

**EFFECT OF CONSUMPTION ON ACCEPTANCE OF  
VALUE ADDED TAXES ( VAT ) IN INDONESIA DURING  
1984-2016**

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*Abstract*

*VAT is a tax component that contributes the most to total tax revenue, this study analyzed the relationship of consumption to VAT receipts, but there are other free control variables such as; the money supply, population, and industrial sector revenues. This study refers to previous research that has been carried out by Harju, Kosonen, and Skans (2018) , entitled about “Firm types, price-setting strategies, and consumption-tax incidence”. This study uses a Time Series Model, that is : is a forecast of future values based on past values of a variable and past mistakes. Time series models are usually use for forecasting. The research method used is quantitative descriptive, by using the Eviews test tool. Because at the beginning of testing this research experienced problems on the classical assumption test, then to overcome the problem of classical assumption test, the test continues using estimation method Newey-West HAC regression model (heteroscedasticity and autocorrelation consistent) standard error or more often called Newey-West HAC. The results of the study show that consumption as the main independent variable has a significant effect, and the control variable that has influence is the money supply and the industrial sector. the increasing amount of consumption each year can stimulate VAT revenues and economic growth in Indonesia.*

**JEL Classification:** H20, H25, H26

**Keywords:** Consumption, Industrial sector Money Supply, VAT

## **1. INTRODUCTION**

Based on Law Number 17 of 2003 concerning State Finance, income / State revenue is defined as the right of the central government to be recognized as an addition to the value of net assets and consists of domestic income derived from tax revenues and non-tax state revenues, and grants obtained from other governments and other government levels. Revenues derived from loans are sourced from loans that will later need to be returned (Irawan & Suparmoko, 2008).

Indonesia's main revenue is through the taxation sector, there are several sub-sectors that contribute to tax revenue, namely ; Income tax, value-added tax, property tax, Customs Obligation for Land and Building Rights, and International Taxes. Of the five sub-sectors, value-added tax is a tax with the largest revenue growth category during the 33 years of research, its from 1984-2016 (DJP, 2018).

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VAT is a type of indirect tax to be paid by another part who is not a tax guarantor. The basic principle is a tax that must be imposed on every production and distribution process, but the amount of tax owed is charged to the end consumers who use the product (Wijayanti, 2015).

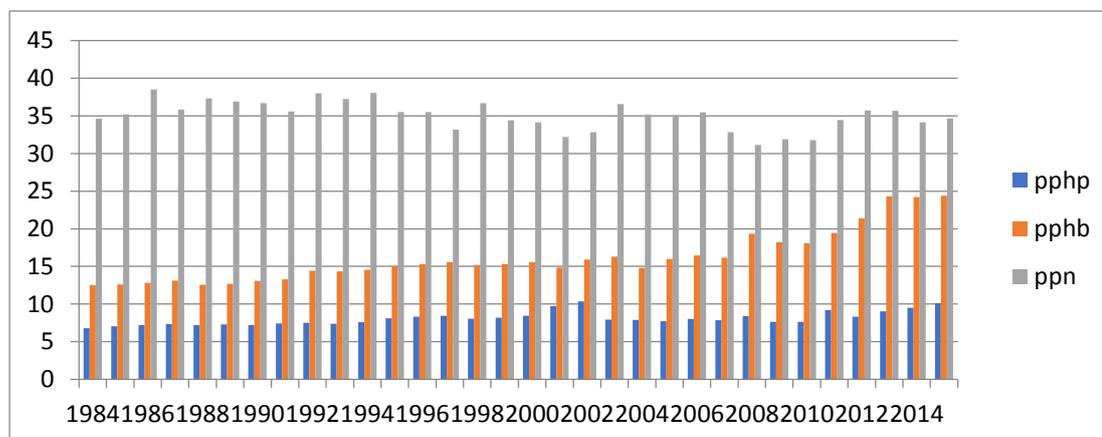


Figure 1 Total Percentage of Personal Income Tax, Corporate Income Tax and Added Value iTax to Total Tax Revenue in Indonesia Years 1984-2016 (in percent)

*Source: National Income Spending Budget (1984-2016)*

Based on figure 1, it can be seen that the one with the largest share of total tax revenue is VAT, with an average annual percentage of 34%, while the corporate income tax has an average number of percent per year of 17.39% and personal income tax of 9.49%. In 1998 the amount of Income tax, value-added tax, property tax was experienced a drastic decline, this is due to the economic crisis that hit Indonesia. At that time a lot of fiscal risks occurred including the sensitive risks of the State Budget. On the state income side, economic growth during the crisis greatly affected tax revenues, especially income tax and VAT, but the situation recovered over time until 2016. VAT receipts reached 191 Trillion or increased by 26.25 from 2015 (DJP, 2018).

