Efficient Vol 3 (2) (2020): 844-860 DOI: https://doi.org/10.15294/efficient.v3i2.39305

EFFICIENT

Indonesian Journal of Development Economics

https://journal.unnes.ac.id/sju/index.php/efficient

Mapping of Efficiency of Collection of Land and Building Tax

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Permalink/DOI: https://doi.org/10.15294/efficient.v3i2.39305

Received: December 2019 ; Accepted: March 2020 ; Published: June 2020

Abstract

The purpose of this study is to identify and describe the efficiency conditions, to make a mapping of the results of efficiency measurements, and determine improvement strategies for the KPP Pratama which has not been efficient in collecting PBB P3 in the Region DJP Central Java I. The method used in this study is quantitative descriptive. This study took place at the Region DJP Central Java I with the eleven KPP Pratama as the objects of the study. The research was conducted since 2016 to 2018. The data used are secondary data. The software as the tool used to analyze in this study is Banxia Frontier Analysis 3.2.2 for measuring efficiency and ArcGIS 10.3 for mapping efficiency results and improvement strategies. The results showed that there was an increase in efficiency in the collection of PBB P3 in the Region DJP Central Java I from 2016 to 2018, but there were differences in the composition of the Pratama Tax Office that had not been efficient in conducting PBB P3 collection in 2017 and 2018. In 2016 there were six KPP Pratama have achieved the efficient conditions in conducting PBB P3 collection, while in 2017 and 2018 there are seven Primary Tax Office that have reached the efficient condition. The improvement strategy for KPP Pratama which have not been efficient in conducting PBB P3 collection was done by increasing efficiency in the input of Taxpayers registered as PBB P3 Tax payer, PBB P3 Collecting Human Resources, and PBB P3 Physical Facilities.

Keywords: Efficiency, software, mapping, tax

Abstrak

Tujuan dari penelitian ini adalah untuk mengidentifikasi dan menggambarkan kondisi efisiensi, untuk melakukan pemetaan hasil pengukuran efisiensi, dan menentukan strategi peningkatan untuk KPP Pratama yang belum efisien dalam mengumpulkan PBB P3 di Wilayah DJP Jawa Tengah I. Metode yang digunakan dalam penelitian ini adalah deskriptif kuantitatif. Penelitian ini berlangsung di Wilayah DJP Jawa Tengah I dengan sebelas KPP Pratama sebagai objek penelitian. Penelitian ini dilakukan sejak 2016 hingga 2018. Data yang digunakan adalah data sekunder. Perangkat lunak sebagai alat yang digunakan untuk menganalisis dalam penelitian ini adalah Banxia Frontier Analysis 3.2.2 untuk mengukur efisiensi dan ArcGIS 10.3 untuk memetakan hasil efisiensi dan strategi peningkatan. Hasil penelitian menunjukkan bahwa ada peningkatan efisiensi dalam pengumpulan PBB P3 di Wilayah DJP Jawa Tengah I dari 2016 hingga 2018, tetapi terdapat perbedaan komposisi pada Kantor Pajak Pratama yang belum efisien dalam melakukan pengumpulan PBB P3 pada tahun 2017 dan 2018. Pada tahun 2016 ada enam KPP Pratama telah mencapai kondisi efisien dalam melakukan pengumpulan PBB P3, sedangkan pada tahun 2017 dan 2018 ada tujuh Kantor Pajak Pratama yang telah mencapai kondisi efisien. Strategi peningkatan KPP Pratama yang belum efisien dalam melakukan pengumpulan PBB P3 dilakukan dengan meningkatkan efisiensi input Wajib Pajak yang terdaftar sebagai Wajib Pajak PBB P3, Sumber Daya Manusia Pengumpulan PBB P3, dan Fasilitas Fisik PBB P3.

Kata Kunci: Efisiensi, perangkat lunak, pemetaan, pajak

How to Cite: Hawa, T. (2020). Mapping of Efficiency of Collection of Land and Building Tax. Efficient: Indonesian Journal of Development Economics, 3(2), 844-860. https://doi.org/10.15294/efficient.v3i2.39305

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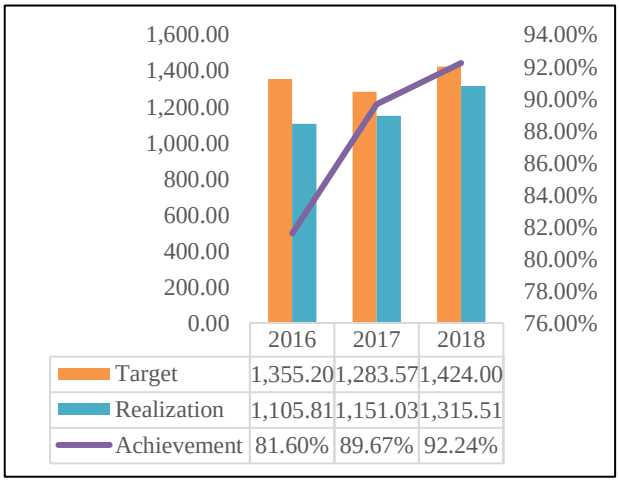
ISSN 2655-6197

INTRODUCTION

Tax revenues in Indonesia always increase every year. The condition of increased tax revenue that occurred in Indonesia was not matched by the achievement of the tax revenue target. That is, despite an increase in tax revenue in Indonesia in each year, but the tax revenue is still below the target or not reaching the target.

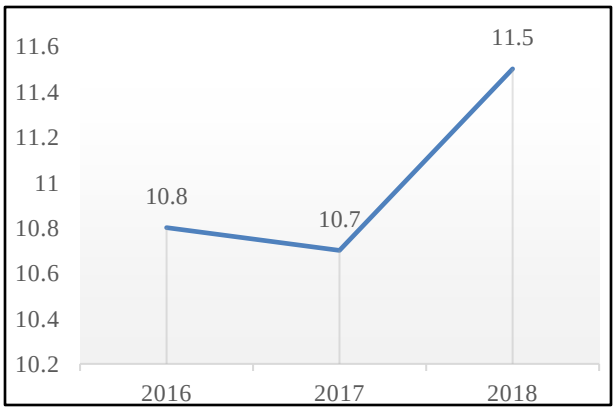


Picture 1. Target and Realization of Tax Revenue (In Trillion Rupiah)
Source: Directorate General Performance Report

The realization of tax revenue that has not reached the target from 2016 to 2018 in Indonesia is due to the lack of compliance of taxpayers in paying taxes, causing tax revenues to be below the revenue target or in other words not to reach the target set. Based on the Data of the Directorate of Potential, Compliance, and Acceptance (Dit. PKP) regarding Mapping of Compliance for Submission of Tax Returns, the achievement of tax targets in each year is due to the low level of compliance of taxpayers in carrying out their tax obligations (Indonesian Tax Overview, 2017).

Tax revenue in Indonesia that is still below the target or has not yet reached the target can also be caused by the tax collection system in Indonesia that uses the Self Assessment System. The authority given to taxpayers to calculate, self-report the tax that must be paid and pay the tax payable itself allows the taxpayer not to fulfill his tax obligations. This is what makes the taxpayer compliance level low in carrying out its tax obligations, and indirectly causes tax revenue in Indonesia not or has not reached the target.

The condition of tax compliance level in Indonesia influences the achievement of tax ratio in Indonesia. Tax ratio conditions in Indonesia tend to decrease, although in 2018 the condition increased by 0.8% from the previous year. The types of tax collection in Indonesia are the most compared to other countries in ASEAN, as mentioned in the World Bank Doing Business in 2019 that the types of tax collection in Indonesia from 2016 to 2018 are the most in ASEAN, amounting to 43 types. Although the types of tax collection in Indonesia are the most numerous, the tax ratio in Indonesia is still relatively low at around 13%.

