JOURNAL OF SECURITY AND SUSTAINABILITY ISSUES
ISSN 2029-7017 print/ISSN 2029-7025 online
2020 June Volume 9 Number 4
http://doi.org/10.9770/jssi.2020.9.4(5)

Scopus®

INTERRELATION OF TAX STRUCTURE AND ECONOMIC GROWTH: A CASE STUDY

My-Linh Thi Nguyen[1], Dinh Tran Ngoc Huy[2], Nga Phan Thi Hang[3], Toan Ngoc Bui[4], Hang Xuan Tran[5]

[1,5]University of Finance – Marketing (UFM), Ho Chi Minh City, 700000, Vietnam
[2]Banking University of Ho Chi Minh City, Vietnam - International Unievrsity of Japan, Japan
[4]Industrial University of Ho Chi Minh City (IUH), Ho Chi Minh City 700000, Vietnam

E-mails: [1]ntmylinh@ufm.edu.vn; [2]dtnhuy2010@gmail.com; [3]phannga@ufm.edu.vn; [4]buingoctoan@iuh.edu.vn; [5]xuanhangufm@gmail.com

Received 16 October 2019; accepted 25 March 2020; published 30 June 2020

Abstract. The paper aims to test the impact of tax structure on economic growth in the localities of Vietnam. In the paper, it is assumed, that tax structure is measured through the annual growth rate of tax revenue of 63 provinces and cities of Vietnam in terms of three groups: consumption tax (CT), income tax (IT), and property tax (PT) during the period of 11 years from 2007 to 2017; the research data was collected from the General Department of Taxation of Vietnam. Economic growth is a dependent variable, represented by the annual growth rate of the gross domestic product of each locality with the data source from the General Statistics Office of Vietnam. With the regression analysis according to the GMM method, the research results showed that consumption tax (CT) and income tax (IT) had a positive impact on economic growth in the localities of Vietnam, and property tax (PT) was not statistically significant. In addition, the study has achieved great success by identifying the consumption tax components that had significantly positive impacts on economic growth (GDP), namely export and import taxes (CT1), value added tax (CT2); meanwhile, excise tax (CT3) had a negative effect on economic growth (GDP). For income tax, personal income tax (IT2) also had a positive effect on economic growth (GDP). The research results are the first empirical evidence in Vietnam on the impact of the tax structure on economic growth in the localities, which is important for the Government of Vietnam to have a basis to manage tax policies in order to stimulate economic growth in a sustainable manner.

Keywords: structure; consumption tax; income tax; property tax; economic growth

Reference to this paper should be made as follows: Nguyen, M.-L.T., Huy, D.T.N, Hang, N.P.T, Bui, T.N., Tran, H.X. 2020. Interrelation of tax structure and economic growth: a case study**,** *Journal of Security and Sustainability Issues*, 9(3), 1177-1188. http://doi.org/10.9770/jssi.2020.9.4(5)

JEL Classifications: G00, G30

1. Introduction

Economic growth has always been the most important macroeconomic target of the governments. Todaro & Smith (2015) have stated that economic growth is a stable process by which the productive capacity of the economy increases over time to bring about an increase in national output and income. Despite achieving high economic growth over the past two decades, the majority of the developing countries, including Vietnam, have not caught up with average income levels compared to developed countries. Therefore, in order to accelerate the rates of economic growth and development, the completion of economic and financial policies with a focus on tax policy is always an important task of each nation. The tax policy is set not only to bring revenues for the budget but also to fulfill a higher requirement of contributing to implementing the function of inventorying, controlling, instructing, managing and encouraging production development as well as expanding circulation for all economic sectors under the development orientation of the governments. In most countries around the world, the governments have a desire to both increase tax revenue and upsurge economic growth. In addition, Arnold

et al. (2011) have considered that designing tax policies to both achieve the goal of promoting the recovery of the economy in the short term and create momentum for the growth in the long term is a very challenging task. It is because the recovery of the economy in the short term calls for an increase in the total demand while the growth in the long term involves an increase in the total supply of the economy. This requires nations to design appropriate tax policies to improve production and business efficiency, ensure revenue for the State Budget and guarantee safety in the process of economic integration. A good tax policy is a good tax structure to attract enterprises and enhance economic development.

A Brief Desription of taxation system in Vietnam:
The tax system in Vietnam consists of the following main taxes: Corporate Income Tax (CIT); Import – Export Duties; Value Added Tax (VAT); Special Sales Tax (excise tax) or (SCT); and Personal Income Tax (PIT).

