



**PROPORTION OF AGRICULTURE, INDUSTRY AND SERVICES SECTOR TO VALUE
ADDED TAX REVENUE IN LOW INCOME AND LOWER-MIDDLE INCOME
COUNTRIES: RULE OF LAW AS A MODERATING VARIABLE**

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ABSTRACT

This study aims to determine how much the agricultural, industrial and service sectors affect Value Added Tax revenues in low and lower middle income countries with rule of law as moderating variable. The independent variables used in this study are the proportion of the agricultural sector to GDP, the proportion of the industrial sector to GDP, the proportion of the service sector to GDP, the dependent variable used is VAT revenue while the moderating variable is the rule of law. This study uses secondary data with a population of 27 countries with low and lower middle income in a span of seven years, from 2009 to 2015. The statistical method used in this study is quantitative method with multiple linear regression using panel-corrected standard error regression model. The results showed that before being moderated by the rule of law, the agricultural, industrial and service sectors had no effect on VAT revenues. But after being moderated by the rule of law, the agricultural, industrial and service sectors have a positive influence on VAT revenues. Thus, the government is expected to focus attention on the rule of law. Good rule of law will increase investor confidence in the existence of applicable laws and also related to property rights, law enforcement officers, courts and also low levels of crime and violence which ultimately increase tax revenues reflected in increased VAT revenues.

1. INTRODUCTION

1.1. Background

The practice of Value Added Tax (VAT) is increasingly being adopted in the tax systems of countries around the world, with more than 140 countries currently applying it to tax consumption (Keen 2010). VAT is imposed at every stage of production or distribution of goods or services, from production and distribution to final consumer. At each of these stages, the company or business involved in the transaction must pay tax on the value added they provide to the product or service. These taxes are then transferred to the government and deposited into the national treasury (James & Alley, 2008). In developing countries, the adoption of the VAT system is a central element in the modernization of tax administration, with the application of the self-assessment method and later developed into a withholding system expected to simplify the administration and compliance of taxpayers. In its development, VAT revenue now become known as a stable, reliable and predictable source of state revenue because it grows in line with the consumption capacity of a country's population.

The group of poor and lower-middle income countries has a different composition of the industrial, service, and agricultural sector than developed countries, including: 1) Agricultural sector: The agricultural sector is usually the backbone of the economy of poor and lower middle income countries. Many people in these countries work in the agricultural sector and farming is their main source of livelihood. The agricultural sector includes crop farming, animal husbandry, fisheries, and forestry. Although this sector plays an important role in providing food and livelihood for the population, productivity is often low and the technology used is limited; 2) Industrial Sector: The industrial sector in poor and lower-middle income countries tends to be less developed than in developed countries. There are constraints in terms of access to technology, capital and skilled human resources. Existing factories or manufacturing facilities may also be simpler and produce lower value-added products. Some countries also have difficulty in building a diversified and high-tech industrial sector; 3) Services Sector: The services sector in poor and lower-middle income countries often plays a smaller role in the economic structure compared to developed countries. Dominant services may include trade, transportation, hospitality, and some public services. However, public services such as education and health are often underdeveloped and have limited access for most of the population.

In relation to VAT, several studies have found that the proportion of the agricultural sector to GDP will negatively affect VAT revenue. This is due to the great difficulty in collecting taxes from the agricultural sector (hard sector to tax), especially VAT due to the high level of informal economic activity in this sector, besides that this negative influence can be caused because products from the agricultural sector

generally have low added value such as foodstuffs, fruits, vegetables and so on (Hindriks, 2015), (Addison & Levin, 2012), (Keen & Lockwood, 2010) and (Piancastelli, 2001). Meanwhile, regarding the relationship between the proportion of the industrial sector and VAT, Piancastelli (2001) in his research found that the proportion of the industrial sector has a positive influence on VAT Revenues, this is due to the high added value associated with the production chain in this sector compared to the agricultural sector. In general, businesses in the industrial sector are usually more structured and the implementation of their tax obligations could be monitored easier than other sector. On the other hand, the relationship between the services sector and GDP has a positive relationship (Sarmiento, 2016), this is because the services sector has a higher value added when compared to the industrial and agricultural sectors.