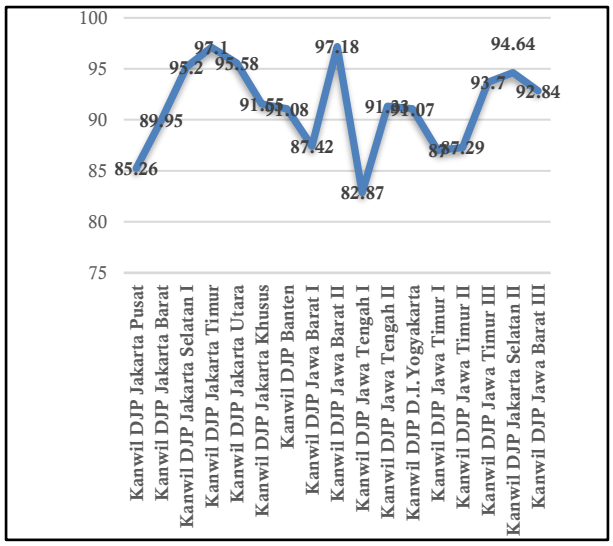


Picture 2. Growth in Tax Ratio in Indonesia
Source: Financial Media Transparency of Fiscal Policy Information for 2019

A decrease in the growth of the tax ratio in Indonesia shows that the government's ability to collect tax is still not optimal. The government's ability to collect tax that is not optimal is shown by the decrease in the ratio of tax revenue to Gross Domestic Product (GDP). The increase in tax ratio in Indonesia in 2018 is due to the tax amnesty phenomenon in Indonesia which ended in March 2017, but it has an impact in 2018. The impact of the tax amnesty is an increase in taxpayer compliance in meeting tax obligations which indirectly increases tax ratio in Indonesia.

Direktorat Jenderal Pajak (DJP) is one of the Ministry of Finance organizations that assist the Ministry of Finance in organizing affairs in the field of finance and state wealth in the field of taxation. The Regional Office of the Direktorat Jenderal Pajak (DJP Regional Office) is one of the DJP vertical agencies, which is under and is directly responsible to the Director General of Taxes. The DJP Regional Office is divided into Wajib Pajak Besar Regional Offices and Jakarta Khusus Regional Offices as well as Regional Wajib Pajak Besar Regional Offices and Jakarta Khusus Regional Offices. The DJP Regional Office is one of the DJP operational offices consisting of the Regional Office of the Direktorat Jenderal Pajak (DJP Regional Office), the Tax Service Office (KPP), and the Taxation Service, Counseling and Consultation Office (KP2KP).

Tax revenues in each DJP Regional Office for the last three years from 2016 to 2018 tend not to reach the target, this can be seen from the achievement performance of tax revenues.



Picture 3. Achievement of Tax Revenue Performance in the Regional Office of the DJP on the island of Java 2018
Source: Region DJP Central Java I Office

Region DJP Central Java I Office is the Regional Office which achieved the lowest tax revenue performance in 2018 compared to sixteen other Regional Tax Office Regional Office whose administrative areas are in Java. The low performance of tax revenue performance in the Region DJP Central Java I Office was due to the low level of tax compliance in the Region DJP Central Java I Office, which was 78% in 2018.

The condition of tax revenue in Region DJP Central Java I Office for the last three years from 2016 to 2018 in table 1 shows the instability of tax revenues. Tax revenue in Region Central Java I Office fluctuated in the aggregate during the last three years from 2016 to 2018.

Although in aggregate experienced fluctuations in tax revenues, but there are several types of taxes that tend to increase from 2016 to 2018 Types of

taxes that tend to increase include VAT and PPnBM, PBB, and Other Taxes. Of the several types of taxes that tend to increase, PBB is a type of tax revenue in Region DJP Central Java I Office whose percentage increase is greater than the two other types of taxes.

Table 1. Realization of Tax Revenue in the Region DJP Central Java I Office (In Billion Rupiah)

No	Types of Tax	2016	2017	2018
1	Non Oil and Gas Income Tax	18,206.50	11,476.46	12,189.16
2	Value Added Tax and Sales Tax on Luxurious Goods	11,326.92	13,743.81	14,055.01
3	Land and Building Tax	77.71	118.48	160.24
4	Oil and Gas Income Tax	1.51	6.42	-2.15
5	Other Taxes	225.56	243.21	253.80
Total		29,838.20	25,588.38	26,656.06

Source: Region DJP Central Java I Office

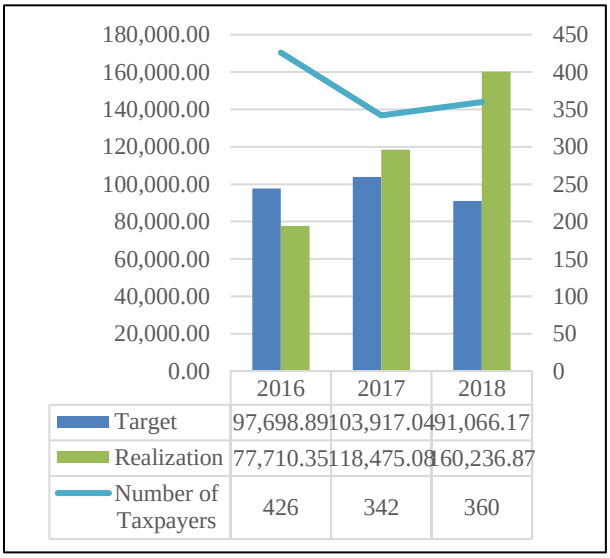
PBB is one type of tax revenue in Region DJP Central Java I Office which also tends to increase from 2016 to 2018. However, unlike other types of tax revenue in Region DJP Central Java I Office which also has increased, PBB is a type of revenue tax at the Regional Office of the DJP Central Java I, the percentage increase is greater than other types of taxes.

Even though the PBB Revenue in the Region DJP Central Java I Office increased in 2017 and 2018, the condition of PBB revenues in the Region DJP Central Java I Office before fluctuated in 2017, where in 2016 the PBB revenue in the Region DJP Central Java I Office has decreased by 26 % from the previous year. PBB Revenue in Region DJP Central Java I Office only covers the Plantation, Forestry and Mining Sector (PBB P3), while the other two sectors namely the Rural and Urban Sectors have been transferred to local taxes.

In addition, the condition of PBB revenues in Indonesia in the aggregate has decreased, which can be seen in the development of PBB revenues recorded in the APBN. In the period of 2014 to 2017, PBB revenues experienced a negative growth of 10.6 percent per year, from Rp 23.5 trillion in 2014 to Rp 17.4 trillion in 2018.

The condition of PBB P3 revenues in Region DJP Central Java I which fluctuated in 2016 and 2017 is not comparable with the condition of the number of taxpayers registered as PBB P3 Taxpayers who are in the Region DJP Central Java I which also experienced fluctuations in the year 2016 and 2017.

The increasing number of taxpayers registered as P3 PBB Taxpayers in Region DJP Central Java I , should be able to increase P3 PBB receipts in the Region DJP Central Java I because of the number of taxpayers who will pay PBB P3 is more than before the increase. However, with an increase in the number of taxpayers registered as P3 PBB Taxpayers, actually P3 PBB receipts in the Region DJP Central Java I Office decreased and did not reach the target.