The size of the VAT receipt is very dependent on the size of the VAT basis, which is in the form of economic transactions, ultimately depends on the level of domestic consumption and the overall economy. Seeing that VAT growth in Indonesia is increasing every year, so actually the potential of VAT in Indonesia is still large, because if you look at increasing economic growth in Indonesia every year which will ultimately increase the level of consumption, if the increasing consumption rate in Indonesia will support the increase in VAT tax revenues, because the consumption sector is a sector that is very easy to be taxed. Consumption is expenditure on goods and services carried out by households with the aim of meeting the needs of the person who made the expenditure, with the increase in the consumption sector, it will be easier to become the object of new value added tax, especially for food and beverage consumption (Sihotang & Amachi, 2013).

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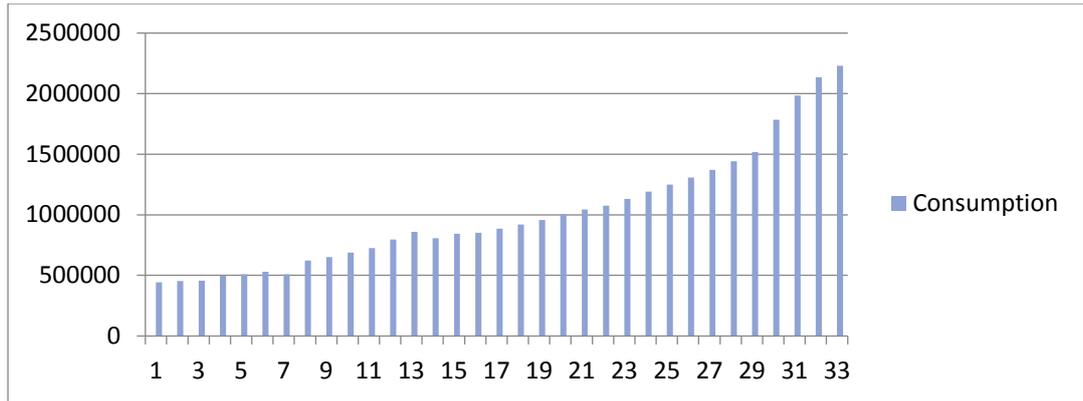


Figure 2 Number of Household Consumption in Indonesia in 1984-2016 (in billion rupiah)

*Source: GDP by Expenditure (1984-2016)*

Based on Figure 2 it can be seen that most of the consumption sector in Indonesia has increased, its since the beginning of 1984 the amount of consumption amounted to 443,000 billion rupiah, and continues to increase until 2016 to amount to 223,200 billion rupiah, even though there was a decline due to the crisis that hit the Indonesian economy in 1997, and recovered in 2000. In this study consumption variable is the main independent variables that is thought to affect tax revenue, and other control independent variables are money supple (M2), Total Population (Pop), and total industrial sector revenue (Mnf). The reason why researchers use these variables as free control variables are in *quantity theory of money, according to this theory the amount of money available in the economy determines the value of money and the growth of the amount of money circulating in the hands of the people, so that the increasing amount of money in circulation will foster a sense of consumerity and willingness to pay more for services received* (Mankiw, 2010).

In addition, the population in Indonesia continues to increase every year, an increase in population is one thing that is needed and not a problem, but as an important element that can spur development and economic growth, and then an increase in population has the potential to increase new tax objects (Basyir & Supardi, 2014).

Not only the money supply and the population as other control independent variables, rather, the industrial sector's acceptance variable in this study is also suspected to be the factor that influences the receipt of VAT, until 2017 the industrial sector is the largest sector that contributes to GDP revenues. According to data from the Directorate General of Indonesian Taxation in 2018, the industrial sector is a sector that grows double digits, the sector grow 16.72 percent or higher than the same period last year which grew 8.30 percent and become one of the largest sectors of tax revenue in Indonesia (DJPK, 218).

