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TÁC ĐỘNG CỦA THUẾ TỚI TĂNG TRƯỞNG KINH TẾ Ở CÁC QUỐC GIA THUỘC OECD TRONG GIAI ĐOẠN 2014 ĐẾN 2022

Bùi Trần Tuấn¹, Nguyễn Chí Hiếu, Nguyễn Vũ Lâm, Vũ Ngọc Bảo

Sinh viên K61 CLC Kinh tế đối ngoại – Viện Kinh tế và Kinh doanh quốc tế

Trường Đại học Ngoại thương, Hà Nội, Việt Nam

Nguyễn Thu Hằng

Giảng viên Viện Kinh tế và Kinh doanh quốc tế

Trường Đại học Ngoại thương, Hà Nội, Việt Nam

Tóm tắt

Nghiên cứu này phân tích mối quan hệ giữa thu ngân sách từ thuế và tăng trưởng kinh tế tại các quốc gia OECD trong giai đoạn 2014-2022. Dựa trên dữ liệu bảng và áp dụng các phương pháp ước lượng như OLS gộp, hiệu ứng cố định, hiệu ứng ngẫu nhiên và bình phương tối thiểu tổng quát khả thi (FGLS), nghiên cứu xác định FGLS là mô hình phù hợp nhất sau khi kiểm soát hiện tượng phương sai thay đổi và tự tương quan. Kết quả cho thấy thuế thu nhập cá nhân và thuế thu nhập doanh nghiệp có tác động tích cực đến GDP, trong khi thuế giá trị gia tăng có ảnh hưởng tiêu cực đáng kể, cho thấy thuế tiêu dùng cao có thể kìm hãm hoạt động kinh tế. Ngoài ra, mức độ mở cửa thương mại và sự ổn định chính trị có mối quan hệ tiêu cực với GDP, có thể do tác động của tự do hóa quá mức và sự trì trệ kinh tế trong môi trường chính trị ổn định cao. Đầu tư trực tiếp nước ngoài và tăng trưởng dân số không có ý nghĩa thống kê, cho thấy dòng vốn đầu tư không phải lúc nào cũng thúc đẩy tăng trưởng tại các nền kinh tế phát triển. Nghiên cứu góp phần vào thảo luận chính sách kinh tế bằng cách nhấn mạnh vai trò của cơ cấu thuế và quản trị trong tăng trưởng kinh tế tại OECD. Kết quả gợi ý rằng các nhà hoạch định chính sách cần cân nhắc thiết kế chính sách thuế phù hợp để cân bằng giữa mục tiêu thu ngân sách và tăng trưởng kinh tế, đồng thời điều chỉnh chiến lược thương mại và quản trị nhằm đảm bảo ổn định kinh tế dài hạn.

Từ khóa: doanh thu thuế, tăng trưởng kinh tế, FGLS, OECD, phân tích chính sách

¹ Tác giả liên hệ, email: k61.2212150152@ftu.edu.vn

THE IMPACT OF TAX REVENUE ON THE ECONOMIC GROWTH IN OECD COUNTRIES DURING 2014 AND 2022

Abstract

This study examines the recent relationship between tax revenue and economic growth in OECD countries from 2014 to 2022. The analysis focuses on the effects of tax structure, contributed by revenue from personal income tax, corporate income tax, and value-added tax on GDP, along with trade openness, foreign direct investment, political stability, and population growth. Using panel data estimation techniques, including pooled OLS, fixed effects, random effects, and feasible generalized least squares, the study identifies FGLS as the most suitable model after addressing heteroskedasticity and autocorrelation. The findings indicate that personal and corporate income taxes positively impact GDP, suggesting that well-structured tax policies contribute to economic expansion. In contrast, value-added tax has a significant negative effect, implying that higher consumption taxes may suppress economic activity. Unexpectedly, trade openness and political stability are negatively associated with GDP, potentially due to over-liberalization and economic stagnation in highly stable environments. Foreign direct investment and population growth is found to be statistically insignificant, suggesting that capital inflows do not always translate into growth in advanced economies. The study contributes to economic policy discussions by highlighting the importance of tax structure and governance in shaping economic outcomes among OECD, one of the most developed economic forums, during a closely related time period. The results suggest that policymakers should consider tax policy design carefully to balance revenue generation and growth while reassessing trade and governance strategies for long-term economic stability.