Rule of law is an index that represents the strength and quality of the legal system and also shows the judicial limits of the government to realize their policy programs through the legislature. The existence of a better legal system and law enforcement is expected to increase state revenue, this is evidenced by (Sarmiento, 2016) in his research which found that the rule of law has a significant positive effect on both VAT revenue (in Euros) and VAT revenue as a % of Gross Domestic Product, this contradicts the findings of Permadi & Wijaya (2022) who found that the rule of law has a significant positive effect on VAT revenue (in Euros). Wijaya (2022) who found that the rule of law has no significant effect on VAT Revenues, this is due to the high cost of tax collection, besides that VAT Revenues are indirect taxes that use the principle of withholding taxes so its systematically collected through an integrated withholding mechanism which results in a reduced role of rule of law here.

There is still an inequality in state revenue from VAT among low and lower middle income countries, this can be seen from the data on the proportion of VAT to state revenue, there are countries that have a proportion value of up to 50% while other countries have a proportion value of 5.9%. This inequality in the proportion of VAT is important, because VAT revenue itself is a withholding tax where the tax administration system in relations to tax collection tends to be easier than direct taxes. The low proportion implies that there is an ineffective VAT collection problem in the country, which means that the potential revenue that should be collected is still very large. Therefore, this article will investigate the effect of the proportion of the agricultural sector, industrial sector and service sector on VAT revenue moderated by the quality of the rule of law in low and lower middle income countries. Furthermore, this study is expected to provide insight into what important factors can be optimized by relevant stakeholders to increase the proportion of VAT revenue.

2. THEORETICAL FRAMEWORK

2.1. Low Income & lower Middle Income Countries

According to the World Bank (2023), countries categorized as lower middle income countries are those with Gross National Income (GNI) per capita between \$1,086 and \$4,255 in 2021, while low income countries are those with income below \$1,086 in 2021. Indonesia itself falls into this lower-middle-income category, as the average per capita income of the Indonesian population is \$4,180 in 2021. Low income countries generally face complex economic and social challenges, including high poverty rates, limited access to education and healthcare, and underdeveloped infrastructure. Many of these countries are located in Sub-Saharan Africa, South Asia, and parts of Latin America and the Caribbean. Meanwhile, lower-middle income countries face diverse economic and social challenges. They may experience faster economic growth than low-income countries, but still face economic inequality, poverty issues, and limited access to education and healthcare.

2.2. Proportion of Agriculture Sector to GDP

The agricultural sector refers to crop production, livestock, fisheries and forestry activities as well as all activities related to the production of food and raw materials from production in the following sectors. According to PSAK 69 (2015), agricultural activity is a business activity carried out with the aim of managing biological transformation and harvesting biological assets and then selling or converting/processing them into agricultural products or other biological assets such as: forestry, animal husbandry, crops, plantations, flowers and fisheries. Agricultural Sector Proportion is the total value added of activities in the agricultural sector compared as a percentage of a country's GDP.

2.3. Proportion of Industry Sector to GDP

According to the World Bank (2023), the industrial sector refers to the part of the economic structure that includes various economic activities related to the production of physical goods, including all activities in mining, manufacturing, construction, electricity, water and gas. While the proportion of the industrial sector to GDP is the net output of the industrial sector after summing up all outputs and deducting intermediate inputs compared as a percentage to a country's GDP.

2.4. Proportion of Services Sector to GDP

According to the World Bank (2023), the service sector includes all activities in the fields of retail trade, wholesale (including hotels, restaurants) transportation, government, finance, professionals, education, health and real estate. Meanwhile, the proportion of the service sector to GDP is net output or the amount of value added by activities in the service sector compared as a percentage of a country's GDP. In the service industry, many activities are carried out by individuals or work alone / informally so it is difficult to be recorded let alone report their income related to taxation. This

causes a lot of unrecorded economic activity (unofficially economy).

2.5. Rule of Law

Rule of Law is one component of the Governance Index that captures perceptions of the extent to which agents/communities comply with and have confidence in the rules of the land, property rights, contract enforcement, as well as confidence in law enforcement institutions such as the police and courts. It also considers the likelihood of crime and violence. The rule of law index has a value with a range of -2.5 to 2.5 which means that the higher the number, the better the rule of law in a country and vice versa. It represents the strength and quality of the legal system and also shows the judicial limits of the government to realize their policy programs through the legislature. Better law enforcement is expected to increase state revenue (Sarmiento, 2016).

