



## The Analysis of Southeast Asia's Tax Revenue Determinants (Empirical Study 2001–2021)

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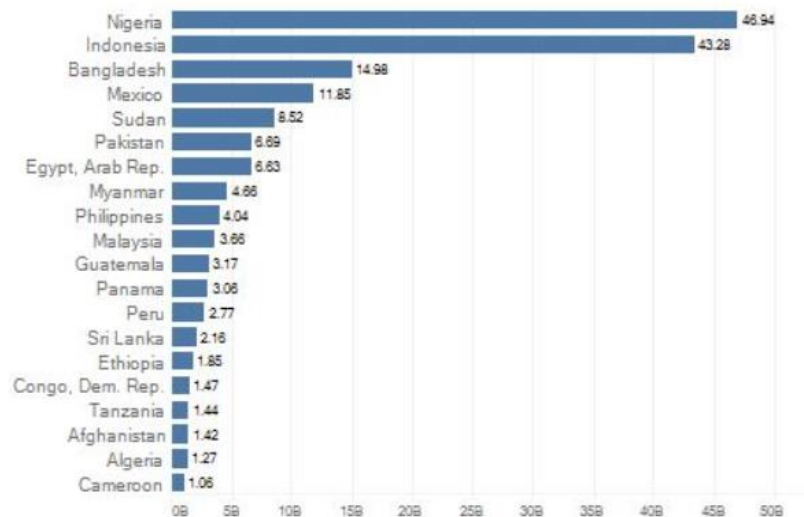
### ABSTRACT

The impact of Southeast Asian tax revenue factors on development capital is examined in this study. The aim of the research was to investigate the potential impact of tax revenue factors in the Southeast Asian region. samples and populations from ten Southeast Asian nations: Singapore, Malaysia, Indonesia, Brunei Darussalam, Philippines, Thailand, Vietnam, Laos, Cambodia, Myanmar, and Timor Leste. The study employs time series data spanning from 2001 to 2021. The PLS Structural Equation Modeling (SEM) data analysis technique is used in this work to analyze quantitative data. The study's findings indicate that while external debt has a negative impact on tax collection, per capita income and GDP manufacturing have a beneficial impact. In the meanwhile, tax revenue is unaffected by GDP agriculture, foreign direct investment, or corruption.

## INTRODUCTION

The Sustainable Development Goals have 17 major agendas that broadly contain development patterns that include four main pillars, namely: development in the social, economic, and environmental fields as well as legal and governance pillars. Every country needs a large amount of capital to achieve this goal. Taxes are one of the components of state revenue that is influenced by the level of economic growth, namely Gross Domestic Gross (GDP). Gaspar, Jaramillo, and Wingender (2016) in their research stated that 139 countries in the world are predicted to have reached a Gross Domestic Gross Domestic level of 7.5%, greater than expected over the last 10 years. The increase in *Gross Domestic Gross* occurred in countries that have a tax revenue ratio above 15%. For countries whose average tax revenues do not reach 15% of *Gross Domestic Revenue*, it reflects worrying fiscal conditions. Low tax revenue performance will hinder development, for example: lack of adequate public services, inhibition of the supply of basic needs of the community, and lagging behind in development compared to other countries. Sawney (2018) said that difficulties in overcoming social and environmental problems will be faced by the government if the country's finances are not in a sustainable condition. In line with that, Dioda (2012) said that health, infrastructure, and education issues are on the development agenda as a tool to transform a structured economy while encouraging growth. In fact, there are still many developing countries that have a tax ratio below 15%. From *World Bank data*, there are 139 developing countries in the world, and Indonesia is included in *the Top 20 developing countries* that have the largest gap between tax revenues and a tax ratio of 15% to GDP.

Diagram 1. Tax Revenue Gap against Tax Ratio 15% in USD Billion



Source: world bank data (2018)

In the figure above, Indonesia is in second place below Nigeria which has the largest gap between *tax revenue* and *a tax ratio of 15%*. The gap amounted to USD 43.28 trillion while the highest gap occurred in Nigeria at USD 46.94 trillion.

Table 1. Indonesia's Revenue Sources

Description	2021	2020	Increase/Decrease
<b>I. Tax Revenue</b>	1,547.84	1,285.14	20.44%
1. Domestic Taxes	1,474.15	1,248.42	18.08%
2. International Trade Tax	73.70	36.72	100.69%
<b>II. Non-Tax State Revenue</b>	458.49	343.81	33.35%
1. Natural Resources Admissions	149.49	97.23	53.76%
2. Revenue from state wealth is separated	30.50	66.08	53.85%
3. Other non-tax state revenues	152.50	111.20	37.14%
4. BLU Revenue	126.00	69.31	81.80%
<b>III. Grant Acceptance</b>	<b>5.01</b>	<b>18.83</b>	<b>(73.38%)</b>
<b>Total State Revenue and Grants</b>	<b>2,011.35</b>	<b>1,647.78</b>	<b>22.06%</b>

Source: Ministry of Finance (2022)

When compared to the actual tax revenue obtained by Indonesia, data from the Ministry of Finance in 2021 above, Indonesia achieved the realization of tax revenue of IDR 1,547.84 trillion or equivalent to USD 106.74 billion in 2021. With the gap mentioned by the *World Bank* of USD 43.28 billion, Indonesia must achieve tax revenue of around USD 150 billion to achieve a tax ratio above 15% and still has a homework achievement of around 29% in 2021.

