
The Laffer Curve and the Growth Maximizing Tax Rate Analysis in Achieving Optimal Economic Growth

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ABSTRACT

Purpose: The Laffer curve and the growth maximizing tax rate (GMTR) can create optimal economic growth, which is very important in preparing the state revenue and expenditure budget and economic development. The implementation of economic development requires financing so that government expenditure growth often exceeds gross domestic product (GDP) growth. The size of the government is a measure of the ratio of total government spending to GDP. The amount of government spending is something that often happens in almost all countries in the world, especially in countries that are in the process of development. The problem is how the government can finance these increasing expenditures. There are two options available, namely on receipts from abroad in the form of foreign loans or on receipts from within the country. The tax sector is the determining sector that provides the largest contribution to domestic revenues. The size of this contribution requires that tax revenues continue to be increased, which can be seen from the tax ratio. The tax ratio is the ratio of total tax revenue to GDP.

Design/methodology/approach: Several international multilevel studies have obtained in-depth analysis of this problem from the Laffer curve and GMTR approaches.

Findings: This study convinces that the Laffer curve and GMTR can be applied to create the optimal economic growth.

Paper type: *Research paper*

Keyword: *Economic Growth, Taxes, Tax Ratio, Laffær Curve*

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I. INTRODUCTION

Keynes assumed that there is price rigidity and access capacity so that output is determined by aggregate demand. Keynes argued that government intervention in the form of fiscal policy would be able to move the economy because fiscal policy in the form of government spending and taxes would have a multiplier effect by stimulating household consumption. Fiscal policy is a government tool to intervene in the economy, which can change the economy for the better or growth. Otherwise, it can change the economy for the worse or cause a recession (Hermawan, 2016). An effective tax system and management as a source of domestic revenue will move the wheels of economic development to get out of dependence on foreign aid or loans and also the management of natural resources (Fjeldstad, 2014).

Taxes have a crucial role in a country, especially in the implementation of economic development. This is because the most considerable revenue for countries around the world is obtained from the tax sector. The tax structure can affect economic growth (Wu et al., 2017). Several studies show that as an essential step to optimizing the tax structure, fiscal stimulus policies can help reduce the operating burden on market subjects, stimulate corporate investment, and increase production efficiency (Liu & Lu, 2015; Zhang et al., 2018; and Zwick & Mahon, 2017). As an essential step to optimize the tax structure, the right choice of fiscal stimulus policies will

be able to stimulate the economy in the form of economic growth, employment opportunities, and household income (Wardhana & Hartono, 2012; Yossinomita, 2022).

Guo & Shi (2020) argue that a fiscal stimulus in the form of reducing VAT taxes will be able to restore the economy, reduce the burden on companies, increase the vitality of market entities, and encourage economic growth, thereby reducing downward pressure on the economy, but the provision of this fiscal stimulus will provide pressure on tax revenues. There is a non-linear relationship between tax revenue and economic growth (Nantob, 2014). Income tax cuts significantly induce higher consumption decisions. Increased tax revenue can be caused by tax reductions (Forte, 2015). Lower taxes can increase tax revenue for the government and stimulate production (aggregate supply) (Zheng & Severe, 2016). Tax cuts contribute to increased capital investment and increased labor wages (Auerbach, 2018). That tax exemptions for strategic groups will invest more significant resources (Ilzetzki, 2018).

The Laffer curve is a curve that describes the concept of the relationship between tax rates and tax revenue, where there are two tax rate points that can generate the same amount of tax revenue. And there is one tariff level or one point where tax revenue is at its maximum point, which is able to maximize tax revenue (Tavor et al., 2019). Increasing government spending requires financing, so the government must collect greater revenues as well. Tax revenue is the most crucial pillar of the government, and this indicates that the tax collection on its citizens will be even greater. This means that more and more productive resources will be taken by the government from the private sector, which should be used for investment purposes. This can be a deadweight loss, meaning that the positive impact of government spending is unable to offset the negative impact of reduced private sector productive resources taken by the government (Gwartney et al., 2013).

Economists from the new economic theory, Robert J. Barro (1990) argued that there is a relationship between the variables of economic growth and the variable size of government in a country. A relationship between the two variables can be described in the form of an inverted "U" curve. This means that if the size of the government is relatively small and a portion of government spending is placed on sectors that have productive advantages, then the size of the government has a positive effect on economic growth. However, if the size of the government is relatively large and government spending is placed on unproductive sectors, the size of the government will have little effect on economic growth.

Government spending can act as a positive externality on the growth rate. Beyond that level, taxes act as a negative externality. GMTR is a maximum level that indicates the ratio of tax revenue to GDP that must be obtained so that high and stable economic growth can be achieved (Scully, 2003). GMTR can be used as a guideline for the government in designing fiscal policy.