2.6. Taxes on Goods and Services

Taxes on Goods and Services often known as Value-Added Tax (VAT) is a tax imposed by the government on goods and services traded or consumed within a country. This tax is one of the important sources of government revenue and is used to finance various public programs and services, such as infrastructure, health, education, and security. VAT is imposed at every stage of production or distribution of goods or services, from production to the final consumer. At each of these stages, the company or business involved in the transaction must pay tax on the value added they provide to the product or service. This tax is then transferred to the government and deposited into the state treasury (James & Alley, 2008). In this study, the variable number is the proportion/percentage of tax and good services to a country's income with sources from the World Bank (2023).

2.7. Previous Research

Several studies have been conducted on the effect of rule of law on VAT revenue. Sarmiento (2016) in his scientific article entitled "The Determinants of Value Added Tax Revenues in The European Union" tries to examine the variables that affect VAT revenues in 27 countries in the European Union from 1998 to 2011. It was found that the rule of law has a significant positive effect on both VAT revenue (in euros) and VAT revenue as a % of Gross Domestic Product. In addition, it is also found that the composition of the service sector to Gross Domestic Product has a positive effect on VAT revenues (in euros) and VAT revenues as a % of Gross Domestic Product. Figure 1 below summarizes the findings of Sarmiento (2016) in his research.

Figure 1

Independent variable	Dependent variable: VAT revenues	Dependent Variable: VAT revenues as % GDP
VAT rate	Positive	Positive
Minimum rate	Positive	n.s.
Implicit rate	Positive	Positive
Imports	Negative	Negative
Services	Positive	Positive
Deficit	Negative	Negative
C-Efficiency	Positive	Positive
N° years	Positive	Positive
Gov. efficiency	Positive	Positive
Low Corruption	Positive	Positive
Rule of Law	Positive	Positive
Euro	Positive	Positive
GDP per capita	Positive	n.s.

Sarmento. (2016). Summary of research results

Permadi & Wijaya (2022) in their research entitled "Analysis of determinants of value added tax revenue in Asia" found that the proportion of the service sector to GDP has a significant positive effect on VAT Revenues, this is due to the large proportion of the service sector to GDP compared to the other two sectors. Permadi & Wijaya (2022) also found that the rule of law has no significant effect on VAT Revenues, this is due to the enforcement of tax rules which still requires high costs, besides that VAT Revenues are indirect taxes that use the principle of withholding taxes so that VAT Revenues are systematically collected through an integrated withholding mechanism which results in a reduced role of rule of law here.

Keen & Lockwood (2010) in their research entitled "tax value added tax: its causes and consequences" examined panel data of 143 countries in the world with a total t (year) of 25 years. In their research, they found that the greater the proportion of the agricultural sector to GDP will negatively affect VAT revenue. This is because taxes will be difficult to capture revenues in the agricultural sector (hard sector to tax), especially VAT-type taxes. Conversely, it was found that the proportion of the service sector has no significant effect on VAT revenue. Furthermore, Keen (2012) further explores the concept of hard-to-tax and defines tax non-compliance into two forms, namely "ghosts" invisible taxpayers who are not registered and "icebergs" taxpayers who are registered but underpay/report their income. According to Keen (2012) the issue of "ghosts" is more common in developing countries, and to overcome the problem of "ghosts" the important issue is the registration of taxpayers and determining the threshold for registration.

Godin & Hindriks (2015) in their research entitled "A Review of critical issues on tax design and tax administration in a global economy and developing countries" examined 203 countries in the world with the time period 1980 to 2010. In his research it was found that the proportion of the agricultural sector to GDP was negatively correlated with Tax on Goods and Services Revenues. According to Godin & Hindriks (2015) and also reinforced by Kanbur (2009) this is influenced by two issues, the first is the issue of informality, where informal economic activities where the majority of actors are small companies, individual

businesses, farmers and so on. When the state has to make a decision between taxing the informal sector, which implies costs for administration and compliance costs, or leaving/excluding it from taxation, it is often the first option that is taken with consideration of the costs incurred. The second issue, which according to Kanbur (2009) is more important than the first issue, is the existence of tax evasion efforts. The majority of those who engage in tax evasion do not come from the informal sector, but medium and large companies that are also engaged in the agricultural sector.

