

# The Effect of Macro Economic Variables on Value Added Tax (VAT)

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# The Effect of Macro Economic Variables on Value Added Tax (VAT)

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**Abstract**— Tax is one of the sources of state income that used to finance expenditures in a country. Therefore tax revenue is the dominant factor in sustaining national development in a country. The problem that occurred this time that there is a condition of an increase in the number of taxable entrepreneurs, but the Value Addition Tax (VAT) receipt had decreased from 2014 to 2016. Based on the problem, the purpose of this study is to determine the factors that affected VAT receipts in Bandung-Indonesia. The methods used are descriptive and verification analysis, the data analysis used multiple regression. The sampling technique in this study used the saturated sample method. The population in this study is 60 monthly report data from 2012 to 2016. The results of this study prove that simultaneously, the number of taxable employers and VAT refunds has a significant effect on VAT receipts. In addition, this study shows the number of taxable employers partially significantly influences VAT receipts, and VAT refunds influence the receipt of VAT substantially. Finally, we can conclude that the increase in VAT revenues depends on the number of Taxable Employers and VAT refunds.

**Keywords**— Value Addition Tax (VAT), VAT Refunds, Taxable Employers

## I. INTRODUCTION

The success of national development is determined by the ability of a nation to advance the welfare of society. Indonesia, as a developing country, continues to carry out national development in various fields to improve people's welfare. A country's development goals will be achieved if the funds owned by the government in funding the necessary development are adequate. Tax revenue is one source of funds used for development. Taxes are one of the major revenues for a country where taxes are collected from citizens, companies, investors and so on to generate economy [1].

As tax finance policymaking allows the government to control economic activities. Experiences of successful and unsuccessful countries show that increasing value-added tax can help in solving problems when there are the necessary capacity and environment to improve the tax system and the overall economy [2]. According to [3] taxes refer to the revenue that is collected by the government to provide services and finance themselves. According to the theory of tax competition, the government will reduce the

taxes on a mobile asset through the occurrence of globalization due to the rise in economic growth in a country.

Value Added Tax (VAT) is one of the state revenues from the tax sector that can be used to fund the development of a country; VAT revenue has been the second largest contributor to the structure of tax revenue after Income Tax. The VAT can be said as a substitute for sales tax because the sales tax does not reach the target of development needs to increase state revenues, encourage exports, and evenly distribute taxes and very important for state revenue [4]. The VAT is charged to every purchase of goods and /or services. Almost all products/services needed by the community are goods subject to VAT. VAT began to take effect in Indonesia on April 1, 1985, which was the result of tax reform in 1983.

The current problem, as stated by [5], is that the realization of tax revenues until the end of the first quarter of 2016 reached Rp.203.4 trillion, still not meeting expectations due to the low income from VAT. The low VAT caused the realization of national tax revenues until the end of March 2016, which was lower than Rp.4 trillion compared to the previous year which reached Rp.199.4 trillion. Then, [6] says an improved tax revenue ratio has not followed the growth in tax revenue in Indonesia. Compared with other ASEAN countries, Indonesia's tax ratio is relatively low.

Several factors affect VAT income is VAT tax refund according to [7] VAT refunds can occur if in a tax period the amount of input tax is greater than the output tax, then the difference is an excess tax that can be compensated with the tax payable in the next tax period or can be returned. This study uses the amount of return on tax overpayment as an indicator of the VAT Refunds variable. The results of study prove that restitution of VAT affects VAT revenue. Based on the background, the problems, and previous research, this study aims to be able to develop a theoretical model that can be used to predict the factors that can influence VAT revenue, namely taxable employers.

Furthermore, another factor affecting the VAT Revenue is taxable employers, which is the person or entity responsible for carrying out tax obligations such as collecting, depositing, and reporting tax debt. Previous research conducted by [6] and [8] analyzes the relationship between VAT income and macroeconomic indicators: gross domestic product, gross domestic product per capita, consumption expenditure, household consumption expenditure, government consumption expenditure, export, import, and unemployment,

to build a model that illustrates the importance of the collected VAT. This research indicates a low unemployment rate will increase VAT.

Furthermore, to examine and explain the effect of macroeconomic variables represented by the variable tax refunds and taxable employers on the receipt of VAT, researchers used a descriptive verification method. Based on empirical testing, the results of this research show that they are in conformity with the results of previous studies conducted by [6-10]. Previous researchers have widely researched VAT revenue. This research [12] is a follow-up study that is more focused on the factor of the number [12] taxable entrepreneurs and the VAT refund variable. Used the number of taxable entrepreneurs based on at this time, there are still many potential taxable entrepreneurs who have not been able to optimize the imposition of VAT tax because it has not been well recorded. The use of the VAT Refund aims to find out how much the VAT refund paid by the government to taxable entrepreneurs. The greater the VAT refund paid by the government has the potential to reduce government revenue from the VAT sector.