Picture 4. Comparison of Target and Realization of PBB P3 Revenues (in Millions of Rupiah) with the Number of PBB P3 Taxpayers Registered in the Region DJP Central Java I Office

Source: Central Java Regional Directorate General of Taxes Office I

There is a disproportionate relationship between the realization of PBB P3 revenues with the number of PBB P3 Taxpayers registered in the Region DJP Central Java I Office. The increasing number of taxpayers registered as PBB P3 Taxpayers in Region DJP Central Java I, should be able to increase the realization of PBB P3 revenues in Region DJP Central Java I. However, with an increase in the number of taxpayers registered as PBB P3 Taxpayers in Region DJP Central Java I in 2016, the realization of PBB P3 revenue has decreased and did not reach the target, whereas when the number of taxpayers registered as PBB P3 Taxpayer in Region DJP Central Java I decreased in 2017, the realization of PBB P3 revenue actually increased and reached the target set. This shows that there is a possibility of inefficiency in the collection of PBB P3. The possibility of inefficient conditions in collecting P3 PBB in the Region DJP Central Java I is shown by the achievement of output which in this case is the realization of P3 PBB revenue in the Region DJP Central Java I Office which decreases when there is an additional input which in this case is the required number Taxes registered as PBB P3 Taxpayers in Region DJP Central Java I and also vice versa, realization of PBB P3 revenues in Region DJP Central Java I which actually increases when there is a decrease in the number of Taxpayers registered as PBB P3 Taxpayers in the Region DJP Central Java I.

Therefore, it is necessary to have efficiency measurements in the collection of PBB P3 in the Region DJP Central Java I to find out the value of the efficiency of each KPP Pratama in conducting PBB P3 collection which will then be carried out a mapping of the results of efficiency measurements and mapping of improvement recommendations (potential improvement) for KPP Pratama whose performance The collection of PBB P3 has not been efficient as a strategy to improve the efficiency of PBB P3 collection for the KPP Pratama.

Based on the background that has been stated that there is a possibility of inefficient conditions in collecting PBB P3 in the Region DJP Central Java I indicated by the attainment of output which actually decreases when there are additional inputs and vice versa, so it is necessary to measure the efficiency of PBB P3 collection in the Region DJP Central Java I along with recommendations for improvements which are then visualized by mapping. The research questions that were

formulated were how the efficiency conditions in the collection of PBB P3 in each KPP Pratama in the Region DJP Central Java I, mapping efficiency in the collection of PBB P3 in each KPP Pratama in the Region DJP Central Java I, and mapping recommendations for improvement (potential improvement) the results of the efficiency of PBB P3 collection for KPP Pratama who have not been efficient in conducting PBB P3 collection.

Based on the formulation of the problem, the purpose of this study is to identify and describe the conditions of efficiency in the collection of PBB P3 in the Region DJP Central Java I, make a mapping of the results of efficiency measurements in the collection of PBB P3 in each KPP Pratama in the Region DJP Central Java I region, and determine improvement strategy for KPP Pratama that has not been efficient in conducting collection of PBB P3 based on the mapping of recommendations for improvement (potential improvement) of the results of the efficiency of PBB P3 collection.

Tax is a people's contribution to the state that can be imposed and owed by those who are obliged to pay it or are called taxpayers according to established regulations, by not getting direct reciprocity that can be appointed, and is useful to finance state expenditures to administer the government (Sambodo, 2015). The principle of Efficiency in tax collection emphasizes the importance of efficiency in tax collection. This means that the costs incurred in carrying out tax collection may not be greater than the amount of tax collected. Tax collection should pay attention to mechanisms that can bring the maximum tax revenue and the smallest cost (Judisseno, 2005). Land and Building Tax (PBB) is a state tax imposed on land and building based on Law No. 12 of 1985 concerning Land and Building Tax that has been perfected by Law No. 12 of 1994. Land and Building Tax in the Plantation, Forestry and Building Sectors Mining (PBB P3) is part of the PBB consisting of the Plantation, Forestry and Mining sectors which are still state-owned revenues managed by the Directorate General of Taxes.

Efficiency implies understanding as explained by Bana in Munir, Djuanda, & Tangkilisan (2004) which states that the efficiency of results explained through the concept of input output, efficiency in the community service sector is an activity carried out with minimal sacrifice or can also be said to be an activity which has been carried out efficiently if the implementation has reached the target with the lowest possible cost the expected results have been obtained. Efficiency can be grouped into several efficiency groups as mentioned by Ramesh Bhat, namely Technical Efficiency is efficiency related to the use of labor, capital and machinery as input to produce maximum output.

Efficiency Allocative is efficiency related to minimizing production costs by choosing the right input to produce a certain level of output by considering the level of input prices, assuming that the organization tested is fully technically efficient. Cost or Overall Efficiency is the efficiency associated with a combination of technical and allocative efficiency (Suyanto&Saksono, 2013). The determinants of efficiency according to Bana in Munir, Djuanda & Tangkilisan (2004) included as technology factors for implementing activities, organizational structure factors are the organizational structure that is stable from the start of the position both structural and

functional, human Resource Factors such as labor, work ability, and physical resources such as equipment needed, place and funds needed, the support factor from the leadership and the community is related to the apparatus and its implementation, and the leadership factor, in other words, is the ability to collaborate these four factors in an effort to achieve predetermined goals.

Research related to efficiency by using the Data Envelopment Analysis (DEA) approach with the object of the Tax Service Office (KPP) research has also been conducted by several researchers before, such as Triantoro and Subroto who examined related to the efficiency performance of KPP Pratama in the East Java Regional Tax Office III shows that in the aggregate the relative efficiency for the entire KPP Pratama work unit within the East Java III Regional Tax Office has achieved efficient performance, although there is still room for improvement of 5.6%.

Other studies have also been carried out by Maryasih, Mutia, and Rahmawaty who examined related measurements of the efficiency of the transfer of the United Nations as a local tax that shows the need to optimize the transition preparation because it will greatly assist in the management of PBB P2 later. Good and mature preparation will make the management run well without facing obstacles, which are then expected to explore the potential of PBB P2 so that it is expected to increase local tax revenue.

Other studies also conducted by Suyanto and Saksono who examined related to efficiency analysis on the KPP using the DEA method, showed that there was an increase in efficiency in the KPP throughout Indonesia in 2008 and 2009 due to the Sunset Policy program, but there was a decrease in efficiency scores on KPP throughout Indonesia in 2010 and 2011. Other studies have also been conducted by Mohamadi, et al who examined the efficiency of the Provincial Tax Office in Iran with using DEA and AHP, showing that the overall results show that the relative efficiency values of all Provincial Tax Offices are low.

Another study also conducted by Fuentes & Banuls who studied related to the measurement of efficiency at the Tax Office by using the DEA approach and Malmquist Productivity Index, showed that increased productivity in both periods occurred due to improved technology and resource management. Other studies have also been carried out by Rubio, Gonzalez,&Alaminos who conducted research related to the measurement of technical efficiency using DEA, which shows that increasing efficiency in offices in charge of managing taxes in Spain (AEAT) requires an increase of 1,023 million Euros of revenue generated from tax audit (output) or means an increase of 21.6% in the study period, of the 47 offices that were the object of research only 21 were identified as being technically efficient.

RESEARCH METHODS

This research is a type of quantitative research because the data is in the form of numbers and data analysis using statistics, this study also uses a descriptive approach because analyzing the data is done by describing or describing data that has been collected without the aim of making general conclusions (Sugiyono, 2016). The locus of this research is

the administrative area of the Region DJP Central Java I Office consisting of sixteen KPP Pratama scattered in the Region DJP Central Java I Office Regional Administration, but only eleven KPP Pratama were the objects of this study. The research period starts from 2016 to 2018.

