Journal of Posthumanism
2025
Volume: 5, No: 3, pp. 305–319
ISSN: 2634-3576 (Print) | ISSN 2634-3584 (Online)
posthumanism.co.uk

DOI: https://doi.org/10.63332/joph.v5i3.737

The Impact of Consumption and Tax Revenue on Gross Domestic Investment in Vietnam

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Abstract

This study examines the impact of consumption and tax revenue on domestic investment in Vietnam from 2000 to 2024 by employing a vector error correction model (VECM) to investigate both short- and long-run dynamics. These findings indicate that tax revenue positively influences investment in the long run, implying that an efficient tax system can facilitate capital accumulation and drive economic growth. Conversely, household consumption exerts a significant negative effect on investment, likely due to the crowding-out effect, in which excessive consumption constrains the capital available for productive investment. Furthermore, government expenditure positively contributes to investment, underscoring the crucial role of public spending in fostering private-sector development. However, the study finds no significant short-term effects of tax revenue, household consumption, or public expenditure on investment, suggesting that fiscal policies primarily shape investment trends in the long term. This study fills a critical gap in Vietnamese economic policy research by simultaneously examining the effects of taxation and consumption on investment. The findings underscore the need for tax policy reforms that incentivize investment, prudent public spending management, and regulatory measures to control excessive household consumption and ensure efficient capital allocation. In addition, maintaining macroeconomic stability and enhancing fiscal-monetary policy coordination are essential for improving investment efficiency. These findings offer policymakers practical insights into fostering long-term economic growth.

Keywords: *Taxation, Consumption, Investment, VECM, Fiscal Policy.*

JEL Classigcation Code: E22; E62; H25; H31; C32

Introduction

In the context of the global economy being affected by fiscal policy, especially taxes and consumer spending, analyzing the relationship between consumption, taxes, and investment becomes extremely important. Consumption is one of the main components of aggregate demand and plays a decisive role in output and economic growth (Mankiw, 2021). Simultaneously, taxes are an important policy tool for governments to regulate the economy, directly affecting the investment capacity of businesses and individuals (Barro & Sala-i-Martin, 2004).

According to Keynes (1936), consumption directly impacts output and investment through the multiplier effect. When consumption increases, businesses are motivated to expand their production, leading to increased investments. Conversely, when consumption decreases, investments may decrease, as businesses worry about profit prospects. Some empirical studies also confirm this close relationship; for example, Blanchard and Perotti (2002) demonstrate that a consumption shock can stimulate investment in the short run. In Vietnam, consumption accounts for a large proportion of aggregate demand; therefore, understanding the impact of consumption on investment is very important to adjust appropriate fiscal policies. The GOS

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(2023) report shows that household consumption accounts for more than 68% of the GDP, reflecting the important role of consumption in the economy. Therefore, this study clarifies how consumption affects the investment decisions of businesses and private investors.

Tax is one of the most important tools used by governments to regulate the economy. High tax rates can reduce enterprises' ability to save and invest, whereas preferential tax policies can promote investment (Harberger, 1962). Hall and Jorgenson (1967) also show that tax policies affect the cost of capital, thereby affecting enterprises' investment decisions.

In Vietnam, tax policies are increasingly being adjusted to support investments. According to the MOF (2023), corporate income tax reduction measures have contributed to stimulating foreign direct investment flows. However, there is still much debate on the effectiveness of tax policies on domestic investment. This study clarifies the role of taxes in promoting or inhibiting investment, thereby proposing appropriate policies.

Although there are many studies on the relationship between consumption, tax, and investment, some gaps still need to be filled. First, most existing studies often focus on each individual factor without comprehensively analyzing the simultaneous impact of consumption and tax on investment. Romer and Romer's (2010) study on tax policy in the US shows that tax has a strong impact on investment but has not analyzed in depth the relationship between consumption and investment in the same economic model. In Vietnam, studies on tax and investment mainly focus on the impact of tax but have not mentioned the indirect impact through consumption. Therefore, this study contributes to the gap in theory and practice by analyzing the simultaneous impact of consumption and tax on investment in the context of the Vietnamese economy. The main objective of this study is to assess the impact of consumption and taxes on investment, thereby providing empirical evidence that can assist policymakers in designing effective fiscal policies.

Literature Review

In this area of research, several recent studies have examined the impact of taxes and expenditure on investment. The studies were conducted in different spaces and times, so there were some significant differences in the results.

Adegbite (2019) analyzed the impact of taxes on investment in Nigeria during the period to 1970-2018. Data were collected from the Central Bank of Nigeria and Federal Revenue Service. This study used regression testing methods, unit root testing, Johansen cointegration, the VECM model, and the Granger causality test to assess the long-run relationship between taxes and investment. The results show that oil income tax and value-added tax have positive and statistically significant impacts on investment in both the short and long run. By contrast, corporate income tax, customs, and excise taxes have negative impacts on investment. Additionally, the Granger test indicates a bidirectional causal relationship between taxes and investment. The study concludes that tax policy has a significant impact on investment, while corporate income tax has a negative impact. Therefore, the author recommends reducing corporate income tax and applying tax incentives to stimulate investments, thereby promoting economic growth. The results of this study provide an important empirical basis for tax policy reforms in Nigeria.