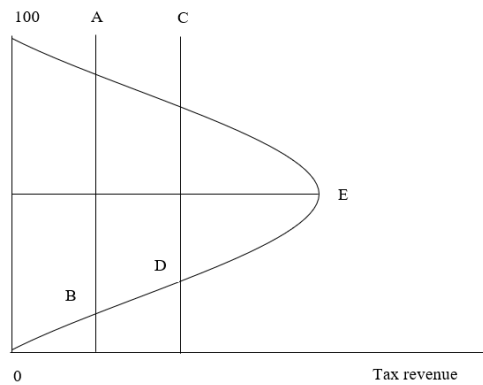
In general, this research will explore the Laffer and GMTR curves that create optimal economic growth. This exploration has theoretical and practical significance which is very important in preparing the State Budget and economic development. This is because, economic development requires financing, and the tax sector is the revenue sector which is the main focus of the government. The tax rate set by the government must be a rate that can increase productivity and the number of workers so as to encourage economic activity. And whether the GMTR which describes the ratio of tax revenue to GDP can create optimal economic growth.

The structure of this paper begins with an introduction, which is the research background in the first part. The second part will contain the Laffer curve analysis and the growth maximizing tax rate = GMTR analysis. The third part will explain the methods applied to answer the research objectives. The discussion will be explained in the fourth section. The last section concludes this research.

A. Literature Review

1. Laffer Curve Analysis

This curve was introduced by Arthur B. Laffer, an economist who at that time served as Economic adviser to the President of the United States, Ronald Reagan, at a banquet with Jude Wanniski, Dick Cheney, and Donald Rumsfeld. In his writing, Wanniski (1978) argued that at the dinner, Laffer presented to support tax cuts. Laffer described a curve of the relationship between tax rates and revenues and said that "There are always two tax rates that yield the same income." Tax rates are on the vertical axis, while revenues are on the horizontal axis. Income depends on the size of the taxable base (which does not appear on the chart) and on the tax rate level.



Source : Wanniski (1978)

Figure 1. Laffer curve

The curvature of the curve from point 0 to point E is the normal range, while the curve from point E to point 100 is the restricted range. The forbidden area is an area where the tax rate is more significant than point E (optimal point). From the Laffer curve, it can be seen that at the first extreme point, 0% of government revenue from zero taxes is due to the absence of taxes. Moreover, when at the second extreme point it is 100%, regardless of the people's income, everything will be handed over to the government, meaning that the people are not motivated to work and increase their income. Tax revenue will be the same when the tax rate is at points A and B, as well as when it is at points C and D. However; there is one point or level of the tax rate that will maximize revenue, namely point E as illustrated in the Laffer curve above.

In 2004, through his article Laffer explained what is meant by a Laffer curve, namely a curve that describes the two effects of a reduction in tax rates, namely arithmetic effects and economic effects. The arithmetic effect explains that a decrease in the tax rate will also be followed by a decrease in the tax revenue itself in accordance with the proportion. Meanwhile, the economic effect emphasizes that a decrease in tax rates will be followed by an increase in productivity and the number of workers so that it can encourage economic activity (K. Liapis et al., 2014).

Tax policy in the form of a tax rate that maximizes income is shown by the bell-shaped Laffer curve (Karas, 2012). The Laffer curve presents the classical curve, which describes the theoretical relationship between the tax rate imposed by the government and the total tax revenue collected by the government. Therefore the Laffer curve can be considered a vital tool for policymakers (Lin & Jia, 2019; Tavor et al., 2019). That there is a relationship between tax revenue and the statutory tax rate in the form of an inverted U (Keser et al., 2020; Steinmüller et al., 2019).

Tax rates affect income through their relationship to public spending and taxpayer behavior. Initially, increased revenues earmarked for public spending provide benefits that outweigh tax costs in terms of loss of wealth and incentives. Therefore, income increases both because rates increase and because the taxable base increases. Furthermore, the tax cost benefits to taxpayers outweigh the public spending benefits, and the harmful effects of tax increases reduce the taxable base at an increasing rate. Therefore, income increases at a reduced rate because a reduction in the taxable base reduces the income effect of increasing the tax rate (Forte, 2015).

Increased government spending associated with an aging population and economic stagnation is often cited as reasons for increasing tax rates (Nutahara, 2015). Effective tax rates can have a multiplier effect on a country's economic policies, such as keeping state revenues at a sustainable level and providing savings or guarantees for economic development (Liapis et al., 2020).

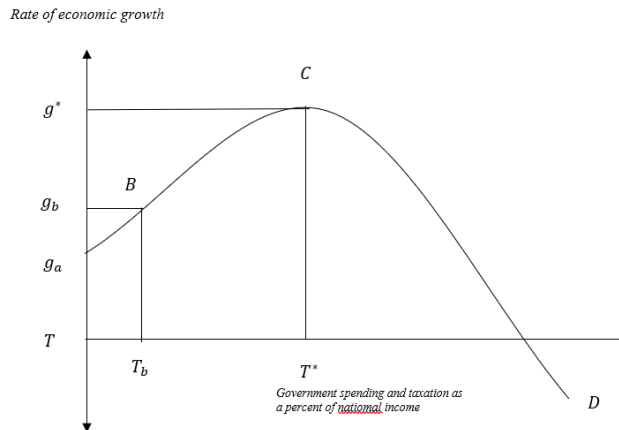
2. Tax Analysis that Maximizes Economic Growth (The Growth Maximizing Tax Rate = GMTR)

Taxes can affect the entire economic system, so the Laffer curve can be used for broader observations in looking for the relationship between tax rates and a country's economic growth. In the 1990s, world economists tried to focus on finding the relationship between the rate of taxation, which is defined as the ratio of tax revenue to GDP needed to create high and stable economic growth.