Addison & Levin (2012) in their research entitled "The Determinants of Tax Revenue in Sub-Saharan Africa" examined a sample of 39 countries in Africa with a period of 1980 to 2005 found that the agricultural sector had a negative effect on VAT Revenues, further Addison & Levin (2012) said that countries in Africa will get greater tax revenue benefits if sectors with higher formal activity, for example the manufacturing sector, grow faster than sectors with higher informal activity, namely the agricultural sector. This is in line with Murunga's (2016) research in Kenya which found that GDP per capita, the proportion of the service sector in GDP, the proportion of the agricultural sector in GDP have a significant positive effect on tax revenue. Furthermore, the low tax revenue in Kenya is due to the dependence of tax revenue on the agricultural sector and the service sector. Increasing tax revenue is a difficult task as most of the work in the agricultural and service sectors is informal and done by small businesses. Their informal nature and the fact that they are mostly done by small businesses makes them difficult to include in the tax base.

Research by Piancastelli (2001) with the title "Measuring The Tax Effort Of Developed And Developing Countries. Cross Country Panel Data Analysis" on 20 countries with middle income shows that the proportion of the agricultural sector has a negative effect on the tax ratio, while the proportion of the industrial sector has a significant positive effect on the tax ratio. This reflects the greater ease of taxing income from the industrial sector compared to income from the agricultural sector. Due to the limitations of research examining the effect of the industrial sector on VAT Revenues, Piancastelli's (2001) research is used as a basis for hypothesizing that the industrial sector has a significant positive effect on VAT Revenues.

3. METHODS

This study uses data on 27 countries with the category of lower middle income and low income countries in a span of seven years, starting from 2009 to 2015. The research was conducted using associative quantitative methods. Associative research aims to see the influence between the independent variable and the dependent variable.

This study uses secondary data published by World Bank Open Data. In this study, the dependent variable is Taxes on Goods and Services (% of state revenue). The independent variables used are the

proportion of the agricultural sector, industrial sector and services sector to GDP, while the quality of the rule of law as a moderating variable.

The hypotheses in this study are:

H1: the proportion of the agricultural sector has a negative effect on the VAT to State Revenue Ratio

H2: the proportion of the industrial sector has a positive effect on the VAT to State Revenue Ratio

H3: the proportion of the service sector has a positive effect on the VAT to State Revenue Ratio

H4: the quality of the rule of law has a positive effect on the VAT to State Revenue Ratio

H5: the quality of the rule of law moderates the positive relationship between the proportion of the agricultural sector and the VAT to State Revenue Ratio

H6: the quality of the rule of law moderates the positive relationship between the proportion of the industrial sector and the VAT to State Revenue Ratio

H7: the quality of the rule of law moderates the positive relationship of the proportion of the service sector with the VAT to State Revenue Ratio

4. RESULT AND DISCUSSION

4.1. Descriptive Statistical Analysis

The first stage in data testing is descriptive analysis of the data that has been obtained to determine the characteristics of each research variable with the following results:

Table 1
Descriptive Analysis

Descriptive	VAT to State Revenue Ratio	Proportion of Agriculture Sector	Industry Sector Proportion	Proportion of Services Sector
Mean	32.577	17.596	27.778	48.414
Standard Deviation	10.298	9.139	10.938	8.145
Minimum	5.950	4.549	11.882	30.257
Maximum	50.514	35.622	60.136	61.099

Processed using STATA application

The model formulated in this study can be displayed as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_1 Z + \beta_5 X_2 Z + \beta_6 X_3 Z + \epsilon$$

Y = VAT to State Revenue Ratio

β_0 = Constant

$\beta_1 \beta_2 \beta_3 \beta_4 \beta_5$ = Regression coefficient

X_1 = Proportion of Agriculture

to GDP

X_2 = Proportion of Industry Sector

to GDP

X_3 = Proportion of Service Sector

to GDP

Z = Rule of Law Quality

ϵ = Residual

4.2. Panel Data Regression Model Selection

The next step is panel data analysis is to test the panel data regression model. This panel data model test uses three tests, namely the Chow test (Likelihood test ratio) to select the most suitable model between the Fixed Effect Model (FEM) and Common Effect (Pooled Least Square), the Lagrange Multiplier (LM) test to select the most suitable model between the Random Effect Model (REM) and PLS, and the Hausman test to select the most suitable model between FE and RE, from these three tests the most appropriate model for estimating panel data will be known.