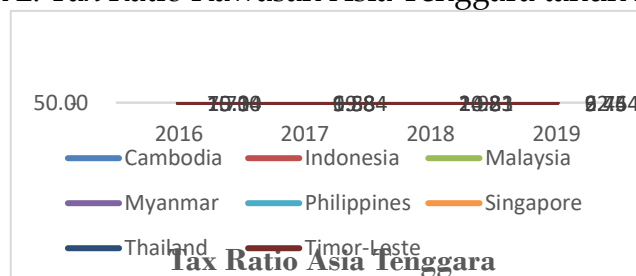
Table 2. Indonesia's Tax Ratio in 2016 - 2020

Description	2020	2019	2018	2017	2016
GDP on a Prevailing Price Basis (trillion Rp)	15,434.15	15,833.94	14,837.40	13,588.80	12,406.77
Central Tax (trillion Rp)	1,285.14	1,546.14	1,518.79	1,343.53	1,284.97
Natural Resources Revenue (trillion Rp)	90.26	147.43	173.10	105.61	59.85
- Oil and gas	69.08	121.09	142.79	81.84	44.09
- Mineral and coal mining	21.18	26.34	30.31	23.76	15.76
<b>Tax Ratio</b>					
Central Taxes and Natural Resources Revenues	8.91	10.70	11.40	10.66	10.84
Central Tax on GDP	8.33	9.76	10.24	9.89	10.36

Source: LKPP 2020, Central Statistics Agency 2020

Observing the *road map* of Indonesia's tax ratio from table 2 above, it can be seen that from 2016 to 2020 Indonesia's *tax ratio* was far below 15%. The highest ratio of 10.36% was achieved in 2016, and 8.33% in 2020.

Diagram 2. Tax Ratio Kawasan Asia Tenggara tahun 2016-2019



Source: World Bank Processed Data (2022)

Numerous regions have seen research on the factors influencing tax revenue: Bothole, 2010 saw research objects in Sub-Saharan Africa, Latin America, and the Caribbean countries conducted by (Dioda, 2012); Imam and Jacob, 2014 saw research in the Middle East, and Kalas et al., 2018 conducted research in European Union countries.

## **LITERATURE REVIEW**

### ***Stakeholder Theory***

According to Freeman (1984), a stakeholder is an individual or a group of individuals who have an impact on and affect the company's process in accomplishing its objectives. Stakeholders are individuals who have an interest in or worry about a specific topic, according to research. According to stakeholder theory, an organization's capacity to balance the interests of its many stakeholders while achieving economic and non-economic goals determines its sustainability and success (Pirsch et al., 2007). Grimble and Wellard, meantime, consider stakeholders in light of their significant roles and clout.

### ***Middle Theory***

Prof. Dr. H. Rochmat Soemitro, SH describes taxation as the transfer of wealth from the people to the state treasury for the purpose of financing regular expenditures; the remaining funds are utilized for public savings, which serve as the primary source of funding for public investment, according to Diana Sari (2013). According to Law Number 28 of 2007 concerning General Provisions and Taxation Procedures, Article 1, taxes are obligatory payments to the government that are owed by people or entities under coercive legal circumstances. These payments are made without receiving any form of compensation and are utilized for state objectives aimed at maximizing the prosperity of the populace (Waluyo, 2011). The view advanced by Dr. N. J. Feldmann holds that taxes are accomplishments that are unilaterally imposed by the ruler and owed to him (in accordance with the rules he generally sets), without any countermerit, and are only utilized to pay for public expenses (Siti Resmi, 2014). In order to ensure legal certainty for the fiscal office in its capacity as a tax collector and the taxpayer in their capacity as a taxpayer, the taxes collected from this legal method must be founded on the law (Diana Sari, 2013).

### ***State Financial Management and Accounting***

Law (Law) No. 17 of 2003 concerning State Finance states that everything that can be used as state property in connection with the implementation of these rights and obligations, including all rights and obligations of the state that have a monetary value, is considered State Finance. The dual meaning of state finance—that is, its definition in a narrow sense and its meaning in a broad sense—is explained by Arifin P. Soeria Atmadja. Another definition of state finance is provided by Van der Kemp, who states that it includes any rights that have a monetary value in addition to anything that can be used as state property in connection with these rights. Otto Ekstein (1981) claims that state finance, a subfield of public finance, examines how the budget affects the economy,

particularly how it affects the achievement of the three basic economic objectives of efficiency, fairness, and growth.

### ***Financial Management of the State***

Financial management of the states are: 1. State financial planning; 2. the implementation of state finances; 3. state financial supervision; and 4. state financial accountability. State financial management is the total activity of state financial management authorities in line with their position and jurisdiction. One aspect of managing state finances is overseeing state money, which falls within the purview of the Minister of Finance in his capacity as the state's general treasurer.

### ***Handling State Debt and Receivables***

State receivables are sums of money that need to be paid to the federal government and/or the federal government's rights that have a monetary value due to agreements, applicable laws and regulations, or other justifiable outcomes. According to the terms of the relevant statutes, several categories of state receivables have prior rights.

### ***Investment Management***

The placement of numerous dollars and/or goods over an extended period of time for the purpose of direct investment and the acquisition of securities in order to reap social, economic, and/or other benefits is known as government investment.

### ***State Financial Accounting***

LKPP (Central Government Financial Statement) is the format in which the state financial management report is displayed. Included in the Central Government Financial Statements (LKPP) are the following: the Balance Sheet; the Operational Report; the Cash Flow Report; the Equity Change Report; the State Budget Realization Report; and the Notes on the Financial Statements. The contents of the Audited LKPP have supplied information on the State Budget's execution and the Central Government's financial situation in a correct manner in compliance with Government Accounting Standards (SAP). The LKPP was developed with the support of a sufficient internal control system.

### ***Tax Revenue***

John Hutagaol (2007:325) defines taxes as a source of income that can be generated continually and optimally in accordance with the requirements of the community and the government. Its goals include social justice-based prosperity and the well-being of the populace (Suherman, 2011).