Theoretically, in 1995 economists from the new economic theory, such as Robert J. Barro and Xavier Sala-I Martin, were pioneers who introduced the theory of the growth maximizing tax rate (GMTR). That there is a specific ratio of tax revenue to the gross domestic product that is needed to produce a high level of economic growth. This optimal point is known as GMTR (Barro & Martin, 1995).

Empirically research on GMTR was first carried out by Gerald W. Scully in 1995, who founded GMTR for the United States. Scully uses econometrics with two regression equation models. In the first model, Scully uses quadratic functions based on the theoretical models developed by Barro and Martin. Meanwhile, in the second model, Scully uses his own theoretical model. Scully assumes that there are two sectors that carry out activities in a country's economy, namely the government sector and the private sector. Both of these sectors have a role in national production through the production function, which is known as the Cobb Douglass production function.

Using data on the ratio of total government spending to GDP. In 1998, world economists Chao and Grubel conducted empirical research to find GMTR in Canada. The difference with the research conducted by Scully, Chao and Grubel uses data on the ratio of total government spending to GDP as a tax variable estimator. Chao and Grubel calculated GMTR using the Scully Curve.



Source : Chao & Grubel (1998)

Figure 2. Scully curve

When government spending is assumed to be financed by taxes as a whole is at zero, then economic growth is at g_a , the lowest economic growth, an inefficient economy because the government does not have the funds to spend or provide public goods. Assuming that there are no changes in the private sector, the government spends at point T_b , and economic growth rises to point g_b , because the government spends or provides public goods that stimulate the economy. Furthermore, optimal government spending is at point T^* , because economic growth is at the highest point g^* , but if the government increases spending by increasing tax revenue, which is illustrated by the dot on the right of T^* , it will reduce economic growth because of tax rates will result in a decline in economic activity, due to reduced income due to high taxes.

Tax rates affect people's income and in turn affect household consumption. An increase in the tax rate causes disposable income to decrease in accordance with the increase in the tax rate imposed. If it is assumed that ceteris paribus and only taxes are government revenue, then government revenue will increase as the tax rate increases. Transfer payments and government spending increase, but public consumption and investment will weaken though, and this will result in a slowdown in national and economic income growth (Agell & Persson, 2000).

Tax revenue as a share of GDP, if it is above the optimal limit, will disrupt or negatively affect economic growth, meaning that there is an optimal limit for tax revenue and that an increase in tax revenue above this limit will reduce the desire for economic decision-making units to work, which consequently will lead to economic depreciation (Aydin & Esen, 2019). An increase in tax rates can result in adverse economic growth effects (Milasi & Waldmann, 2018).

Optimal fiscal revenue policy will balance the positive and negative externality effects of taxation on economic growth patterns during the economic cycle by keeping tax rates in line with several optimal levels (Kavese & Phiri, 2020). An equilibrium fiscal policy is a fiscal policy that maximizes economic growth (Dai, 2018). Fiscal policies that maximize economic growth are financed by rational taxation (Nguyen, 2020).

II. METHODS

This literature review begins with the initial process of a simple bibliometric analysis by searching for articles using the keywords “tax; economic growth; fiscal policy; tax rates; Laffer curve; and growth maximizing tax rate (GMTR),” the research year 2000-2023. Taxes are an instrument of government fiscal policy that not only

functions as the primary support for state revenues but also as a regulator of the economy. As the main source of income for a country, government regulations regarding taxes and tariffs are the most crucial thing for the government. Government policies in terms of increasing and decreasing tax rates will determine the income and economy of a country. An effective taxation system is critical to strengthening state legitimacy, accountability, and responsiveness. Tax policy in the form of a tax rate that maximizes income is shown by the bell-shaped Laffer curve. And whether the GMTR, which describes the ratio of tax revenue to GDP, can create optimal economic growth. Empirical evidence about the Laffer curve in developing countries, including Indonesia, is still rather limited. This research has a theoretical and practical significance which is very important in preparing the State Budget and future economic development. We hope that this research will contribute to enriching the literature on fiscal policy, particularly in terms of making decisions to increase or decrease tax rates that create optimal economic growth.

This research is a literature study using a meta-synthesis approach. Literature reviews were taken in Scopus, Web of Science, Elsevier, Springer, Emerald, Asian and African Journals, as well as Global and International Journals. Search limits for articles in English, with publication limits or study years 2000-2023. After the most relevant articles are found, an article extraction will be carried out to answer the research objectives. The theoretical framework that will be built starts from the definitions developed in the Laffer curve and GMTR, and the core of this research is the Laffer curve and GMTR, which can create optimal economic growth.

III. RESULTS AND DISCUSSION

A. Laffer Curve Empirical Studies

The study of the Laffer curve of a country's taxes is significant for policymakers. Trabandt & Uhlig (2011) conducted research on the Laffer curve in Sweden and Denmark, they found that the labor tax rate is lower than the peak of the Laffer curve, and the capital tax rate is very close to the peak of the Laffer curve or even more fantastic. This research is in line with research conducted by Nutahara (2015), who conducted a study of the Laffer curve in Japan and found that in order to maximize total tax revenue, the Japanese government must increase the labor tax rate but lower the capital tax rate. These results imply that in order to maximize total tax revenue, the government should increase the labor tax rate but lower the capital tax rate or corporate tax.