The type of data used in this study is secondary data using document techniques and literature review as a method of collecting data. Analysis of the data used in this study uses Data Envelopment Analysis (DEA) which is used to identify and describe the efficiency conditions in the collection of PBB P3 in each of the KPP Pratama that are the object of research and to determine recommended improvement strategies based on recommendations for improvement (potential improvement). Testing Data Envelopment Analysis (DEA) using Banxia Frontier Analysis 3.2.2Another analysis used in this research is to use a Geographic Information .

System (GIS) approach that is processed using ArcGIS 10.3. The Geographic Information System (GIS) in this study is used to map the measurement results of PBB P3 collection efficiency at each KPP Pratama located in the Region DJP Central Java I from 2016 to 2018 based on the results of data processing obtained from Banxia Frontier Analysis 3.2.2. as well as mapping the recommendations for improvement (potential improvement) the results of the efficiency of the collection of PBB P3 as a strategy of improvement for the KPP Pratama who have not been efficient in conducting the collection of PBB P3 based on the results of recommendations for improvement from the Data Envelopment Analysis (DEA) obtained from Banxia Frontier Analysis 3.2.2. The input variables used in this study consisted of the PBB P3 collection fees variable, the PBB P3 Collecting Human Resource variable, and the PBB P3 Physical Means variable as well as the Taxpayer variable registered as the Tax Payer for PBB P3. Whereas the output variable is the PBB P3 Revenue variable and the PBB P3 Paying Tax variable.

RESULTS AND DISCUSSION

The efficiency results in this study were obtained using Data Envelopment Analysis (DEA). Primary Tax Office will be said to be efficient in collecting PBB P3 if the value is 100%, while Primary Tax Office less than 100% value can be said to be inefficient in conducting PBB P3 collection. Table 2 below are the results of the efficiency of the collection of PBB P3 in each Primary Tax Office from 2016 to 2018.

Based on measurements of the efficiency of the collection of PBB P3 in each KPP Pratama in the Region DJP Central Java I, it is known that there are KPP Pratama that have not been efficient in conducting PBB P3 collection. The number of KPP Pratama that have not yet reached the efficient conditions in conducting P3 PBB collections has decreased from 2016 to 2018. In 2016, there were five KPP Pratama that were not yet efficient in conducting PBB P3 collection, including the KPP Pratama Tegal, KPP Pratama Salatiga, KPP Pratama Batang, KPP Pratama Demak, and KPP Pratama Jepara. In 2017, there were four KPP Pratama that were not yet efficient in conducting PBB P3 collection, including KPP Pratama Semarang Barat, KPP Pratama Salatiga, KPP Pratama Kudus, and KPP Pratama Batang. In 2018, there are also four

KPP Pratama that have not been efficient in conducting PBB P3 collection as in 2017, but there are differences in the composition of KPP Pratama that are not yet efficient. The KPP Pratama who have not been efficient in conducting PBB P3 collection in 2018 include KPP Pratama Tegal, KPP Pratama Salatiga, KPP Pratama Batang, and KPP Pratama Jepara.

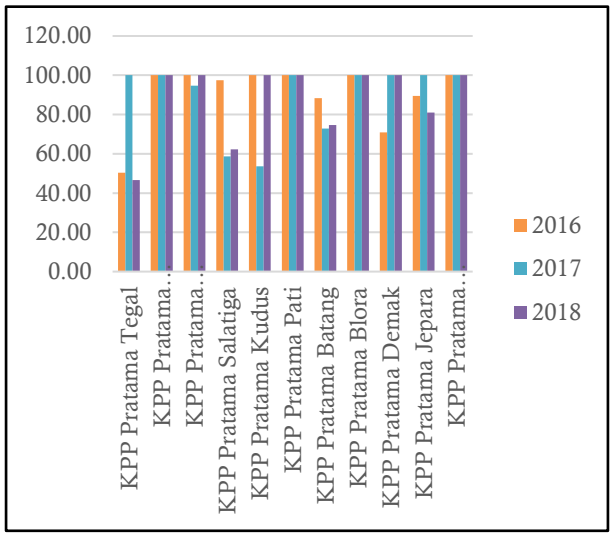
Table 2. Value of Efficiency of PBB P3 Collection for each KPP Pratama

No	KPP	2016	2017	2018
1	KPP Pratama Tegal	50.38	100.00	46.56
2	KPP Pratama Pekalongan	100.00	100.00	100.00
3	KPP Pratama Semarang Barat	100.00	94.64	100.00
4	KPP Pratama Salatiga	97.48	58.62	62.27
5	KPP Pratama Kudus	100.00	53.57	100.00
6	KPP Pratama Pati	100.00	100.00	100.00
7	KPP Pratama Batang	88.34	72.93	74.60
8	KPP Pratama Blora	100.00	100.00	100.00
9	KPP Pratama Demak	70.92	100.00	100.00
10	KPP Pratama Jepara	89.53	100.00	80.95
11	KPP Pratama Semarang Candisari	100.00	100.00	100.00

Source: Data processed, 2019

Condition of Efficiency of PBB P3 Collection in Each KPP Pratama of Region DJP Central Java I

Research related to efficiency measurement was conducted by Setiawan&Bowo (2015) who measured the technical, allocation and economic efficiency in rice planting in Grobogan. Other research has also been carried out by Kurniati&Prajanti (2018) who measured efficiency by using data analysis in the form of Stochastic Frontier and Deterministic Regression Analysis. This study also measured efficiency in the collection of PBB P3 in the Region DJP Central Java I by using data analysis in the form of Banxia Frontier Analysis. The efficiency of PBB P3 collection conducted by each KPP Pratama in the Region DJP Central Java I from 2016 to 2018, can be seen in the following graphic image.



Picture 5. Graph of the Level of Efficiency of PBB Collection P3

Source: Data processed, 2019

Based on the graph, it is known that in the aggregate the efficiency of the collection of PBB P3 in each KPP Pratama in the Region DJP Central Java I from 2016 to 2018 tended to increase. This can be seen from the decrease in the number of KPP Pratama that have not yet reached the efficient condition in collecting PBB P3, where in 2016 a number of five KPP Pratama were not efficient, where as in 2017 and 2018 there was a decrease in the number of KPP Pratama that had not been efficient in collecting PBB P3 namely a number of four KPP Pratama.

Based on the results of research for three years from 2016 to 2018, it can be seen that the average KPP Pratama has a value of efficiency of the collection of PBB P3 which has reached an efficiency of 100%. In 2016, there were 54.54% of KPP Pratama that had a PBB P3 collection efficiency value of 100% or had reached efficient conditions. This shows that the majority of KPP Pratama in the Region DJP Central Java I have reached efficient conditions in conducting PBB P3 collection in 2016. The number of KPP Pratama that have reached efficient conditions in conducting PBB P3 collection has increased in 2017.

There are 63.64% of KPP Pratama who have achieved efficient conditions in conducting PBB P3 collection. In 2018, the percentage of the number of KPP Pratama that had reached efficient conditions in collecting PBB P3 was the same as in 2017, which was 63.64%. Even though the percentage of the number of Tax Offices that have reached efficient conditions in conducting PBB P3 collection in 2017 is the same as in 2018, there are differences in the KPP Pratama which have reached efficient conditions and who have not yet reached the efficient conditions in conducting PBB P3 collection. In 2016, KPP Pratama which have achieved efficient conditions in conducting PBB P3 collection, including KPP Pratama Pekalongan, KPP Pratama Semarang Barat, KPP Pratama Kudus, KPP Pratama Pati, KPP Pratama Blora, KPP Prata Semarang Candisari.