Babu et al. (2020) assess the impact of taxes and macroeconomic factors on private investment in sub-Saharan Africa. Using a dynamic neoclassical investment model and the Generalized Method of Moments, the study found that taxes have a negative impact on private investment. The results of this study indicate that governments should consider reducing taxes to promote

and attract private investment.

Djankov et al. (2010) analyze the international impact of corporate income tax on investment and entrepreneurship. In 2004, data were collected from 85 countries to assess the effective tax rates applied to businesses. Cross-country regression models were used to test the robustness of the results using a variety of control variables. The results indicate that corporate income tax has a significantly negative impact on total investment, foreign direct investment, and entrepreneurship. In addition, the study shows that the negative impact of corporate tax mainly affects the manufacturing sector rather than the service sector, and increases the size of the informal economy. The results remain consistent, even when controlling for trade openness, inflation, and tax administration efficiency. The study concluded that tax policy plays an important role in shaping the investment and business environment and suggests that the government should consider tax cuts to boost economic growth, attract foreign direct investment, and encourage entrepreneurship.

Bakari et al. (2020) analyzed the relationship between domestic investment, taxes, and economic growth in Germany during 1972–2016. The study used the Johansen cointegration method and the VECM model to examine the long- and short-run relationships between these variables. The results show no significant long-run relationship between taxes, domestic investment, and economic growth in Germany. However, in the short run, the study determined that domestic investment has a positive impact on economic growth, that economic growth affects tax revenue, and that taxes affect domestic investment. This suggests that the tax system plays an important role in regulating investment but may not have a significant long-run impact on economic growth. In addition, the study suggests that the government needs to implement effective macroeconomic policies, including tax policy reform and improving the quality of revenue management, to ensure the sustainable development of investment and economic growth. This result also emphasizes the importance of a flexible tax system that supports the investment environment without hindering long-term growth momentum.

Alves (2019) assessed the impact of the tax structure on investment incentives in countries of the Organization for Economic Cooperation and Development from 1980 to 2015. This study used gross fixed capital formation as a proxy for investment and applied panel data methods to analyze the impact of each type of tax on investment in both the short and long run. The results indicate that the tax system has a non-linear impact on investment. Specifically, personal income tax has a maximizing effect on investment growth when revenue from this tax source reaches approximately 10.7% of GDP. Meanwhile, social security contributions have a negative impact on investment growth in both the short and long term. In addition, corporate and consumption taxes have a negative impact only in the short term. The study also identifies the optimal thresholds for each type of tax on investment, suggesting that rational tax policy design can help increase investment without reducing economic growth incentives. The author emphasizes the importance of a flexible tax system that supports the investment environment and ensures the sustainability of fiscal policies.

Cherdivară (2022) focuses on analyzing the impact of taxes on the investment process, especially in the context of fiscal policy in Moldova. This study emphasizes the role of tax policies in regulating the investment environment and influencing investors' decisions through tax rates and tax incentives. The analysis was conducted using observation, comparison, and case studies to assess the impact of taxes on investment. The results show that taxes have a significant impact on the pre-investment stage, especially in assessing the feasibility of projects. Investors are

interested in tax rates, tax incentives, and stability of the tax system. Moldova, with a lower corporate income tax rate than neighboring countries such as Romania and Ukraine (12% compared to 18% and 16%, respectively), is a more attractive destination for investment. The study also mentions the role of free economic zones in attracting investment through tax incentives such as corporate income tax exemptions, value-added tax, and export tax. Data from 2017 to 2020 show that these policies have significantly increased investment. The study concludes that a reasonable tax policy combined with fiscal incentives is an important factor in attracting and maintaining investment, contributing to sustainable economic growth.

Husen and Sun (2018) analyzed the impact of government spending and tax revenue on private investment and economic growth in Indonesia. This study used the Keynesian model to assess the impact of fiscal policy on macroeconomic variables, in which government spending is considered an effective intervention tool to promote investment and growth. Based on time series data from 2010 to 2016, this study applied Path Analysis to assess the direct and indirect effects of taxes and government spending on private investment and economic growth. The results show that government spending has a positive and significant effect on private investment and economic growth. Meanwhile, tax revenue has a positive impact on private investment but has no significant impact on economic growth. This suggests that although taxes play a role in encouraging private investment, they do not directly promote growth without the support of other factors such as government spending and infrastructure investment. In addition, the study shows that private investment plays an important intermediary role, helping transform the impact of government spending and taxes on economic growth. Therefore, the author recommends that the Indonesian government optimize public spending, especially in the infrastructure sector, to encourage private investment and create momentum for long-term growth.