Looking at the effect of taxation on labor supply and the potential existence of a Laffer curve, Keser et al. (2020) conducted experiments in Canada, France, and Germany and found that the labor supply curve decreased as tax rates increased or were U-shaped. inverse (Laffer curve). Calibrating the model to US macro, micro, and tax data, Holter et al. (2019) characterize the Laffer curve of the labor income tax for various levels of tax progression. It was found that the peak of the United States Laffer curve is reached at an average labor income tax rate of 58%. This peak (the maximum tax revenue the government can raise) increases by 7% if the current progressive tax code is replaced with a flat labor income tax.

The Laffer effect can be used to justify budgetary imbalances and the redistribution of taxation from consumption to saving and from poor to rich. Meanwhile, in the Keynesian world, one can increase GDP by increasing consumption (Forte, 2015).

Exploring the relationship between tax rates (direct tax on labor income), government revenue, and economic performance from the perspective of the Laffer curve, Lin & Jia (2019) shows that the peak of China's Laffer curve is around 40%. If China is to maximize tax revenue, the direct tax rate must be 35%, and the peak government tax is always 5-10% of the peak of the Laffer curve. If a country has reached the top of the Laffer curve, then tax cuts have positive implications for the economy and taxation.

Conducting research in Malaysia, Annuar et al. (2018) looked at the relationship between corporate tax rates and revenue using an autoregressive distributed lag (ARDL) approach. The results of the study show that the gradual reduction in corporate tax rates has had a positive impact on Malaysia's economic growth. The results of this study are in accordance with Ibn Khaldun's taxation theory which is described as a Laffer curve. There is an inverted U-shaped relationship between tax rates and revenues, with the optimal tax rate of 25,5156 percent. The reduction in corporate tax rates has an impact on increasing productivity among companies and broadening the tax base. Further analysis also shows that lowering the corporate tax rate can lead to increased corporate tax revenues in the long run. That is, lower corporate tax rates reduce the cost of doing business domestically.

Steinmüller et al. (2019) conducted research on effective corporate tax by collecting samples of corporate tax data from OECD countries during the 1996-2016 time period. The results of the study show that the relationship between tax revenues and statutory tax rates is inverted U shape; this shape is known as the Laffer Curve. Furthermore, the maximum value, namely the tax rate that maximizes income, is estimated to be above the average (median) of the observed tax rates. At the right point (tax rate), the slope of the income function becomes negative depending on the extent to which firms and individuals respond to taxes and the tax strategies they adopt.

Discusses the correlation of the Laffer curve for income tax and economic facts in Romania during the 2000-2010 period, that the slope of the Laffer curve in Romania is in a restricted area, where there is an unnecessary redistribution of income in the Romanian economy (Trandafir & Brezeanu, 2011). Ferreira-Lopes et al. (2020) estimate Laffer curves for direct and indirect taxes for each Eurozone country, using panel data from 1995-2011. That there are significant differences between the optimal tax rate values for Eastern European and Western European countries, where the economic and financial conditions of each country affect the value of the tax rate. The results of the study also found that Greece and Portugal are in the forbidden Laffer curve range.

The optimal level Laffer curve that maximizes tax revenue depends not only on the elasticity of demand but also on the ability of the tax authorities to anticipate the price response of firms subject to a commodity tax, that a reduction in the tax rate will increase total tax revenue only for products with very high demand. elastic (Miravete et al., 2018).

Raising or lowering the tax rate depends on other important issues. Tax effectiveness requires further consideration beyond actual tax revenue (Tavor et al., 2019). In a neoclassical growth model with incomplete markets and limited heterogeneous liquidity, the nature of the Laffer curve depends on whether debt or transfers are adjusted to balance the government's budget constraints. The Laffer curve that depends on public debt is horizontally S-shaped (Fève et al., 2018).

Heterogeneous liquidity limitations in each country result in the nature of the Laffer curve depending on foreign debt, which is an essential means of financing public spending and balancing the government budget (Bhimjee & Leão, 2020; Ehrhart et al., 2014; Fève et al., 2018). When debt is low, tax policy is countercyclical in the sense that the government responds to low output by setting low tax rates. Above the debt threshold, the optimal tax policy becomes pro-cyclical. This creates the possibility of a fiscal policy trap crisis (self-fulfilling), in which the government imposes high taxes because of low output (Camous & Gimber, 2018). If a country can channel foreign debt into viable investments, the debt is able to pay for itself and positively affect economic growth. However, when a country relies heavily on foreign debt beyond reasonable levels, foreign debt becomes irrelevant, and its impact on the economy tends to be negative (Mensah et al., 2018). The position and stability of the Laffer curve depend on several national and international factors (Schuknecht, 2018). The relationship between tax revenue and tax rates is adjusted to the tax morale of the country (Liapis et al., 2020).

B. GMTR Empirical Studies that Maximize Economic Growth

Taxes can affect the entire economic system, so the Laffer curve can be observed for a broader framework to find the relationship between a country's level of taxation and economic growth. Effective tax rates can have a multiplier effect on a country's economic policies by keeping state revenues at a sustainable level and providing safe boundaries for economic development. If taxation complicates the economy, there must be a turning point where the result of high tax rates does not produce the expected results on state revenues (Liapis et al., 2020).