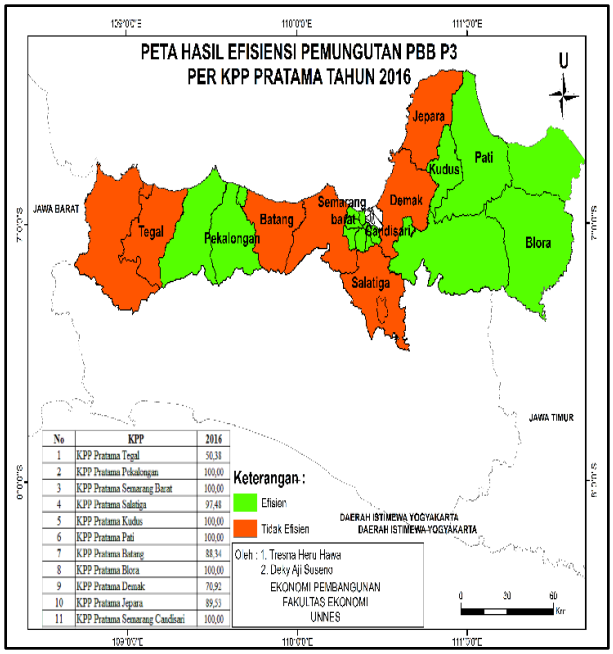
In 2017, KPP Pratama that have achieved efficient conditions in conducting PBB P3 collection, including KPP Pratama Tegal, KPP Pratama Pekalongan, KPP Pratama Pati, KPP Pratama Blora, KPP Pratama Demak, KPP Pratama Jepara, KPP Pratama Semarang Candisari. In 2018, KPP Pratama that have achieved efficient conditions in conducting PBB P3 collection, among others are KPP Pratama Pekalongan, KPP Pratama Semarang Barat, KPP Pratama Kudus, KPP Pratama Pati, KPP Pratama Blora, KPP Pratama Demak, and KPP Pratama Semarang Candisari.

Mapping Efficiency in PBB P3 Collection in the Region DJP Central Java I

Like a study conducted by Suseno (2010) which analyzes typologies of economic growth and sector inequality in the Kedung Sepur region in order to implement economic development strategies in the Kedung Sepur region in the form of mapping based on typologies of economic growth and sector inequality, this study also mapped the efficiency of collection PBB P3 to help determine the improvement strategy for the KPP Pratama which is not yet efficient.

The use of mapping methods was also carried out by Fafurida & Nihayah (2012) who carried out industrial mapping as a first step in developing the industrial sector. Mapping in this study was also used to optimize the

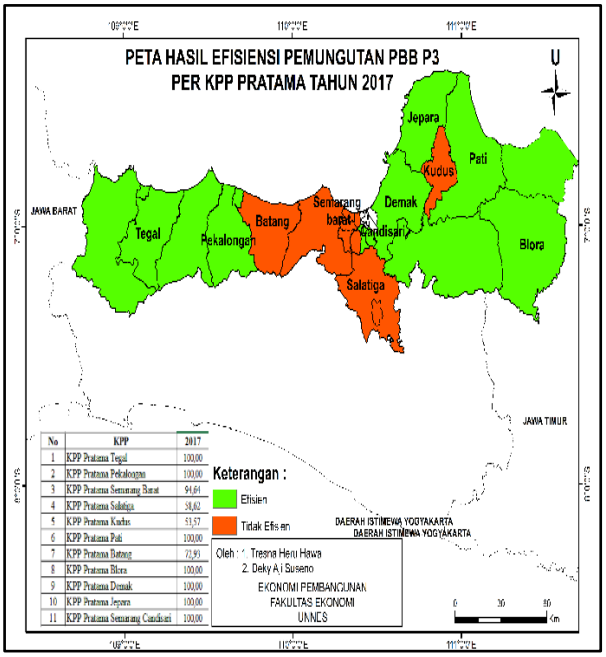
collection of PBB P3 in the Region DJP Central Java I. The mapping of the efficiency of the collection of PBB P3 in each KPP Pratama in the Region DJP Central Java I in 2016, can be seen in the following map.



No	KPP	2016
1	KPP Pratama Tegal	50,38
2	KPP Pratama Pekalongan	100,00
3	KPP Pratama Semarang Barat	100,00
4	KPP Pratama Salatiga	97,48
5	KPP Pratama Kudus	100,00
6	KPP Pratama Pati	100,00
7	KPP Pratama Batang	88,34
8	KPP Pratama Blora	100,00
9	KPP Pratama Demak	70,92
10	KPP Pratama Jepara	89,53
11	KPP Pratama Semarang Candisari	100,00

Picture 6. Map of The Efficiency of The Collection of PBB P3 in each KPP Pratama in DJP Central Java I in 2016
Source: Data processed, 2019

Based on the 2016 United Nations P3 Collection Efficiency Map that has been processed in the ArcGIS 10.3 application, it is known that there are groups of KPP Pratama that have been efficient in conducting collection of PBB P3 symbolized by green color and KPP Pratama that have not been efficient in conducting PBB P3 collection symbolized by red. The KPP Pratama included in the Primary KPP group that has been efficient in conducting PBB P3 collection, including KPP Pratama Pekalongan, KPP Pratama Semarang Barat, KPP Pratama Kudus, KPP Pratama Pati, KPP Pratama Blora, and KPP Pratama Semarang Candisari. While the KPP Pratama included in the KPP Pratama group who have not yet reached the efficient conditions in conducting PBB P3, include KPP Pratama Tegal, KPP Pratama Salatiga, KPP Pratama Batang, KPP Pratama Demak, and KPP Pratama Jepara. The mapping of the efficiency of the collection of PBB P3 in each Primary KPP in the Region DJP Central Java I in 2017, can be seen in the following map.

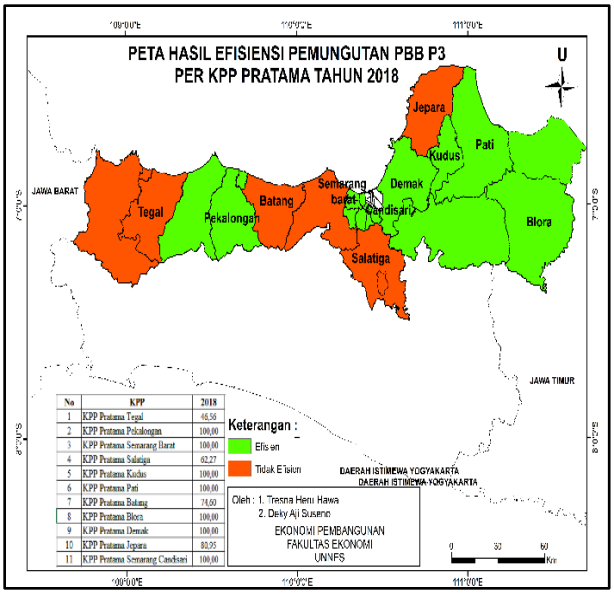


No	KPP	2017
1	KPP Pratama Tegal	100,00
2	KPP Pratama Pekalongan	100,00
3	KPP Pratama Semarang Barat	94,64
4	KPP Pratama Salatiga	58,62
5	KPP Pratama Kudus	53,57
6	KPP Pratama Pati	100,00
7	KPP Pratama Batang	72,93
8	KPP Pratama Blora	100,00
9	KPP Pratama Demak	100,00
10	KPP Pratama Jepara	100,00
11	KPP Pratama Semarang Candisari	100,00

Picture 7. Map of The Efficiency of The Collection of PBB P3 in each KPP Pratama in DJP Central Java I in 2017
Source: Data processed, 2019

Based on the 2017 P3 United Nations Collection Efficiency Map that has been processed in the ArcGIS 10.3 application, it is known that there are groups of KPP Pratama that have been efficient in carrying out PBB P3 collection which is symbolized by green and KPP Pratama that has not been efficient in

conducting PBB P3 Collection which is symbolized by red. The KPP Pratama included in the KPP Pratama group that has been efficient in conducting PBB P3 collection, including the KPP Pratama Tegal, KPP Pratama Pekalongan, KPP Pratama Pati, KPP Pratama Blora, KPP Pratama Demak, KPP Pratama Jepara, and KPP Pratama Semarang Candisari. Where as the KPP Pratama included in the KPP Pratama group that had not yet reached the efficient conditions in conducting PBB P3 collection, included the KPP Pratama Barat Semarang, the KPP Pratama Salatiga, the KPP Pratama Kudus, and the KPP Pratama Batang. The mapping of the efficiency of the collection of PBB P3 in each Primary KPP in the Region DJP Central Java I DGT region in 2018, can be seen in the following map.