Explanation of main tax rate structure in Vietnam:

A. The standard CIT rate shall be 25%. Preferential CIT rates of 10% and 20% are available for enterprises investing in geographical areas with socio-economic difficulties, economic zones or hi-tech parks or in encouraged investment sectors for a certain period of time

B. Personal Income tax:
Below is the current progressive tax rate schedule:

Unit: VND1,000,000

Level	Average yearly Income	Average Monthly Income	Rate (%)
1	to 60	To 5	5
2	Over 60 to 120	Over 5 to 10	10
3	Over 120 to 216	Over 10 to 18	15
4	Over 216 to 384	Over 18 to 32	20
5	Over 384 to 624	Over 32 to 52	25
6	Over 624 to 960	Over 52 to 80	30
7	Over 960	Over 80	35

C. Export duties
Export is encouraged and thus, almost goods and services being exported are exempt from tax. Export duties are only charged on a few items, basically natural resources such as minerals, forest products and scrap metal. Rates range from 0% - 45%.

D. Import duties
Import tax is regulated to have 3 Levels: preferential tax rates, ordinary tax rates and special preferential tax rates applied in different cases depending on the degree of relationship trade between Vietnam and other countries, facilitating negotiations on taxes and compliance in accordance with the international regulations that our country committed to implement. According to ministry documents trade, Vietnam has now had agreement on preferential treatment of special interest Trade relations with some regional countries such as Brunei, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand.

Overall, the tax policy must achieve the goal of promoting economic growth, ensure the revenue and simultaneously guarantee good international integration. In order to achieve these targets, each nation needs to consider many factors in the policy making process. In Vietnam, the tax policy system has been unified from the central to local levels, and has been continuously reformed. Especially, after the 1990s up to the present, Vietnam's tax policy has been quite complete, covering many sources of revenue, ensuring an increasing source of revenue for the State budget, strengthening the economic accounting regime and the equality among economic components, as well as implementing social justice. Simultaneously, many international agreements and commitments on taxation have been carried out. Based on the tax bases, Vietnam's tax system can be divided into 3 groups with the following tax structure: consumption tax including import and export taxes, value added tax, excise tax, and environmental tax; income tax including corporate income tax and personal income tax; and property tax including agricultural land use tax and non-agricultural land use tax. According to Vietnam's Financial Strategy, the Government expects to develop a synchronous, effective, integrative, and sustainable tax policy in order to

ensure the revenue for the State budget. The tax bases are expanded, but the tax fairness and equality among taxpayers have to be ensured. However, in Vietnam, there are many differences in geographic location, natural conditions, population density, and a big difference in the infrastructure of localities. As a result, the economic development in each locality also has its own characteristics. In order to ensure national economic growth, the growth of each locality must be good and sustainable. In order to re-evaluate Vietnam's tax policy system during the past time to have an orientation towards perfection in the coming time, the researchers chose to study the impact of tax structure on economic growth of each locality in Vietnam and thereby assess the suitability of tax policy as well as adjust tax policy in accordance with both uniformity and specific characteristics of each locality to promote economic growth in the new period.

2. Literature Review

The studies of the impact of taxation on economic growth around the world show that the test results of the impact of taxation on economic growth are mixed and inconsistent, which is due to differences in tax structure. Accordingly, instead of examining the data about general taxes, the studies investigated the impact of tax structure or different types of taxes on economic growth (Arnold et al., 2011; Ormaechea, Yoo, 2012; Xing, 2012). Hinrichs (1966) argued that there is no best tax system for all countries or for a specific country over time. During the development process, the tax system in countries has also changed significantly. Therefore, depending on the research objectives, public expenditure components are classified according to different criteria such as taxation methods (direct and indirect taxes); tax bases (income, consumption and property taxes); decentralization of taxation rights (federal, state and local taxes) or the impact of taxes on economic activities (distortionary and non-distortionary taxes).

In the first phase of the studies on this issue, most of the empirical studies examine the impact of fiscal variables such as taxes and public expenditure on economic growth. However, the studies often use only the variable of overall tax revenue. Simultaneously, it is argued that the impact of taxation on economic growth and the issues related to taxes and economic growth is at the core of macroeconomic policies. Some studies by Agell et al. (2006); Easterly and Rebelo (1993) examined the relationship between overall tax revenue (or public expenditure) and economic growth with the data from many countries and different research periods; however, there was no clear consensus about the nature and significance of this relationship. According to Bujang et al. (2013), this was not surprising because the economic impact of taxes created two opposite effects. On the one hand, higher tax rates increased the possibility of distorting the market, thereby negatively affecting economic growth. On the other hand, higher tax rates implied greater public expenditure on the society. In particular, the increased efficiency of some components of public expenditure had positive effects, promoting economic growth (Sasongko et al., 2019; Čizo et al., 2020).

