression	0.120238	Sum squared resid		6.693679
F-statistic	16.18956	Durbin-Watson stat		2.657609
Prob(F-statistic)	0.000000			

Source: Data Processed by OSEVIEWS

Based on the data processing as shown in the abovementioned table, it can be interpreted that this regression model has R-squared value of 0.2185. This indicates that the variation of independent data can only explain the dependent variable of the efficiency of 21.85%, while 78.15% is explained by other variables outside the model.

3.1.2.1 The Impact of Bank Internal Factors on Efficiency

Many factors are also known to determine bank efficiency level such as internal bank factors in the form of financial indicators. Internal factors are micro or specific factors that can determine the bank efficiency level. The first financial indicator to be analyzed to see its effect on efficiency is the total asset that indicates the size of the bank. The test on the size of the bank which is proxied by total assets shows no significant effect on the efficiency of BPRS. This is observable from the probability value at above 0.05% indicating that the bank size does not have a significant effect on the efficiency of BPRS. This result is in line with that revealed by (Omar et al., 2006) that took a case study in Malaysia and disclosed that bank size was not an important factor in improving bank efficiency. In contrast, the utilization of technology and human resource capability has a major impact on high productivity growth. This is not in line with the research conducted by Abidin & Endri (2009) which highlights that on average, the bank with bigger assets is more efficient than that with middle and small assets. The result of the study is also in line with that conducted by Delis & Papanikolaou (2009) indicating that a number of determinants such as bank size have

a positive impact on bank efficiency. While Sardar, Azeem, & Ahmed (2017) who investigated bank efficiency in Pakistan found that assets had a positive effect on bank efficiency.

The effect of NPF on efficiency is shown by coefficient value of -0.000182 with probability value equal to 0.5816 that is greater than alpha 5%. In other words, NPF has a negative effect on efficiency but not significantly. The results of this study are not in line with the study by Widiarti et al. (2015) pinpointing that the internal factors of the bank, one of which is Non Performing Loans (NPF) significantly affects the efficiency of banks in Indonesia. NPF is a comparison between non-performing loans, credit summation with lesser, doubtful, and loss quality, with the total credit. The high rate of NPF is attributed to two things, namely because the problematic credit is getting bigger or the total amount of financing is getting smaller. The NPF increase that is triggered by the growing credit of the problem will affect the bank's efficiency. The high level of non-performing loans can threaten the bank's capital, because it functions to absorb the risks. However, if the high NPF is resulted from the low total financing due to reduced credit demand and reduced credit disbursements, the NPF is thought to have no significant effect on efficiency.

The effect of CAR on efficiency is shown by the coefficient value of 0.00088 with a probability value of 0.0250 that is smaller than alpha 5%. This means that KPMM has a positive and significant effect on bank efficiency. When bank capitalization is higher, the performance of BPRS will be more efficient. These results are in line with studies conducted by Widiarti et al. (2015) and Karimah (2016) concluding that the bank's capital adequacy ratio has a significant effect on the bank's efficiency. The Minimum Capital Adequacy Ratio (CAR) is a ratio between capital and Risk Weighted Assets used to measure the bank's ability to absorb the risk. When the ratio of KPMM is high, the capital capability to absorb the risk will be greater and thus, the bank is judged to be more efficient. In this case, the bank capital has a significantly huge role to absorb risk. Capital limitation is a major factor that impedes BPRS from achieving economic scale. This is so because limited capital will result in the inability to recruit qualified HR, inability to provide reliable IT facilities, inability to realize good corporate governance and inability to develop competitive products and services. All these things can trigger the potential of fraud and mismanagement that degrades BPRS performance and even incur losses making it impossible to achieve economic of scale. The fact that it fails to achieve economic of scale has led to inefficiencies for BPR and BPRS.