Economist of the new economic theory, Robert J. Barro (1990), put forward a model of endogenous economic growth by including government public spending financed by taxes will affect production and utility. The government provides public goods, including in the form of law and order, state defense, and redistribution of income. Gerald W. Scully (1995) added that government spending acts as a positive externality at the growth rate. Beyond that level, government spending financed by taxes acts as a negative externality. That up to a certain level, the amount of taxes collected by the government can make the whole economy more productive.

Scully found the GMTR of the United States to create optimal economic growth. The United States GMTR is 22.9% of the total GDP. Scully also estimates that if the GMTR is achieved, then real GDP growth in the United States will grow by 5% annually. Besides that, the deadweight loss is far above the GMTR. A year after measuring the GMTR for the United States, Scully also measured the GMTR for New Zealand, which is around 20.2%. In 1998, world economists Chao and Grubel conducted empirical research to find the GMTR in Canada by using data on the ratio of total government spending to GDP as a tax variable estimator. Assuming $G=T$, Chao and Grubel find that the GMTR for Canada is 34%.

Examines the nonlinear relationship between tax revenues and economic growth in 11 European and Central and Southeast Baltic countries during the transition process between 1995 and 2014. The results of Aydin & Esen's research (2019) show that the optimal level of tax revenue to maximize economic growth is around 18.00% of GDP for whole transition economies, 18.50% for developing countries, and 23.00% for developed countries. The results of this study indicate that the level of tax revenue above the optimal point has a negative effect on economic growth, while the level of tax revenue that is still below the optimal point has a positive effect on economic growth.

Kavese & Phiri (2020) examines the optimal tax in South Africa using Scully's optimal tax calculation applied to quarterly data from 2002–2017. Empirical results suggest that governments pursue growth-maximizing tax rates during increasing business cycles while generally using revenue-maximizing tax rates during periods of recession. This means that during periods of recession, the government generally pursues the objective of

maximizing revenue by collecting higher taxes. VAT is the only revenue collection sub-category that has maximized growth in the post-crisis recession period.

Nguyen (2020) suggests that an increase in the capital tax rate affects growth through four channels. First, it directly inhibits capital accumulation, thereby negatively affecting growth. Second, encourage the formation of human capital so that it has a positive impact on growth. Third, increasing capital taxation by reducing the ratio of physical human capital has a positive effect on the aggregate marginal product of capital. Fourth, the increase in the ratio of physical human capital is inversely proportional to the accumulation of human capital. This means that to produce the maximum growth rate, more significant public expenditures are required for human capital, thereby increasing the aggregate marginal product of capital and the equilibrium growth rate.

Milasi & Waldmann (2018) examine taxation on the highest income and its relationship to economic growth. That was increasing the marginal tax rate on those below growth maximization has the most significant positive impact on growth when the associated additional revenue is used to finance productive public spending, reduce budget deficits or reduce some other form of tax distortion.

Fiscal policies that maximize growth, in the long run, are independent of the specifics of public spending (Escobar-Posada & Monteiro, 2018). In conditions where the elasticity of infrastructure output is greater than the growth elasticity of labor productivity, there is a tax rate that maximizes the share of long-term labor, and this rate is lower than the tax rate that maximizes growth (Dai, 2018; Davis, 2018; Tavani & Zamparelli, 2020).

Ehrhart et al. (2014) examined the relationship between taxes and economic growth and the Laffer curve in developing countries. Empirical evidence of this relationship in developing countries needs to be more extensive. Recalling that seigniorage and public debt are also necessary to finance public spending in these countries. Based on a panel of 100 developing countries during the period 1980-2010 providing estimates of OLS-Fixed Effects and GMM systems that support the theoretical conclusion, namely the existence of a hump-shaped relationship between taxes and economic growth indexed by debt and seigniorage.

Debt-financed public investment influences economic growth and intergenerational well-being through multiple long-term benefits and costs. With a primary focus on clarifying the relationship between public investment, economic growth, and population aging under prescribed fiscal rules, Kamiguchi & Tamai (2019) in their research concludes, that the Barro tax rule does not apply and that growth- and utility-maximizing tax rates increase with life expectancy. Population aging seriously affects fiscal policy and economic performance as it increases tax rates and puts the ratio of public debt to GDP in balance. The tax rate that maximizes welfare is lower than the tax rate that maximizes growth (Dai, 2018; Ueshina, 2018).

The authors applied the Laffer curve theory model to GMTR in previous studies. This study identified data: GDP, foreign debt, tax revenues, non-tax revenues, and economic growth during the 2001-2020 period. The study results show that the ratio of tax revenues significantly promotes economic growth, while the ratio of foreign debt negatively affects economic growth. The author also finds that Indonesia's GMTR is 12.00%. With a total tax revenue of 16,464,941 billion rupiahs during the 2001-2020 period, if the GMTR can be achieved since 2001 and remains the same or can be maintained until 2020, then the total tax revenue for 2001-2020 will increase to 18,659,422 billion rupiahs. Rose to 2,194,481 billion rupiahs. The amount of the increase is large enough to finance economic development. Therefore, effective tax rates can have a multiplier effect on a country's economic policies. The average economic growth during 2001-2020 was 4.91%. If a GMTR of 12% can be achieved since 2000 and continues to be maintained until 2020, then by substituting the GMTR in the regression equation model assuming other variables are constant, Indonesia's economic growth will increase by 1.40% to 6.31% (Yossinomita et al., 2023).