Over time, in order to clarify the impact of taxation on economic growth, a number of studies analyzed the impact of tax structure on economic growth. The discussion on tax structure mainly focused on the difference in the impact of types of taxes on the ability of creating momentum for economic growth (Bujang et al., 2013). However, due to the differences in data size, measurement methods as well as methodologies when researching on this topic, empirical studies have found the conflicting results on the impact of taxation on economic growth. Typically, Skinner (1987), Furceri and Karras (2009), Szarowska (2010), Dahlby and Ferede (2012) have assumed that tax revenue has a negative impact on economic growth. Meanwhile, Tosun and Abizahed (2005), Orcan (2009), Babatundel, Ibukun and Oveyemi (2017) have supposed that this is a positive relationship, stimulating economic growth.

For income tax: Considering the impact of corporate income tax, the study by Dahlby and Ferede (2012) examined the impact of tax rates applied in Canadian provinces on the economic growth of this country during the period 1977-2006. The authors found a negative relationship between corporate income tax and economic growth. High statutory corporate income tax will reduce private investment in the province, thereby leading to slower economic growth. Macek (2014) evaluated the impact of each type of taxes on economic growth by using regression analysis on OECD countries in the period 2000 - 2011. The research results found a negative

relationship between corporate income tax, personal income tax and economic growth. The results showed that corporate income tax had a negative impact on technological innovation as well as the attraction of foreign investment; meanwhile, personal income tax affected investment in human resources, including personal expenditures on laborers' education and work motivation. Similarly, Grdinic (2017) indicated that all types of taxes had a negative effect on economic growth. Personal income tax had the most negative impact on economic growth, followed by corporate income tax and property tax.

For consumption tax: In the studies on this issue, consumption tax components mainly include: export and import taxes, excise tax, value added tax, and the impact of each component of consumption tax on economic growth is taken into consideration. The majority of researchers support the view of levying consumption tax on the group of developing countries. Myles (2009) had many studies on this issue and concluded that the shift from income tax to consumption tax will contribute to economic growth. Stoilova (2017) focused on the impact of tax structure on economic growth in 28 EU member countries during the period 1996-2013. The descriptive analysis emphasized on the differences between countries in total tax burden and tax structure design, and analyzed the impact of taxation on economic growth through regression on aggregate panel data. As a result, tax structure based on selective consumption tax will promote economic growth. Moreover, Szarowska (2010) conducted a study on tax changes and their impact on economic growth in European Union countries. The author used the annual adjusted panel data of 24 European Union countries in the period 1995 - 2008 and the results showed that foreign trade tax, one component of consumption tax, had a negative impact on economic growth.

For property tax: The studies by Barro (1990; 1991), Koester and Kormendi (1989), Plosser (1992), Easterly and Rebelo (1993), Levine and Renelt (1992), Kneller, Bleaney and Gemmell (1999) concluded that property tax had a positive impact on economic growth. Xing (2011) conducted a study to determine whether tax structure affected economic growth by empirical research from OECD countries. This study estimated the impact of changes in tax revenue structure on per capita income in the long term by using data from 17 OECD countries in the period 1970-2004. This paper found no evidence for the impact of different types of taxes on economic growth except for the fact that the impact of changes in tax revenue on property tax resulted in higher per capita income in the long term. This study used physical capital, human capital, population, tax revenue (GDP), personal income tax, corporate income tax, consumption tax and property tax as variables in the model. Based on the findings, the study demonstrated that changes in total tax revenue from property tax might be related to the higher per capita income of the countries in the sample.

Moreover, Gashi et al. (2018) provided results showing that most of the taxes have a positive impact on GDP growth; it is also shown that not all taxes have the same impact on economic growth. Next, Kate and Milionis (2019) found that capital taxation and growth rates tend to be positively related for developed countries, but for developing countries the relationship is in most cases statistically insignificant. Then, Lapatinas et al. (2019) showed that the negative impact of capital taxes on economic sophistication becomes stronger for countries that are more developed. Tanchev and Todorov (2019) showed that the buoyancies of aggregate tax revenue, personal income tax and social security contributions significantly differ from one another in the long-run. The buoyancies of the value-added tax and the corporate tax are above one in the long run. In the short-run the buoyancy of the aggregate tax revenues, the corporate tax, the income tax and the social security contributions are different from one. The short-run buoyancy of VAT exceeds one, hence dynamics of VAT revenues is sustainable.