The effect of BOPO ratio on bank efficiency is shown by coefficient value of -0.253551 with probability value of 0.0250 that is smaller than alpha 5%. In other words, BOPO has a negative and significant effect on BPRS efficiency. BOPO is a ratio between operational costs and operating income, which is one of the indicators of bank efficiency level. Banking is said to be efficient if the BOPO ratio decreases, so the relationship between BOPO and efficiency is negative. These results are in line with studies conducted by Widiarti et al. (2015) whose test results show that BOPO Ratio which is a Cost Efficiency ratio significantly affects the bank efficiency level in Indonesia. Meanwhile, the effect of ROA ratio on bank efficiency shows the coefficient value of -0.000231 with probability value of 0.9132 greater

than alpha 5%. This means that ROA has a negative effect but not significant to efficiency. These results are not in line with the studies conducted by Subandi & Ghazali (2013) and Hassan (2006) indicating that efficiency is highly correlated with ROA and ROE. In the sample taken, many BPRS are found to have a negative ROA ratio, which would affect the probability calculation of ROA regression to efficiency.

3.1.2.2 Effect of Macro Factor on BPRS Efficiency

This research also aims to address how macro variable influence efficiency level of BPRS in Indonesia. Macro variables or external factors are variables unrelated to bank management but reflect the economic environment that affects banking operations and performance. The influence of inflation variable to efficiency is shown by coefficient value of 0.020721 with probability value of 0.0000. These results indicate that inflation has a positive and significant effect on the efficiency of BPRS in Indonesia. When inflation is higher, the bank is judged to be more efficient. This result is in line with the study conducted by Endri, (2015) which reveals that inflation and exchange rates have a positive effect on efficiency. However, this is not in line with Garza-Garcia (2012) study taking a case study in Mexico which found that inflation rates lowered the efficiency of the bank. In contrast, Hassan & Sanchez (2007) who conducted a research in Latin America revealed that the inflation rate affects the efficiency of the bank negatively.

Inflation has two contradictory sides. When inflation is too low, the economy will slacken. However, on the other hand, the high inflation will lower the purchasing power of the people. As a policy response of the soaring inflation, the central bank will normally control the value of inflation by raising interest rates. This results in the higher cost of capital payable by the debtor. Thus, an increase in inflation will limit the demand for personal credit. The positive impact of inflation on BPRS efficiency is suspected because BPRS runs its operational system using the principles of sharia which is based on the profit sharing principle. With the rise in interest rates as a result of rising inflation, debtors look for financing alternatives with much lower capital costs. Islamic banks that are not based on interest are an alternative option for people who want to apply for financing. Thus, when inflation is increasing, people will tend to switch to sharia banking. This will clearly explain the relations between high rate of inflation and higher level of bank efficiency.

The effect of interest rate on efficiency is shown by coefficient value of 0.017470 with probability of 0.0134 that is smaller than 5%. This means that interest rates have a positive and significant effect on the efficiency of BPRS in Indonesia. This result is in line with what is proposed by Delis & Papanikolaou (2009) and Hassan & Sanchez (2007) but not in line with Endri (2015) study which reveals that variable interest rates negatively affect the technical efficiency of banks. High interest rates lead to a greater value of NIM because of the larger disparity between credit interest rates and deposit interest rates. High NIMs make it unnecessary for the bank to operate at a low cost, resulting in inefficiencies. This has the same predisposition to the impact of inflation on bank efficiency. The increase of interest rates will lead to higher capital costs. As an effect, this results in diminishing intensity of financing in conventional banking. On

the other hand, the people will seek for financing alternatives that are not based on interest, ie sharia banking or BPR Sharia.