### ***Income per Capita***

Sukirno (2004) defined per capita income as the average income of a nation or region's population over a specific time period. Adji cites Wahyu (2007) et al.'s claim that per capita income offers other advantages, including serving as

a gauge of a nation's welfare, a benchmark for the expansion of its prosperity, a guide for policymakers as they formulate economic strategies, and a means of comparing the wealth of various nations.

### ***Gross Domestic Product Manufacture***

The value of products and services generated in a nation by domestic and international production factors is known as its gross domestic product (Sukirno, 2013:35). The goal of the Gross Domestic Product, according to Mankiw (2007:17), is to condense economic activity into a certain monetary value during a specific time period.

### ***Gross Domestic Product of Agriculture***

The most fundamental component of the economy is agriculture, which provides the means of subsistence for other sectors including plantations, fisheries, and the livestock industry (Putong, 2005). As a critical industry, agriculture contributes significantly to the GDP, creates jobs, and supplies domestic food, all of which are vital to the existence of communities and the country (Latumaresa: 2015). According to Tambunan (2006), the agricultural sector plays a significant role in determining the nature of job prospects and in generating the GDP and exports.

### ***Foreign Direct Investment***

According to Krugman (1991), foreign direct investment (FDI) is the movement of capital from a corporation in one country that opens a branch or expands its operations in another nation. As a result, controls were enforced on foreign corporations in addition to the transfer of resources. According to Todaro (2000), foreign private investment is defined as an investment that is made specifically to carry out commercial operations or establish manufacturing facilities. Examples of such activities include purchasing raw materials, building factories, bringing in machinery, and leasing land.

Figure 1. Framework of Thought



Source: Processed Data (2023)

### ***Hypothesis***

#### ***Effect of Revenue per Capita on Tax Revenue***

The average income of the people living in a particular location is known as per capita income. Three factors indicate a person's ability to pay taxes: income

level, wealth, and amount of consumption expenditure (Matsumi, 2008). A person's ability to pay taxes and contribute positively to the growth of tax revenue increases with their income, wealth, and level of consumption. According to Putri (2013), per capita income significantly increases state revenue. In light of this, the study's hypothesis is:

**H1: Tax income is positively impacted by income per capita.**

*The Impact of Tax Revenue on the Manufacturing Sector's GDP Portion*

In 2020, the manufacturing sector made up about 20.6% of Indonesia's GDP. Manufacturing-related taxes are typically easier to collect than those from other industries. Manufaktur is a company in Southeast Asia's formal economy that produces high-quality yearly financial statements that facilitate the tax authorities' computation of the amount of tax that must be paid. Mahmud and Saptono, (2021). In light of this, the research hypothesis is developed as follows:

**H2: Tax revenues are positively impacted by the manufacturing sector's share of the GDP.**

*The Impact of Tax Revenue on the GDP Portion of the Agriculture Sector*

Between the processing industry, large and retail trade, and the agriculture sector, Indonesia's GDP in 2020 was primarily contributed by the latter two. According to research by (Terefe and Teera 2018), state revenue in East Africa is positively impacted by agriculture. This is due to the fact that East Africa is a developing nation and the revenue from this industry contributes significantly to the nation's tax revenue. As a result, the study's emerging hypothesis is:

**H3: Tax revenue is positively impacted by the GDP share of the agriculture sector.**

*Foreign Direct Investment's Effect on Tax Revenue*

An investment that is made specifically to carry out commercial operations or acquire production facilities, such as purchasing raw materials, building factories, bringing in machinery, or purchasing land, is known as a foreign direct investment. (Todaro (2000)). FDI has the potential to boost economic expansion and employment creation in a nation. Since worker income and corporate profit are subject to taxes, the study's developing hypothesis is:

**H4: Tax revenues benefit from foreign direct investment**

*The Impact of Foreign Debt on Tax Collection*

Foreign loans are an alternate source of funding for development because of its functional element (Astanti, 2015). One source of funding used to close the budget deficit between the state and the federal government is foreign debt. The formulation of this research hypothesis is based on Imran Sharif Chaudhry's (2010) prior study, which found a positive relationship between Pakistan's tax income and external debt.

**H5: Tax revenue is positively impacted by foreign debt**

**Corruption's Impact on Tax Revenue**

Any unlawful behavior that benefits oneself or others at the expense of the nation and its economy is considered corruption. According to Jacob's (2007) research on the effect of corruption on tax collections in Middle Eastern nations, a country's tax revenue decreases as the number of corruption cases increases. In terms of the study, the hypothesis that has been put forth is developed as follows:

**H6: Tax income is negatively impacted by corruption**

**METHODOLOGY**

"Blueprint" in terms of how data is gathered, processed, and examined, claims Husein Umar (2008). The purpose of this study is to investigate the effects of corruption, foreign direct investment, manufacturing, income per capita, and agriculture on tax revenue. According to Sugiyono (2012: 80), a population is a generalized region made up of subjects or objects with particular attributes. With data from 2001 to 2021, the population used 11 Southeast Asian countries: Indonesia, Malaysia, Singapore, Brunei Darusalam, Philippines, Vietnam, Myanmar, Thailand, Timor-Leste, Laos, and Cambodia. Sugiyono (2012: 81) states that the sample reflects the size and features of the population. The methodology for gathering data involves examining existing literature and documenting the data via secondary data processing from the World Bank website. The World Bank has 130 offices across multiple nations and has worldwide partnerships in 189 countries.

**Analisis Data Structural Equation Modeling (SEM)**

(Ferdinand, 2002) states that the requirements for the development of a theoretical model using SEM analysis tools must have a strong theoretical foundation or basis because SEM is not used to produce a model and only confirms the theoretical model through empirical data.