Cherneha (2022) analyzed the impact of tax policy on the investment climate in Ukraine in the context of the economy undergoing major fluctuations. The study emphasizes that in the context of economic development, limited domestic resources and increased risks for foreign investors require tax policy to play an important role in promoting investment activities. The study finds that the tax system has a decisive influence on the level of domestic and foreign investment attraction. Appropriate tax policies can stimulate investment, improve the business environment, and create momentum for economic growth. However, Ukraine has not yet fully exploited its investment potential because of the lack of flexible and effective tax instruments to promote international cooperation. In addition, the study also points out that free economic zones can play an important role in facilitating investment through tax exemptions and financial support. The author emphasized that tax policies should be designed to minimize risks and costs for investors while improving the stability of the financial environment to enhance the competitiveness of the economy.

Edame and Okoi (2014) analyzed the relationship between taxes, investment, and economic growth in Nigeria over the period 1980-2010. Using Ordinary Least Squares regression method, this study assesses the impact of corporate income tax and personal income tax on investment and economic growth. The results indicate that taxes have a significant negative impact on investment; that is, when corporate income tax and personal income tax increase, the level of investment decreases. In addition, the study also found that taxes have a negative relationship with GDP growth but a positive relationship with government spending. This suggests that Nigeria's tax system is mainly used to finance public spending rather than to promote private investment. Based on these findings, the study recommends that the Nigerian government adjust its tax policy to reduce the tax burden on businesses and individuals to encourage private

investment. Simultaneously, fiscal policy needs to be coordinated with monetary policy to achieve long-term macroeconomic goals.

Thus, a number of studies have analyzed the structure of taxes affecting investment, indicating that taxes can have a two-way impact on domestic investment, depending on the type of tax and the economic characteristics of each country. The negative impact of taxes on investment includes studies by Djankov et al. (2010), who analyzed the impact of corporate income tax on investment and entrepreneurship across 85 countries and concluded that corporate tax has a significant negative impact on overall investment, especially in the manufacturing sector, while increasing the informal economy. This suggests that when corporate tax rates are high, after-tax profits decrease, reducing the incentive to invest and encouraging businesses to evade taxes or move capital out of the formal economy. Edame and Okoi (2014) also find that corporate income tax and personal income tax have a significant negative impact on investment in Nigeria, reflecting that the tax system can impose a large financial burden on businesses and households, reducing the incentive to expand production and investment. Alves (2019) finds that some taxes, when used to finance social security programs, can reduce the incentive to invest. In contrast, Adegbite (2019) found that oil income tax and value-added tax have a positive impact on investment in the short- and long-term in Nigeria, suggesting that some tax revenues can be reinvested in infrastructure and public services, thereby facilitating investment. Cherdivară (2022) emphasizes that the tax system can play an important role in regulating the investment environment, with tax incentives helping to attract investment to priority sectors.

Therefore, studies do not provide clear evidence that taxation has a uniformly negative impact on investments. It depends on the tax structure of a particular country and revenue redistribution policies. In addition, the tax administration system is efficient. This study, which focuses on Vietnam, examines the degree to which tax revenue has an impact on domestic investment and, therefore, the extent to which current tax policies help or impede the flow of investments.

Many studies confirm that spending has a significant impact on private investment and economic growth. However, most of these studies only mention government spending and do not mention an important expenditure in the economy: private consumption spending. Husen and Sun (2018) analyzed the impact of government spending in Indonesia and found that public spending has a significant positive impact on private investment, especially through investments in infrastructure. Bakari et al. (2020) also showed that, although there is no significant long-term relationship between taxes, domestic investment, and economic growth in Germany, government spending can help promote private investment in the short term. Other studies suggest that if public spending is not managed effectively, it can create a crowding-out effect on private investments. Cherneha (2022) found that in Ukraine, the tax system and government spending are not optimized to promote investment, leading to a shortage of investment capital in the private sector. This new study in Vietnam will continue to examine the impact of not only government consumption but also private sector consumption expenditure on domestic investment to determine whether expenditures actually support investment and explore how to optimize fiscal policy to encourage domestic investment.

This study comprehensively analyzes the impacts of government consumption, household consumption, and tax revenue on domestic investment in Vietnam. This will help add to the scientific basis of fiscal policies that strive to attain sustainable economic growth. The proposed model is as follows:

$$GDIG_t = \beta_0 + \beta_1 DSBR_t + \beta_2 SCEG_t + \beta_3 PCEG_{t+} \varepsilon_t \qquad (1)$$

where GDIG is defined as domestic investment growth; DSBR represents domestic tax revenue; SCEG is total government spending on public goods and services for the community, which includes education, health, defense, and public administration; and PCEG represents the total value of household and individual spending on goods and services, including food, housing, health, education, and entertainment.

Research Data and Methods

Data

The data include important macroeconomic variables related to domestic investment growth, tax revenue, public expenditure growth, and private expenditure growth. The data for the variables in this study were collected from secondary data from the Vietnam Statistical Yearbook and Asian Development Bank (ADB) from 2000 to 2024. Details are in Table 1.