Keywords: tax revenue, economic growth, FGLS, OECD, policy analysis

1. Introduction

Taxation plays an important role in fostering economic growth by contributing to the government budget, as well as influencing investment, consumption and other economic activity. The fluctuations in tax rates can significantly change incentives for individuals and businesses, influencing their behavior regarding investment, saving and spending. From a broader perspective, tax policy can either encourage or hinder the development of one economy.

In most countries, the government wants to increase the state budget through tax revenue while achieving stable economic growth at the same time. However, previous studies showed controversial results on the relationship between tax and economic growth. Pham Quynh Mai (2021) claimed that PIT, VAT and CIT all have a positive effect on economic growth, with VAT being the main driver. Additionally, B. Gashi (2018) saw that Kosovo's economy benefited from various taxes, including PIT, VAT and CIT. Meanwhile, Padovano & Galli (2001) and Jen Arnold (2008) stated the inverse relationship between taxes and economic growth.

Therefore, it is essential to investigate how tax structure affects economic growth. More specifically, in this paper, we will focus on analyzing the effect of PIT, CIT (direct tax) and VAT (indirect tax) on the economic growth of 38 OECD nations. As the economic structures and tax regimes vary among these countries, understanding how the tax structure influences economic growth helps the policy makers to optimize their tax policy to promote further development.

The novelty of this study lies in its examination of the period from 2014 to 2022, providing a contemporary analysis of the relationship between tax structure and economic performance in OECD countries. Unlike prior studies that typically focused on individual tax rates or isolated tax types, this research adopts a more comprehensive approach by exploring the combined effects of personal income tax (PIT), corporate income tax (CIT), and value-added tax (VAT) on GDP, while incorporating other relevant variables, such as trade openness, political stability, and population growth, to offer a more holistic perspective.

2. Literature review

2.1. Theoretical framework

2.1.1. Overview of tax revenue

Tax is defined as a mandatory contribution levied on individuals or corporations by a government entity - whether local, regional or national (Gorton, 2023). According to the OECD, tax revenue is defined as the revenues collected from taxes on income and profits, social security contributions, taxes levied on goods and services, payroll taxes, taxes on the ownership and transfer of property, and other taxes. It plays a crucial role in funding government activities and services, such as infrastructure development and public welfare programs.

Policy makers in every country consider taxes as a powerful tool that have an essential role in achieving economic growth. The importance of taxes is reflected in the need to increase funds in order to make conditions for financing the government expenditures (Milenkovic & Kalas, 2017). Bernardi and Chandler (2005) determine the fundamental purpose of tax as the collection of funds for financing public spending, while Besley and Persson (2014) define that low-income nations collect taxes of between 10% and 20% of GDP, while the average for high-income countries is approximately 40%. Besides as the funding source for public sectors, taxes are levied as a means to redistribute income. Greater tax rates on those with greater incomes may restrict their ability to accumulate wealth and may also finance transfers to persons with lesser means. In turn, lower tax rates for those with lower incomes are an effort to make government services more affordable for them. According to Ahmad and Sial (2016), a nation's tax structure is essential to attaining justice and social and economic progress. With the aforementioned said, we propose that tax revenue of the government might play a part in economic growth.

2.1.2. Theories about tax effect on economic growth

There have been many theories explaining for the effect of tax on economic growth:

Keynesian taxation theory

John Keynes, the initiator of this theory concluded that economic growth must depend on a market expansion and an associated increase in consumption. He assumed that economic growth is related to monetary savings and consequently, a large amount of savings discourages economic development. Therefore, taxation can be a useful tool for the government to subtract income savings for other purposes such as investing and covering state expenditure.

Neo-classical taxation theory

Differ from Keynesian theory, J.Mutt, A. Laffer and others assumed that the state has to free market competition by removing obstacles as the market can regulate itself to reach

economic equilibrium without any external force. According to the theory, the authors believed that the government should implement policies to minimize the tax in order to encourage individuals and governments to actively take part in economic activities. In contrast, a high tax rate would demotivate the economic entities which might slow down the production and further result in an economic recession.