So based on the description before, this study entitled "The Effect of Consumption on Value Added Tax (Ppn) Receipts in Indonesia in 1984 - 2016".

## 2. LITERATURE STUDY

### 2.1. Tax Theory

Tax is the contribution of the people to the National Treasury based on acts (which is able to be forced) by not obtaining return service (contra-achievement), which is able to be shown and used for paying general spending (Waluyo, 2011).

Rosen (2010) explained in his book titled Public Finance that a person which is responsible for paying tax is called a statutory incidence which is an indicate who is legally responsible for a tax. The presence of a tax incident which depends on the tax revenue deposition is caused by the presence of balance budget incidence which is counting the combined effect from tax collecting and government financial spending and tax revenue which is usually not allocated for certain spending, so from this problem the term differential tax incidence is known because differential tax incidence is able to see the size of change in tax revenue and how when one type of tax is replaced with another.

In tax collecting there are foundations of tax collecting according to Waluyo (2011), which are :

- 1) Equality
- 2) Certainty
- 3) Convenience of Payment
- 4) Economic of Collections

A hypothesis explained by Rosen (2010), that assumed other taxes is a lump sum tax, that is the tax imposed on a person with a constant amount and there is no difference in the amount of tax burden on each person. The tax collection system may turn into progressive tax, which is the tax collection rate with a percentage that increases with the increasing amount used as the basis for tax imposition. According to Rosen (2010) there are types of taxes, such as;

1. Proporsional.
2. Progresif
3. Regresif

In economic science, the excess of tax burden, also known as dead weight cost or dead weight loss of taxation, is an economic loss which the people suffer as a cause of tax or subsidies.

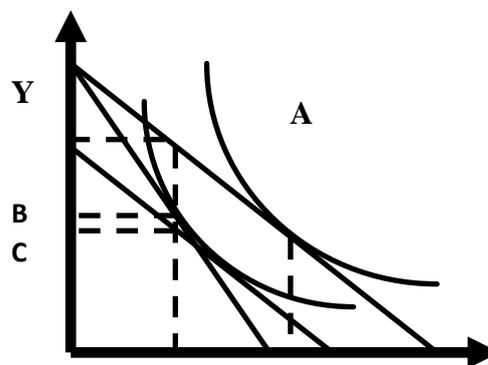


Figure 3 Excess Burden of Taxation

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When tax occurs, there will be a decrease of income which is shown as a parallel movement from the budget obstacle and with a vertical range between A and C. The range between B & C is a decrease of dead weight loss (DWL). DWL is the difference between what is paid for tax and equal with income decrease. So for minimizing excess burden, the tax rate has to be arranged in such a way so the percentage decrease of demanded goods have to be the same (Rosen, 2010).

In tax collecting several systems are known which are: official assessment system, self assessment system, and with holding system. The tax collecting system in Indonesia is the self assessment system. The self assessment system as the tax determining system in Indonesia is already applied since the tax reform of 1983. The self assessment system is a tax collecting system which provides trust, and responsibility to taxpayers for counting, estimating, paying, and report themselves of the tax amount which has to be paid (Waluyo, 2011).

### **2.2. Value Added Tax (VAT)**

Value Added Tax is a substitute for Sales Tax, this is because the Sales Tax is no longer sufficient to accommodate community activities and has not reached the target of development needs, among others to increase state revenues, encourage exports, even distribution of tax charges and of course value added tax is a tax imposed on consumption in the country (customs area) (Supramono, 2010).

Sales tax has weaknesses, that's (Supramono, 2010) :

- a. There is a double tax.
- b. Types of tariffs, causing difficulties.
- c. Does not encourage exports.
- d. Can not overcome smuggling.

Value added tax (VAT) has advantages, that's (Supramono, 2010) :

- a. Eliminate double tax.
- b. Use a single tariff so it's easy to implement.
- c. Neutral in domestic competition, national trade. neutral consumption patterns and encourage exports

The legal basis for VAT is Law No. 42 of 2009 concerning the third amendment to Law No. 8 of 1983 then changed to Law No. 11 of 1994, and the last was changed again by Law No. 18 of 2000 concerning value added tax (VAT) on goods and services and sales tax on luxury goods. The last implementation rule is regulated in Law No. 42 of 2009, with Law No. 8 of 1983 was collected value added tax and sales of luxury goods. The main difference in value added tax from circulation and sales tax is the absence of double taxation. In the law it was found that the VAT Act was enacted July 1,

1984, with government regulations in lieu of Law (PERPU) No. 1 of 1984 (Supramono, 2010).