Table 1. Description of variables

Acronyms	Description	Sources
GDIG	Gross Domestic Investment Growth (%)	https://aric.adb.org/macroindicators
DSBR	Domestic Tax Revenue (% of GDP)	Vietnam Statistical Yearbook
SCEG	Public Consumption Expenditure Growth (%)	https://aric.adb.org/macroindicators
PCEG	Private Consumption Expenditure Growth (%)	https://aric.adb.org/macroindicators

Source: author's compilation.

Table 2 presents descriptive statistics of four research variables including domestic investment (GDIG), tax revenue (DSBR), private consumption expenditure (PCEG) and public expenditure (SCEG). The average of GDIG is 8.33%, reflecting a relatively high investment growth rate but with large fluctuations (standard deviation 5.27). DSBR has the highest average (15.12%), indicating the importance of tax revenue in the economy. PCEG and SCEG have growth rates of 6.31% and 6.15%, respectively, with similar fluctuations. The maximum and minimum values show that GDIG has the strongest fluctuations (-4.33% to 25.77%), while PCEG has no negative value, demonstrating that private expenditure has always grown during the research period. The skewness of the distribution shows that GDIG is right skewed (0.88), PCEG is left skewed (-0.45), while DSBR and SCEG are almost symmetrical. The kurtosis of GDIG is high (6.88), indicating that there are more extreme values than the normal distribution. The Jarque-Bera test shows that the variables are approximately normally distributed. The data has 25 observations. This result suggests that stationarity and cointegration should be checked before implementing the VECM regression model.

Table 2. Descriptive Analysis of Variables

Variables	GDIG	DSBR	PCEG	SCEG
Mean	8.332200	15.12280	6.311000	6.154120

Median	9.073000	15.12000	6.900000	5.795000
Maximum	25.77400	20.76000	10.80100	12.28400
Minimum	-4.333000	10.46000	0.380000	1.240000
Std. Dev.	5.268585	2.523017	2.528808	2.422647
Skewness	0.880262	0.313815	-0.448542	0.177608
Kurtosis	6.881409	3.046567	2.754488	3.216970
Jarque-Bera	18.92164	0.412592	0.901079	0.180474
Probability	0.110078	0.813592	0.637284	0.913715
Sum	208.3050	378.0700	157.7750	153.8530
Sum Sq. Dev.	666.1916	152.7747	153.4768	140.8612
Observations	25	25	25	25

Source: own processing from Eviews 12

From Table 3, the correlation analysis indicates a positive correlation between GDIG and PCEG (0.56308) and SCEG (0.39131), which means that with the growth of private spending, public spending and investment may be more positively influenced. On the other hand, it shows a negative correlation with the DSBR (-0.20035), which indicates that the higher the budget deficit, the lower the investment. Since PCEG and SCEG are also highly correlated (0.55484), this suggests that private spending and public spending growth are closely interrelated and may jointly affect GDIG. In contrast, DSBR was only weakly correlated with both PCEG (0.12360) and SCEG (-0.06906). Clearly, the intensity of the budget deficit's impact on both factors seems insignificant. In summary, PCEG and SCEG may play an important role in enhancing GDIG, whereas DSBR tends to be negative. According to Mukaka (2012), the application of empirical rules regarding the strength of relationships between pairs of variables indicates that the independent variables in the model have an average correlation with each other because they all fall below 0.70, therefore ensuring the avoidance of multicollinearity, suitable for the conditions of running the estimated model.

Table 3. Correlation Analysis Result

Variables	GDIG	DSBR	PCEG	SCEG
GDIG	1.00000	-0.20035	0.56308	0.39131
DSBR	-0.20035	1.00000	0.12360	-0.06906
PCEG	0.56308	0.12360	1.00000	0.55484
SCEG	0.39131	-0.06906	0.55484	1.00000

Source: own processing from Eviews 12

Research Methods

To select an appropriate empirical regression model, the stationarity of the variables in the research model must first be verified. In fact, checking the stationarity of the variables shows that the variables are not stationary in the original order, but are stationary in the first difference. Because the variables used in the estimation are all nonstationary, the possibility of cointegration vectors between the time series must be tested using the Johansen method (Johansen & Juselius, 1990). These authors assumed that nonstationary time series can become stationary when they are linearly combined with each other. However, before doing so, the lags of the variables in the research model must be checked to determine the optimal lags. This is the most commonly used cointegration test technique when the maximum likelihood principle is applied to detect the presence of cointegration vectors between nonstationary time series. This method displays the number of cointegration vectors and allows researchers to test many different hypotheses regarding vector elements. If the test results in at least one cointegration vector, a long-term relationship exists between the variables. The VECM method was used to estimate the long-term and short-term effects of the independent variables on the dependent variable in the research model. Based on (1), the VECM regression model using the Johansen method has the following form.