C. Implications of Taxation Policies in Optimal Economic Growth

Fiscal policy is a government tool to intervene in the economy, improve the economy, or even make the economy experience a recession (Hermawan, 2016). Tax structure can influence economic growth (Wu et al., 2017). An effective taxation system strengthens state legitimacy, accountability, and responsiveness (Fjeldstad, 2014).

The optimal tax structure considers and maximizes growth and prosperity—the need for a fiscal strategy that maximizes growth and labor share. The tax rate that maximizes growth should be higher than that maximizes labor share (Tavani & Zamparelli, 2020). Establish the right tax policy and differentiate between growth-maximizing and revenue-maximizing goals. It would be ideal for the government to set higher tax rates, maximize revenue during booming businesses, and set lower tax rates that maximize growth during downturns in business cycles (Bhattacharyya & Gupta, 2021; Kavese & Phiri, 2020).

Marakbi & Villieu (2020) examine the relationship between taxes, corruption, economic growth, and inflation. First, that corruption can undermine tax collection and lead to a runaway of tax revenues. As a result, the government has no choice but to use other instruments to finance productive public spending. For example, seigniorage and income tax are ways of financial substitution adopted by the government. Second, corruption

results in unproductive public spending. As a result, the government can increase tax rates to meet this expenditure.

Before the government implements any policies to support economic growth, the role of tax revenues must be addressed in the relationship between optimal government size and economic growth. Otherwise, these policies can harm economic growth (Aydin & Esen, 2019). Equilibrium fiscal policy is equivalent to maximizing fiscal policy

growth (Dai, 2018).

Fiscal policy taken by the government must be a policy that maximizes economic growth financed by rational taxation. The optimal tax structure is a tax structure that considers and maximizes economic growth and welfare (Yossinomita et al., 2023).

V. CONCLUSION

A sound taxation system will provide improvements to the economy and welfare. The optimal tax structure is a tax structure that considers and maximizes economic growth. Tax revenue is a potential and most prominent source of state revenue, so the government must make tax policies that follow economic conditions. Government spending multiplied, even outpacing GDP growth. This means that the ratio of total government spending to GDP (the size of government) is getting more significant from time to time. This is not only happening in Indonesia. Other countries worldwide are also experiencing this, especially countries increasing their economic development phase. In this regard, there are two options. It is first, depending on foreign debt. Second on domestic capabilities.

Of the various sources of domestic revenue, taxes are the main focus. However, tax revenues at high rates can increase productive resources that will be taken by the government from the private sector, which should be used for investment needs. Moreover, the positive impact resulting from government spending cannot cover the negative impact of reduced resources that should be owned by the private sector. In that case, a deadweight loss will occur.

This study literature analyzes how the Laffer curve and GMTR are applied as indicators for realizing optimal growth rates in several countries, including Indonesia. The results of this literature study can serve as a guideline and input for the government in conducting fiscal policy, particularly in making decisions to increase or decrease tax revenues which can create optimal economic growth in Indonesia.

REFERENCES

- Agell, J., & Persson, M. (2000). On the analytics of the dynamic Laffer curve. In *CESifo Working Paper Series* (Vol. 383). <https://doi.org/10.20955/r.85.67>
- Annur, H. A., Isa, K., Ibrahim, S. A., & Solarin, S. A. (2018). Malaysian corporate tax rate and revenue: the application of Ibn Khaldun tax theory. *ISRA International Journal of Islamic Finance*, 10(2), 251–262. <https://doi.org/10.1108/IJIF-07-2017-0011>
- Auerbach, A. J. (2018). Measuring the effects of corporate tax cuts. *Journal of Economic Perspectives*, 32(4), 97–120. <https://doi.org/10.1257/jep.32.4.97>
- Aydin, C., & Esen, O. (2019). Optimal tax revenues and economic growth in transition economies: A threshold regression approach. *Global Business and Economics Review*, 21(2), 246–265. <https://doi.org/10.1504/gber.2019.098091>
- Barro, R. J. (1990). Government spending in a simple model of endogenous growth. *Journal of Political Economy*, 98(S5), 103–125. <https://doi.org/10.1086/261726>
- Barro, R. J., & Martin, X. S. (1995). Economic Growth. In *New York: McGraw Hill*. Massachusetts Institute of Technology.
- Bhattacharyya, C., & Gupta, M. R. (2021). Unionised labour market, environment and endogenous growth. *International Review of Economics and Finance*, 72(July 2020), 29–44. <https://doi.org/10.1016/j.iref.2020.10.005>
- Bhimjee, D., & Leão, E. (2020). Public debt, gdp and the sovereign debt laffer curve: A country-specific analysis for the euro area. *Journal of International Studies*, 13(3), 280–295. <https://doi.org/10.14254/2071-8330.2020/13-3/18>
- Camous, A., & Gimber, A. R. (2018). Public debt and fiscal policy traps. *Journal of Economic Dynamics and Control*, 93, 239–259. <https://doi.org/10.1016/j.jedc.2018.02.009>
- Chao, J. C. P., & Grubel, H. (1998). Optimal levels of spending and taxation in Canada. In *In How to Use the Fiscal Surplus: What is the optimum Size of Government*, Herbert Grubel (ed). (Issue January).