Table 3. Diagram Notation Explained

Model Lisrel	Information	Element
Kontruk atau konsep Eksogenous (Ksi) Endogenous (Eta)	Exogenous Constructs Endogenous Constructs	$\xi$ $\eta$
Indikator Eksogenous Endogenous	Indicator Exogenous Endogenous Indicators	X Y
Structural Model Matrix Gamma Phi	Relasi dari $\xi$ ke $\eta$ Hubungan antar $\xi$	$\gamma$ $\Phi$
Measurement Model Lamda-X Lamda-Y Delta (Theta-Delta) Epsilon (Theta Epsilon)	Loading from X Loading from Y Error from X Error from Y	$\lambda_x$ $\lambda_y$ $\delta [\theta\delta]$ $\zeta [\theta\epsilon]$

Source: Processed Data (2023)

### Testing Model Fit

Four steps must be taken to test the fit of the model, namely by paying attention to the damaged estimated value, the overall test, the individual measurements test of the model, and the individual structural model test.

Tabel 5. Goodness-of-Fit

<i>Goodness-of-Fit indexes</i>	<i>Cut-of-value</i>
Chi-square	Must be small
RMSEA	$\leq 0,08$
GFI	$\geq 0,90$
AGFI	$\geq 0,90$
<i>Chi-square</i> atau DF	$\geq 2,00$
CFI	$\geq 0,90$

The regression model of this study is shown in the following equation:

$$\text{Tax}_r = \alpha + \beta_1.\text{IPC} + \beta_2.\text{MAN} + \beta_3.\text{AGR} + \beta_4.\text{FDI} + \beta_5.\text{ED} + \beta_6.\text{CPI} \varepsilon$$

Information:

Tax<sub>r</sub> (Y) = Tax Revenue

$\alpha$  = Nilai Konstanta

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  = Independent Variable Regression Coefficient

CPI (X1) = *Capita Income*

MAN(X2) = *Manufacture*

AGR (X3) = *Agriculture*

FDI (X4) = *Foreign Debt Investment*

ED (X5) = *External Debt*

CPI (X6) = *Corruption Index*

$\varepsilon$  = Error

### Partial Least Square Prerequisite Test

The Partial Least Square (PLS) method was used to evaluate the hypothesis. The following steps can be used to solve structural equation modeling (SEM) using partial least squares: Fit of the Model

To determine whether a model and the data as a whole match, perform the fit model test. If the P value is less than 0.05, the test of independent variable significance against dependent variable can be considered significant.

### The Devil (t)

According to Ghizali (2006), the t-test essentially illustrates the extent to which a single explanatory or independent variable may explain the variation in dependent variables. How to find the t-test, specifically:

1. The X variable significantly affects the Y variable if the significance of the P Value is less than 0.05.
2. If variable X has no discernible impact on variable Y, the significance of the P Value is greater than 0.05.

## RESEARCH RESULT

Data from 11 Southeast Asian nations make up the study's population: Indonesia, Malaysia, Singapore, Brunei Darusalam, Thailand, Philippines,

Myanmar, Laos, Timor Leste, Cambodia and Vietnam. However, the sample used is data from 10 countries, Singapore was excluded from the research sample because according to the researcher's observation based on data on agricultural activities in this country is very small considering its geographical and natural conditions that are not supportive for these activities. Data analysis uses regression tests using the time series method from 2001 to 2020. Only countries with complete data on all Y and X variables were used in the study. Based on the selection of samples, a total of 118 pairs of data were obtained that could be processed in this study.

**Analysis of Descriptive Statistics**

Finding the description of a set of data can be done using descriptive statistical analysis, which looks at the mean, standard deviation, maximum, and minimum values of each variable. Descriptive statistical analysis yielded the following sample description.

Table 6. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
X1 IPC	118	128.10	7814.38	2338.6358	1751.53525
X2 MAN	118	.72	31.95	19.1092	8.11533
X3 AGR	118	8.13	57.14	18.7964	10.27849
X4 FDI	118	-1.86	14.50	3.9267	3.65355
X5 ED	118	.39	94.78	37.9481	23.09357
X6 CPI	118	.00	40.00	27.0254	8.68584
Y TAXREV	118	38,094,830.00	116,546,200,403.50	24,319,548,723.06	28,667,972,092.10
Valid N (listwise)	118				

Information:

- TAXREV : Tax Revenue (Variabel Y)
- IPC : Income Per Capita (Variabel X1)
- MAN : Manufacture/PDB (Variabel X2)
- AGR : Agriculture/PDB (Variabel X3)
- FDI : Foreign Direct Investment (Variabel X4)
- ED : External Debt (Variabel X5)
- CPI : Corruption Perception Index (Variabel X6)

The following table shows that tax income in Southeast Asia ranges from USD 38,094,830.00 at minimum to USD 116,546,200,403.50 at maximum, and USD 24,319,548,723.06 at average. The average value of income per capita is 2338.63, with a minimum value of 128.10 and a maximum value of 7817.01. The variable manufacture has a minimum value of 0.72, a maximum score of 31.95, and an average score of 19.109. Agriculture has an average value of 18.7964, a maximum value of 57.14, and a minimum value of 8.143. The Foreign Direct Investment variable has an average value of 3.9267, a maximum value of 14.50, and a minimum value of -1.86. External Debt has an average value of 37.9481, a maximum value of 94.78, and a minimum value of 0.39. In terms of the Corruption Perception Index variable, the average value is 27.0254, the highest

value is 40.00, and the minimum value is 0. The fit model is employed to evaluate the research model's general level of applicability. If the test's P value is less than 0.05, it can be deemed significant. The following conclusions were drawn from the data analysis results:

Table 7. Model Fit

Model	Fit Indices	P Values
APC	0.206	P<0.05
ARS	0.663	P<0.001
AVIF	4.135	Good if < 5

Source: Processed Data (2023)

