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Effect of Gross Domestic Product and Interest Rate on Tax Revenue in Indonesia

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Abstract

Taxes play an important role in the life of the state, especially in the implementation of development because the revenue in the tax sector can finance the development expenditure of a country. This study aims to determine and analyze the effect of gross domestic product and interest rate on tax revenue in Indonesia. In this study, data from 1990 to 2020 were used which were obtained from various sources. This study uses a multiple linear regression model with the least squares method with the Eviews 7 application. The results show that gross domestic product has significant effect on tax revenue in Indonesia. Interest rate has significant effect on tax revenue in Indonesia.

Keywords
gross domestic product; interest rate; tax revenue

I. Introduction

Taxes play an important role in the life of the state, especially in the implementation of development because the revenue in the tax sector can finance the development expenditure of a country. In the Indonesian economy, taxes are one of the priority sectors in financing development expenditures. With tax revenues, we can realize sustainable development programs, where taxes are one of the sources of state revenue that has the largest contribution in financing the development process in a country. Therefore, the taxation sector must be optimized in such a way that it can support national development in Indonesia. In the state revenue and expenditure budget, sources of domestic tax revenue in Indonesia consist of domestic taxes and international trade taxes, each of which is divided into various types of taxes, namely income tax (PPh), value added tax (PPN), land and building tax (PBB), BPHTB income, excise, and other taxes. Meanwhile, the types of international trade taxes are divided into import and export duties.

In the 2017—2020 period, the realization of tax revenues experienced a very significant increase, from Rp980.5 trillion in 2017 to Rp1,240,4 trillion in 2020, with an average growth of 9.2 percent per year. In line with the increasing realization of tax revenue, the contribution of tax revenue to domestic income also increased, from 73.6 percent in 2017 to 82.9 percent in 2020. The highest growth in tax revenue occurred in 2017 at 12.2 percent, but after that, tax revenue growth continued to decline to 8.2 percent in 2020. The slow down in tax growth during the 2017-2020 period was caused by the deteriorating global economy which affected the domestic economy. Tax revenues that experienced a decline in growth were value added tax, import duties and export duties.

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One of the factors that determine tax revenue can be seen in economic growth which is the percentage increase in gross domestic product in real value for a certain year compared to the previous year. According to Samuelson (2003), gross domestic product is the total amount of output produced within a country's territorial boundaries in one year and measures the value of goods and services produced in a country's territory without distinguishing between citizenship for a certain period of time. The relationship between tax revenue and economic growth, which is explained by the theory put forward by Peacock and Wiseman in Mangkoesoebroto (1993), namely that economic development causes tax collection to increase even though tax rates do not change will have an impact on increasing tax revenues, causing government spending to also increase.

Another factor that also has an important influence on tax revenue is the interest rate. Macroeconomic variables, such as gross domestic product and interest rate are considered to have an influence on tax revenue. The relationship between macroeconomic variables and tax revenue has also been widely studied in several countries, one of which is a study conducted by Yuksel, Orhan, and Oztunc (2013) with a case study of Turkey. The results showed that there was a high correlation between tax revenue and macroeconomic variables in the form of gross domestic product (GDP) and interest rates.

This study aims to determine and analyze the effect of gross domestic product and interest rate on tax revenue in Indonesia.

II. Review of Literature

2.1 Tax

Tax is a levy which is the prerogative of the government where the levy is based on the law and the collection can be forced on tax subjects where there is no direct remuneration that can be demonstrated (Mangkoesoebroto, 2001). The definition of tax is one of the various assumptions put forward by experts, although the definitions expressed are different, but each has the same goal. As described by Andriani (2000) that taxes are contributions to the state (which can be imposed) owed by taxpayers, the payment of which according to regulations cannot be re-applied which can be directly appointed, and the purpose is to finance general expenses. related to the task of the state to organize government. Meanwhile, the definition of tax according to Rochmat Soemitro in (Mardiasmo, 2006:1) is the people's contribution to the state treasury (transfer of wealth from the private sector to the government sector) based on the law (can be forced) with no direct reciprocal services that can be appointed. used to finance general expenses. Income Tax is a type of subjective tax whose tax obligations are attached to the relevant Tax Subject (Hendayana, 2021). Tax is a requirement that has been established by the state as a civic duty (Marpaung, 2020). Tax is a compulsory levy paid by the people to the state and will be used for the benefit of the government and the general public (Siregar, 2019).

From these definitions, it can be concluded that the characteristics inherent in the definition of tax according to Mardiasmo (2003) are as follows:

1. Taxes are people's contributions to the state treasury. Only the state has the right to collect taxes. The contribution is in the form of money (not goods) which is used for the greatest benefit of the people.
2. Based on the law taxes are collected based on or by force of law and its implementing rules. Tax is a mandatory contribution that must be paid by the people to the state, in this case the tax is part of public law that regulates the legal relationship between the state/government and its citizens/people where the state takes wealth from the community and returns it to the community. The tax law was made with the aim of

being the basic rules of tax collection, so that tax collection is based on the strength of the law and its implementing rules. This is to avoid arbitrary actions in collecting taxes and so that people do not want to pay taxes at will.

3. Can be enforced what is meant by being enforceable is that if the tax debt is not paid, the debt can be collected using power, one of which is using the media of forced letters, if necessary, action or sanctions will be imposed if they resist.
4. No accomplishments or reciprocity received directly appointed the aim is to distinguish between taxes and levies. Taxpayers cannot directly enjoy the taxes paid.

To finance general government expenditures In the state there is a state revenue and expenditure budget, and taxes are one of the main contributors to revenue which is then used to finance government expenditures, so the income from taxes is not only enjoyed by taxpayers but also by the people in general.