The test on the effect of GDP on efficiency indicates that GDP has a positive but not significant effect toward BPRS efficiency. This is shown by coefficient value of 0,01747 with probability of 0,404 larger than 5%. This is the reason why the efficiency calculation of BPRS in 4 regional zones equally shows poor result. Thus, the regional potential difference measured by GDP does not affect the efficiency level of BPRS. The low efficiency of BPRS is due to the inefficiencies in its operational activities. Some of the factors known to greatly contribute to this are competition with public bank financial institutions that are currently seeking to expand its business in the micro market. On the other hand, BPRS' competitiveness is currently at the low, both in terms of product and service innovation. The low competitiveness has resulted in great financial loss in some BPRS' financial statement. On the other hand, BPRS also faces competition between sharia banks in the form of price competition or profit margin. When BPRS wants to withdraw their Third Party Funds, they must provide attractive rates or profit margins to the public. The higher the profit margin offered, the higher the public interest to save their funds at BPRS. However, the operational burden borne by banks is also getting higher, leading to the inevitable inefficiency in BPRS operational. Other studies conducted by Garza-Garcia (2012) and Delis & Papanikolaou (2009) come up with different results that GDP growth affects the efficiency of the bank. Anwar (2010) research asserts that macro GDP has no significant effect on efficiency.

4 Conclusions and Suggestions

On the basis of the research, it is conclusive that overall, the average of BPRS efficiency in four regional zones has yet to reach optimal level. Of all the observed BPRS, only few BPRS that attained 100% efficiency levels in certain periods, but there was no BPRS capable of maintaining optimum efficiency levels during the research period. In this case, there was no significant difference between the levels of efficiency among regional zones. Some internal bank factors that affected the efficiency level of BPRS were BOPO and KPM, while Total Assets, NPF and ROA had no significant effect on efficiency. For macro variables, BI Rate and inflation were proven to have a positive and significant effect on BPRS efficiency, while GDP was seen to have no significant effect on efficiency.

Based on these findings, it is necessary to strategically improve the competitiveness of BPRS in order to sustain its competitiveness against both commercial banks and other sharia banks. As seen from the internal side of BPRS, it is necessary to undertake several strategies such as improvement of credit disbursement by focusing on micro, small and medium industries (SMEs). This can be achieved by increasing the employee's productivity in managing the funds while still keeping in mind the prudential principles. Other recommended measurements to achieve economies of scale and to increase competitiveness are performing mergers between BPRS especially for small-scale BPRS. Although in this case the total asset will not have a significant effect on efficiency, the recommended merger measurement

can reinforce the company's capital structure. The increase in capital capability of the bank is highly essential because the primary function of capital is to absorb the risk. The increasingly complex operational activities of the bank must be supported by strong capitalization. Therefore, it is necessary that the bank maintain the value of the Minimum Capital Provision of Liabilities within the range set by the regulator. Meanwhile, macro variables are variables that are not related to bank management but reflect the economic environment that may affect banking operations and performance. Thus, the bank is highly required to pay attention to external factors in determining the most appropriate strategy to develop its product and more competitive services.

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Reference

- Abidin, Z., & Endri. (2009). Kinerja Efisiensi Teknis Bank Pembangunan Daerah: Pendekatan Data Envelopment Analysis (DEA). *Jurnal Akuntansi Dan Keuangan*, 11(1), 21–29. <https://doi.org/10.9744/jak.11.1.pp.21-29>
- Anwar, M. (2010). Efisiensi Perbankan di Indonesia : Bank Syariah ' ah vs Bank Konvensional. *Buletin Ekonomi Moneter Dan Perbankan*, 18(3), 307–334.
- Apergis, N., & Alevizopoulou, E. (2011). Bank efficiency: Evidence from a panel of European banks. *Panaeconomicus*, 58(3), 329–341. <https://doi.org/10.2298/PAN1103329A>
- Delis, M. D., & Papanikolaou, N. I. (2009a). Determinants of bank efficiency: evidence from a semi-parametric methodology. *Managerial Finance*, 35(3), 260–275.
- Delis, M. D., & Papanikolaou, N. I. (2009b). Determinants of bank efficiency: evidence from a semi-parametric methodology. *Managerial Finance*, 35(3), 260–275. <https://doi.org/10.1108/03074350910931771>
- Endri. (2015). Variabel Makroekonomi Dan Efisiensi Perbankan Di Indonesia. *Book of Proceeding*, (c), 73–80.
- Fadhullah, A. H. (2015). EFISIENSI BANK PEMBANGUNAN DAERAH: PENDEKATAN STOCHASTIC FRONTIER. *Signifikan*, 4(1), 1–16.
- Firdaus, M. F. dan M. N. (2013). *Efficiency of Islamic Banks Using Two Stage Approach of Data Envelopment Analysis*. *Bulletin of Monetary, Economics and Banking*.
- Firdaus, M. F., & Hosen, M. N. (2013). Efficiency of Islamic Banks Using Two Stage Approach of Data Envelopment Analysis. *Buletin Ekonomi Moneter Dan Perbankan*, 16(2), 155–176.
- Garza-Garcia, J. G. (2012). Title : Determinants of bank efficiency in Mexico : a two-stage analysis Determinants of bank efficiency in Mexico : a two-stage analysis. *Working Paper Series*.
- Hafidz, J., Rachmanira, S., & Octia, T. (2013). Tingkat Persaingan dan Efisiensi Bank Umum dan BPR di Pasar Kredit Mikro di Indonesia. *Working Paper*, 1–8.