Last but not least, Hieu (2019) generated results of statistical tests showing that tax has a positive impact on Vietnam's economic growth. However, the effects of direct tax and indirect tax are different. The indirect tax has a positive influence and promote Vietnam's economic growth, while the impact of the direct tax is invisible. Overall, most studies on the impact of tax structure on economic growth suggest that income tax has a negative impact on economic growth, while consumption and property taxes have a positive impact on economic growth.

3. Data and Methodology

3.1. Data Collection

The research data was collected from 63 localities in Vietnam during the period 2007-2017. Among 63 localities, there are 58 provinces and 5 centrally controlled municipalities including Ho Chi Minh City, Can Tho, Da Nang, Hai Phong and Hanoi. The economic growth data of localities was collected from the General Statistics Office of Vietnam (GSO). The tax structure data of localities was collected from the Vietnam General Department of Taxation (GDT).

3.2. Methodology

With the panel data as presented above, the study conducted regression analysis by the Generalized Method of Moment (GMM). The GMM method has great advantages when controlling the autocorrelation between errors and heteroscedasticity (Blundell & Bond, 1998). Simultaneously, this method also solves the potential endogenous phenomenon in the research model (Doytch & Uctum, 2011). The GMM method is also used by some previous studies, such as Bania et al. (2007), Reed (2008). Based on the empirical studies in section 2 and especially the studies by Arnold et al. (2011) and Xing (2012), the multiple regression models on panel data were used to analyze the impact of tax structure on economic growth in the localities of Vietnam. Specifically, the dependent variable is economic growth (GDP) by locality and the independent variable is tax structure by locality, including consumption tax (CT), income tax (IT) and property tax (PT). In particular, consumption tax (CT) includes export and import taxes (CT1), value added tax (CT2), excise tax (CT3), and environmental tax (CT4). Income tax (IT) includes: corporate income tax (IT1) and personal income tax (IT2). Property tax (PT) includes: agricultural land use tax (PT1) and non-agricultural land use tax (PT2). Table 1 shows variables in the model and Table 2 shows descriptive statistics.

$$GDP_{it} = f(CT_{it}, IT_{it}, PT_{it}) \quad \textit{(Model 1)}$$

Table 1. Variables in the Research Model

Variable name	Code	Measurement	Previous studies
Dependent variable			
Economic growth	GDP	Annual growth rate of gross domestic product by locality	Xing (2011), Macek, R. (2014), Stoilova (2017), Grdinic (2017)
Independent variable			
Consumption tax	CT	Annual growth rate of cconsumption tax revenue	Stoilova (2017), Grdinic (2017)
Income tax	IT	Annual growth rate of income tax revenue	Stoilova (2017), Grdinic (2017)
Property tax	PT	Annual growth rate of property tax revenue	Stoilova (2017), Grdinic (2017)

4.1. Descriptive Statistics

Table 2. Descriptive Statistics of Variables

Variable	Obs	Minimum	Mean	Maximum	Standard Deviation (Std. Dev.)
GDP (%)	693	-18.5	15.256	46.99	8.800
CT (%)	693	-61.725	23.938	757.817	50.899
IT (%)	693	-88.760	26.007	1834.885	77.576
PT (%)	693	-91.462	4.801	629.404	38.073

4.2. Empirical Results

The results of correlation analysis show that the variables of consumption tax (CT), income tax (IT) and property tax (PT) are positively correlated with economic growth (GDP) in 63 localities of Vietnam. The VIF test, White's test, and Wooldridge test show that the research model has no autocorrelation phenomenon between errors, and the multicollinearity phenomenon is considered not serious because the VIF is small. However, White's test shows that the research model has heteroscedasticity at the 1% significance level. Therefore, the paper uses the GMM method to analyze the impact of tax structure on economic growth in the localities of Vietnam because the GMM method can control heteroscedasticity (Blundell and Bond, 1998) and the potential endogenous phenomenon in the research model (Doytch and Uctum, 2011). The analysis result of the research model according to GMM method is as follows (see table 3):

Table 3. The Result of the Research Model (Model 1)

Variable	Coefficient	P>|z|
CT	0.197	0.000***
IT	0.003	0.002***
PT	-0.061	0.194
Constant	9.871	0.000***
Significance level	Wald chi2(2) = 33.41 Prob > chi2 = 0.000***	
Number of instruments	17	
Number of groups	63	
Arellano-Bond AR(2) test	Pr > z = 0.786	
Sargan test	Prob > chi2 = 0.302	

Note: *** indicates significance at the 1% level.