Table 2 Panel Model Test

Panel Data Model Comparison	Testing Methods	Prob Value	Model selected
PLS and FE	Chow Test	0,0000	FE
PLS and RE	Lagrange Multiplier (LM) Test	0,0000	RE
FE and RE	Hausman Test	0,0729	RE

Processed using STATA application

Table 2 shows the results of the tests conducted to determine the most appropriate panel model in conducting panel data regression. Model comparison is done using Chow test to choose between Fixed Effect (FE) or Partial Least Square (PLS) models, then Lagrange Muptiplier (LM) test to choose between Random Effect (RE) or Partial Least Square (PLS) models or and finally Hausman test to choose between Fixed Effect (FE) or Random Effect (RE) models. The Chow test shows a probability value of 0.000 which is smaller than the alpha value ($\alpha = 5\%$), so H1 is accepted and the FE model is more suitable than the PLS model. Then the Lagrange Multiplier (LM) test shows a probability value of 0.0000 which means it is smaller than the alpha value ($\alpha = 5\%$), so H1 is accepted and the RE model is more suitable than the PLS model.

Finally, the Hausman test shows that the probability value of 0.0729 is greater than the alpha value ($\alpha = 5\%$), this means that H0 is accepted so that the RE model is more suitable than the FE model. Based on the results of these three tests, the model chosen is the FE or Fixed Effect Model.

Table 3 Classical Assumption Test

Classical Assumption Test	Testing	Results	Interpretation
Normality	Skewness and Kurtosis Tests	0.0661 > $\alpha = 5\%$	H ₀ is not rejected; data is normally distributed
Multicollinearity	Variance Inflation Factor	225.88 > 10	H ₀ is rejected; there are symptoms of multicollinearity
Heteroscedasticity	Breusch-Pagan/Cook-Weisberg Test	0.0871 > $\alpha = 5\%$	H ₀ is not rejected; the model is free from the assumption of heteroscedasticity (homogeneous data variance)
Autocorrelation	Wooldridge Test	0.0003 < $\alpha = 5\%$	H ₀ rejected; there are symptoms of autocorrelation

Processed using STATA application

Table 3 shows the results of classical assumption testing on data in classical linear regression models. Classical assumption testing is carried out so that the parameter values obtained are linear, unbiased and have the smallest/minimum variance compared to various other possible estimators. A model can be said to pass the classical assumption test if the probability value is greater than the alpha value ($\alpha = 5\%$; accept H_0) for Skewness and Kurtosis testing (Normality), Breusch-Pagan / Cook-Weisberg testing (Heteroskedasticity), and Wooldridge testing (Autocorrelation) and smaller than 10 for Variance Inflation Factor testing (Multicollinearity).

Based on the test, it was found that the regression model passed the skewness & kurtosis tests or normally distributed data and also passed the Breusch-Pagan/Cook-Weisberg test or no heteroscedasticity symptoms were found. However, the model found symptoms of multicollinearity and autocorrelation. Regarding multicollinearity symptoms, Gujarati (2003) in his research states that in panel data the multicollinearity problem can be ignored considering that combining cross section and time series data is one rule of thumb. Meanwhile, related to the presence of autocorrelation symptoms, Sihombing (2021) states that if the model meets the normality assumption but there is a violation of the assumption of non-autocorrelation and heteroscedasticity simultaneously, it can use regression panel-corrected standard error (PCSE) model. Thus the regression model used in this study is to use the panel-corrected standard error model with the run command on Stata, namely: "xtpcse ppn agriculture industry legal services agriculture#law industry#law services#law".

