



Conceptual Paper

The Role of Tax on Economic Growth

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ABSTRACT

The purpose of the study is to identify the role and impact of tax in economic growth. This research has used 27 selected Asian countries for 5 year time period (panel data). The relationship between the dependent variables (GDP per capita and FDI rate) and independent variables (individual income tax, corporate tax, and consumption tax) was investigated in order to identify the role of tax in economic growth. Descriptive analysis and regression analysis will be adopted to analyze the data.

Key words: Taxation, Economic growth

1. INTRODUCTION

The purpose of this study is to investigate the role and impact of tax on economic development in Asia. There are numerous researches which have been done on tax and economic growth in developed and developing countries. However, there are several studies of this topic which have been done in Asian countries. The purpose of the study is to identify the role of tax in economic growth.

Tax is a one of the popular topic in economics. Tax as we know is a main source of government revenue and the collection of the tax will be used by government for development purposes

(Edame & Okoi, 2014). Tax system is the combination of the tax policy and tax administration which is the central of the successful implication fiscal policy and the overall management of the public sector. According to Martinez-Vazquez, (2011), if the tax revenue is less, the government will have difficulties to spend in critical areas for economic growth and also for the development of the country.

Among the issues often discussed on the role of tax as a source of finance government spending. Taxes were collected through the income tax of the companies, individuals and also through goods and services. Through the collection of taxes, the tax revenue would be used for development purposes. Researchers see the design of the tax as one way to increase the resources in a way that is done the administrative and political as well as promote equity and efficiency as far as possible. However, the tax is seen as a burden to society so that some people who fled from their obligation to pay taxes. In terms of goods and services, tax is seen as a cause of the increasing in prices value.

Most of the previous research only used GDP per capita as they dependent variable in order to see the relationship with the tax. In this research, not only GDP per capita but also FDI rate was adopted to this research as dependent variable to see the relationship between tax and economic growth. Thus, this will fulfil the gap for this research.

To achieve the aim of this study the following objectives are formulated:

- ✓ To identify the impact of corporate tax on GDP per capita and FDI rate.
- ✓ To identify the impact of income tax on GDP per capita and FDI rate.
- ✓ To identify the impact of consumption tax on GDP per capita and FDI rate.

2. LITERATURE REVIEW

Organization for Economic Co-operation and Development (OECD), define tax as a payment which must be paid by people to the government. Moreover, Federal Minister of Finance said that tax is not paid voluntarily or donations, but it is a contribution that is enforced by the government are compulsory, exacted pursuant to legislative authority funds whatever contribution imposed by the government to the people, whether under the name of duties, taxes, customs levy or the like. James and Nobes (1997) also provide a definition of tax by saying that the tax is a levy to be paid by a person who was introduced by the public authorities where the payer does not receive anything directly in return.

2.1 Review of Related Theory

There are various theory and framework that were used and being discussed by various researchers to see the relationship between tax and economic growth. In this study there are four theory that will be using which is optimal taxation theory, endogenous growth theory, exogenous growth theory and also Laffer curve.

Optimal tax theory or the theory of optimal taxation is the study of designing and implementing a tax that reduces inefficiency and distortion in the market under given economic constraints (Slemrod, 1990).The standard theory of optimal taxation is pointed out that the tax should be chosen to maximize a social welfare function subject to a set of constraints (Mankiw *et al.*, 2009).Moreover, the design of the optimal tax theory is to know how to increase the number of result from a heterogeneous population using socially optimal way when the first best outcome is not feasible. Plus, among the other economist, the term 'optimal taxation' has come to acquire a meaning which is not obvious to economists who have not been following modern developments in public finance and welfare economics (Sandmo, 1976).

Moreover, the other theory is endogenous growth theory. Endogenous growth was embraces a diverse body of theoretical and empirical work that emerged in the 1980s (Romer, 1994). This

theory was predicted that the government expenditure and tax will have both temporary and permanent impact to economic growth (Barro, 1990). The discussion by Barro (1990) and Raja and Rebelo (1990), said that tax will make market distortion and the productive expenditure will give an impact to long-term growth rate.