After using the GMM method to control the potential endogenous problem and the heteroscedasticity, the research results (Table 3) are as follows:

The research model is statistically significant at the 1% significance level. The Arellano-Bond AR (2) test gave the result of 0.786 (greater than 10%), so the results of the research model were quite good because there was no autocorrelation between errors. The Sargan test gave the result of 0.302 (greater than 10%), which suggests that the instruments are used appropriately.

Overall, consumption tax (CT) and income tax (IT) have a positive impact on economic growth (GDP) at the 1% significance level.

$$GDP_{it} = 9.871 + 0.197\ CT_{it} + 0.003\ IT_{it} + \varepsilon_{it}$$

In other words, consumption tax (CT) and income tax (IT) have the effect of stimulating economic growth in the localities of Vietnam. In particular, economic growth is more affected by consumption tax (CT) than income tax (IT).

Next, the research paper will analyze the impact of consumption tax components and income tax components on economic growth. Thereby, it is possible to identify the impact of each tax component on economic growth in the localities of Vietnam.

The impact of consumption tax components on economic growth:
The research model of the impact of consumption tax components on economic growth in the localities of Vietnam is as follows:

$$GDP_{it} = f(CT1_{it}, CT2_{it}, CT3_{it}, CT4_{it}) \quad (Model\ 2)$$

The results of correlation analysis show that export and import taxes (CT1), and value added taxes (CT2) are positively correlated with economic growth (GDP). Meanwhile, excise taxes (CT3) and environmental taxes (CT4) are negatively correlated with economic growth (GDP). Through the VIF test, White's test, and Wooldridge test, Model 2 has no heteroscedasticity and the multicollinearity phenomenon is considered not serious because the VIF is small. However, Model 2 has autocorrelation between errors at the 1% significance level. The researchers used the GMM method to control the potential endogenous problem and the autocorrelation phenomenon between errors, the result of Model 2 is in table 4 as follows:

Table 4. The Result of the Research Model (Model 2)

Variable	Coefficient	P>|z|
CT1	0.005	0.000***
CT2	0.081	0.007***
CT3	-0.001	0.035**
CT4	-0.019	0.369
Constant	12.719	0.000***
Significance level	Wald chi2(3) = 26.20 Prob > chi2 = 0.000***	
Number of instruments	45	
Number of groups	63	
Arellano-Bond AR(2) test	Pr > z = 0.259	
Sargan test	Prob > chi2 = 0.998	

Note: *** and ** indicate significance at the 1% and 5% level, respectively.

Model 2 is statistically significant at the 1% significance level. The Arellano-Bond AR (2) test gave the result of 0.259 (greater than 10%), so the results of Model 2 are quite good because there is no autocorrelation between errors. The Sargan test gave the result of 0.998 (greater than 10%), which shows that the instruments are used appropriately.

$$GDP_{it} = 12.719 + 0.005\ CT1_{it} + 0.081\ CT2_{it} - 0.001\ CT3_{it} + u_{it}$$

In view of that, import and export taxes (CT1) and value added taxes (CT2) have a positive impact on economic growth (GDP) at the 1% significance level. Meanwhile, excise tax (CT3) has a negative impact on economic growth (GDP) at the 5% significance level.

The impact of income tax components on economic growth:

The research model of the impact of income tax components on economic growth in the localities of Vietnam is as follows:

$$GDP_{it} = f(IT1_{it}, IT2_{it}) \quad (Model\ 3)$$

The results of correlation analysis show that corporate income tax (IT1), and personal income tax (CT2) are positively correlated with economic growth (GDP). Through the VIF test, White's test, and Wooldridge test, Model 3 shows that the multicollinearity phenomenon is considered not serious because the VIF is small. However, Model 3 has heteroscedasticity and autocorrelation between errors at the 1% significance level. The researchers used the GMM method to control the potential endogenous problem, the heteroscedasticity and the autocorrelation phenomenon between errors, the result of Model 3 is in table 5 as follows:

Table 5. The Result of the Research Model (Model 3)

Variable	Coefficient	P>|z|
IT1	0.018	0.826
IT2	0.575	0.000***
Constant	-3.263	0.525
Significance level	Wald chi2(1) = 13.28 Prob > chi2 = 0.001***	
Number of instruments	13	
Number of groups	63	
Arellano-Bond AR(2) test	Pr > z = 0.983	
Sargan test	Prob > chi2 = 0.989	

Note: *** indicates significance at the 1% level.