It is known from table 7 above that the fit model with APC is 0.206 and has a P value of less than 0.05. The average path coefficient, or APC, model test looks at the significance of the link between the variables in order to assess the structural model. The path coefficient, which explains the forces of the link between the constructs and variables, makes this evident. The route coefficient, which represents the sign or direction in the path, needs to match the theoretical framework. The R-square variant or determinant test analysis comes next. By examining the r-square value, this test was conducted to ascertain the degree of influence that each independent variable had on the dependent variable. The prediction model of the suggested study is better the greater the r-square value. Based on the data output findings presented in the above table, the P value is less than 0.001 and the ARS (Average R-Square) test yields an output of 0.663. An R2 value of 0.663 indicates that each independent variable in this study has a significant impact on the dependent variable. This means that the X variable in this study can explain about 66.3% of the Y variable; the remaining portion is explained by other variables that are not included in this analysis. Additionally, this influence has a P value < 0.001, indicating that it meets a significant value. The Average Variance Inflation Factor (AVIF) is the final testing step. Determining the correlation between independent variables is the goal. Multicollinearity, or the existence of connections between the independent variables, is absent from a well-designed regression model. Multicollinearity is present when the AVIF value is greater than five, and it is absent when the AVIF value is less than five. It may be inferred from the data processing results in the above table that the AVIF output of 4,135 satisfies the criterion of less than 5. As a result, the research data was deemed suitable and multicollinearity was not seen.

### ***Combined Loading and Cross Loading***

The variable with a low loading value showed that the indicator did not have a good effect on the reflective indicator > 0.7, while the formative variable of each variable made the largest contribution to the construction. At alpha 5% and t-statistic >1.96. *Cross loading* is another measure of the validity of discrimination.

Tabel 8 Combined Loading and Cross Loading

	X1	X2	X3	X4	X5	X6	Y	Type (as defined)	SE	P value
X1	(1.000)	0.000	0.000	0.000	0.000	0.000	0.000	Reflective	0.72	<0.001
X2	0.000	(1.000)	0.000	0.000	0.000	0.000	0.000	Reflective	0.72	<0.001
X3	0.000	0.000	(1.000)	0.000	0.000	0.000	0.000	Reflective	0.72	<0.001
X4	0.000	0.000	0.000	(1.000)	0.000	0.000	0.000	Reflective	0.72	<0.001
X5	0.000	0.000	0.000	0.000	(1.000)	0.000	0.000	Reflective	0.72	<0.001
X6	0.000	0.000	0.000	0.000	0.000	(1.000)	0.000	Reflective	0.72	<0.001
Y	0.000	0.000	0.000	0.000	0.000	0.000	(1.000)	Reflective	0.72	<0.001

Source: Processed Data (2023)

The results of the combined loading and cross loading test are to test the effective and formative indicators in this study, TAXREV; IPC, MAN, AGR, FDI, ED, and CPI p-values of <0.001 all research variables, were declared significant because they < 0.05.

Table 9. Average Variance Extracted

Average variances extracted						
X1	X2	X3	X4	X5	X6	Y
1.000	1.000	1.000	1.000	1.000	1.000	1.000

Source: Processed Data (2023)

Based on table 9, AVE can be used to measure the amount of variance in the structure compared to the variance caused in the measurement. The results of the AVE test in this study have a value of 1; the AVE value has exceeded 0.5. So that it meets the standards of the AVE value.

**Coefficient of Determination**

Table 10. Inner Model

	TAXREV (Y)
R squared	0.663
Cronbach Alpha	1.000
Full Collin. VIF	8.762
Q Squared	0.902

Source: Processed Data (2023)

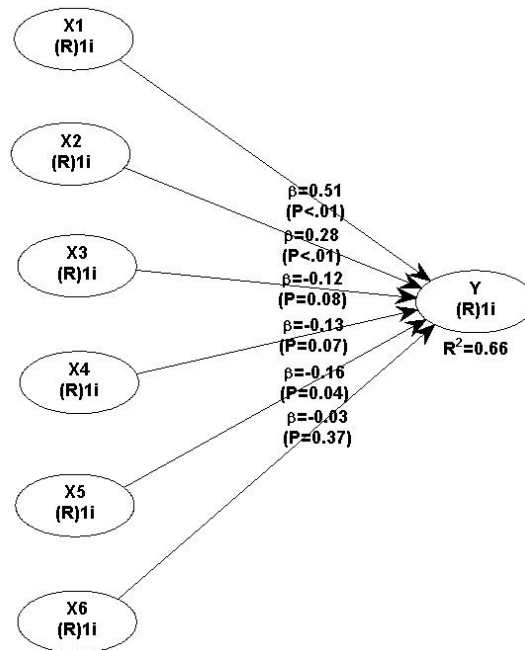
Based on table 10, the inner model shows that the R-square of 0.663 or 66.3% of the influence of Income per Capita, Manufacture/GDP, Agriculture/GDP, Foreign Direct Investment, External Debt and Corruption Index on Tax Revenue (Y) is 66.3%. It can be concluded from the results of the determination coefficient on the bound variable, namely Tax Revenue is very good. While the Q-squared value in table 4.5 on the dependent variable, namely tax revenue, is 0.902, meaning that the value of predictive validity > 0, then the research data that has been disseminated has been well constructed that has a predictive relationship. The research with the Cronbach alpha test on the

dependent variables, namely *tax revenue* on the independent variables *Income per Capita*, *Manufacture/GDP*, *Agriculture/GDP*, *Foreign Direct Investment*, *External Debt* and *Corruption Index* with a value of 1,000, the results of the above test were declared free of collinearity because it was less than a value of 3.3.

**Uji Hipotesis**

The hypothesis testing in this study uses WarPLS, and the test results can be seen in the following figure:

Figure 2. Regression Model



Path coefficient is the value of the path coefficient or the relationship between the influence of the construct and the variable and P- value is the significance value of each variable X to Y.