No	KPP	2018
1	KPP Pratama Tegal	46,56
2	KPP Pratama Pekalongan	100,00
3	KPP Pratama Semarang Barat	100,00
4	KPP Pratama Salatiga	62,27
5	KPP Pratama Kudus	100,00
6	KPP Pratama Pati	100,00
7	KPP Pratama Batang	74,60
8	KPP Pratama Blora	100,00
9	KPP Pratama Demak	100,00
10	KPP Pratama Jepara	80,95
11	KPP Pratama Semarang Candisari	100,00

Picture 8. Map of The Efficiency of The Collection of PBB P3 in each KPP Pratama in DJP Central Java I in 2018
Source: Data processed, 2019

Based on the PBB P3 Collection Efficiency Map 2018 which has been processed in the ArcGIS 10.3 application, it is known that there are groups of Primary Tax Officers who have been efficient in conducting PBB P3 collection which is symbolized by green color and Primary Tax Office that has not been efficient in conducting PBB P3 collection symbolized by red.

The Primary KPP included in the KPP Pratama group who have achieved efficient conditions in the collection of PBB P3, including KPP Pratama Pekalongan, KPP Pratama Semarang Barat, KPP Pratama Kudus, KPP Pratama Pati, KPP Pratama Blora, KPP Pratama Demak , and KPP Pratama Semarang Candisari. While the KPP Pratama included in the KPP Pratama group who have not yet reached an efficient condition in conducting PBB P3 envoys, include the KPP Pratama Tegal, the KPP Pratama Salatiga, the KPP Pratama Batang, and the KPP Pratama Jepara.

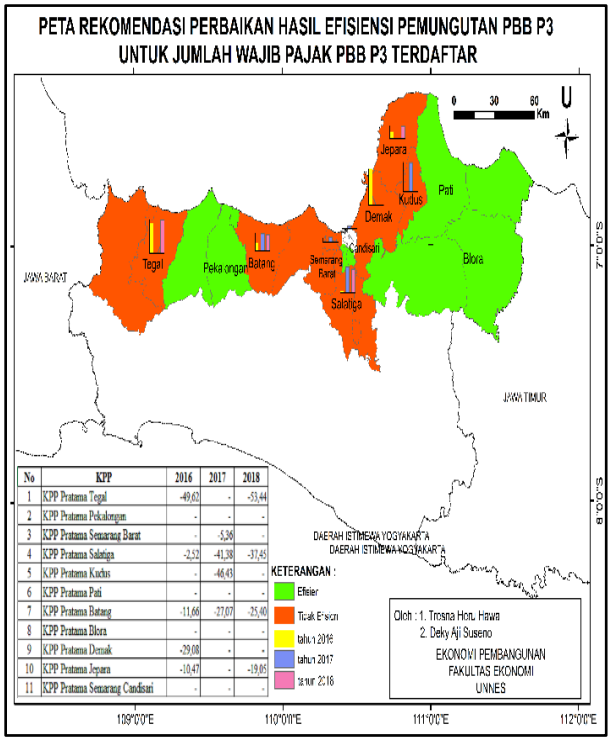
Potential Improvement Mapping

Like Kurniasih & Nihayah's research (2018) that sets human resource strategy planning at SMK in Tegal Regency as a solution to reduce unemployment rates in Tegal Regency, this research also conducts improvement strategies for KPP Pratama who have not been efficient in conducting PBB P3 collection based on mapping recommendations improved efficiency results.

Just like the research conducted by Anartany & Suseno (2018) which established a strategy to optimize the idle assets of the Central Java Province, this study also aims to determine a strategy to improve the efficiency of the collection of PBB P3 for KPP Pratama that have not yet reached an efficient condition.

Potential Improvement Mapping of the Results of PBB P3 Collection Efficiency for the Number of Registered PBB P3 Taxpayers

The mapping of the strategy for improving the efficiency of the collection of PBB P3 for the number of PBB P3 Taxpayers registered for the KPP Pratama in the Region DJP Central Java I from 2016 to 2018 can be seen in the following map.



No	KPP	2016	2017	2018
1	KPP Pratama Tegal	-49,62	-	-53,44
2	KPP Pratama Pekalongan	-	-	-
3	KPP Pratama Semarang Barat	-	-5,36	-
4	KPP Pratama Salatiga	-2,52	-41,38	-37,45
5	KPP Pratama Kudus	-	-46,43	
6	KPP Pratama Pati	-	-	-
7	KPP Pratama Batang	-11,66	-27,07	-25,40
8	KPP Pratama Blora	-	-	-
9	KPP Pratama Demak	-29,08	-	-
10	KPP Pratama Jepara	-10,47	-	-19,05
11	KPP Pratama Semarang Candisari	-	-	-

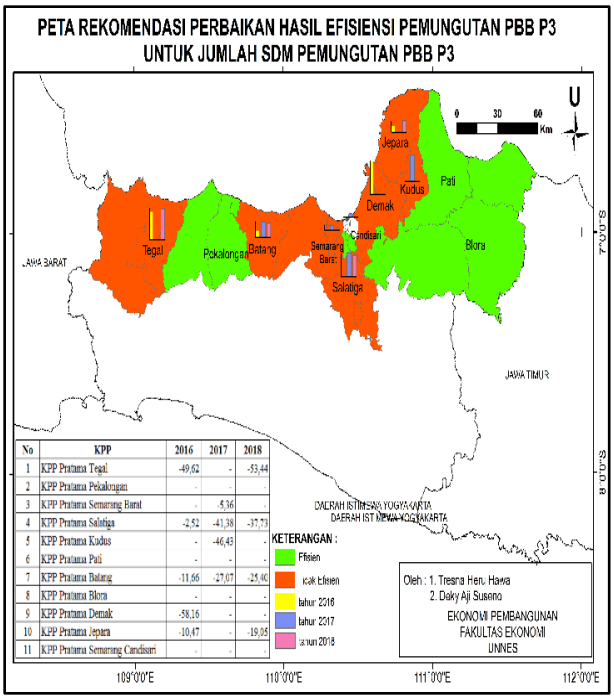
Picture 9. Map of the Strategy for Improving The Efficiency of PBB P3 Taxpayers in DJP Central Java from 2016 to 2018
Source: Data processed, 2019

Based on the Map of Recommendations for Improvement of the Efficiency of PBB P3 Collection Results for the Number of Registered P3 Taxpayers that have been processed in the ArcGIS 10.3 application, it shows recommendations for improvement of the results of the collection of PBB P3 efficiency for KPP Pratama who have not been efficient in collecting PBB P3 for input of the Taxpayer Amount Registered as a PBB P3 Taxpayer. KPP Pratama Tegal becomes the work unit that requires the greatest improvement to achieve efficient conditions in conducting PBB P3 collection in 2016 and 2018. In 2017, KPP Pratama Semarang becomes a work unit that requires the greatest improvement to achieve efficient conditions in conducting collection of PBB P3. The KPP Pratama who were also advised to make improvements in 2016, namely the KPP Pratama Salatiga, KPP Pratama Batang, KPP Pratama Demak, and KPP Pratama Jepara, while for 2017, the KPP Pratama Salatiga, KPP Pratama Kudus, and KPP Pratama Batang, as well as for year 2018, namely KPP Pratama Salatiga, KPP Pratama Batang and KPP Pratama Jepara.