Model 3 is statistically significant at the 1% significance level. The Arellano-Bond AR (2) test gave the result of 0.983 (greater than 10%), so the results of Model 3 are quite good because there is no autocorrelation between errors. The Sargan test gave the result of 0.989 (greater than 10%), which shows that the instruments are used appropriately.

$$GDP_{it} = 0.575\ IT2_{it} + v_{it}$$

Therefore, personal income tax (IT2) has a positive impact on economic growth (GDP) in the localities of Vietnam. In summary, consumption tax (CT) and income tax (IT) have a positive impact on economic growth in the localities of Vietnam. In particular, economic growth is more affected by consumption tax (CT) than income tax (IT). For consumption tax components, he export and import taxes (CT1) and value added taxes (CT2) play an important role in stimulating economic growth (GDP). Meanwhile, excise tax (CT3) has a negative impact on economic growth (GDP). For income tax, personal income tax (IT2) plays an important role in stimulating economic growth (GDP).

4.3. Discussion

To analyze the impact of tax structure on economic growth in the localities of Vietnam, the study used the GMM method. The research results show that *consumption tax* (CT) has a positive impact on economic growth; accordingly, consumption tax components including export and import taxes, and value added tax, contribute to stimulating economic growth. Nevertheless, excise tax has a negative effect on economic growth. This is consistent with the study by Myles (2009), Stoilova, D. (2017) on the group of developing countries. Consumption tax is quite easy to obtain statistics and arises when there is the consumption of goods or a service. This revenue depends on the scale of production and consumption of the society, so the tax bases are often large, stable and constantly increasing. In fact, in Vietnam, during the period of 2007 - 2017, consumption tax is one of the taxes that contribute greatly to the state budget, along with a steady average growth rate of about 30-34% per annum. Therefore, consumption tax is a large and sustainable source of revenue for the state budget, helping the Government to have a stable income, proactively implementing investment and development activities, providing additional public services, and creating conditions for boosting economic growth. *Income tax* includes personal income tax and corporate income tax, and the research results show that income tax has a positive impact on economic growth. However, in terms of each component of income tax, personal income tax has a positive impact on economic growth, whereas corporate income tax is not statistically significant. These results are consistent with the studies by Ormaechea, Yoo (2012), Furceri and Karras (2009). Although most previous studies, for example, the studies by Skinner (1987), Szarowska (2010), conclude that there is a positive relationship between income tax and economic growth, this is an interesting point that the researchers have discovered. Overall, taxes on the income of individuals as well as legal entities in Vietnam tend to decrease, so people are motivated to work more and contribute more to the budget revenue. The Government has conditions to carry out its spending activities, thereby promoting economic growth. Particularly, personal income tax has a

direct effect on each individual's income, savings and consumption. Low tax rates will lead to more spending, which in turn spurs production. Tax cuts will make consumers feel that they have more money and spend more, which in turn leads to economic growth. Finally, the research results have not found a statistically significant impact of *property tax* on economic growth. These results are supported by the views of Furceri and Karras (2009). This is quite consistent with the reality of Vietnam in recent years, because the contribution of property tax to the total tax revenue has been too low, only with 0.25% of the total tax revenue for the whole research period. The revenue over the years has not a lot of changes because Vietnam has been implementing the policy on tax exemption and reduction for agricultural land use. In addition, low tax rates may be because the taxable price is not close to the market price, not all taxpayers are covered, and the tax bases are not suitable with actual conditions. As a result, in Vietnam, the influence of property tax on economic growth is insignificant.

5. Conclusions and Implications

This paper analyses the data collected from 63 localities in Vietnam in the period 2007-2017. With the regression analysis according to the GMM method, the research results show that consumption tax (CT) and income tax (IT) have a positive impact on economic growth in the localities of Vietnam. In particular, economic growth is affected by consumption tax (CT) more than income tax (IT), which is a new finding compared to previous studies. Simultaneously, the study achieved great success by identifying the significant impact of consumption tax components, including: export and import taxes (CT1), value added tax (CT2), and excise tax (CT3), on economic growth (GDP). In addition, in terms of income tax, personal income tax (IT2) has a positive impact on economic growth (GDP). In view of that, tax structure plays an important role in promoting economic growth in the localities of Vietnam. These research results are the first empirical evidence in Vietnam on the impact of tax structure on economic growth. Therefore, these new findings are of practical value and great significance, especially for local governments and tax authorities in Vietnam in operating tax policies in order to stimulate economic growth. The research results show that Vietnam's tax policy has a positive impact on economic growth. Accordingly, it can be said that the tax policy is quite appropriate in the current period. However, as the authors mentioned above, in Vietnam, the tax structure is too dependent on the revenue from consumption tax. Therefore, the researchers recommend policy orientation in the coming time as follows:

