

# Different Types of Taxes on Economic Growth in China

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**Abstract:** This study explores the relationship between taxes and economic growth in China. In addition, this paper further examines the impact of different taxes on economic growth. Multiple regression model was used into the study, according to the time series data which are from 1985 to 2016, the results show that: first, there is a positive correlation relationship between tax and economic growth.; second, VAT, BT can impact on GDP significantly, while, TARIFF, CIT would not significantly impact on GDP.

**Keywords:** taxes, economic growth, VAT, CIT, BT, TARIFF

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## 1. Introduction

The research on the influence of economic growth has attracted the attention of many scholars all over the world. There are many factors that can affect economic growth. Such as inflation, money supply, taxes, personal income, However, in recent years, there have been many interesting articles describing the effects of other factors on GDP from different perspectives, some of the scholars studied the educational factors can impact the economic growth in regions of China (Lv et al., 2015). What is more, scholars conducted research between the fiscal deficit and economic growth in Malaysia (Bhari et al., 2020). As a developing country with the largest population in the world, China is developing its economy rapidly. Therefore, it is very necessary to study the factors that affect China's economic growth. When it comes to fiscal revenue, the composition of fiscal revenue includes taxation, income from state-owned assets, fee income and other income. In China, taxation accounts for almost 90% of the total income. Therefore, taxation is of great significance to fiscal revenue. China, as a developing country, has witnessed rapid economic growth in the past 20 years. By the end of 2029, China's total GDP had ranked directly the second (China Statistical Yearbook 2019). In view of China's national conditions, GDP will continue to rise in the future, so reasonable control of tax revenue is particularly important.

Tax revenue is the most important form and source of public finance of a country. The essence of taxation is a special distribution relationship formed by the state's participation in national income distribution by virtue of public power and in accordance with the standards and procedures prescribed by law to meet the public needs of the society and the compulsory acquisition of fiscal revenue. Taxation mainly has the following functions: Taxation is one of the important levers for the state to regulate the economy. The state can regulate social production, exchange, distribution, and consumption and promote the healthy development of the social economy through the setting of tax categories and the provisions on tax items, tax rates, addition collection, tax reduction and exemption, the state can also establish some social welfare through taxation (Martin, & Anderson, 2005). Taxation has the function of supervising economic activities. Secondly, the country in the process of tax collection, on the one hand to find out the situation, the correct calculation and tax collection; On the other hand, we can find the problems existing in the process of production and operation, or in the process of tax payment. The state tax authorities may take measures to rectify the problems discovered during tax collection or may notify the taxpayer or the relevant government department to solve them in time. However, at the same time, the ratio and range of taxation should be strictly formulated. On the one hand, excessive taxation will increase people's living burden and lower people's living standard; on the other hand, too low taxation will cause the government not to get enough money for social welfare, which is also bad for the economy.

The tax system is mainly divided into two categories: one is direct tax, and the other is indirect tax. Direct tax refers to the tax that cannot be transferred to the taxpayer but is directly borne by the taxpayer, like head tax, income tax, land use tax, property tax, etc. Taxation is based on whether the tax burden can be passed on. Indirect tax refers to the tax burden that taxpayers can pass on to others. Such as consumption tax, value added tax, tariff and so on. Indirect taxes are usually passed on by raising the price of goods or services and ultimately borne by consumers. (Simarankir & Nakamura, 2010). China's tax system is also constantly reformed to better adapt to the requirements of The Times. China has carried out two major tax reform in history, one in 1996 and the other in 2018. So far, China's tax (direct tax and indirect tax) has accounted for about

90 percent of China's fiscal revenue. Therefore, it is of great significance to study the influence of direct tax and indirect tax on economic growth. According to many former studies, I found that people have different opinions on the impact of tax on economic growth (I will further elaborate on the specific content in Literature Review). Therefore, this paper takes China as an example to explore not only the impact of tax on China's economy, but also the impact of different tax on China's economy. This paper puts forward the following questions.

What is the relationship between tax and economic growth for China?

What are the effects of each tax on the growth of the Chinese economy?

The rest of article will be organized as follows: in second part we will review some previous research about related topic, when it comes to third part, we will emphasis the methodology, as for the fourth part, we will conduct empirical analysis based on research methods and data and discuss the results. Finally, we will make a conclusion in the last paragraph.

## 2. Literature review

The slope of Literature Review mainly reviewed some previous on the impact of taxes on economic growth, and the impact of direct and indirect taxes on economic growth, most of the references in this section come from the economic field, with a few coming from other fields.