Laffer curve

One of the most famous theories about taxation is the “Laffer curve” which illustrates the quantitative relationship between taxation and budget revenues. Arthur Laffer believed that there is an optimal tax-rate that the Government can achieve maximum revenue. Before that point, tax burdens are positively correlated with state revenues. In contrast, an increase in tax burden leads to a decrease in the state budget after the optimal point as there would be higher possibility of tax evasion. Laffer considered 30% of the income as the highest possible tax rate that could be subtracted for the government budget.

2.2. Previous studies on the effect of taxes on the economic growth

Previous studies suggest that the relationship between taxation and economic growth is unclear and often deemed insignificant. Easterly and Rebelo (1993) argued that "the evidence that tax rates matter for growth is disturbingly fragile." However, advancements in the quality and availability of data have enabled researchers to better isolate the effects of taxation changes. Recent studies challenge the earlier claims, indicating that taxes do influence economic growth. The focus has now shifted to understanding which taxes, in what contexts, and to what extent they impact growth. This section reviews the empirical evidence and evaluates the findings to date.

2.2.1. Distortionary taxes

Taxation becomes distortionary when it influences investment decisions, thereby impacting output and growth. This effect is particularly evident in the case of direct taxes on income and profits (OD Ugwunta; UB Ugwuanyi, 2015)

Kneller, Bleaney, and Gemmell (1999), analyzing panel data from 22 OECD countries between 1970 and 1995, identified a negative impact of distortionary taxes on growth. Their findings align with OECD (2008), which reported that corporate and personal income taxes hinder growth, whereas consumption, environmental, and property taxes are less detrimental. Similarly, Gemmell, Kneller, and Sanz (2006) found evidence of the long-term negative effects of distortionary taxes on growth in OECD countries for the period 1970–2004. Dackehag and Hansson (2012), using data from 25 OECD countries from 1975 to 2010, also demonstrated that statutory corporate income tax and personal income tax rates adversely affect economic growth. Bleaney et al. (2001), Lee and Gordon (2005), Arnold et al. (2011), and Acosta-Ormaechea and Yoo (2012) provide further findings in which they differentiate the effects of PIT and CIT, identifying the latter as the most harmful to growth. While the extent of the impact depends on the specific tax variable used as a proxy, the findings suggest that taxes on corporate and personal income distort growth more significantly than consumption taxes, though the overall effect of tax changes remains modest.

On the other hand, Tosun and Abizadeh (2005) suggested that PIT beneficially influences economic growth of OECD countries. O. B. Adegbelemi & A. Oluwatobi (2016) also shared the same idea by indicating that income tax positively impacts Africa economic growth. In “Impact

of tax policy on economic growth in Vietnam”, Pham Quynh Mai (2021) determined that despite limitations, PIT positively contributes to the Vietnamese economy. In addition, Kotlan et al (2011) used the Laffer curve to explain that the tax burden can indirectly increase tax revenue or overall tax share and thus increase economic growth. In favour of this finding, Baranová and Janíčková (2012), Adegbite (2015) and Pham Quynh Mai (2021) concluded a positive relationship between CIT and economic growth.

2.2.2. *Non-distortionary taxes*

Non-distortionary taxes, which do not influence the private sector's incentive to invest in input goods, are considered indirect taxes. These taxes do not disrupt optimal market mechanisms. While they reduce individuals' disposable income and tighten their budget constraints, they do not alter the relative prices of goods. An example of such a tax is the value-added tax (VAT) (IMF, 1991).

Emmanuel (2013) examined the impact of VAT on Nigeria's economic growth (GDP) using time series data from 1994 to 2010. The study found that a 1% increase in VAT revenue could lead to a 1.47% rise in GDP. Similarly, Jalata (2014) found that VAT significantly boosted Ethiopia's economic growth. Chiricu (2019) analyzed the economic impact of VAT on Southern Europe's economic growth using data from 1996 to 2017, concluding that VAT positively affected economic growth.