Firstly, change the tax structure towards increasing the proportion of income tax and property tax. Specifically, increase personal income tax, review policies on corporate income tax incentives, and avoid spreading incentives. The consumption tax revenue of about 60% of the total tax revenue in recent years shows that the tax policy is too dependent on consumption tax, because it is quite easy to collect indirect taxes. Consumption tax is a large and stable source of revenue for the state budget, but this is an unfair tax for the poor because the poor are subject to a higher ratio of consumption tax to income than the rich. Thus, direct taxes on the income and properties of taxpayers will be fairer than indirect taxes on consumption because high-income earners and wealthy people will pay more taxes than poor people with low income and few properties. Therefore, the orientation in the coming time is not to reduce revenue for consumption tax, but to increase revenue for income tax and property tax, especially to increase revenue for property tax in order to change the revenue structure.

Secondly, broaden tax bases. In addition to the improvement in tax laws to cover revenues, the tax authorities need to pay more attention to tax administration to avoid losses. For example, the current personal income tax does not cover all sources of income from business individuals and freelancers; personal income tax on real estate is lost; land tax is too low compared to the profitability of the property, only about 0.2% of the total tax revenue; properties of very high value, such as houses, have not been included in the taxable items; and so on.

Thirdly, develop sustainable revenues. Currently, land revenues such as land use fees and land rental still account for a high proportion of the total state budget revenue, about 17% in 2017. These revenues are unsustainable because the State has no land fund for hand-over or for lease. As a result, land revenues will gradually disappear in the near future. Therefore, it is necessary to develop sustainable revenues from production and business. Improving the tax policy in accordance with the socio-economic conditions and the payment ability of taxpayers in each period is considered essential.

Fourthly, up to now, the researchers have not found the statistically significant impact of property tax on Vietnam's economic growth because the current revenue is too low, only taking up 0.25% of the total tax revenue. Accordingly, the researchers propose to form the types of property tax, specifically as follows: including houses in taxable items, taxable prices based on property market values, and setting up a market value system according to the roadmap for tax bases.

References

Agell, J., & Sørensen, P. B. (2006). Tax policy and labor market performance. Mit Press.

Arnold, J.M., Brys, B., Heady, C., Johansson, Å. Schwellnus, C., & Vartia, L. (2011). Tax policy for economic recovery and growth. The Economic Journal, 121(550), F59-F80.

Babatunde A., Ibukun, O. & Oyeyemi, G. 2017. Taxation revenue and economic growth in Africa, journal of accounting and taxation, 9(2), 11-22.

Bania, N., Gray, J. A., & Stone J. A., 2007. Growth, Taxes, and Government Expenditures: Growth Hills for U.S. States. National Tax Journal, 60(2), 193-204.

Barro, R. J. (1990). Government spending in a simple model of endogeneous growth. Journal of political economy, 98(5, Part 2), S103-S125.

Barro, R. J. (1991). Economic growth in a cross section of countries. The quarterly journal of economics, 106(2), 407-443.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. Journal of Econometrics, 87(1), 115-143.

Bujang, I., Hakim, T. A., & Ahmad, I. (2013). Tax structure and economic indicators in developing and high-income OECD countries: Panel cointegration analysis. Procedia Economics and Finance, 7, 164-173.

Čizo, E., Ignatjeva, S., Lavrinenko, O. 2020. Determinants of financial development of the EU countries in the period 1995-2017. Insights into Regional Development, 2(2), 505-522. https://doi.org/10.9770/IRD.2020.2.2(1)

Dackehag, M. and Hansson, A. (2012).Taxation of Income and Economic Growth: An Empirical Analysis of 25 Rich OECD Countries. OECD Department Working Paper No. 20, pp.126.

Dahlby, B., & Ferede, E. (2012). The impact of tax cuts on economic growth: evidence from the Canadian provinces. National Tax Journal, 65(3), 563-594.

Doytch, N., & Uctum, M (2011). Does the worldwide shift of FDI from manufacturing to services accelerate economic growth? A GMM estimation study. Journal of International Money and Finance, 30(3), 410-427.

Easterly, W., & Rebelo, S. (1993). Fiscal policy and economic growth. Journal of Monetary Economics, 32(3), 417-458.