Table 11. Path Coefficient dan P-Values

Correlation	Path Coefficient	P Values	Information
IPC → Tax Revenue (Y)	0.505	0.01	Significant effect
MAN → Tax Revenue (Y)	0.283	0.01	Significant effect
AGR → Tax Revenue (Y)	0.124	0.08	No significant effect
FDI → Tax Revenue (Y)	-0.134	0.07	No significant effect
ED → Tax Revenue (Y)	-0.161	0.04	Negative and significant effects
CPI → Tax Revenue (Y)	-0.030	0.37	No significant effect

Source: Processed Data (2023)

The hypothesis test analysis (t-test), which is based on the outcomes of the aforementioned data testing, seeks to determine each independent variable's partial link to the dependent variable.

**First Hypothesis Testing: Effect of income per capita (X1) on tax revenue (Y)**

The X1 income per capita variable has a positive and substantial effect on the Y tax revenue variable, as indicated by the results of the X1 hypothesis test on Y in table 11, which show a Path Coefficient result of 0.505 with P-values  $0.01 < 0.05$ . This supports premise 1, which states that tax money received is positively impacted by income per capita.

***Hypothesis Testing 2: Effect of GDP Manufacturing (X2) on Tax Revenue (Y)***

Table 11 above shows that the relationship coefficient X2 to Y has a path result of 0.283, indicating a positive influence from X2 on Y. P-values of 0.01 indicate a significant influence when they are less than 0.05. Thus, it makes sense that the Y variable tax revenue is positively and significantly impacted by the X2 variable *gdp\_manufacture*. This indicates that the tax income received is significantly positively impacted by the second hypothesis, which reads *gdp\_manufacture*.

***Hypothesis 3 Testing: The Impact of GDP Agriculture (X3) on Tax Revenue (Y)***

A coefficient path result of 0.124 was generated based on the test findings in table 11 above, indicating a positive influence of X3 on Y with P values of  $0.08 > 0.05$ . This suggests that X3 does not significantly affect Y. Therefore, hypothesis 3, which states that GDP agriculture raises tax revenue, is disproved.

***Hypothesis 4 Testing: Foreign Direct Investment's Impact (X4) on Tax Revenue (Y)***

With the result of X4 FDI having a coefficient of -0.134 and P-values  $0.07 > 0.05$ , it can be explained that the X4 variable does not have a significant effect on Y. The test results in table 4.6 above demonstrate that the P-value between the independent FDI variable has no effect on the dependent tax revenue variable Y. This indicates that Hypothesis 4, which states that foreign direct investment increases tax revenue significantly, is not supported.

***The impact of external debt (ED) (X5) on tax revenue (Y)***

The endogenous variable of Tax Revenue Y is affected by the exogenous factors, as can be seen from the test results in table 4.6 above. The result of the X5 external debt path coefficient of -0.161 indicates that X5 has a negative influence on Y. P-values = 0.04, where  $< 0.05$ , indicate a substantial influence. Thus, it makes sense that variable X5 significantly affects Y. This indicates that External Debt, as stated in Hypothesis 5, has a major impact on tax revenue collected.

***Hypothesis Testing 6: How Tax Revenue (Y) Is Affected by the Corruption Perception Index (X6)***

According to table 4.6's test results, X6 had no effect on the Y variable. The X6 corruption perception index had a coefficient of -0.030, indicating a negative effect on Y, but the influence was not statistically significant with p-values of 0.37 where  $> 0.05$ . The fact that variable X6 has no discernible impact on Y can thus be explained. Thus, it may be concluded that Hypothesis 6, which states that the corruption perception index has a negative impact on tax income, is not supported.

## DISCUSSION

The data analysis above's findings demonstrate that the factors of manufacturing, external debt, and per capita income have a big influence on tax revenue. Agriculture, foreign direct investment, and corruption, on the other hand, have no bearing on tax collection.

### *The impact of per capita income on tax collection*

The study's findings indicate that the X1 income per capita variable has a significant impact on the Y tax revenue variable, as evidenced by its coefficient of 0.0505 with p-values =  $0.01 < 0.05$ . Theoretically, income tax is the kind of *pajak* that is influenced by income level. This kind of tax is heavily reliant on the community's income level. All countries in Asia implement a progressive tax structure for the imposition of income tax. For Indonesia and Vietnam, Personal Income Tax is set at a minimum of 5 percent. Meanwhile, the Philippines and Thailand have a Personal Income Tax rate of up to a maximum of 35 percent.

Figure 3. Proportion of Revenue per type of tax in Indonesia

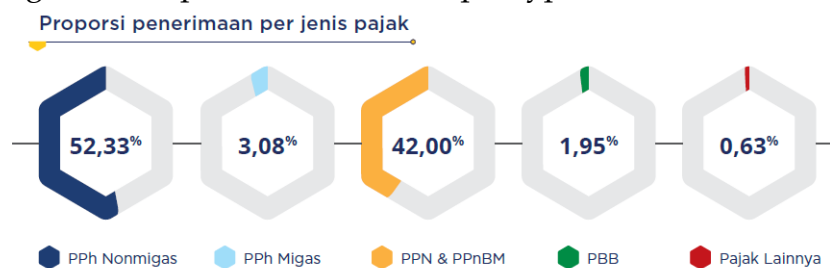
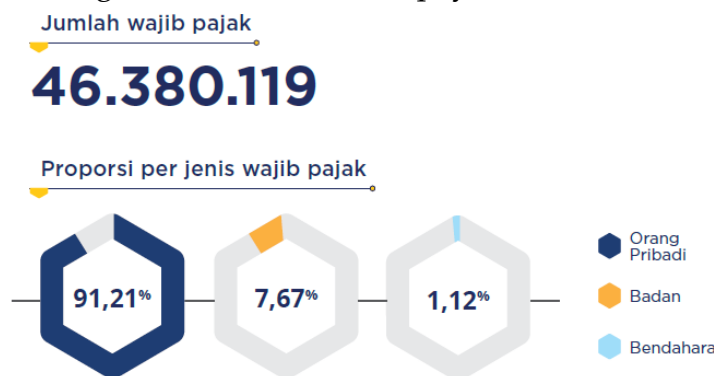