Conversely, Stoilova (2017) argued that while tax revenue might increase GDP in Europe, production and import taxes were beneficial, whereas VAT was detrimental. Bankman & Schuler (2007) noted that some countries have encouraged investment by lowering VAT rates, while others have increased VAT rates to boost revenue for government expenditures.

Therefore, the effect of VAT on economic growth is ambiguous. While some studies highlight its positive impact, others suggest it may be detrimental, indicating that the relationship between VAT and economic growth is complex and context-dependent.

2.3. *Previous studies on determinants of the economic growth*

2.3.1. *Impact of FDI on economic growth*

Foreign Direct Investment (FDI) is a major source of knowledge transfer and economic growth, and it has been instrumental in internationalizing economic activity. A large number of empirical studies on the role of FDI in host countries suggest that FDI is an important source of capital, complements domestic private investment, is usually associated with new job opportunities and enhancement of technology transfer, and boosts overall economic growth in host countries (Karimi, 2009)

Bengoa and Sanchez-Robles (2003) investigated the connection between foreign direct investment, economic freedom, and economic growth using panel data for Latin America. They come to the conclusion that FDI significantly boosts the economic growth of the host nation when comparing estimates of fixed and random impacts. Additionally, Adegbite *et al.*, (2010) and Onakoya (2016) also confirmed the beneficial effect of FDI on economic growth, besides tax revenue, while Thuy Tien Ho *et al.* (2022) stated that FDI significantly and positively influences economic growth by contributing to international trade integration and creating a competitive business environment.

On the other hand, Zhang (2001) examines the relationship between foreign direct investment and economic expansion. Zhang makes use of data for eleven developing nations in Latin America and East Asia. Zhang indicates that FDI increases economic growth in five examples, but that host nation factors like trade regime and macroeconomic stability are crucial. This suggests that FDI may not be ideally effective in contributing to GDP growth without the presence of other socio-economic factors.

2.3.2. Impact of political stability on economic growth

Numerous studies on political aspects have demonstrated how much political issues impact the economy and its growth potential. An extremely unstable political system, for instance, creates uncertainty, deters investment, and so impedes economic potential (Karimi, 2009). Moreover, Aisen, A. and Veiga, F.J. (2013), together with Nazeer and Mansur (2017) examined how political instability affected productivity and economic growth. By heightening uncertainty about the future, it influences society's overall time preference, shortening its planning horizon. As a result, resources may be allocated less efficiently, and both firms and governments may invest less in research and development, ultimately slowing technological advancement.

2.3.3. Impact of trade openness on economic growth

For decades, trade has played a vital role in promoting economic growth, and at the same time become a common topic for scholars. In a cross-country empirical investigation conducted in 2003, Yanikkaya, H. found a positive relationship between various trade openness indicators and economic growth. Identical results were found in the research of Krueger and Berg (2003), Petrakos and Arvanitidi (2008). Trade volume, such as export-import shares, and even trade barriers are proved to have a significant and positive correlation with growth.

Nevertheless, there are some contradictions. Hausmann, R., Hwang, J., & Rodrik, D. (2006) in their research proved that trade openness would negatively affect economic growth, within countries that mainly export primary goods. In the scope of the authors' study, OECD countries are dominant secondary products exporter; therefore trade openness would remain its positive impact.

2.3.4. Impact of population on economic growth

Although there has been a lot of attention recently on the relationship between demographic trends and economic growth, the link between population and economic growth remains a subject of debate. Population growth, population density, migration, and age distribution appear to be the main factors influencing economic growth among nations (Petrakos and Arvanitidi, 2008). For instance, a high population growth may negatively affect economic growth by influencing saving and investment patterns, human capital quality, and dependency rates.

However, when Peterson, E.W.F. (2017) examined data over the past 200 years to find a connection between the number of people in a country and aspects that affect economic growth, such as social problems, inequality and productivity, he suggested that population growth tends to have negative effects in the short to medium term, as high levels of fertility can decrease the overall well-being of a society. Despite these increasing findings, however, conclusions are not definitive because several studies have shown no strong correlation between demographic characteristics and economic growth (Pritchett, 2001).