Improvement strategies offered to improve the efficiency of collection of PBB P3 on KPP Pratama are not yet efficient, especially for inputting the number of taxpayers registered as PBB P3 taxpayers from 2016 to 2018, namely the need for increased efficiency in the number of taxpayers registered as mandatory PBB P3. Increasing the efficiency of the number of taxpayers registered as PBB P3 taxpayers cannot be done by reducing the number of taxpayers registered as PBB P3 taxpayers, but by increasing the number of taxpayers paying PBB P3 taxpayers. One of the methods used to increase the number of taxpayers paying PBB P3 is to increase compliance with PBB P3 taxpayers regarding their obligations, both in paying PBB P3 and carrying out tax administration.

Potential Improvement Mapping of the Results of PBB P3 Collection Efficiency Results for the Number of PBB P3 Collecting Human Resource

The mapping of the strategy to improve the results of the collection of PBB P3 efficiency for the number of Human Resource PBB P3 Collections for KPP Pratama in the from 2016 to 2018 Region DJP Central Java I can be seen in the following map.



No	KPP	2016	2017	2018
1	KPP Pratama Tegal	-49,62	-	-53,44
2	KPP Pratama Pekalongan	-	-	
3	KPP Pratama Semarang Barat	-	-5,36	
4	KPP Pratama Salatiga	-2,52	-41,38	-37,73
5	KPP Pratama Kudus	-	-46,43	
6	KPP Pratama Pati	-	-	-
7	KPP Pratama Batang	-11,66	-27,07	-25,40
8	KPP Pratama Blora	-	-	-
9	KPP Pratama Demak	-58,16	-	-
10	KPP Pratama Jepara	-10,47	-	-19,05
11	KPP Pratama Semarang Candisari	-	-	

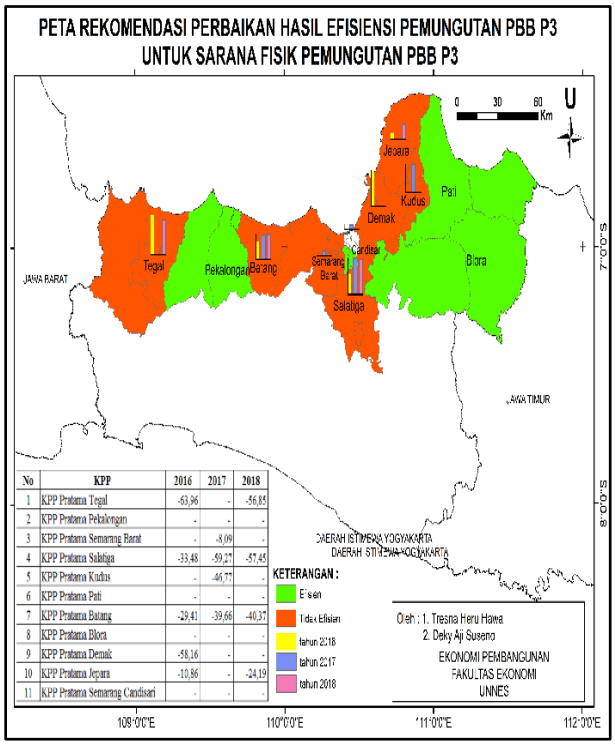
Picture 10. Map of the Strategy for Improving The Efficiency of PBB P3 of Human Resource in DJP Central Java from 2016 to 2018
Source: Data processed, 2019

Based on the Map of Recommendations for Improvement of the Efficiency of PBB P3 Collection Results for the Number of Human Resource of the PBB P3 Collection that has been processed in ArcGIS 10.3 application, it shows recommendations for improvement of the results of the collection of PBB P3 efficiency for the KPP Pratama who have not been efficient in conducting PBB P3 collection for the input of the pbb p3 Picker Human Resource. KPP Pratama Demak becomes the work unit that requires the greatest improvement to achieve efficient conditions in conducting PBB P3 collection in 2016. In 2017, KPP Pratama Semarang Barat became the work unit that requires the greatest improvement to achieve efficient conditions in conducting PBB P3 collection. In 2018, KPP Pratama Tegal became a work unit that needed the most improvement to achieve efficient conditions in conducting PBB P3 collection. The KPP Pratama who were also advised to make improvements in 2016, namely the KPP Pratama Tegal, the KPP Pratama Salatiga, the KPP Pratama Batang, and the KPP Pratama Jepara, while for 2017, the KPP Pratama Salatiga, the KPP Pratama Kudus and the KPP Pratama Batang, and for 2018, namely KPP Pratama Salatiga, KPP Pratama Batang and KPP Pratama Jepara.

Improvement strategies offered to improve the efficiency of collection of PBB P3 in KPP Pratama are not yet efficient, especially to input of the number of Human Resource PBB P3 Picker from 2016 to 2018, namely the need for increased efficiency in the number of Human Resource PBB P3 Picker. Increasing the efficiency of the number of Human Resource PBB P3 Collector is done by allocating PBB P3 Collector to the KPP Pratama which has not been efficient in collecting PBB P3 by observing the number of taxpayers registered as PBB P3 Taxpayer on the KPP Pratama so that the allocation of PBB P3 Collecting Human Resource can reach the conditions the optimal.

Mapping of Potential Improvement Recommendations Results of Efficiency of PBB P3 Collection for Physical Facilities of PBB P3 Collection

The mapping of the strategy to improve the results of PBB P3 collection efficiency for the Physical Facilities of Registered PBB P3 Collection for KPP Pratama in the Region DJP Central Java I from 2016 to 2018 can be seen in the following map.



No	KPP	2016	2017	2018
1	KPP Pratama Tegal	-63,96	-	-56,85
2	KPP Pratama Pekalongan	-	-	-
3	KPP Pratama Semarang Barat	-	-8,09	-
4	KPP Pratama Salatiga	-33,48	-59,27	-57,45
5	KPP Pratama Kudus	-	-46,77	-
6	KPP Pratama Pati	-	-	-
7	KPP Pratama Batang	-29,41	-39,66	-40,37
8	KPP Pratama Blora	-	-	-
9	KPP Pratama Demak	-58,16	-	-
10	KPP Pratama Jepara	-10,86	-	-24,19
11	KPP Pratama Semarang Candisari	-	-	-

Picture 11. Map of the Strategy for Improving The Efficiency of PBB P3 for The Physical Facilities in DJP Central Java from 2016 to 2018
Source: Data processed, 2019

Based on the Map of Recommendations for Improvement of the Results of PBB P3 Collection Efficiency for Physical Facilities the PBB P3 collection which has been processed in ArcGIS 10.3, shows recommendations for improvement of the results of the efficiency of the collection of PBB P3 for KPP Pratama who have not been efficient in conducting PBB P3 collection for PBB P3 Physical Facilities inputs. KPP Pratama Tegal becomes the work unit that requires the greatest improvement to achieve efficient conditions in conducting PBB P3 collection in 2016.

In 2017 and 2018, KPP Pratama Salatiga becomes the work unit that requires the greatest improvement to achieve efficient conditions in conducting collection of PBB P3. The KPP Pratama who were also suggested to make improvements in 2016, namely the KPP Pratama Salatiga, KPP Pratama Batang, KPP Pratama Demak, and KPP Pratama Jepara, while for 2017, KPP Pratama Semarang Barat, KPP Pratama Kudus, and KPP Pratama Batang, and for 2018, namely KPP Pratama Tegal, KPP Pratama Batang, and KPP Pratama Jepara.