$$\Delta GDIG_t = \alpha_0 + \sum_{i=1}^{p-1} \gamma_{1i} \Delta GDIG_{t-i} + \sum_{i=1}^{p-1} \gamma_{2i} \Delta DSBR_{t-I} + \sum_{i=1}^{p-1} \gamma_{3i} \Delta SCEG_{t-i} + \sum_{i=1}^{p-1} \gamma_{4i} \Delta PCEG_{t-i} + \lambda ECT_{t-i} + \varepsilon_t \quad (2)$$

where $\Delta GDIG_t$, $\Delta DSBR_t$, $\Delta SCEG_t$, and $\Delta PCEG_t$ are the first differences of the variables; γ_{1i}, γ_{2i}, γ_{3i}, and γ_{4i} are the short-term impact coefficients of each variable with lag p – 1; and λ is the adjustment speed coefficient. If $\lambda < 0$ and is statistically significant, it shows the adjustment level of the GDIG to the long-term equilibrium state when there is a shock, εt is white noise, and ECT_{t-1} is the error correction term, representing the adjustment to long-term equilibrium, determined from the cointegration relationship:

$$ECT_{t-1} = \Delta GDIG_{t-1} - (\beta_0 + \Delta DSBR_{t-1} + \Delta SCEG_{t-1} + \Delta PCEG_{t-1}) \quad (3)$$

The steps to conduct regression according to the VECM include building a model to study the impact of economic variables on the increase in domestic investment. Second, stationarity (Unit Root Test) was tested using the Augmented Dickey-Fuller test to determine the stationarity of the data used in the model and test cointegration to determine if the variables have a long-term relationship by the Johansen cointegration test. Third, if there is a cointegration relationship, determine the optimal lag and estimate the model using VECM. At the same time, the Wald test is used to consider the null hypothesis of the short-term impact coefficients, thereby assessing the short-term impact of the regression results. Next, we test whether the model is stable and the tests after estimation.

Empirical Findings

Results of unit root test

This study determines the stationarity of the variables by performing two unit root tests. The ADF test is derived from the Dickey and Fuller (DF) test proposed by Dickey and Fuller (1979) and extended to ADF; the PP test was developed by Phillips and Perron (1988). Table 4 shows that both the ADF and PP tests give a p-value >5% for all original series variables and a p-value <5% for the first-differenced form. In conclusion, all variables are not stationary in the original form but are stationary in the first-differenced form, meeting the requirements for VECM

regression.

Table 4. Stationary test of variables

Variables	P-value			
	ADF		PP	
	Level	First difference	Level	First difference
GDIG	0.1114	0.0002	0.1119	0.0000
DSBR	0.2849	0.0045	0.2849	0.0045
SCEG	0.8122	0.0000	0.1040	0.0000
PCEG	0.2031	0.0002	0.2031	0.0000

Source: own processing from Eviews 12

Appropriate latency selection

Table 5. Optimal lag selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-227.8511	NA	2891.720	19.32092	19.51726	19.37301
1	-207.2505	32.61752*	2019.886*	18.93754*	19.41926*	19.19799*

Source: own processing from Eviews 12

Table 5 provides the results of the model lag selection based on criteria such as log-likelihood (LogL), Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SC), and Hannan-Quinn Information Criterion (HQ). Values marked with * indicate the lag preferred according to each criterion. When the lag increased from 0 to 1, the LogL value increased from -227.8511 to -207.2505, indicating that the model improved its fit. The LR test at lag 1 has a value of 32.61752*, indicating that adding lag is statistically significant. The FPE at lag = 1 is 2019.886*, which is lower than the 2891.720 at lag = 0, indicating that the model with lag 1 has a better forecasting ability. At the same time, all AIC, SC, and HQ criteria are smaller when lag 1 is used, indicating that this is the optimal choice. Therefore, based on all evaluation criteria, the model should be estimated with lag 1 to achieve the highest efficiency, thereby improving predictive ability and model fit.

Johansen Cointegrated Test

Table 6 presents the results of the Johansen cointegration test using two methods: the trace test and the Maximum Eigenvalue test to determine the number of cointegration equations between variables GDIG, DSBR, PCEG, and SCEG. The trace test shows that the hypothesis of no cointegration equation is rejected, with a statistical value of 50.47328, which is larger than the critical value of 47.85613 at the 5% significance level (p-value = 0.0278). However, when the hypothesis of the maximum 1 cointegration equation is tested, the trace statistical value of 18.13975 is smaller than the critical value of 29.79707 (p-value = 0.5558), so this hypothesis cannot be rejected. This indicates that there is one cointegration equation in the model. The

Maximum Eigenvalue test also gave a similar conclusion when the hypothesis of no cointegration equation was rejected, with a maximum statistical value of 32.33353, greater than the critical value of 27.58434 (p-value = 0.0113). However, the hypothesis of a maximum of one cointegration equation was not rejected, with a maximum statistical value of 8.176208, which is less than the critical value of 21.13162 (p-value = 0.8926). Thus, both tests indicated a cointegration relationship between the variables in the model. This shows that there is a long-term equilibrium relationship between the variables, which is an important basis for applying the VECM model to analyze short-term impacts and adjustments to long-term equilibrium.