Table 4 Hypothesis Test

Variables	Coefficient	z	P> z
Cons	19.7677	1.04	0.300
Agriculture	-0.1189795	-0.56	0.575
Industry	-0.1669034	-0.99	0.324
Services	0.3647316	1.56	0.118
Law	-104.2188	-3.71	0.000
Agriculture#law	0.6996596	2.20	0.028
Industry#law	1.253632	4.98	0.000
Services#law	1.1004	3.28	0.001
R-squared			0.5431
Prob>chi2			0.0000

Processed using STATA application

From the results in table 4 the regression equation obtained is as follows

$$Y=19.7677-0.1189795 [(X)_1]-0.1669034(X_2)+0.3647316(X_3)-104.2188(Z)+0.6996596(X_1 Z)+1.253632(X_2 Z)+1.1004(X_3 Z)+\epsilon$$

From hypothesis testing, the coefficient of determination or R-squared number is 0.5431. This coefficient value means that all independent variables and moderation can simultaneously explain the VAT Ratio variable on State Revenue by 54.31%. The constant has a positive value of 19.7677, meaning that if all independent variables including the Proportion of the Agricultural Sector (X1), the Proportion of the Industrial Sector (X2), the Proportion of the Services Sector (X3), the Quality of the Rule of Law (Z), and all variables X1, X2, X3 moderated by variable Z are 0 or have not changed, then the VAT Ratio on State Revenue is 19.7677%.

Furthermore, the modeling above shows that: 1) an increase in the number of rule of law quality indicators by 1 point will reduce the VAT on State Revenue Ratio by 104.21%; 2) an increase in the interaction between the proportion of the agricultural sector and the quality of the rule of law will increase the VAT on State Revenue Ratio by 0.699%; 3) an increase in the interaction between the proportion of the industrial sector and the quality of the rule of law will increase the VAT on State Revenue Ratio by 1.253%; and 4) an increase in the interaction between the proportion of the service sector and the quality of the rule of law will increase the VAT on State Revenue Ratio by 1.1004%.

4.3. The effect of the proportion of the agricultural sector on the VAT to State Revenue Ratio

The test results on the first hypothesis show that before being moderated by the quality of the rule of law, the proportion of the agricultural sector has no effect on the VAT to State Revenue Ratio. This finding is not in line with the research of Keen & Lockwood (2010), Godin & Hindriks (2015), Addison & Levin (2012), Piancastelli (2001) which states that the agricultural sector has a negative influence on the VAT Ratio of State Revenue. This could be because the agricultural sector in developing countries does not generate large tax revenues and is also difficult to tax (Chaudhry et al., 2010), (Piancastelli, 2001). (2010), (Piancastelli (2001).

4.4. Effect of Industry sector proportion on VAT to State Revenue Ratio

The test results on the second hypothesis show that before being moderated by the quality of the rule of law, the proportion of the industrial sector has no influence on the VAT Ratio of State Revenue. This finding is not in line with the findings of Piancastelli (2001) which states that the proportion of the industrial sector has a positive influence on the tax ratio, on the other hand, this is in line with the research of Safitri et al. (2021) which found that the proportion of the industrial sector has no effect on tax revenue due to the majority of industrial businesses

doing tax planning in a legal way, thus the tax paid will be smaller so that the amount of the company's effective tax rate (TPE) is smaller and causes discretionary tax avoidance to rise. This is also supported by the theory of political power which states that large companies will have large resources and can influence the political process so that policies taken by the government tend to favor and benefit large companies (Mudhoffir, 2014). Tax planning that is carried out causes the non-achievement of optimal tax revenue. This causes the growth of the industrial sector to have no effect on the ratio of VAT to GDP.

4.5. The effect of the proportion of the Services sector on the VAT to State Revenue Ratio

The test results on the third hypothesis show that before being moderated by the quality of the rule of law, the proportion of the service sector has no effect on the VAT Ratio on State Revenue, this is in line with the research of Keen & Lockwood (2010) which found that the proportion of the service sector has no effect on the VAT ratio on state revenue. According to Chaudhry (2010), this happens because most of the work in the service sector occurs informally, causing a high possibility of tax evasion and a lot of effort is needed to capture this informal sector into a country's tax base.