- Harimaya, K., & Kondo, K. (2016). Effects of branch expansion on bank efficiency: evidence from Japanese regional banks. *Managerial Finance*, 42(2), 82–94. <https://doi.org/10.1108/MF-11-2014-0278>
- Hassan, M. K. (2006). the X-Efficiency in Islamic Banks. *Islamic Economic Studies*, 13(2), 30.
- Hassan, M. K., & Sanchez, B. (2007). Efficiency Determinants and Dynamic Efficiency Changes. *Working Paper*, (December).
- Karimah, S., Novianti, T., & Effendi, J. (2016). Kajian Efisiensi Bank Umum Syariah di Indonesia Efficiency of Islamic Bank in Indonesia. *Kajian Efisiensi Bank Umum Syariah Indonesia*, 4(7), 33–43.
- Lozato, A. (1997). Profit Efficiency for Spanish Savings Banks. *European Journal of Operational Research*, 98(2), 381–394.
- Mardanugraha, E. (2005). Evaluasi Merger Perbankan di Indonesia Ditinjau Melalui Fungsi Biaya Parametrik. *Jurnal Ekonomi Dan Pembangunan Indonesia*, VI(1), 1–15.
- Maudos, J., Pastor, J. M., And, F. P., & Quesada, J. (2000). Asymmetric Price-Benefits Auctions. *Games and Economic Behavior*, 33(1), 48–71. <https://doi.org/10.1006/game.1999.0772>
- Muljawan, D., Hafidz, J., Astuti, R. I., & Oktapiani, R. (2014). Faktor-faktor Penentu Efisiensi Perbankan Indonesia serta. *Working Paper*.
- Omar, M. A., Rahman, A. R. A., Yusof, R. M., Shabri, M., & Rasid, M. E. S. M. (2006). Efficiency of commercial banks in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 2(2), 19–42. <https://doi.org/10.4018/978-1-5225-2814-2>
- Otoritas Jasa Keuangan. (2017a). Laporan Capaian Kinerja OJK 2012 - 2017. *Report*.
- Otoritas Jasa Keuangan. (2017b). Siaran Pers, 9–11.
- Rahmawati, R., & Hosen, M. N. (2012). Efficiency of Fund Management of Sharia Banking in Indonesia (Based On Parametric Approach). *International Journal of Academic Research in Economics and Management Sciences*, 1(2), 144–158. <https://doi.org/10.1007/s00170-003-1756-1>
- Sardar, A., Azeem, M. M., & Ahmed, T. (2017). Islamic Banks : Efficiency and its Determinants in Pakistan Linked references are available on JSTOR for this article : Pakistan Banks : Eff. *Islamic Studies*, 50(3), 423–434.
- Staub, R. B., Souza, G., & Tabak, B. M. (2008). Evolution of Bank Efficiency in Brazil: A DEA Approach. *Working Paper Series*, 39(5), 561–563.
- Subandi, & Ghozali, I. (2013). Determinan efisiensi dan dampaknya terhadap kinerja profitabilitas industri perbankan di indonesia. *Jurnal Keuangan Dan Perbankan*, 17(No.1 Januari 2013), 123–135.
- Widiarti, A, Hermanto S, T. A. (2015). The Determinants of Bank's Efficiency in Indonesia. *Buletin Ekonomi Moneter Dan Perbankan*, 18(2), 129–156.
- Widiarti, A. W., Siregar, H., & Andati, T. (2015). The Determinants of Bank's Efficiency In Indonesia. *Buletin Ekonomi Moneter Dan Perbankan*, 18(2), 130–156. <https://doi.org/https://doi.org/10.21098/bemp.v18i2.520>