Figure 4. Number of Taxpayers in Indonesia



Source : Annual report of the Directorate General of Taxes (2020)

Figure 3 shows that the Non-Oil and Gas Income Tax is the main source of tax revenue in Indonesia. It is evident from the amount of taxpayers who have registered that individual taxpayers make up the majority. Individual taxpayers in Indonesia are subject to progressive taxation; the higher their income, the higher the tax rate. This requirement is consistent with studies showing that tax collection is impacted by per capita income. Additional research by Marcelo Piancastelli and A.P. Thirlwall (2019) found that, in emerging nations, per capita income increased tax collections between 1995 and 2015. The same study's

findings, which were conducted in East and Sub-Saharan African (SSA) nations between 1992 and 2015, were also discussed by Terefaa and Teera (2018). The study's findings are consistent with the research on determining factors in Ethiopia from 1999 to 2015 carried out by Neway Gobachew, Kenenisa Lemie Debela, and Woldemicael Shibiru (2018).

#### ***Impact of GDP manufacturing share on tax income***

The aforementioned analysis demonstrates that the manufacture has a positive impact on tax income, as indicated by the X2 variable *pdb\_manufacture*'s coefficient of 0.283 and p-values of less than 0.05, which indicate a substantial influence. This implies that any growth in manufacturing in Southeast Asia raises tax receipts. The manufacturing sector can contribute significantly to taxes and excise because it can have a large multiplier effect through labor absorption, exports of foreign exchange, and increased economic activity from a broad supplier chain. The analysis's findings are consistent with Saptono and Mahmud's (2021) research, which demonstrates how manufacturing affects ASEAN's tax receipts.

#### ***The effect of agriculture GDP on tax revenue***

P-values = 0.08 > 0.05 indicate that agriculture has no significant impact on tax revenue. Based on the study's findings, the X3 variable *pdb\_agriculture* shows a coefficient of 0.124, indicating that it has a positive influence on tax revenue. In 2020, Indonesia's agricultural industry was the country's second-largest GDP contributor. Nonetheless, the study's findings demonstrate that agriculture has no appreciable impact. This indicates that factors other than agriculture have an impact on tax revenue. Indonesia's agriculture sector still produces staple foods, cattle products, and fisheries that are not considered taxable items. This requirement is consistent with the findings of studies by Chaudry and Munir (2010) on the factors influencing tax revenue in Pakistan; Ayenew (2016) on the factors influencing tax revenue in Ethiopia; and Neog and Gaur (2020) on the factors influencing tax revenue in India.

#### ***Foreign direct investment's impact on tax receipts***

Based on the study's findings, it can be concluded that foreign direct investment has no discernible impact on tax revenue. The X4 foreign direct investment variable has a coefficient of -0.134, indicating a negative influence, and P-values = 0.07, where > 0.05, indicating a non-significant influence. Theoretically, foreign direct investment refers to money that is invested directly to run a firm, purchase equipment for production, or establish facilities by purchasing land, starting factories, importing machinery, or purchasing raw materials (Todaro, 2000). However, a nation's economic policies typically have an impact on international investment flows. One of the things that draws investors to a nation is its tax rates. Investors will gravitate toward low-tax nations in order to minimize their impediment to corporate progress. When it comes to company income tax rates, Southeast Asian nations continue to impose higher rates than developed nations.

Table 12. Corporate Income Tax Rate 2021

No	Country	Corporate Income Tax - Rate
1	Philiphine	30,00%
2	Myanmar	25,00%
3	Malaysia	24,00%
4	Thailand	23,00%
5	Indonesia	22,00%
6	Vietnam	20,00%
7	Cambodia	20,00%
8	Laos	20,00%
9	Brunei Darusalam	18,50%
10	Singapore	17,00%
11	Timur Leste	10,00%

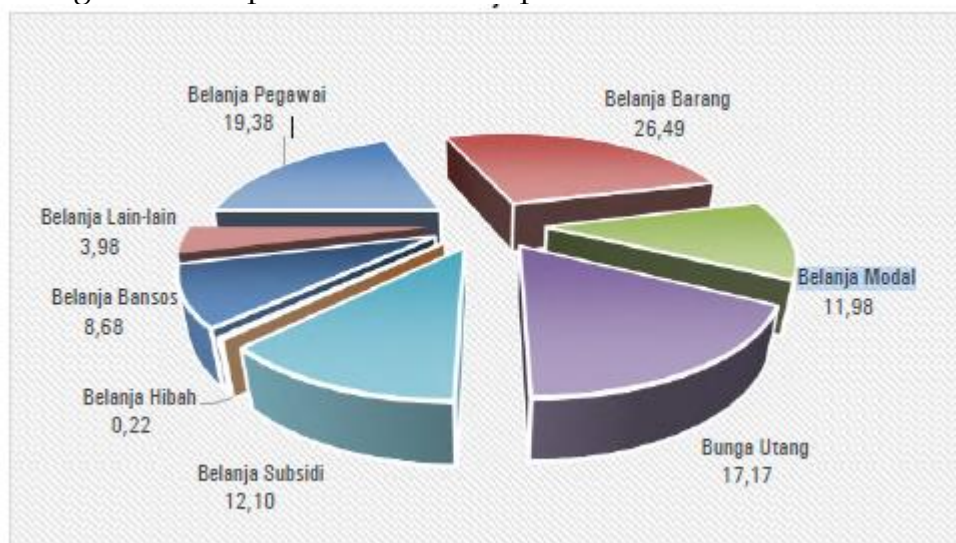
Source: Tax Foundation, Corporate Tax Rates around the World (2021)

The majority of Southeast Asian countries still have comparatively high tax rates, as shown in table 12. This puts off potential investors from choosing to make investments in Southeast Asia. Thus, foreign direct investment has no impact on tax income in this study. This is consistent with studies by Inriana (2020), which found no relationship between FDI and tax revenue.