2.2 Gross Domestic Product

In the economy of a country there is an indicator that is used to assess whether the economy is going well or poorly. Indicators in assessing the economy must be used to determine the total income earned by everyone in the economy. The right and appropriate indicator in making these measurements is gross domestic product. In addition, gross domestic product measures two things at the same time: the total income of everyone in the economy and the total state spending on goods and services produced by the economy. The reason gross domestic product can measure total income and expenditure is because for an economy as a whole, income must equal expenditure. The definition of gross domestic product is the market value of all final goods and services produced in a country in a period. Therefore, gross domestic product per capita which is the magnitude of gross domestic product when compared to the total population in a country is a better tool that can tell us what is happening to the average population, the standard of living of its citizens (Mankiw, 2006:5,6,22, 23).

2.3 Interest Rate

According to Nopirin (2000) interest rate is the fee that must be paid by the borrower for the loan received and is a reward for the lender for his investment. Interest rate affect the individual's decision to choose to spend more money or save money in the form of savings. Meanwhile, according to Suhaedi (2000), the interest rate is also a price that connects the present with the future, as with other prices, the interest rate is determined by the interaction of supply and demand. Interest rates consist of two, namely:

1. Nominal interest rate is the interest rate determined based on a period of one year.
2. Real interest rate is the nominal interest rate minus the inflation rate that occurred during the same period.

III. Research Methods

The type of data used in this research is secondary data. Secondary data refers to data that is collected by someone other than the primary user (Octiva et al., 2018; Pandia et al., 2018; Pandiangan, 2018). Common sources of secondary data for social science include censuses, information collected by government departments, organizational records and data that was originally collected for other research purposes (Asyraini et al., 2022; Octiva et al., 2021; Pandiangan, 2015; Pandiangan et al., 2022). The secondary data used is data that is systematically recorded in the form of time series data. In this study, data from 1990 to 2020 were used which were obtained from various sources including the Ministry of Finance (Directorate General of Taxes), Bank Indonesia, the Central Statistics Agency, and other data sources such as tax books, tax bulletins, economic journals or tax journals, and the results of previous research. Based on Pandiangan et al. (2018) and Pandiangan (2022) to determine the magnitude of the influence of an independent variable on the dependent variable so this study uses a multiple linear regression model with the least squares method with the Eviews 7 application. This method is believed to have ideal and superior characteristics, namely technically very strong, easy to calculate and draw interpretation (Octiva, 2018; Pandiangan et al., 2021; Tobing et al., 2018).

IV. Discussion

4.1 Tax Revenue Development

Tax is a mandatory contribution to the state that is owed by an individual or entity that is coercive in nature based on the law, with no direct compensation and is used for the needs of the state for the greatest prosperity of the people. Payment of taxes is a manifestation of state obligations and participation in accordance with the philosophy of tax law, paying taxes is not only an obligation, but is the right of every citizen to participate in the form of participation in state financing and national development domestic and international trade taxes. Domestic taxes in the form of Income Tax (PPh), Value Added Tax on Goods and Services and Sales Tax on Luxury Goods (PPN and PPnBM), Land and Building Tax and Customs on Acquisition of Land and Building Rights (PBB and BPHTB), Excise, and Taxes others (Stamp Duty). International Trade Tax includes income from import and export duties.

Central tax revenue in Indonesia in 1990-2020 has increased from year to year as well as the target set by the government which always increases every year. Only in 2013 tax revenues in Indonesia decreased by around 1%, from Rp543,847 billion in 2014 to Rp537,968 billion. This tax revenue consists of income tax (PPh), value added tax and sales tax on luxury goods (PPN and PPnBM), land and building tax (PBB), and stamp duty. In general, the increase in tax revenue during this period was mainly driven by an increase in macroeconomic growth that is getting better as can be seen from gross domestic product, exports, imports, and other macro variables.

4.2 Partial Test (t Test) Results

Table 1. Partial Test (t Test) Results

Variable	**Prob.**	**Information**
DX_1 (Gross Domestic Product)	0.0053	Significant
DX_2 (Interest Rate)	0.0058	Significant

The results show that gross domestic product has significant effect on tax revenue in Indonesia. The results of this study are supported by previous research by Kusmono (2011) and Muhajir (2012) where gross domestic product has significant effect on tax revenue.

Interest rate has significant effect on tax revenue in Indonesia. The results of this study are supported by previous research by Kusmono (2011) where interest rate has significant effect on tax revenue.

4.3 Simultaneous Test (F Test) Results

Table 2. F Prob. Coefficient

Prob (F-Statistic)	**Information**
0.000001	Significant

The F test was carried out to test whether gross domestic product and interest rate together or simultaneously have significant effect on tax revenue in Indonesia.

Based on the above analysis, value of F prob. 0.000001 < 0.05 level of confidence (α). Thus, Ho is rejected and Ha is accepted. This shows that gross domestic product and interest rate simultaneously have significant effect on tax revenue in Indonesia.

V. Conclusion

The results show that gross domestic product has significant effect on tax revenue in Indonesia. Interest rate has significant effect on tax revenue in Indonesia.

As a follow-up activity, based on the conclusions above, the suggestions that can be submitted in this research are as follows:

1. It is recommended to the government, especially the Director General of Taxes, in terms of collecting taxes, to carry out extensification and intensification through law enforcement, such as by examining taxpayers and collecting taxes.
2. It is recommended to the Government, in this case represented by Bank Indonesia in order to maintain a stable inflation rate and interest rate with monetary policy, so as to increase people's purchasing power which is expected to have a positive impact on consumption and investment activities in line with the consideration of favorable macroeconomic conditions contribute in increasing tax revenue.
3. It is recommended to other researchers who want to do similar research to add other variables that are not included in this study such as customs and excise.

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