Appendix 1: Efficiency Level of BPRS Semester I of 2012 - Semester II of 2015

Nama BPRS	Kab. Kota	ZONA	2012.1	2012.2	2013.1	2013.2	2014.1	2014.2	2015.1	2015.2	AVERAGE
BPRS Renggali	Kab. Aceh Tengah	4	0.4662	0.9976	0.4885	0.8488	0.7517	0.596	0.7904	1	0.7424
BPRS Hareukat	Kab. Aceh Besar	4	0.5351	0.7675	0.4173	0.7083	0.4395	0.6816	0.3652	0.6627	0.57215
BPRS Tengku Chiek Dipante	Kab. Pidie	4	0.4543	0.6691	0.3416	0.5479	0.3191	0.461	0.4436	0.6318	0.48355
BPRS Rahmania Dana	Kab. Aceh Jeumpa/ Bireuen	4	0.353	0.5354	0.4118	0.6793	0.5516	0.7436	0.5393	0.7066	0.565075
BPRS Sejahtera Hikmah Wakilah	Kota Banda Aceh	2	0.5437	0.7578	0.5179	0.7519	0.5728	0.772	0.5395	0.7476	0.6504
BPRS Adeco	Kota Langsa	4	0.5255	0.6833	0.5144	0.6659	0.6186	0.8299	0.5923	0.7708	0.6500875
BPRS Rahman Hijrah Agung	Kota Lhokseumawe	4	0.4809	0.7534	0.3923	0.6111	0.4567	0.6391	0.5716	0.6034	0.5635625
BPRS Puduarta Insani	Kab. Deli Serdang	2	0.5208	0.7153	0.5612	0.7427	0.9422	0.7244	0.5418	0.7202	0.683575
BPRS Amanah Insan Cita	Kab. Deli Serdang	2	0.4583	0.6734	0.5923	0.7876	0.5304	0.7215	0.5505	0.7787	0.6365875
BPRS Al-Yaqin	Kab. Simalungun	4	0.6733	0.8158	0.5499	0.8095	0.4548	0.7048	0.5083	0.7571	0.6591875
BPRS Al Washliyah	Kota Medan	1	0.2998	0.5717	1	0.6687	0.4132	0.6408	0.4717	0.6604	0.5907875
BPRS Carana Kiat Andalas	Kab. Agam	4	0.421	0.6872	0.4212	0.6207	0.3427	0.5704	0.3678	0.5231	0.4942625
BPRS Ampek Angkek Candung	Kab. Agam	4	0.5262	0.7328	0.5549	0.7406	0.5205	0.712	0.5162	0.6303	0.6166875
BPRS Barakah Nawaitul Ikhlas	Kota Solok	4	0.5191	0.779	0.5535	0.7741	0.6029	0.8488	0.6228	0.8322	0.69155
BPRS Gajah Tongga Kota Piliang	Kota Sawahlunto	4	0.6575	0.7318	0.6735	0.7331	0.4999	0.7411	0.4442	0.6677	0.6436
BPRS Berkah Dana Fadhillah	Kab. Kampar	4	0.4696	0.5716	0.4234	0.4735	0.5119	0.6467	0.4682	0.6462	0.5263875
BPRS Hasanah	Kota Pekanbaru	2	0.4968	0.6202	0.4909	0.6077	0.66	0.5871	0.4015	0.6664	0.566325
BPRS Way Kanan	Kab. Way Kanan	4	0.5432	0.7889	0.6645	0.8895	0.61	0.8051	0.6086	0.8095	0.7149125
BPRS Cempaka Al Amin	Wil. Kota Jakarta Selatan	1	0.6549	0.8839	0.6716	0.8679	0.6342	0.8366	0.6384	0.8095	0.749625
BPRS Amanah Ummah	Kab. Bogor	1	0.4925	0.6139	0.466	0.6284	0.544	0.6289	0.5257	0.664	0.570425
BPRS Bina Rahmah	Kab. Bogor	1	0.5694	0.7874	0.5472	0.7152	0.502	0.6765	0.5236	0.7447	0.63325
BPRS Rif'atul Ummah	Kab. Bogor	1	0.2822	0.4799	0.3967	0.6604	0.4909	0.7464	0.4591	0.6943	0.5262375
BPRS Insan Cita Artha Jaya	Kab. Bogor	1	0.4128	0.6259	0.3878	0.4806	0.5642	0.6836	0.5672	0.6841	0.550775
BPRS Artha Fisabilillah	Kab. Cianjur	2	0.7092	0.8447	0.7389	1	0.6859	0.9091	0.7057	0.8073	0.8001
BPRS Amanah Rabbaniah	Kab. Bandung	1	0.5895	0.8473	0.6251	0.8447	0.5797	0.8235	0.6031	0.8492	0.7202625