Table 6. Results of Johansen Cointegration Test

Hypothesized No. of CE(s)	**Eigenvalue**	**Trace Statistic**	**0.05 Critical Value**	**Prob**
Test of Trace				
None	0.754831	50.47328	47.85613	0.0278
At most 1	0.299168	18.13975	29.79707	0.5558
At most 2	0.267480	9.963543	15.49471	0.2835
At most 3	0.114792	2.804453	3.841465	0.0940
Test of Max-Eigen				
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob
None	0.754831	32.33353	27.58434	0.0113
At most 1	0.299168	8.176208	21.13162	0.8926
At most 2	0.267480	7.159090	14.26460	0.4705
At most 3	0.114792	2.804453	3.841465	0.0940

Source: own processing from Eviews 12

VECM model estimation results

The regression results in Table 7 analyze the impact of tax revenue (DSBR), household and personal expenditure (PCEG), and government expenditure (SCEG) variables on domestic investment (GDIG) in both the long and short run through the VECM model.

Table 7. The VECM regression results

Variables	**Coefficient**	**Std. Error**	**t-Statistic**	**p-Value**
GDIG is the dependent variable				
Long-term regression results				
DSBR	1.0251	0.2599	3.95175	0.0006
PCEG	-3.9143	0.3847	-10.1758	0.0000
SCEG	2.1590	0.3860	5.5937	0.0001
Short-term regression results				
CointEq1	-0.150642	0.34552	-0.43592	0.668380
D(GDIG(-1))	-0.265227	0.31994	-0.82990	0.418097
D(DSBR(-1))	-0.294961	0.29901	-0.98567	0.338117
D(PCEG(-1))	-0.803677	0.78358	-1.02564	0.319435

D(SCEG(-1))	0.252615	0.39417	0.64093	0.530114

Source: own processing from Eviews 12

The long-run regression results show that tax revenue has a positive and statistically significant impact on domestic investment, with a coefficient of 1.0251 and p-value = 0.0006. This suggests that in the long run, as tax revenue increases, domestic investment also increases, possibly because of effective tax policies that facilitate businesses. Household and personal spending have a strong and statistically significant negative impact on investment, with a coefficient of -3.9143 and p-value = 0.0000. This implies that as household and personal consumption increases, investment decreases, possibly because of the crowding-out effect, in which resources are allocated to consumption instead of investment. Government spending has a positive and statistically significant impact on investment, with a coefficient of 2.1590 (p = 0.0001). This is consistent with the economic theory that appropriate government spending can stimulate investment by creating a favorable environment for business.

The short-term results confirm that the error correction coefficient (CointEq1) has a value of -0.150642, but it is not statistically significant (p-value = 0.668380). This indicates that, although an adjustment occurs, the speed of adjustment from short-term imbalances to long-term imbalances is slow and insignificant. The lagged variables GDIG, DSBR, PCEG, and SCEG were not statistically significant in the short term (p > 0.1). Thus, there is no evidence that these factors have a significant impact on domestic investment in the short term.

In the long term, taxes and government spending have a positive impact on investment, whereas private household spending has a negative impact. In the short term, the impact of these factors on investment is not significant, and the speed of adjustment to the long-term equilibrium is not significant. Simultaneously, the results of the Wald test in Table 8 confirm the rejection of the hypothesis that the short-term regression coefficient values of the variables are not zero. This indicates that the impact of fiscal factors is mainly felt in the long-term. In the short term, investments may not respond immediately to changes in taxes, government, and household spending.

Table 8 Wald Test

Chi-square	Value	Probability
C(3)*D(DSBR(-1))	0.012327	0.9116
C(4)* D(PCEG(-1))	0.494040	0.4821
C(5)* D(SCEG(-1))	2.216931	0.1365

Source: own processing from Eviews 12

Table 9 presents the post-regression tests that were used to assess the adequacy of the regression model. The tests included the Normality Test, Breusch-Godfrey Serial Correlation LM Test, and Breusch-Pagan-Godfrey heteroscedasticity test.