Improvement strategies offered to improve the efficiency of collection of PBB P3 in KPP Pratama are not yet efficient, especially to input of Physical Facilities of PBB P3 Collection from 2016 to 2018, namely the need for increased efficiency in the Physical Facilities of PBB P3 collection. Increased efficiency of Physical Facilities Collection of PBB P3 is done by allocating Physical Facilities of PBB P3 Collection to Primary Tax Office which has not been efficient in conducting PBB P3 collection by optimizing the use of Physical Facilities of PBB P3 Collection so that it can increase the efficiency of PBB P3 collection on Primary Taxes that have not yet reached efficient conditions.

CONCLUSION

Based on the results of research on the analysis of PBB P3 collection efficiency in the Region DJP Central Java I, the following conclusions such as Based on the results of research and discussion, it is known that there is an increase in efficiency in the collection of PBB P3 in each KPP Pratama located in the Region DJP Central Java I from 2016 to 2018, however there are differences in the composition of the KPP Pratama which has not been efficient in conducting PBB P3 in 2017 and 2018. Mapping of the PBB P3 collection efficiency in the Region DJP Central Java I can be seen in the pbb p3 Collection Efficiency Map from 2016 to 2018.

Based on the map, it is known that there are two different groups in the PBB P3 collection, namely the KPP Pratama group that has achieved efficient conditions in conducting PBB P3 collection which is symbolized by color green and KPP Pratama that have not yet reached the can efficient side in conducting PBB P3 collection symbolized in red. In 2016 there were six KPP Pratama that had reached efficient conditions, while in 2017 and 2018 there were seven KPP Pratama that had reached efficient conditions. Mapping of recommendations for improvement (potential improvement) of the results of the collection of PBB P3 efficiency can be seen in the Map of Recommendations for the Improvement of PBB P3 Collection Results. Based on this map, it is known that the improvement strategy for KPP Pratama who have not been efficient in collecting PBB P3 is done by increasing the efficiency of input of Taxpayers Registered as PBB P3 Taxpayer, Human Resource PBB P3 Collector, and Physical Facilities of PBB P3 Collection.

REFERENCES

Bussiness, D. (2019). Paying Taxes : Payments (Number Per Year). World Bank.

Cooper, W. W., Seiford, L. M., & Zhu, J. (2011). Data Envelopment Analysis History, Models and Interpretations. International Series in Operations Research, Vol 164.

Darwin, & Utama, W. (2014). PBB Module P3 and Stamp Duty. Jakarta: Pusat Pendidikan dan Pelatihan Pajak.

Direktorat Jenderal Pajak. 2017. Performance Report of the Directorate General of Tax 2016. Direktorat Jenderal Pajak. Jakarta.

Direktorat Jenderal Pajak. 2018. Performance Report of the Directorate General of Tax 2017. Direktorat Jenderal Pajak. Jakarta.

Direktorat Jenderal Pajak. 2019. Performance Report of the Directorate General og Tax 2018. Direktorat Jenderal Pajak. Jakarta.

Direktorat Jenderal Pajak. 2017. Overview of Indonesia Taxation. Direktorat Jenderal Pajak. Jakarta.

Direktorat Penyusunan APBN. (2018). APBN 2018 Information. Jakarta: Direktorat Jenderal Anggaran.

Fafurida, & Nihayah, D. M. (2012). Small Business Unit Development Through Mapping Method and "Need Assessment". Jejak, Vol 5 No 1.

Fuentes, R., & Banuls, A. L. (2014). Smoothed Bootstrap Malmquist Index based on DEA Model to Compute Productivity of Tax Offices. Expert Systems with Applications, Vol 42 Issue 5 pp. 2442-2450.

Islamy, R. A. (2017). Analysis of Capacity Cost Efficiency Level by Using Time Driven Activity Based Costing (Case Study of Tenggarong Tax Office). Ekonomia, Vol.6 No. 2.

Judisseno, R. K. (2005). Tax & Business Strategy An Overview of Legal Certainty and Application of Accounting in Indonesia. Jakarta: PT Gramedia Pustaka Utama.

Kementerian Keuangan. 2017. Regulation of the Minister of Finance of the Republic of Indonesia No 211 / PMK.03 / 2017 Regarding the Procedure for Calculating Employee Performance Allowances in the Directorate General of Tax Environment. Kementerian Keuangan. Jakarta.

Kementerian Keuangan. 2019. Financial Notes and RAPBN. Kementerian Keuangan. Jakarta.

Kurniasih, & Nihayah, D. M. (2018). Human Resources Planning Strategy at Vocational High School in Tegal Regency. Economics Development Analysis Journal, Vol 7 No 3.

Kurniati, E. D., & Prajanti, S. D. (2018). Batik SMEs Efficiency and Entrepreneurship Role and Innovation. Jejak, Vol 11 No 2 hlm 375-389.

Mardiasmo. (2011). Taxation Revised Edition 2011. Yogyakarta: CV Andi Office.

Maryasih, L., Mutia, E., & Rahmawaty. (2015). Measurement of the Efficiency of the Transfer of PBB as a Regional Tax on Regional Revenues using the Data Envelopment Analysis (DEA) Method. Konferensi Ilmiah Akuntansi II, Akulturasi Profesi Akuntan dalam Membangun Good Corporate dan Good Governance dalam Era Globalisasi.

Meilyanti, S., & Suseno, D. A. (2018). Strategies for Optimizing Idle Assets of Central Java Province. Economics Development Analysis Journal, Vol 7 No 1.

Mohamadi, A., Sadeghi, M., Shojaei, P., & Rezaei, A. (2017). Evaluating The Efficiency of Iran's Provincial Tax Offices and Ranking Them by DEA/AHP. Iranian Journal of Management Studies, Vol 10 No 3 pp. 729-750.

Munir, D., Djuanda, H. A., & Tangkilisan, H. N. (2004). Regional Financial Policy and Management. Yogyakarta: Yayasan Pembaruan Administrasi Publik Indonesia.

Rubio, E. V., Gonzalez, P. E., & Alaminos, J. D. (2017). Relative Efficiency Within a Tax Administration : The Effects of Result Improvement. Finanz. polit. econ, Vol 9 No 1 pp. 135-149.

Sambodo, A. (2015). Tax in Business Entities. Jakarta: Salemba Empat.

Sekretariat Jenderal Keuangan. 2019. Financial Media Information Transparency Fiscal Policy. Maret. Kementerian Keuangan. Jakarta.

Setiawan, A. B., & Bowo, P. A. (2015). Technical, Allocative, and Economic Efficiencies of Rice Cultivation. Jejak, Vol 8 No 1

Sugiyono. (2016). Quantitative, Qualitative, and R&D Research Methods. Bandung: Alfabeta.

Suseno, D. A. (2015). Regional Development Based on Typology of Economic Growth and Sector Inequality in the Kedung Sepur Region. Jejak, Vol 8 No 1.

Suyanto, B., & Saksono, R. A. (2013). Efficiency Analysis of Tax Service Offices with Data Envelopment Analysis (DEA) Method. Good Governance, Vol 9 No 1.

Syam'ani. (2016). Basic GIS Application Tutorial: Building a Spatial Database Using ArcGIS 10.3. Banjarbaru: Lambung Mangkurat University Press.

Triantoro, H., & Subroto, B. (2016). Efficiency Performance of the Primary Tax Service Office Data Envelopment Analysis (DEA) Approach. Jurnal Akuntansi Aktual, Vol 3 No 3 pp. 215-225.