Nama BPRS	Kab. Kota	ZONA	2012.1	2012.2	2013.1	2013.2	2014.1	2014.2	2015.1	2015.2	AVERAGE
BPRS Al Ma soem Syariah	Kab. Bandung	1	0.6444	0.8012	0.5906	0.7764	0.5793	0.7393	0.5773	0.6936	0.6752625
BPRS Al Ihsan	Kab. Bandung	1	0.5171	0.9535	0.4623	0.8042	0.5475	0.7031	1	0.7002	0.7109875
BPRS Harta Insan Karimah Parahyangan	Kab. Bandung	1	0.7477	1	0.755	0.9572	0.6574	0.9043	0.6693	0.9135	0.82555
BPRS Artha Madani	Kab. Bekasi	2	0.6056	0.8171	0.5777	0.9396	0.6695	0.9662	0.6269	0.8404	0.755375
BPRS Al Barokah	Kota Depok	2	0.791	1	0.7083	1	0.647	0.9953	0.7351	0.9754	0.8565125
BPRS Al Hijrah Amanah	Kota Depok	2	0.4974	1	0.5546	0.7809	0.5283	0.7309	0.9969	0.6875	0.7220625
BPRS Al Salaam Amal Salman	Kota Depok	2	0.6159	0.8627	0.533	0.7995	0.567	0.7202	0.5477	0.7781	0.6780125
BPRS Cipaganti	Kota Cimahi	2	0.4059	0.6637	0.5085	0.8014	0.6073	0.8064	0.5419	0.6671	0.625275
BPRS Suriyah	Kab. Cilacap	2	0.6046	0.7406	0.5471	0.7214	0.5231	0.7387	0.4949	0.6994	0.633725
BPRS Bumi Artha Sampang	Kab. Cilacap	2	0.4861	0.6897	0.4998	0.7254	0.4965	0.773	0.498	0.7343	0.61285
BPRS Gunung Slamet	Kab. Cilacap	2	0.6221	0.8641	0.6521	0.9301	0.6333	0.8248	0.656	0.8685	0.756375
BPRS Khasanah Ummat	Kab. Banyumas	2	0.5618	0.7105	0.5558	0.7655	0.5309	0.7509	0.5337	0.6543	0.632925
BPRS Arta Leksana	Kab. Banyumas	2	0.5373	0.7852	0.5499	0.7657	0.5767	0.7033	0.5686	0.6535	0.642525
BPRS Meru Sankara	Kab. Magelang	2	0.4829	0.6702	0.6291	0.859	0.4843	0.6928	0.4827	0.6564	0.619675
BPRS Al Maburr	Kab. Klaten	2	0.9322	0.834	0.6013	0.8321	0.5843	0.78	0.4764	0.7435	0.722975
BPRS Artha Amanah Ummat	Kab. Semarang	1	0.6428	0.8421	0.5988	0.8609	0.614	0.8544	0.5853	0.8287	0.728375
BPRS Dana Mulia	Kota Surakarta/ Solo	2	0.5528	0.6844	0.584	0.7309	0.5681	0.5311	0.4278	0.5558	0.5793625
BPRS Madina Mandiri Sejahtera	Kab. Bantul	3	0.6784	0.9214	0.6574	1	0.2998	0.5292	0.5655	0.7256	0.6721625
BPRS Barokah Dana Sejahtera	Kota Yogyakarta	2	0.4767	0.6502	0.5467	0.6982	0.542	0.7345	0.5476	0.7534	0.6186625
BPRS Al Maburr Babadan	Kab. Ponorogo	3	0.5388	1	1	1	1	1	0.9706	0.9046	0.92675
BPRS Rahma Syariah	Kab. Kediri	2	0.4641	0.6434	0.4515	0.8122	0.4565	0.6777	0.4841	0.6567	0.580775
BPRS Bhakti Haji	Kab. Malang	2	0.5532	0.8803	0.5758	0.706	0.4639	0.7239	1	0.6727	0.696975
BPRS Situbondo	Kab. Situbondo	3	0.4981	0.7415	0.479	0.7056	0.5088	0.6907	0.4365	0.7192	0.597425
BPRS Jabal Tsur	Kab. Sidoarjo	2	0.5443	0.8085	0.566	0.8056	0.5131	0.8138	0.4752	0.7216	0.6560125
BPRS Unawi Barokah	Kab. Sidoarjo	2	0.4413	0.6653	0.4767	0.6154	1	0.6589	0.5115	0.7977	0.64585
BPRS Amanah Sejahtera	Kab. Gresik	2	0.5895	0.7285	0.4861	0.6167	0.4447	0.6271	0.3258	0.5282	0.543325