### **2.3. Hypothesis**

Consumption, money supply, population and industrial sector have a positive and significant relationship that can increase value added tax revenue.

## **3. RESEARCH METHODOLOGY**

This study uses a Time Series Model, that is : is a forecast of future values based on past values of a variable and past mistakes. Time series models are usually use for forecasting. The research method used is quantitative descriptive, by using the Eviews test tool. This study refers to previous research that has been done, by Harju, Kosonen, and Skans (2018); in this research analyze the price responses to large restaurant VAT rate reductions in two different European countries. Our results show that responses in the short and medium run were clustered around two focal points of zero pass-through and full pass-through. Differences between independent restaurants and chains is the key explanation for this pattern. While nearly all independent restaurants effectively ignored the tax reductions and left consumer prices unchanged, a substantial fraction of restaurants belonging to chains chose a rapid and complete pass-through. In the longer run, prices converged, but primarily through a price reversion among chain restaurants. The stark difference in price responses does not appear to arise because of different market characteristics such as location, initial price levels, meal types and restaurant segment.

In this study the consumption variable is the main independent variable which is thought to influence the value added tax (VAT) revenue, and there are other control independent variables such as the money supply (M2), population (Pop), and the amount of industrial sector revenue. So the model in this research is:

$$\text{VAT} = \beta_0 + \beta_1 \text{Csm}_t + \beta_2 \text{M2}_t + \beta_3 \text{Pop}_t + \beta_4 \text{Mnf}_t + e_t$$

Explanation :

VAT : Value Added Tax

Csm : Consumption

M2 : Money supply

Pop : Population

Mnf : Industrial sector revenue

(Harju, Kosonen, and Skans , 2018)

This study was analyzed and estimated using ordinary least square method (OLS), which is one of the methods that can be used to estimate parameters in regression analysis. The working principle of OLS is to minimize the sum of squares error, data must be normally distributed, there is no problem multicollinearity, heteroscedasticity, and autocorrelation. If all assumptions are met then the estimation result with OLS is said to meet the Best Linear Unbiased Estimator properties (BLUE) (Gujarati, 2003).

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Because at the beginning of testing this research experienced problems on the classical assumption test, then to overcome the problem of classical assumption test, the test continues using estimation method Newey-West HAC regression model (heteroscedasticity and autocorrelation consistent) standard error or more often called Newey-West HAC. Newey-west HAC is not only for large samples, but also can be used for small samples (Gujarati, 2003).

In the estimation of this study, it no longer contains problems of heteroscedasticity and autocorrelation, so no further testing of classical assumptions is required, but can still perform hypothesis testing based on the distribution of T or F. As previous research has been done by Rachmawati and Sumarminingsih (2014).

#### 4. RESULTS AND DISCUSSION

Value added tax (VAT) revenue is much higher than other taxes, because all people who enjoy goods and services will be subject to VAT, as it is known that almost all of the living goods of the Indonesian people are the products of VAT, even though someone does not have a taxpayer's principal number (NPWP) but indirectly the person is still subject to VAT, and the VAT can be delegated to others its mean allowing everyone to be taxed (Sihotang & Amachi, 2013).

Table 1 Results of Time Series Regression Using HAC Method

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
C	1933.79	4033.430	0.828732	0.4151
Csm	0.26336	0.004937	4.439876	0.0000
M2	0.12001	0.044807	2.712928	0.0367
POP	-0.00421	0.000628	-0.925244	0.3637
Mnf	0.22178	0.037457	2.665671	0.0324

R-squared                      0.964809

The consumption variable used as the main independent variable in this study has a positive and significant influence on the revenue of VAT, as evidenced by the Prob value. The consumption variable is 0.0000 and the positive coefficient number is 0.26, this means that when consumption increases by 1%, VAT will increase by 0.26%, of course this is the same as previous studies belonging to Harju, Kosonen, and Skans (2018), in his research explained that goods that were subjected to VAT or restaurants that applied VAT did not experience a decline in sales, this means that the level of consumption of a person is not affected by the amount of tax when someone has felt comfortable about consumption of the item.