- Dai, D. (2018). Fiscal policy under a minimum-time objective. *Scottish Journal of Political Economy*, 65(3), 293–314. <https://doi.org/10.1111/sjpe.12153>
- Davis, L. S. (2018). Political economy of growth with a taste for status. *Journal of Public Economics*, 168, 35–46. <https://doi.org/10.1016/j.jpubeco.2018.10.002>
- Ehrhart, H., Minea, A., & Villieu, P. (2014). Debt, seigniorage, and the growth Laffer curve in developing countries. *Journal of Macroeconomics*, 07(004). <https://doi.org/10.1016/j.jmacro.2014.07.004>
- Escobar-Posada, R. A., & Monteiro, G. (2018). Stock vs flow specification of public infrastructures: A dynamic analysis. *B.E. Journal of Macroeconomics*, 18(2), 1–14. <https://doi.org/10.1515/bejm-2016-0079>
- Ferreira-Lopes, A., Martins, L. F., & Espanhol, R. (2020). The relationship between tax rates and tax revenues in eurozone member countries - exploring the Laffer curve. *Bulletin of Economic Research*, 72(2), 121–145. <https://doi.org/10.1111/boer.12211>
- Fève, P., Matheron, J., & Sahuc, J. G. (2018). The horizontally S-Shaped Laffer curve. *Journal of the European Economic Association*, 16(3), 857–893. <https://doi.org/10.1093/jeaa/jvx027>
- Fjeldstad, O.-H. (2014). Tax and Development: Donor Support to Strengthen Tax Systems in Developing Countries. *Public Administration and Development*, 34, 182–193. <https://doi.org/10.1002/pad.1676>
- Forte, F. (2015). Laffer effect. In *Encyclopedia of Law and Economics*. <https://doi.org/10.1007/978-1-4614-7883-6>
- Guo, Y. M., & Shi, Y. R. (2020). Impact of the VAT reduction policy on local fiscal pressure in China in light of the COVID-19 pandemic: A measurement based on a computable general equilibrium model. *Economic Analysis and Policy*, 12, 1–12. <https://doi.org/10.1016/j.eap.2020.12.010>
- Gwartney, J. D., Stroup, R. L., Sobel, R. S., & Macpherson, D. A. (2013). *Economics: Private and Public Choice* (Fourteenth). South-Western Cengage Learning.
- Hermawan, W. (2016). Analisis kebijakan fiskal dan implikasinya kepada perekonomian indonesia: analisis keseimbangan umum. *Quantitative Economics Journal*, 5(2), 75–88. <https://doi.org/10.24114/qej.v5i2.17483>
- Holter, H. A., Krueger, D., & Stepanchuk, S. (2019). How do tax progressivity and household heterogeneity affect Laffer curves? *Quantitative Economics*, 10(4), 1317–1356. <https://doi.org/10.3982/qe653>
- Ilzetzki, E. (2018). Tax reform and the political economy of the tax base. *Journal of Public Economics*, 164, 197–210. <https://doi.org/10.1016/j.jpubeco.2018.06.005>
- Kamiguchi, A., & Tamai, T. (2019). Public investment, public debt, and population aging under the golden rule of public finance. *Journal of Macroeconomics*, 60(January), 110–122. <https://doi.org/10.1016/j.jmacro.2019.01.011>
- Karas, M. (2012). Tax rate to maximize the revenue: Laffer curve for the Czech Republic. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 60(4), 189–194. <https://doi.org/10.11118/actaun201260040189>
- Kavese, K., & Phiri, A. (2020). Optimal tax rates in South Africa: New empirical insights to the existing debate. *International Journal of Sustainable Economy*, 12(1), 44–60. <https://doi.org/10.1504/IJSE.2020.107861>
- Keser, C., Masclot, D., & Montmarquette, C. (2020). Labor Supply, Taxation, and the Use of Tax Revenues: A Real-Effort Experiment in Canada, France, and Germany. In *Public Finance Review* (Vol. 48, Issue 6). <https://doi.org/10.1177/1091142120960491>
- Liapis, K. J., Politis, E. D., Ntetsos, D., & Thalassinou, E. I. (2020). Investigating the relationship between tax revenues and tax ratios: An empirical research for selected OECD countries. *International Journal of Economics and Business Administration*, 8(1), 215–229. <https://doi.org/10.35808/ijeba/420>
- Liapis, K., Rovolis, A., & Galanos, C. (2014). The tax regimes of the EU countries: Trends, similarities and differences. *Contributions to Economics. Springer International Publishing Switzerland*, 119–145. https://doi.org/10.1007/978-3-319-00494-5_7
- Lin, B., & Jia, Z. (2019). Tax rate, government revenue and economic performance: A perspective of Laffer curve. *China Economic Review*, 56(January), 1–20. <https://doi.org/10.1016/j.chieco.2019.101307>
- Liu, Q., & Lu, Y. (2015). Firm investment and exporting: Evidence from China's value-added tax reform. *Journal of International Economics*, 97, 392–403. <https://doi.org/10.1016/j.jinteco.2015.07.003>
- Marakbi, R., & Villieu, P. (2020). Corruption, tax evasion, and seigniorage in a monetary endogenous growth model. *Journal of Public Economic Theory*, 22(6), 2019–2050. <https://doi.org/10.1111/jpet.12468>
- Mensah, Lord, Bokpin, G., & Boachie-Yiadom, E. (2018). External Debts, Institutions and Growth in SSA. *Journal of African Business*, 19(4), 475–490. <https://doi.org/10.1080/15228916.2018.1452466>
- Milasi, S., & Waldmann, R. J. (2018). Top marginal taxation and economic growth. *Applied Economics*, 50(19), 2156–2170. <https://doi.org/10.1080/00036846.2017.1392001>
- Miravete, E. J., Seim, K., & Thurk, J. (2018). Market Power and the Laffer Curve. *Econometrica*, 86(5), 1651–1687. <https://doi.org/10.3982/ecta12307>