4.6. The Effect of Rule of Law Quality on VAT to State Revenue Ratio

The test results on the fourth hypothesis show that the quality of the rule of law has a significant negative effect on the VAT Ratio of State Revenue, this is not in line with Sarmiento's (2016) research which found that the rule of law has a significant positive effect on both VAT revenue (in Euros) and VAT revenue as a % of Gross Domestic Product. This finding is also not in line with the results of Permadi & Wijaya (2022) who found that the quality of the rule of law has no effect on VAT Revenues. This could be due to the application of the rule of law in low and lower middle income countries that are too strict or excessive can make it difficult for businesses to comply with these rules, which results in some taxpayers looking for ways to avoid taxes which then causes a decrease in VAT Revenues. In addition, strict enforcement of laws against foreign companies can reduce business activity and investment from foreigners, leading to lower VAT Revenues.

4.7. Moderating effect of Rule of Law Quality on the relationship between the proportion of agricultural sector and VAT to State Revenue Ratio

The test results on the fifth hypothesis show that the effect of the proportion of the agricultural sector on the ratio of VAT to State Revenue moderated by the quality of the rule of law has a significant positive value. This is in contrast to the effect of the agricultural sector before being moderated in the first hypothesis. A strong rule of law can improve

supervision and enforcement of VAT implementation in the agricultural sector. In a stable legal environment, taxpayers in the agricultural sector are more likely to better comply with their tax obligations. In addition, a strong Rule of Law can provide legal protection of property rights for businesses in the agricultural sector. This is important because the agricultural sector is often involved in the ownership of land and other assets (Ayu & Heriawanto, 2018). If property rights are not guaranteed, investment in the sector could be hampered, which could then negatively impact VAT revenues.

4.8. Moderating effect of Rule of Law Quality on the relationship between the proportion of Industry sector and VAT to State Revenue Ratio

The test results on the sixth hypothesis show that the effect of the proportion of the industrial sector on the ratio of VAT to State Revenue moderated by the quality of the rule of law has a significant positive value. This is opposite to the effect of the industrial sector before being moderated in the second hypothesis. A good Rule of Law will create a stable and reliable business environment. In a situation where the rule of law is consistently enforced, investors will be more likely to invest in industrial sectors, including sectors that can be subject to VAT. In addition, a strong Rule of Law can ensure that tax regulations are clear and consistent. Industrial companies will more easily understand and carry out their tax obligations, reducing the administrative burden and costs associated with implementing VAT (Apriani & Said, 2022).

4.9. Moderating Effect of Rule of Law Quality on the Relationship between Services Sector Share and VAT to State Revenue Ratio

The test results on the seventh hypothesis show that the effect of the proportion of the service sector on the ratio of VAT to State Revenue moderated by the quality of the rule of law has a significant positive value. This is opposite to the effect of the industrial sector before being moderated in the third hypothesis. A strong Rule of Law will ensure that tax regulations are enforced fairly and consistently for all stakeholders in the service sector. Fairness in tax law enforcement can strengthen public trust in the government and the tax system, which in turn can increase VAT compliance and revenue. In addition, a strong Rule of Law will create a stable and predictable business environment that can attract more investment to the service sector, which in turn will increase economic activity and service consumption, and increase VAT revenue (Sari, 2018).

5. CONCLUSION

Before being moderated by the quality of the rule of law, the proportion of the agricultural sector, the industrial sector and the service sector has no influence on the ratio of VAT to State Revenue.

However, after being moderated by the quality of the rule of law, the three sectors have a positive influence on the ratio of VAT to State Revenue. The results of this study imply that to increase VAT revenue, in addition to focusing on optimizing the agricultural, industrial and service sectors, the quality of the rule of law is also a factor that must be considered. The quality of the rule of law will ensure high taxpayer compliance with tax regulations, reduce tax avoidance practices and create a stable business environment so that businesses and investors feel confident to carry out economic activities in a country which will ultimately increase VAT Revenues in the country.

6. LIMITATIONS

This research was conducted with a case study approach to 27 countries with the category of lower middle income and low income countries within a span of seven years, starting from 2009 to 2015. The results of the study are the development of conditions in these countries at a certain period of time so that it cannot be generalized to other countries without conducting research first to see the phenomena that occur in the country.

For further research, it is possible to add or replace other variables, for example adding the variable proportion of the informal sector in the economy, because the results of this study show that the proportion of the informal sector in each agricultural, industrial and service sector has an influence on tax revenue in that sector.

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