2.4. Research gap

Although the relationship between taxation and the mentioned determinants on national economic growth are widely researched, significant gaps remain, particularly concerning the impact of these factors on OECD countries in the period from 2014 to 2022. Most prior research has used outdated data and does not capture recent economic shifts and policy changes. Moreover, most of the components like the effects of VAT, FDI, political stability, trade openness and population dynamics have been analyzed in isolation without looking at their correlations. Also, most of the research is done on individual countries as opposed to groups of countries such as the OECD which have similar economic structures and policy frameworks. This gap highlights the need for more extensive and up-to-date research that takes into account all these factors and investigates their joint impact on economic growth in the context of OECD countries in the given period. Ultimately, such research could provide valuable lessons for the governments as well as the policy makers who wish to encourage sustainable economic growth.

3. Methodology

3.1. Research model and hypothesis

Building on prior research by Easterly and Rebelo (1993) on the overall impact of taxation on economic growth, this study incorporates findings from more specific analyses regarding the relationship between distortionary and non-distortionary taxes and GDP. Notably, the works of Ugwunta and Ugwuanyi (2015), Dackehag and Hansson (2012), and Emmanuel (2013) provide crucial insights into this relationship.

$$GDP_{it} = \mu_i + PIT_{it} + VAT_{it} + CIT_{it} + FDI_{it} + POL_{it} + OPEN_{it} + POP_{it}$$

In this study, GDP_{it} represents the gross domestic product per capita at time t . The independent variables PIT_{it} , CIT_{it} , and VAT_{it} correspond to the proportions of personal income tax (PIT), corporate income tax (CIT), and value-added tax (VAT) in GDP for at time t , respectively.

Furthermore, the model incorporates additional control variables, including FDI_{it} , POL_{it} , $OPEN_{it}$, and POP_{it} , which are detailed in the table below.

Variable	Symbol	Description	Data Source	Expected Sign
Total GDP	GDP	The total monetary or market value of all finished goods and services made within a country during a specific period (USD)	OECD	
Personal income tax	PIT	The ratio of Personal income tax to Gross domestic product (%GDP)	OECD	+/-
Value added tax	VAT	The ratio of Value added tax to Gross domestic product (%GDP)	OECD	+/-

Corporate income tax	CIT	The ratio of Corporate income tax to Gross domestic product (%GDP)	OECD	+/-
Foreign direct investment	FDI	The ratio of Foreign direct investment inflows to Gross domestic product (%GDP)	OECD	+
Political stability	POL	Political stability and absence of violence/terrorism (range from -2.5 to 2.5)	OECD	+
Trade openness	OPEN	The ratio of a country's total trade to Gross domestic product (%GDP)	OECD	+
Population growth	POP	Population growth rate (%)	OECD	+/-

Table 1. Variables description

Source: Authors' own work

The research hypotheses include:

H1: Personal income tax has a positive/negative effect on economic growth

H2: VAT has a positive/negative effect on economic growth

H3: Corporate income tax has a positive/negative effect on economic growth

H4: FDI has a positive effect on economic growth

H5: Political stability has a positive effect on economic growth

H6: Trade openness has a positive effect on economic growth

H7: Population growth may have a positive/negative effect on economic growth

3.2. Estimation method

The study applies standard panel data estimation methods, including Pooled OLS (POLS), Fixed Effects Model (FEM), and Random Effects Model (REM), with model selection validated through Lagrange multiplier and Hausman tests. However, these methods may suffer from measurement errors and endogeneity, leading to biased estimates.

To address these concerns, post-estimation diagnostic tests are conducted. If violations such as heteroskedasticity or autocorrelation are detected, the study applies Feasible Generalized Least Squares (FGLS) to correct for these issues, ensuring more robust and efficient results.

In addition, to improve model interpretability and address statistical concerns, GDP is transformed into its natural logarithm (lnGDP). This transformation linearizes nonlinear relationships, improves normality, and mitigates heteroskedasticity (Wooldridge, 2016). It also allows coefficients to be interpreted as elasticities, facilitating economic analysis (Gujarati & Porter, 2009). Additionally, it reduces outlier influence, ensuring more stable estimates (Stock & Watson, 2020).