Exogenous growth rate is also known as neoclassical theory. This theory is the opposite of the endogenous growth theory which also known as the new growth theory. Solow model is a theory of exogenous and the pioneer of this theory is Robert Solow (1956). According to Solow (1956), the fiscal policy was not give any impact to the long term economic growth, but it assumes that it was caused by the main factor of production such as labour and technological progress are determined outside the modal (Petru-Ovidiu, 2015).

The last theory is Laffer curve. The Laffer curve is one of the main theoretical constructs of supply-side economics, and it is often used as to sum up the entire pro-growth world view of supply-side economics. The Laffer curve illustrates the basic idea stating that changes in tax rates have two effects on tax revenues which is the arithmetic effect and the economic effect (Laffer, 2004). This theory also shows the relationship between tax rates and tax revenue collected by governments. Busato and Chiarini (2009) they have published a Laffer curve for income and corporate taxation in the sector shadow economy in addition to finding a strong effect of the shadow economy to the level of taxation.

2.2 Empirical Researches

Furceri and Karras (2009) researched to investigate the effects of changes of taxes on economic growth by using an annual data from 1965 to 2007 for panel of twenty-six economies. The main variable of this study is growth and the growth rate of real GDP per capita. This study also uses other variables such as tax rate and income tax. The finding show that the effect of an increasing in tax on real GDP per capita is negative and persistent where an increasing in the total tax rate which measures as the total tax ratio to GDP by 2% of GDP has a long-run effect on real GDP per capita of -0.5% to -1%. Besides, their findings also imply that the increase in social security contributions or taxes on goods and services has a large negative effect on per capita output than the increase in the income tax.

Jing Xing (2011) conducted a study to identify whether the tax structure affects economic growth by showing empirical evidence from OECD countries. This study estimates the effect of changes in the structure of tax revenue neutral to the level of income per capita in the long run by using panel data for 17 OECD countries over the period 1970 to 2004. In contrast to studies done before, they did not find solid footing for the different types tax terms' impact on growth. They also do not have clear evidence to explain the consumption tax on income tax or personal income tax demand on corporate personal tax. The only robust result appears to be that shifts in tax revenue towards property taxes are associated with a higher level of income per capita in the long run. This study used physical capital, human capital, population growth, tax revenue (GDP), personal income tax, corporate income tax, consumption tax and property tax as the variables. Based on the findings of the research, it shows that the shifts in the total tax revenue towards the property taxes may be associated with a higher steady-state level of the income per capita. In addition this result also remains robust after the authors used different sample, different regressors and different specification of the time effects. The result also find that there is no strong evidence for favouring the personal income tax over the corporate income tax or for the favouring the consumption tax over income tax (Jing Xing, 2011).

Veronika B. and Lenka J. (2012) conduct a research about taxation of corporations and their impact on economic growth: the case of EU countries. The aim of this research is to verify the expected negative relationship between corporate taxation and long-term economic growth. This research use a sample which consist of 27 EU members countries for the period 1998 to 2010. The data collection are based on secondary research and quantitative and this research represent an annual time series. The data were get from statistical database of Eurostat, Penn World Table provides time series representing the share of investment, Devereux et al. (2011)

provides effective tax rates. This research analysed based on the neoclassical growth model extended with human capital. The variable which was used in this study are gross real domestic product per capita, capital accumulation, population, human capital, tax quota separated for corporate income tax, implicit tax rate on capital, effective tax rate (EATR) and (EMTR). The findings show that the new EU member countries was not given clear results but the old EU member countries show that there are negative relationship between corporate tax burden and long-term economic growth.

P.O. Ibadin (2015) makes a study to examined indirect taxes and economic growth in Nigeria. This study using time series data within 34 years starting from 1981 to 2014. Data collected through secondary sources and then will be analysed and tested for unit roots using the Augmented Dickey-Fuller test. The main unit will usually be tested at each stage and found not to move while other variables such as value-added tax (VAT), petroleum tax profit (PPT), and custom and excise duty (CED) except gross domestic product (RGDP) does not move on the second difference shows the long-term relationship. Therefore, the study using Error Correction Model to assess the impact of VAT, PPT and CED of RGDP. Results of the study found that the VAT and PPT showed positive and significant correlation to RGDP. In addition, the study also found that in two periods CED has a positive relationship with RGDP while VAT of two-period showed negative relationship but have a significant relationship with RGDP. Ibadin (2015), said that the effectiveness and efficiency of administration and collection of taxes by government need to improve and an overhaul of the government agencies responsible for overseeing the oil operation.