This Literature Review is a mixed literature review, in order to better study the relationship between economic growth and taxation, I conducted a lot of empirical research and found that there is a considerable controversy among the impact of Taxation on economic growth. On the one hand, some studies indicate that the Taxation has a positive effect on economic growth (Kalaš et al., 2017), (Jelena et al., 2018), (Gashi et al.,). Specifically, Kalaš et al. (2017) Using heteroscedasticity, autocorrelation, multicollinearity and normalization methods, the author concludes that corporate income tax is positively correlated with economic growth. When it comes to several countries, Jelena et al. (2018) emphasis that the results of an econometrics study of 35 OECD countries confirm the hypothesis of previous scholars that there is a strong positive correlation between tax revenues and economic growth. With respect to the area in Kosovo, the scholars conducted research based on Multiple linear regression model, and result shows that there is highly correlation between economic growth and taxes. (Gashi et al. 2018)

On the other hand, Munir and Sultan (2016), Saibu (2015) as well as Nantob (2014) criticized the negative relationship between taxes and economic growth. Specifically, Keho (2010) uses a simple time series data to study the impact of tax revenue and economic growth in Pakistan. The results show that tax revenue has a negative impact on the economy in the short term. Similarly, another study conducted in Nigeria and South Africa show that there is a negative relationship between economic growth and taxes (Saibu, 2015). Nantob (2014) conducted research among developing countries, which show that the taxes have negative impact on the economic growth.

In addition, some scholars argue that taxes are good or bad for the economy depending on how they are used. Helms (1985) in this paper, emphasis that if the taxation is used for the construction of national education and infrastructure, then the taxation is positive, and the opposite is negative. Some scholars argue that the effect of taxes on the economy should depend on the type of tax, one of the scholars conducted the research in Europe developing countries, the result show that Different tax types have different impacts on GDP. Individual income tax has a negative impact on economic growth, while value-added tax has a positive impact on economic growth (Maganya, 2020).

When it comes to direct taxes and indirect taxes, different studies show different results toward that. Some scholars think that the government should pay more attention to direct tax, some scholars argue that direct can have positive impact on economic growth (Đurović et al., 2019), (Stoilova & Patonov, 2013) and (Ahmad & Sial, 2016). Specifically, Đurović et al., (2019) argue that most direct taxes have a positive impact on economic development, while some direct taxes, such as property tax, have a negative impact on economic growth. In addition, another author surveyed the EU countries, the results show that the tax system for the country's economic growth has a positive influence, also direct tax has the advantage of better than indirect taxes, because indirect taxation is not having their own delivery tax himself, instead of by other agencies or subject to deliver, hard to avoid can appear alleged unfair phenomenon (Stoilova & Patonov, 2013). When it comes to the research in Pakistan, Ahmad and Sial (2016) argue that indirect tax has a negative impact on economic growth. Therefore, Pakistan should adjust the tax collection organization and increase the proportion of direct tax.

While some scholars stick those indirect taxes can have positive impact on economic growth (Owino, 2018) (Hakim, 2020) (Mihael, 2018). Specifically, Hakim (2020) uses Method of Moments (GMM) Estimation to conduct research, and the research results show that direct tax has a negative impact on economic growth, while indirect tax has a slight but not significant impact on economic growth. (Owino, 2018) T used regression analysis, and the result showed that indirect tax had not only a positive relationship with the economic growth of Kenya, but also a causal relationship between the two.

Therefore, it was suggested that the country should pay more indirect tax. Similarly, the study was conducted in Romania by using VAR model, the results shows that Indirect taxes have a positive effect on medium-term development. (Michael, 2018)

After reviewing previous research, we found that the research gaps are that many people have studied the impact of direct tax or indirect tax on GDP, while few have studied the correlation between different kinds of taxes and GDP, therefore, this is what we will do in the following part.

### 3. Methodology

#### 3.1 Theoretical framework and empirical framework

This article aims to explore the relationship between different taxes and economic growth. Based on research questions, we use Ordinary Least-Square method to analyze the impact of different taxes on economic growth of China during the period of 1985-2016. Time series data were used in the study. The data is secondary data, which is from China Statistical Yearbook. Based on the above information we build the regression model, where the independent variable is VAT, Business Tax, Tariff, Corporate Income Tax and the dependent variable is GDP.

$$GDP = f(VAT, BT, CIT, TARIFF)$$

Where, GDP means that gross domestic product, VAT is value added tax, BT is the business tax, CIT is the corporate income tax, Tariff is the tariff.