Table 9 Diagnostic Test Results

No	Tests	P-Value	Results
1	Normality test	0.2235	Normal distribution
2	Breusch-Godfrey Serial Correlation LM Test	0.1532	No autocorrelation
3	Heteroskedasticity Test: Breusch-Pagan-Godfrey	0.3630	No heteroscedasticity detected

Source: Own processing from Eviews 12

The normality test had a p-value of 0.2235 (> 0.05), not rejecting the hypothesis that the data had a normal distribution. Thus, the residuals of the model follow a normal distribution, which satisfies one of the important assumptions of the linear regression model and VECM. The Breusch-Godfrey Serial Correlation LM Test, P-value = 0.1532 (> 0.05), does not reject the hypothesis that there is no high-order autocorrelation in the residuals, meaning that the model does not have an autocorrelation phenomenon, ensuring that the residuals do not have a linear relationship with each other across stages, helping to improve the accuracy of the estimates. The heteroskedasticity Test (Breusch-Pagan-Godfrey), P-value = 0.3630 (> 0.05), does not reject the hypothesis that there is no heteroskedasticity phenomenon, meaning that the model does not have a problem with heteroskedasticity, meaning that the model's errors have homoskedasticity, thereby ensuring the reliability of the regression estimates. Thus, the post-regression test results show that the model meets important criteria: there is no problem with the normal distribution of the residuals, helping to ensure the validity of statistical inference tests; there is no autocorrelation, ensuring that the regression coefficients are not biased due to the relationship between the residuals; and there is no heteroskedasticity, which helps the model to be stable and does not have problems with inefficient estimation. In general, the model is assessed as suitable and reliable, thereby ensuring the accuracy of the analysis and interpretation of results.

Conclusion

The results show that taxation has a significant positive impact on long-term investment but a small short-term impact. This is consistent with the study by Adegbite (2019), in which oil income tax and value-added tax encourage investment in Nigeria. Husen and Sun (2018) also confirm that taxation can support private investment if it is effectively used for public spending. Studies by Djankov et al. (2010), Edame and Okoi (2014), and Babu et al. (2020) demonstrate that corporate taxes have a negative impact on investment, while Alves (2019) emphasizes the nonlinear effect of taxation. This means that taxation can support an optimal level of investment; however, if taxes are too high, they will inhibit investment. This study contradicts the findings of many previous studies. This may be because of the characteristics of the tax system and fiscal policy in Vietnam, where taxes are used to finance public investment, thereby supporting investment growth.

Government spending has a positive and statistically significant impact on investment in the long-run. This is consistent with the studies by Husen and Sun (2018) and Bakari et al. (2020), both of which indicate that public spending can promote private investment. Similarly, Cherneha (2022) emphasizes that a reasonable tax and public spending system can attract investment,

which is consistent with the current study. However, Djankov et al. (2010) suggest that public spending can reduce the incentive for private investment if it is not used efficiently, because of the crowding-out effect. Overall, this study aligns with numerous previous studies that validate the positive effect of government spending on investment.

Household consumption expenditure has a significantly negative impact on investment, possibly due to the crowding-out effect on investment capital. This finding is consistent with the study by Cherneha (2022), which suggests that high consumer spending reduces the resources available for investment, and Alves (2019), who indicates that social welfare expenditures funded by taxes may diminish investment incentives. However, Chivakul and Kassner (2018) argue that consumption growth can offset investment declines, whereas Keynes (1936) and Blanchard and Perotti (2002) assert that consumption can stimulate investment through the multiplier effect. The results of this study contradict previous research, which may be attributed to the economic characteristics of Vietnam, where investment capital may be constrained when consumption increases.

Recommendation

Drawing on the research findings, this study outlines key policy recommendations for the Vietnamese government to optimize fiscal policy and foster domestic investment growth.

Reforming tax policies to encourage investment. Tax policy reform is essential for fostering a more favorable business environment. Reducing tax burdens that impose financial constraints on enterprises and introducing targeted tax incentives for key industries can promote long-term investments. In addition, streamlining tax procedures and improving transparency will lower compliance costs, making the investment climate more attractive to businesses.

Adjusting public expenditure to support investment growth. Public spending should be directed toward infrastructure, transportation, and energy to create a conducive environment for private investment. A well-structured fiscal policy should prevent excessive budget deficits, while ensuring efficient public investment. Strengthening oversight and evaluation mechanisms will improve resource allocation and minimize inefficiency and financial mismanagement.

Managing household expenditure to safeguard investment resources. The study found that household consumption has a significant negative effect on investment, suggesting that excessive consumer spending may limit capital availability for productive investment. To address this, the government should promote long-term savings through incentives, such as tax benefits for pension funds, life insurance, and other financial products. Enhancing financial literacy also helps individuals make more informed spending and saving decisions. Furthermore, stricter controls on consumer credit expansion are necessary to prevent excessive borrowing from diverting capital away from investment.

Ensuring macroeconomic stability to reinforce investor confidence. Maintaining a stable monetary policy is crucial for avoiding excessive interest rate fluctuations that may undermine the investment environment. Inflation control should be prioritized to preserve purchasing power and sustain investor confidence. In addition, strengthening investor protection policies, particularly for small and medium-sized enterprises, will foster a more secure and dynamic business environment, encouraging further investment.

Strengthening coordination between fiscal and monetary policies. Close collaboration between the Central Bank and the Ministry of Finance is necessary to align fiscal measures such as

taxation and public spending with monetary policies, including interest rate management and money supply control. Establishing an integrated feedback system for these policies will enable more adaptive and effective policy responses based on real-time economic conditions. Moreover, enhancing economic data analysis capabilities will allow policymakers to promptly assess the impact of fiscal and monetary measures and make timely adjustments.