W. G. Gale, A. Krupkin, and K. Rueben (2015) makes a study about the relationship between taxes and growth at the state level. This study was used 1977 to 2011 data to measure the business activity. The variable which was using in this study are personal income per capita, employment population ratio, the amount of total state and local tax revenue, statutory marginal personal income tax rate, adjusted marginal personal income tax rate (SADJ), and unemployment rate. The findings show inconsistent with the view that cuts in top state income tax rates will automatically or necessarily generate growth. The result also show that marginal tax rates generally have no impact on employment and statistically significant, but economically small, effects on the rate of firm formation.

Authors	Theory	Measure/Variable
Macek, R. and Janků, J., (2015). The impact of fiscal policy on economic growth depending on institutional conditions.	Empirical	<ul style="list-style-type: none"> - GDP per capita (PPP) - Initial value of GDP per resident - Human capital - Total government spending - Real investment to GDP - Tax [Income tax, corporate income tax, social security contribution, property tax, V.A.T, other consumption tax]
Nantob, N.Y., (2014). Taxation and Economic Growth: An Empirical Analysis on Dynamic Panel Data of WAEMU Countries.	Empirical	<ul style="list-style-type: none"> - GDP per capita - Income tax - Initial income per capita - public expenditure - private investment - Dependence ratio - Openness trade - Labour force growth rate - National saving - Inflation
Macek R., (2014), The Impact of Taxation on Economic Growth: Case	Empirical	<ul style="list-style-type: none"> - Human Capital - Technology - Capital accumulation and

Study of OECD Countries.		investment
Widmalm, F. (2001). Tax Structure and Growth: Are Some Taxes Better Than Others?	Empirical	<ul style="list-style-type: none"> - RGDP - corporate income tax - personal income tax - property tax - goods and service tax - taxes on wages - real progressivity
Gordon, R.H. and Li, W., (2002). Taxation and economic growth in China.	Empirical	<ul style="list-style-type: none"> - GDP per capita - Corporate tax rate - Individual tax rate - Population Growth rate - Inflation rate - School enrolment rates
Bosman, W., (2010). Re-examining the effects of tax policy on economic growth (Doctoral dissertation, Massey University).	Empirical	<ul style="list-style-type: none"> - GDP per capita - Trade openness - Government spending - Investment % GDP - Inflation % GDP deflator - population growth rate - FDI rate - Debt % - Corporate tax rate - Personal tax rate
Dahlby, E.F.B., (2012). The impact of tax cuts on economic growth: Evidence from the Canadian provinces.	Empirical	<ul style="list-style-type: none"> - GDP Per capita - Corporate tax - Personal tax rate - Sales tax rate - Private investment - Government consumption to GDP ratio
Najid Ahmad, Arslan Ahmad, and Kausar Yasmeen (2013), The Impact of Tax on Economic Growth of Pakistan: An ARDL Approach	Empirical	<ul style="list-style-type: none"> - GDP - Taxes, exchange rate - Life expectancy - Trade liberalization
D. Stoilova and N. Patonov, (2012), An empirical evidence for the impact of taxation on economy growth in the European Union.	Empirical	<ul style="list-style-type: none"> - GDP per capita - Taxes on land, buildings and other structures - Total budget spending - Tax on income - Actual social contribution - Taxes on production and imports - V.A.T - Total receipts from taxes and social contributions
Shahzad Ahmad, Dr. Nisar Ahmad and Dr Maqbool H.Sial, (2016), Taxes and economic growth: An empirical of Pakistan	Empirical	<ul style="list-style-type: none"> - Real GDP per capita - Total Tax Revenue - Human Capital - Imports

This research use GDP per capita and FDI rate as dependent variable while the individual income tax, corporate tax and consumption tax is dependent variable. This variable also used by other previous researchers before such as Trela and Whalley, (1992), Engen and Skinner,

(1996), Gordon and Li, (2002), Stoilova and Patonov, (2012), Veronika and Lenka, (2012), Nantob, (2014), and Hunady & Orviska, (2015).