With the real situation in Indonesia, the household consumption sector continues to experience an increase that can stimulate the Indonesian economy. Based on data from the Central Statistics Agency, Gross Domestic Product (GDP) household consumption expenditure at current prices in the first quarter of 2018 reached Rp 1,991.1 trillion. This figure is higher than the first quarter in 2017 of Rp 1,838.6 trillion and in the fourth quarter in 2017 of Rp 1,962.4 trillion ( BPS, 2018).

For the control independent variable that influences VAT receipts is the money supply as evidenced by the Prob value. The variable money supply is 0.36 and the positive coefficient number is 0.12. This means that when the money supply increases by 1%, VAT will increase by 0.12%, of course this is the same as previous studies by Mahdavi (2008) : the increasing amount of money supply could stimulate the economy and signify the willingness of the people to set aside their money to pay taxes.

Beside the money supply, other control independent variables that influence VAT revenue is industrial sector revenue variables with a probability value of 0.32 and a coefficient value of 0.22. This means that when industrial sector revenues increase by 1%, VAT will increase by 0.22%. Of course it is same as the research conducted by Castro and Camarillo (2014) : Industry is a field of livelihood that uses work skills and perseverance and the use of tools in the field of processing of agricultural products and their distribution as a basis. Industrial output is not only in the form of goods, but also in the form of services, Indonesia is a country that makes the industrial sector the livelihood of most of its population, its evidenced by the many industries that use technology that is good enough so that not a few industrial sectors in Indonesia can penetrate foreign markets. Through a high-quality industrial sector with high selling power, will require many employees, so it can absorb jobs, so that will be easy for the government to absorb tax potential (Castro & Camarillo , 2014).

For population variables do not have a positive and significant effect on VAT revenue, this is evidenced by a probability value, it's 0.36 and a coefficient, it's -0.00421. Population is not significant because not all of the population that should be registered as taxpayers are willing to pay their tax obligations. In fact, taxpayer compliance is one of the keys to ensuring the success of the government in collecting tax revenues so it can be used to support development financing, one of the most serious problems for economic policy makers is to encourage the level of taxpayer compliance. Tax compliance that does not increase will threaten the government's efforts to realize public welfare. In this case due to the level of tax compliance indirectly affecting the availability of income for spending (Indriyani & Sukartha, 2014).

The R-Square value shown in table 1 is 0,96 , this means that between the independent variable and the dependent variable there is a connection, and explain that overall dependent variable can influence independent variable equal to 96% in this research model. This study has used the Newey-West HAC method,so there is no need for testing classical assumptions. The next test are T test and F test, below are the results of the two tests :

Table 2 T Test Results

<b>Independent Variabel</b>	<b>Coefficient</b>	<b>t-Statistics</b>	<b>t-Table</b>	<b>Probability</b>	<b>Information</b>
Csm	0.26336	4.439876	2.05559	0.0000	Significant
M2	0.12001	2.712928	2.05559	0.0367	Significant
POP	-0.00421	-0.925244	2.05559	0.3637	not Significant
Mnf	0.22178	2.665671	2.05559	0.0324	Significant

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Based on table 2 it can be seen that the independent variables that have a t-statistic value greater than t-table and which has a significant influence on total tax revenue are variable Csm, M2, and Mnf.

Table 3 F Test Results

<b>Dependent Variabel</b>	<b>F-Calculate Value</b>	<b>F-Table Value</b>	<b>Information</b>
Total Tax	1196,73	0.2217	Significant

Based on table 3 by comparing the f-count with the f-table value, it is known that in this research model,  $f\text{-count} > f\text{-table}$ , thus indicating that all independent variables have a significant effect on the fixed variable.

### 5. CONCLUSION

In this study the consumption variable which is used as the main independent variable has a significant positive effect, which means the commodity value of the consumption sector in Indonesia is very stimulating by helping to increase VAT receipts and economic growth. A person will still have a desire to consume even if the goods or services consumed are recognized by the VAT rate. Therefore, the government should support the consumption of people from the lower middle class to the upper middle class. The increasing money supply in the community so far can be controlled so that there is no indication of inflation, the money supply supports the community to continue their consume and they are not reluctant to pay VAT. The industrial sector which is the largest sector that contributes to the increase in GDP also has a positive and significant impact on VAT revenue. In this case, some of the goods consumed by the community are goods produced by the processing industry, so this is like mutualism symbiosis, when the goods are subject to tax and remain sold among the community, it will directly encourage the growth of VAT.

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