3.3. Data description

The study uses panel data comprising 342 observations, sourced from the OECD dataset. The research examines 38 OECD member countries over the period from 2014 to 2022, ensuring data completeness and enhancing the reliability of the study.

3.3.1. Data and summary statistic

Variable	Obs	Mean	Std. Dev.	Min	Max
PIT	342	8.043713	4.427462	1.09	26.29
VAT	342	6.798275	2.045375	2.04	10.84
CIT	342	3.062105	1.526624	0.16	19.94
FDI	342	4.406053	28.8173	-360.35	252.92
POL	342	0.5806433	0.6515046	-2.01	1.62
OPEN	342	103.2642	64.00388	23.08	393.14
POP	342	0.5800877	0.7856086	-2.45	2.68
lnGDP	342	26.77786	1.529108	23.58547	30.88912

Table 2. Data description

Source: Authors' own work

3.3.2. Correlation matrix

	PIT	VAT	CIT	FDI	POL	OPEN	POP	lnGDP
PIT	1.0							
VAT	0.2187	1.0						
CIT	0.0649	-0.1106	1.0					
FDI	-0.0448	-0.0125	0.0234	1.0				
POL	0.4334	0.2264	0.117	0.0522	1.0			
OPEN	-0.0333	-0.1276	0.0111	0.1703	0.3348	1.0		
POP	0.1616	-0.2079	0.3491	0.0256	-0.0502	0.0437	1.0	
lnGDP	0.1687	-0.5346	0.0993	-0.0674	-0.2138	-0.4755	0.0057	1.0

Table 3. Correlation matrix

Source: Authors' own work

The correlation results show that the independent variables in the model generally have low correlation (below 0.5). The highest correlation is found between Political Stability and Personal Income Tax, with an absolute value of 0.4334 (Wooldridge J. M. , 2012). This result suggests that multicollinearity is not a significant concern for the model. Nevertheless, further validation is required to ensure a reliable model.

Regarding the dependent variable (GDP), the explanatory variables exhibit moderate correlation, ranging from 0.0057 to 0.5346 in absolute terms. However, some variables have correlation signs that differ from expectations. This indicates the need for deeper examination to identify any potential model weaknesses and ensure its robustness.

4. Results analysis

The study begins by estimating the model using three methods: Pooled Ordinary Least Squares (POLs), Fixed Effects Model (FEM), and Random Effects Model (REM). If the model exhibits issues such as heteroskedasticity or autocorrelation, the Feasible Generalized Least Squares (FGLS) estimation is applied to address these concerns. Additionally, to account for potential endogeneity, the System Generalized Method of Moments (SGMM) is employed as a final step to correct any biases that previous estimation methods fail to resolve.

Among the initial three estimation approaches, FEM is identified as the most appropriate method, as indicated by the Hausman test ($\text{Prob} > \chi^2 = 0.000$) and the Breusch-Pagan test ($\text{Prob} > \chi^2 = 0.000$). However, diagnostic tests reveal the presence of heteroskedasticity in the model. To mitigate this issue, the study applies the FGLS estimation, leading to the final model specification (Model 4).

4.1. Multicollinearity checking

Variable	VIF	1/VIF
PIT	1.43	0.701701
VAT	1.16	0.862839
CIT	1.18	0.849112
FDI	1.03	0.967824
POL	1.55	0.647018
OPEN	1.24	0.804474
POP	1.28	0.778907

Table 4. VIF results

Source: Authors' own work

Since all of the Vif value is lower than 2, the model does not experience multicollinearity.

4.2. Model checking

Variable	(1) lnGDP	(2) lnGDP	(3) lnGDP	(4) lnGDP
PIT	0.131*** [8.80]	0.0379*** [3.64]	0.0438*** [4.06]	0.0618*** [5.41]
VAT	-0.425*** [-14.54]	0.00988 [0.58]	-0.00219 [-0.12]	-0.203*** [-12.52]
CIT	0.109*** [2.70]	0.0248*** [3.45]	0.0251*** [3.27]	0.0215** [2.11]
FDI	0.000513 [0.26]	-0.000121 [-0.60]	-0.000134 [-0.62]	-0.000195 [-0.61]
POL	-0.390*** [-3.56]	-0.110** [-2.51]	-0.128*** [-2.77]	-0.124** [-2.35]
OPEN	-0.00785***	0.00286***	0.00198**	-0.00529***