H1: income tax has positive significant impact on GDP per capita and FDI rate.

Income tax is the fee that has been charged by the government to individuals and companies for government expenditure. There is a negative relationship between income tax and economic growth. The income tax affects the economy long-term and short-term as well, when a higher income tax may reduce the balance of long-term use and share capital, but has no impact on work effort (Wu and Zhang, 2000). In term of FDI, there are relatively less literature to say about the impact of taxes other than corporate tax, even though, in theory, all kinds of taxes have the potential to reduce FDI (Desai et al., 2004). For example, personal income taxes rates are high which may partly reflect higher pre-tax salary, thus in turn promotes FDI if labour and capital are complementary (Desai et al., 2004).

H2: Corporate tax have positive significant impact on GDP per capita and FDI rate.

Corporate income tax can lowers the return on innovations and reduces the amount spent on research and development which impact growth negatively. In addition, corporate taxation discourages investments both domestically and internationally by reducing foreign direct investment, and hence hampers economic growth (Dackehag and Hansson, 2012.). In terms of statutory tax rate and the depreciation allowance, corporate tax can result a fall in the investment and production growth (McBride, 2012).

H3: Consumption tax have positive significant impact on GDP per capita and FDI rate.

According to William Gale, a consumption tax also is a tax that basically applies to the public when they spend money. It is also known as indirect tax which is the opposite of direct taxes and collected from the income of a person (Eleniewski et al., 2015). Moreover, Goods and Services Tax (GST) which also known as Value Added Tax (VAT) is an inclusive consumption tax and it became a mechanism of governments around the world to raise revenue in addition to address the problem of the budget deficit (Abdullah et al., 2013).

2.3 Conceptual framework

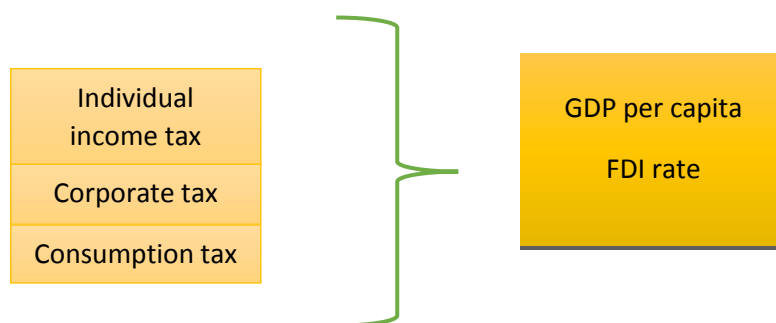


Figure 1: conceptual framework

3. METHODOLOGY

The sample selected for this study is 27 countries from Asia by convenience sampling technique and 5 years data will be extracted for each country (2011-2015) in order to examine the Relationship of the tax and economic growth. The data will be collected based on GDP per capita, FDI rate, corporate tax, individual income tax and consumption tax. The accessibility of data of the selected countries would be extracted from the information that has been published in the World Bank official websites. E-Views software is adopted to analyze descriptive correlation and regression analysis.

4. Conclusion

Research on this topic has always been seen as an important issue for corporate and even government. Numerous channels were identified through which taxation can affect growth. The size of the growth rate effect depends just about equally on the structure of the model and on parameter values within the model. Although, recent empirical studies suggest that a ranking of different types of taxes in terms of their effects on the level of per capita income in the long run, the findings presented in this chapter cast doubt on the robustness of this empirical result.

Finally, in light of growing popular demand for more inclusive growth, which benefits the broadest possible swathes of the Asian population, Asian government must explore ways to leverage fiscal policy for inclusive growth. That is, while sustaining growth is a key objective of fiscal policy, making sustained growth more inclusive should be an important additional consideration.

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