In summary, tax reforms should focus on creating a more business-friendly environment through reduced tax burden, simplified procedures, and greater transparency. To support sustainable investment growth, public spending should be strategically allocated to infrastructure development. Managing household consumption is also crucial for ensuring sufficient capital for investment by promoting long-term savings and financial stability. Furthermore, maintaining macroeconomic stability strengthens investor confidence through inflation controls and enterprise protection. Finally, enhancing the coordination between fiscal and monetary policies will facilitate flexible and effective economic management. Collectively, these measures improve investment efficiency and contribute to the long-term economic growth.

Acknowledgement

This research is funded by University of Finance – Marketing.

References

Adegbite, T. A. (2019). Does taxation have an impact on investment? An empirical response from co-integration analysis. Annals of Spiru Haret University. Economic Series, 19(4), 57-74. https://doi.org/10.26458/1944

Alves, J. (2019). The impact of tax structure on investment: An empirical assessment for OECD countries. Public Sector Economics, 43(3), 291-309. https://doi.org/10.3326/pse.43.3.4

Babu, W. A., Pantaleo, I. M., & Ndanshau, M. O. A. (2020). Econometric analysis of the impact of taxes on private investment in Sub-Sahara Africa. African Journal of Economic Review, 8(1), 176-197.

Bakari, S., Ahmadi, A., & Tiba, S. (2020). The nexus among domestic investment, taxation, and economic growth in Germany: Cointegration and vector error correction model analysis. Journal of Smart Economic Growth, 5(1), 37-46.

Barro, R. J., & Sala-i-Martin, X. (2004). Economic Growth. MIT Press.

Blanchard, O., & Perotti, R. (2002). An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output. The Quarterly Journal of Economics, 117(4), 1329-1368.

Cherdivară, C. (2022). The impact of taxes on the investment process. Proceedings of the 20th International Scientific Symposium of Young Researchers, 2, 86-88. https://doi.org/10.53486/9789975359030.17

Cherneha, V. (2022). The influence of tax policy on the investment climate of the country. Intellect XXI, 3, 78-81. https://doi.org/10.32782/2415-8801/2022-3.14

Chivakul, M., & Kassner, B. (2018). Can consumption growth in China keep up as investment slows? Global Research Unit Working Paper #2018-026.

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. Journal of the American Statistical Association, 74(366a), 427-431. https://doi.org/10.2307/2286348

Djankov, S., Ganser, T., McLiesh, C., Ramalho, R., & Shleifer, A. (2010). The effect of corporate taxes on investment and entrepreneurship. American Economic Journal: Macroeconomics, 2(3), 31-64. https://doi.org/10.1257/mac.2.3.31

Edame, G. E., & Okoi, W. W. (2014). The impact of taxation on investment and economic development in Nigeria. Academic Journal of Interdisciplinary Studies, 3(4), 209-218. https://doi.org/10.5901/ajis.2014.v3n4p209

GOS (2023). Report on the Socio-Economic Situation in Q4 and the Year 2023. Vietnam General Statistics Office. Retrieved from https://www.gso.gov.vn/bai-top/2023/12/bao-cao-tinh-hinh-kinh-te-xa-hoi-quy-iv-va-nam-2023/

Hall, R. E., & Jorgenson, D. W. (1967). Tax Policy and Investment Behavior. American Economic Review, 57(3), 391-414.

Harberger, A. C. (1962). The Incidence of the Corporation Income Tax. Journal of Political Economy, 70(3), 215-240.

Husen, A., & Sun'an, M. (2018). The effect of government expenditures and tax on investment and economic growth in Indonesia. Research Journal of Finance and Accounting, 9(6), 1-10.

Johansen, S., & Juselius, K. (1990). Maximum likelihood estimation and inference on cointegration—with applications to the demand for money. Oxford Bulletin of Economics and Statistics, 52(2), 169-210. https://doi.org/10.1111/j.1468-0084.1990.mp52002003.x

Keynes, J. M. (1936). The General Theory of Employment, Interest and Money. Macmillan.

Mankiw, N. G. (2021). Macroeconomics (10th ed.). Worth Publishers.

MOF (2023). Report on the 2023 State Budget Estimates. Vietnam Ministry of Finance. Retrieved from https://www.mof.gov.vn/webcenter/portal/btcvn/pages_r/l/tin-bo-tai-chinh?dDocName=MOFUCM248574

Mukaka, M. M. (2012). A guide to appropriate use of correlation coefficient in medical research. Malawi Medical Journal, 24(3), 69-71. https://doi.org/10.4314/mmj.v24i3.7

Phillips, P. C. B., & Perron, P. (1988). Testing for a unit root in time series regression. Biometrika, 75(2), 335-346. https://doi.org/10.1093/biomet/75.2.335

Romer, C. D., & Romer, D. H. (2010). The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks. American Economic Review, 100(3), 763-801.