II. METHODS

A. Research Method

This study uses descriptive and verification methods with quantitative approaches. Descriptive research methods are used to describe the results of research, while the verification research method is used to test the validity of theories and hypotheses that have been raised by experts regarding the relationship between the Number of Taxable Employers, VAT refunds and VAT Receipts. The data source used in this study is secondary data because it uses data that has been processed by data collectors. This study uses literature studies or literature studies by studying documents in the form of books, reports, and legislation related to the variables under study.

B. Population and Sample

The population in this study is a monthly report that contains information on the number of Taxable Employers, VAT refunds, and realization of VAT Revenues of 60 reports from 2012 to 2016. The sampling technique used in this study is saturated sampling. According to [11] Technique of determining saturated samples can be done [15] all members of the population are used as samples and if the population is relatively small, less than 30 people, or in other words researchers want to make generalizations with very small errors. Saturated samples can also be expressed as censuses, the samples in this study are data on the number of Taxable Employer reports, VAT refunds, and VAT Receipts for 2012-2016 taken from each month as much as 60 months at Tax Office - Bandung.

C. Data Testing Method & Hypotheses

The statistical test used in this study is multiple linear regression to predict the effect of the number of taxable Employers and VAT refunds on value-added tax revenues. In the use of multiple linear analysis, it is necessary to test classic assumptions, which consist of normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. Correlation coefficient analysis is used to explain the strength and direction of the relationship between the independent variable and the dependent variable. Determined Coefficient Analysis (KD) is used to see how much the independent variable (X) has an impact on the dependent variable (Y) expressed in percentage. The magnitude of the coefficient of determination. As for knowing the contribution of influence partially, it can be seen from the results of multiplication between beta values, which are standardized coefficients with zero-order, which is a partial correlation. The significant level used in this study was 5%. The statistical hypotheses to be tested in this study are shown in Table I as follows:

13 TABLE I. THE STATISTICAL HYPOTHESES

13 Ho: $\beta_1 = 0$	There is no significant influence on the number of taxable employers on VAT receipts.
13 Ha: $\beta_1 \neq 0$	There is a significant influence on the number of taxable employers on VAT receipts
Ho: $\beta_2 = 0$	There is no significant effect of VAT refund on VAT Revenue
Ha: $\beta_2 \neq 0$	There is a significant effect of VAT refund on VAT Revenue

III. RESULTS AND DISCUSSION

A. Regression Model

Before the formation of a regression model, the classical assumption will be tested first so that the former model gives the correct estimation. The classic assumption test results show normal distribution, there is no multicollinearity between the variables of the number of taxable employers and VAT refunds, there is no heteroscedasticity in the regression model and [16] violations of the regression assumptions are obtained. The results of the Multiple Linear Regression Equations in this study are stated in the equation as follows:

$$Y = 1.116E10 + 7.640E6 (X1) + -1,799 (X2).$$

From the results of the multiple linear regression equation, each variable can be interpreted as follows:

1. The constant value of 1.116E10 means that if the number of entrepreneurs is taxed and the VAT refund is 0, then the added tax revenue is 1.116E10.
2. The variable regression coefficient of the Number of Taxable employers (X1) is 7,640E6, meaning that if the other independent variables are fixed and the Number of Taxable employers increases by 1%, then VAT Revenue (Y) will increase by 7,640E6.

3. Variable regression coefficient VAT refunds (X2) is -1,799, meaning that if the other independent variables are fixed value and VAT Refunds increases 1%, then VAT Revenue (Y) will decrease by -1,799.

*B. Correlation Coefficient Testing*

*a. Coefficient Correlation between The Amount of Taxable Employee with The VAT Revenue.*

Based on the correlation coefficient value for the Number of Taxable employees with the first tax receipt, the value is 0.585, which results in the interval score between 0.40 - 0.599. This shows that there is a moderate relationship between the number of taxable employers and VAT revenues. A positive value indicates that there is a unidirectional relationship between the Number of Taxable employers and the first VAT revenues where if the Number of Taxable employers' increases, the VAT revenues will increase.