- Nantob, N. (2014). Taxes and Economic Growth in Developing Countries : A Dynamic Panel Approach. In *Munich Personal RePEc Archive Taxes (MPRA)* (Issue 61346).
- Nguyen, Q. H. (2020). Financial deepening in a two-sector endogenous growth model with productivity heterogeneity. *B.E. Journal of Macroeconomics*, 20(1), 1–19. <https://doi.org/10.1515/bejm-2019-0039>
- Nutahara, K. (2015). Laffer curves in Japan. *Journal of the Japanese and International Economies*, 36, 56–72. <https://doi.org/10.1016/j.jjie.2015.02.002>
- Schuknecht, L. (2018). The supply of safe assets and fiscal policy. In *Intereconomics* (Vol. 53, Issue 2). <https://doi.org/10.1007/s10272-018-0728-5>
- Scully, G. W. (1995). The “growth tax” in the United States*. *Public Choice*, 85, 71–80.
- Scully, G. W. (2003). Optimal taxation, economic growth and income inequality. *Public Choice*, 115(3), 299–312. <https://doi.org/10.1023/a:1024223916710>
- Steinmüller, E., Thuncke, G. U., & Wamser, G. (2019). Corporate income taxes around the world: a survey on forward-looking tax measures and two applications. *International Tax and Public Finance*, 26(2), 418–456. <https://doi.org/10.1007/s10797-018-9511-6>
- Tavani, D., & Zamparelli, L. (2020). Growth, income distribution, and the ‘entrepreneurial state.’ *Journal of Evolutionary Economics*, 30(1), 117–141. <https://doi.org/10.1007/s00191-018-0555-7>
- Tavor, T., Gonen, L. D., & Spiegel, U. (2019). Reservations on the classical Laffer curve. *Springer Science*. <https://doi.org/https://doi.org/10.1007/s11138-019-00483-8>
- Trabandt, M., & Uhlig, H. (2011). The Laffer curve revisited. *Journal of Monetary Economics*, 58(4), 305–327. <https://doi.org/10.1016/j.jmoneco.2011.07.003>
- Trandafir, A., & Brezeanu, P. (2011). Optimality of fiscal policy in Romania in terms of Laffer curve. *Theoretical and Applied Economics*, XVIII(8(561)), 53–60.
- Ueshina, M. (2018). The effect of public debt on growth and welfare under the golden rule of public finance. *Journal of Macroeconomics*, 55, 1–11. <https://doi.org/10.1016/j.jmacro.2017.08.004>
- Wanniski, J. (1978). Taxes, revenues, and the Laffer curve. *National Affairs*, 50, 3–16.
- Wardhana, W., & Hartono, D. (2012). Instrumen stimulus fiskal: pilihan kebijakan dan pengaruhnya terhadap perekonomian. *Jurnal Ekonomi Dan Pembangunan Indonesia*, 12(2), 107–115.
- Wu, H., Gao, K., & Chen, M. (2017). A study on the optimization of tax structure from the perspective of economic growth. *International Journal of Business and Economics Research*, 6(5), 93–99. <https://doi.org/10.11648/j.ijber.20170605.12>
- Yossinomita. (2022). Tax Policy in Limiting the Consumption of Luxury Goods. *Review of Economics and Finance*, 20(1), 165–171. <https://doi.org/10.55365/1923.x2022.20.19>
- Yossinomita, Utami, F. N., Uusmayanti, V., Effiyaldi, Zuliawati, Y., & Khoirunnisa, I. (2023). GMTR analysis create optimal economic growth. *Jurnal Akuntansi Dan Pajak*, 23(02), 1–13. <https://doi.org/10.29040/jap.v23i2.6755>
- Zhang, L., Chen, Y., & He, Z. (2018). The effect of investment tax incentives: evidence from China’s value-added tax reform. *International Tax and Public Finance*, 25(4), 913–945. <https://doi.org/10.1007/s10797-017-9475-y>
- Zheng, L., & Severe, S. (2016). Teaching The Macroeconomic Effects of Tax cuts With a Quasi-Experiment. *Economic Analysis and Policy*, 51, 55–65. <https://doi.org/10.1016/j.eap.2016.06.001>
- Zwick, E., & Mahon, J. (2017). Tax policy and heterogeneous investment behavior. *American Economic Review*, 107(1), 217–248. <https://doi.org/10.1257/aer.20140855>