Furceri, D., & Karras, G. (2009). Tax and growth in Europe. South Eastern Europe Journal of Economics, 7, 181-204.

Gashi, B., Asllani, G., & Boqolli, L. (2018). The Effect of Tax Structure in Economic Growth, International Journal of Economics and Business Administration, 6(2), 56-67.

Hieu, H.N. (2019). Impact of Direct Tax and Indirect Tax on Economic Growth in Vietnam. The Journal of Asian Finance, Economics and Business, 6(4), 129-137.

Hinrichs, H.H. (1966). A general theory of tax structure change during economic development. A general theory of tax structure change during economic development. Cambridge, Harvard Law School, 154 pp.

Huy, Dinh T.N., (2013), Estimating Beta of Viet Nam Listed Public Utilities, Natural Gas and Oil Company Groups During and After The Financial Crisis 2007-2011, Economic and Business Review, 15(1), 57-71

Kate, F.t., & Milionis, P. (2019). Is capital taxation always harmful for economic growth?. International Tax and Public Finance, 26, 758-805. https://doi.org/10.1007/s10797-019-09530-3

Kneller, R., Bleaney, M. F., & Gemmell, N. (1999). Fiscal policy and growth: evidence from OECD countries. Journal of Public Economics, 74(2), 171-190.

Koester, R. B., & Kormendi, R. C. (1989). Taxation, aggregate activity and economic growth: cross-country evidence on some supply-side hypotheses. Economic Inquiry, 27(3), 367-386.

Lapatinas A, Kyriakou A, & Garas A (2019). Taxation and economic sophistication: Evidence from OECD countries, PLoS ONE 14(3). https://doi.org/10.1371/journal.pone.0213498

Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. The American economic review, 942-963.

Macek, R. (2014). The impact of taxation on economic growth: case study of OECD countries. Review of economic perspectives, 14(4), 309-328.

Myles, G. D. (2009). Economic growth and the role of taxation-disaggregate data. OECD Economics Department Working Papers 715, OECD Publishing.

Ormaechea, M. S. A., & Yoo, M. J. (2012). Tax composition and growth: A broad cross-country perspective (No. 12-257). International Monetary Fund.

Plosser, C. I. (1992, August). The search for growth. In A Symposium Sponsored By The Federal Reserve Bank Of Kansas City, Policies For Long-Run Economic Growth (pp. 57-86).

Reed W., 2008. The Robust Relationship between Taxes and U.S. State Income Growth. National Tax Journal, 61(1), 57-80.

Sasongko, G., Huruta, A.D., Wardani, A. 2019. Does the Wagner's Law exist in a strategic national area? An evidence from Kedungsepur – Indonesia. Insights into Regional Development, 1(2), 99-117. https://doi.org/10.9770/ird.2019.1.2(2)

Skinner, J.S. (1987). Taxation and output growth: Evidence from African countries. NBER Working Papers 2335, National Bureau of Economic Research, Inc.

Stoilova, D. (2017). Tax structure and economic growth: Evidence from the European Union. Contaduría y Administración, 62(3), 1041-1057.

Szarowska, I. (2010). Changes in taxation and their impact on economic growth in the European Union, Acta Universitatis Agriculturae et Silviculturae Mendeleianae Brunensis, 59(2), 325-332.

Tanchev S., & Todorov I. (2019). Tax Buoyancy and Economic Growth: Empirical Evidence of Bulgaria. Journal of Tax Reform, 5(3), 236-248. https://doi.org/10.15826/jtr.2019.5.3.070

Todaro, M. P., & Smith, S. C. (2015). Economic Development, 12th Ed., Harlow: Pearson.

Tosun S. & Abizadeh S. 2005, Economic growth and tax components: An analysis of tax changes in OECD. Applied Economics, 35(19), 2251-2263.

Xing, J. (2012). Tax structure and growth: How robust is the empirical evidence? Economics Letters, 117(1), 379-382.

My Linh NGUYEN THI
ORCID: https://orcid.org/0000-0001-7475-2502

Dinh Tran Ngoc HUY
ORCID: https://orcid.org/0000-0002-2358-0699

Nga PHAN THI HANG
ORCID: https://orcid.org/0000-0003-1143-2741

Toan Ngoc BUI
ORCID: https://orcid.org/0000-0002-0595-3172

Hang Xuan TRAN
ORCID: https://orcid.org/0000-0002-3226-5797

JOURNAL OF SECURITY AND SUSTAINABILITY ISSUES
ISSN 2029-7017 print/ISSN 2029-7025 online