*b. Coefficient Correlation Between VAT Refunds with The VAT Revenue*

Based on the correlation coefficient value for VAT Refunds with VAT revenues of -0.326, which results in the interval score between 0.20 - 0.399. This shows that there is a low relationship between VAT Refunds and VAT revenues. A negative value indicates that there is an opposite relationship between VAT Refunds and the first value tax receipt, where if the VAT Refunds increases, value-added tax revenue will decrease, and vice versa if the VAT Refunds low then the VAT revenues will increase in Bandung Tax Office 2012-2016.1

*c. The magnitude of The Taxable Employees Number influence with The VAT Revenue and VAT Refunds.*

Based on the partial determination coefficient value of the variable Number of Taxable Entrepreneurs on VAT Revenue of 34.22%, while the remaining 65.78% is the influence given by other factors not examined while for the variable VAT Refunds on VAT Revenues the value is 16.28%, while the remaining 83.72% is the influence given by other factors not examined.

*d. Hypothesis Testing Results*

1. Based on the value of tcount obtained at 5,444, it is between the table values (-2,002 and 2,002), according to the hypothesis testing criteria that H0 is rejected and H1 is accepted, meaning that partially there is a significant effect on the taxable value-added tax on Pratama Majalaya Tax Service Office.
2. Based on the value of tcount obtained at -2,599, it is between the table value (-2,002 and 2,002), according to the hypothesis testing criteria that H0 is rejected and H1 is accepted, meaning that part there are a significant effect VAT Refunds on the dependent variable VAT Revenues.

This study has succeeded in proving that VAT revenue is influenced by the number of Employers taxed and tax refunds.

This shows that the more taxable employers who register themselves will have an impact on increasing taxpayers. The more taxpayers caused, the VAT revenues will increase. This research shows the suitability of results with the previous study was conducted by [20] in the European Union, which suggested that indirectly high unemployment rates affected the decline in tax revenues from VAT. The researcher concludes that the high unemployment rate shows the number of taxable entrepreneurs is low, and this would indicate the government does not have a potential tax subject to be subject to VAT objects so that it has an impact on the low rate of receipt of VAT in the European Union at that time. This research shows compatibility with previous research conducted by [10] in 14 developed countries in the world, including Japan. The results of these studies indicate the existence of the trend of VAT receipts increases when the number of taxable entrepreneurs increases. Says this study taxable entrepreneurs were proxied through investment share Gross Domestic Product.

Also, this study shows the greater the VAT refund; the VAT revenue will decrease. Tax refunds can occur if the input VAT paid is greater than the VAT of the output collected; the difference in difference causes the tax office to return the excess VAT input paid by the taxpayer. The more the number of tax refunds, the greater the tax reduction potential that has an impact on decreasing receipts of VAT. The results of this study can provide empirical evidence that a decrease influences the decline in VAT revenues in the number of taxable employers and an increase in the number of VAT refunds paid.

The results of this study are in line with research conducted by [11] they analyzed the effect of changes in VAT rates on VAT revenues in Ghana during the period 2003-2010. Studies show that changes in VAT rates do not have a significant impact on VAT revenues. In contrast, government spending through tax refunds and increases in Gross Domestic Product has a more significant impact on VAT revenues, although tax costs are generally low and this is due to the tax system in Ghana. Furthermore, the results of this study corroborate previous studies conducted by [7], which have shown empirical evidence that the restitution of value-added tax that occurs in the Pratama Tax Office Manado has a negative influence on VAT receipts. The existence of these conditions resulted in reduced tax revenues for development. The study also suggested that the parties involved in the process of payment and tax reporting, to be more accurate in the process of calculating the tax of taxation, did not make mistakes that could lead to VAT refunds.

Finally, we can state that the results of our study can strengthen previous research conducted by [7], [10], and [11] which state that VAT increases can occur because of the increase in the number of taxable entrepreneurs seen through an increase in the share of Gross Domestic Product in a country, and a decrease in the amount of VAT can be attributed to high government spending from the VAT refund sector. VAT tax refunds can actually be minimized if the

parties handling the calculation and payment process can carry out their duties more carefully and thoroughly. This can be a solution to minimize leakage of state revenues from the tax sector.

#### IV. CONCLUSION

Based on the problems and results of the study it can be concluded that the number of Taxable employers has an effect on the VAT Revenue at the Bandung Tax Service Office with a Medium category of relations. The influence of the number of taxpayers on income tax revenue is not affected because many taxable employers do not carry out their obligations. VAT Refunds affects the Value Added Tax Revenue at Bandung Tax Service Office with a Low relationship category. There is no effect of tax refunds on income tax receipts because the amount of tax refunds is not proportional to the amount of income tax revenues that are budgeted.

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