#### *The impact of foreign debt on tax receipts*

It can be explained that the external debt variable has a significant negative effect on tax revenue based on the analysis results in this study, which show that the X5 external debt variable produces a coefficient of -0.161, meaning it has a negative effect on tax revenue, and P-values = 0.04 where  $< 0.05$ , meaning the influence is significant. Theoretically, and when considering its practical elements, foreign loans or external debt represent one of the alternate sources of funding required for development (Astanti, 2015).

Figure 5. Composition of State Expenditure Realization in 2021



Source : LKPP (2021)

Observing the image above, it can be seen that the highest allocation of state spending is on goods spending, employee spending, and debt interest spending. State expenditure for capital expenditure is only 11.98%. This shows

the ineffectiveness of the use of debt. The more debt increases, the higher the interest payment charged in the state budget. This condition according to the results of the study of external debt has no effect on tax revenue, in line with Patrick & Jacobs (2007) who stated that *External Debt* had a negative effect on tax revenue in developing countries in 1979–2004.

### ***The Impact of Tax Revenue on the Corruption Perception Index***

The results of the corruption *perception index* variable were found to have a coefficient of -0.030 negatively affecting tax revenue, and produced P-values = 0.37 where  $> 0.05$  the effect was not significant. So it can be explained that the corruption perception index has no effect on tax revenue. This means that the corruption perception index is not one of the factors that cause the decline in tax revenue. An outdated or outdated tax system requires extensive control procedures through physical inspections, if this interaction often occurs between individuals with high-value goods/services and large transaction volumes, then this condition is very vulnerable to corruption. This happens in the collection of custom taxes on international trade. Another example of the withholding tax system, taxes are collected and paid by other parties as income earners. This transaction is difficult to manipulate because of the interconnected nature of information between the recipient of income and the party providing income, there is little possibility of corruption in its collection. The findings of this investigation are consistent with the findings of Imam and Jacob's 2007 study, *The Impact of Corruption on Tax Revenues in the Middle East*, which concludes that tax revenues are not generally impacted by corruption.

## **CONCLUSIONS**

The research and discussion results indicate that tax revenue is positively impacted by per capita income, which helps to explain why every rise in public income also leads in an increase in tax revenue. Individual taxpayers are the main source of tax revenue, and the progressive tax imposition system is the reason for this. Tax revenue is positively impacted by manufacturing. This explains why tax income in Southeast Asia is positively impacted by the industrial sector. Manufacturing is a formal industry that is easily taxed. The manufacturing sector has a multiplier effect, namely being able to provide labor, foreign exchange, exports, and a wide supply chain so that the increase in this industry will also increase its contribution to taxes and excise.

Agriculture has no effect on tax revenue. This explains that the Agriculture sector, which is an informal sector, is difficult to be taxed, because the majority of business actors in this sector are small communities and do not have knowledge of tax compliance. In addition, industrial *agricultural* products are goods that are not subject to tax. So *that agriculture* is not the main factor causing the increase in tax revenues in Southeast Asia. Foreign direct investment has no effect on tax revenue. This explains that the flow of foreign investment from abroad does not lead to an increase in tax revenue. Investors consider low tax rates and avoid investing in countries with high tax rates. The majority of countries in Southeast Asia still apply high tax rates. Thus, the level of foreign direct investment does not affect tax revenues in Southeast Asia.

External Debt has a negative effect on tax revenue. This explains that every increase in external debt has an effect on the decline in tax revenue. The allocation of external debt for the non-productive sector is the reason for this factor. So that every increase in debt only creates an interest burden and is not able to create economic growth. Thus, external debt has a negative effect on tax revenue. The corruption perception index has no effect on tax revenue. This explains that the level of corruption that occurs does not affect tax revenue. The high level of public trust is a factor in the conclusion of this variable. The factors that cause corruption can vary in each type of tax. The real effects of corruption's influence on tax revenues should be analyzed based on the individual and the type of tax.

### **RECOMMENDATIONS**

Based on the results of the analysis in this study, the suggestions that can be put forward are that the results of this study are expected to be a source of reference for further research, especially those that examine the influence of Income per Capita, Manufacture/GDP, Agriculture/GDP, Foreign Direct Investment, External Debt and Corruption Index on the country's Tax Revenue. A similar analysis was carried out on the influence of Income per Capita, Manufacture/GDP, Agriculture/GDP, Foreign Direct Investment, External Debt and Corruption Index on state Tax Revenue for regions other than Southeast Asia with a better and representative sampling method.

### **ADVANCED RESEARCH**

Research has been carried out according to scientific procedures, but there are still limitations including:

This study was conducted based on the research gap of previous research, namely to re-examine the influence of the variables Income Per Capita, Manufacture, Agriculture, Foreign Direct Investment, External Debt, and Corruption Perception Index on Tax Revenue in Southeast Asia. The variables used are only limited to macroeconomic factors, external factors and governance. It is necessary to add more variables for other factors such as monetary factors such as inflation, interest rates, foreign exchange, and others.

The Y Tax Revenue variable in this study is still general, it is necessary to conduct more specific research on the type of tax, for example Corporate Tax Income, Individual Tax Income, Tax Valued Added, Direct Tax, or Indirect Tax. The researcher only tested the influence of independent variables on dependent variables. It is also necessary to conduct different tests so that it can produce comprehensive information for each country.

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