The model is expressed as follows:

$$\ln GDP = \beta_1 + \beta_2 \ln VAT + \beta_3 \ln BT + \beta_4 \ln CIT + \beta_5 \ln TARIFF + u$$

Where  $\beta_1$  is regression constant.  $\beta_2, \beta_3, \beta_4, \beta_5$  are the coefficients, which stand measure the effects of each variable on GDP, while  $u$  is the error term.

#### 3.2 Data source

The data in this study came from China Statistical Yearbook, which is secondary and time series data. After we collected data, we integrated the data into Excel, and then used the EViews to get basic empirical results.

#### 3.3 Mathematic statistic and method

Stata software was used to get more detailed result. When it comes to method, Multiple Regression OLS model was implemented into the model.

### 4. Research result and analysis

Table1 indicates that value added taxes can have significantly positive impact on the GDP, specifically, one percent increasing in VAT, can lead to 0.509 percent increase in GDP. What's more, when it comes to business, it is similar to previous result, BT can have significantly impact on the GDP. Specifically, one percent increasing in VAT can lead to 0.340 percent increase in GDP.

But when it comes to tariff tax and corporate income tax (CIT), The result seems quite different to previous results, Tariff doesn't have significantly positive impact on the GDP, what's more, Tariff has slight negative impact on the GDP. CIT doesn't have significantly impact on the GDP.

These results are very interesting but quite logical. Generally, higher taxes means that there is higher consumption, The reason why the increase of VAT has positive correlation with economic growth is that the increasing of VAT is resulted from the increasing of people's consumption, which indicates that the economy is booming currently. Similar to VAT, BT refers to Business TAX, this taxes mainly charged to companies. It is easy to understand why higher BT has positive correlation with higher economic growth. The logic behind that is when economy is good, companies are busy in production, in order to make more profit, they hire more workers to produce, which leads to more sales and higher taxes. So, sales taxes go up along with the increase of GDP. When it comes to tariff, it is full of controversy, because on the one hand, some of the scholars argue that tariff can have positive impact on the Economic growth (Schularick & Solomou, 2011). On the other hand, some of the scholars also argue that tariff can have negative impact on the economic growth (Chaudhry, 2011). In our research, our result indicates that tariff does not have significant impact on the economic growth. We can only say that they have quite slight correlation. So, our result is quite different from previous findings.

## 5. Conclusion and recommendations

### 5.1 Conclusion

According to the results in the previous sector, we can conclude that our result differs from the previous scholar's finding. First of all, although there is great controversy about the taxes impact on the economic growth, according to the situation in China, we can easily conclude that the relationship between taxes and economic growth is positive. When it comes to different taxes on GDP, previous scholars talk about the direct taxes is a better choice for the GDP. (Đurović et al., 2019), (Stoilova & Patonov, 2013), while some argue that indirect taxes may positively impact on the GDP. (Owino, 2018) (Hakim, 2020) (Mihael, 2018). However, our conclusion is neither the former nor the latter. The impact of tax on economic growth should be analyzed from different types of tax, instead of unilaterally classifying direct tax or indirect tax. Although VAT, BT and TARIFF all are indirect taxes. Only VAT and BT have significant correlation with economic growth, while the Tariff does not., However, it cannot be concluded that the elasticity between indirect tax and GDP is definitely to be big or small. Similarity, Although, the CIT belongs to direct tax, its elasticity between GDP is not big. The type of direct taxes in China are changing all the time, it's challenging to identify the impact of all direct taxes on GDP.

### 5.2 Recommendations

Therefore, according to the last paragraph, we propose following suggestions. First of all, the Chinese government should strengthen the management of value added tax, business tax, for example, during the covid-19, the Governments can lower market interest rate or lower savings rate to boost consumer spending. After governments do so, consumer will find it is not worthy to put money into the bank, because the interest rate is too low, therefore, they will use the money to invest or increasing their consumption.

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## Appendix

**Table 1. OLS regression result for taxes and GDP growth**

	(1)
	m1
VARIABLES	LNGDP
LnVAT	0.509*** (0.0552)
LnBT	0.340*** (0.101)
LnTariff	-0.0278 (0.0759)
LnCIT	0.0428 (0.0604)
Constant	4.511*** (0.0847)
Observations	32
R-squared	0.997