Nama BPRS	Kab. Kota		2012.1	2012.2	2013.1	2013.2	2014.1	2014.2	2015.1	2015.2	AVERAGE
		ZONA									
BPRS Sarana Prima Mandiri	Kab. Pamekasan	2	0.4548	0.6154	0.4899	0.6516	0.515	0.8876	0.5011	0.7002	0.60195
BPRS Al Attaqwa Garuda Utama	Kab. Tangerang	1	0.4968	0.5765	0.5524	0.806	0.4925	0.6325	0.4853	0.6	0.58025
BPRS Wakalumi	Kab. Tangerang	1	0.5618	0.6932	0.5258	0.7142	0.5872	0.7148	0.5476	0.6669	0.6264375
BPRS Berkah Ramadhan	Kab. Tangerang	1	0.4347	0.6881	0.4777	0.6808	0.4723	0.653	0.5163	0.7591	0.58525
BPRS Muamalah Cilegon	Kab. Serang	2	0.4821	0.6336	0.4528	0.5767	0.3999	0.5387	0.414	0.5021	0.4999875
BPRS Harta Insan Karimah	Kota Tangerang	1	0.9724	1	1	1	0.9771	0.9776	0.8071	0.9151	0.9561625
BPRS Mulia Berkah Abadi	Kota Tangerang	1	0.6075	0.7777	0.5609	0.801	0.5006	0.578	0.6084	0.7375	0.64645
BPRS Syariat Fajar Sejahtera Bali	Kab. Badung	2	0.6853	0.8422	1	1	1	1	0.6783	1	0.900725