	[-8.16]	[3.72]	[2.51]	[-8.20]
POP	-0.398***	0.0193	0.0186	-0.0129
	[-5.01]	[1.31]	[1.18]	[-0.59]
_cons	29.56***	26.08***	26.21***	28.29***
	[116.06]	[212.50]	[118.22]	[187.85]
Observations (N)	342	342	342	342
R-squared	0.569	0.267	-	-
Sig. levels	* p<0.1	** p<0.05	*** p<0.01	

Table 5. Estimation results of the research model

Source: Authors' own work

The POLS model assumes no individual country effects, explaining 57% of GDP variation ($R^2 = 0.569$). Results indicate a positive and significant impact of personal income tax (0.131) and corporate income tax (0.109) on GDP. Conversely, VAT (-0.425) and political stability (-0.390) exhibit strong negative effects, suggesting that higher VAT rates and stable political conditions may not always favor economic growth. Population growth (-0.398) is negatively correlated with GDP, reflecting demographic differences among OECD countries, while openness is not significant. The FEM model, which accounts for country-specific differences, is confirmed as the preferred approach (Hausman test, $\text{Prob}>\chi^2 = 0.000$). Under FEM, VAT loses significance, suggesting its impact may be absorbed by country-level characteristics. Personal and corporate income tax remain significant but with lower coefficients (0.0379 and 0.0248, respectively). Political stability remains negative (-0.110), and openness (0.00286) becomes significant, indicating their role in short-term fluctuations. However, the R^2 drops to 0.267, implying that much of the GDP variation is explained by fixed effects.

The REM model, tested via the Breusch-Pagan test ($\text{Prob}>\chi^2 = 0.000$), provides results largely consistent with FEM. However, FEM and REM fail to address heteroskedasticity, detected by the Modified Wald test ($\chi^2 = 84318.11$, $P = 0.0000$), which requires FGLS estimation. The final FGLS model, which corrects for heteroskedasticity and autocorrelation, finds that personal income tax (0.0618) and corporate income tax (0.0215) remain positively significant. VAT (-0.203) regains significance, reaffirming its negative impact on GDP. Political stability and openness remain negatively associated with GDP (-0.124 and -0.00529 respectively). These results highlight the complex interactions between tax structures, policy stability, and economic growth in OECD countries.

4.3. Discussion

The regression results provide insights into the relationship between GDP and various economic factors, including taxation, trade openness, foreign direct investment, political stability, and population growth. While most coefficients align with theoretical expectations, a few deviations warrant further analysis.

4.3.1. Distortionary tax and GDP

The results show that personal income tax (0.0618, $p < 0.01$) and corporate income tax (0.0215, $p < 0.05$) have a positive and significant relationship with GDP. This is somewhat unexpected, as higher taxation is typically associated with reduced disposable income and

potential disincentives for investment (OECD, 2020). However, this finding aligns with studies suggesting that well-structured tax policies, particularly in high-income OECD countries, can contribute to GDP growth by funding public infrastructure, education, and social programs that enhance economic productivity (Romer & Romer, 2010). Moreover, previous studies mainly utilized data before 2010, and to some extent make the results outdated. By using data from the last 10 years, this study may suggest a new point of view to the role of distortionary tax revenue on the development of one's country.

4.3.2. Non-distortionary tax and GDP

Conversely, VAT (-0.203, $p < 0.01$) is negatively correlated with GDP. Higher VAT rates may reduce consumer spending, slowing down economic growth (Arnold et al., 2011). VAT increases consumer prices, reducing purchasing power and discouraging spending. This effect is particularly detrimental in consumption-driven economies, where household expenditure is a key driver of growth. In addition, VAT raises operational costs for businesses, particularly small and medium-sized enterprises (SMEs), which rely on tight profit margins. Higher tax burdens can lead to reduced investment and employment, constraining long-term growth of an economy as a whole. This finding aligns with Stoilova (2017).

4.3.3. Foreign Direct Investment (FDI)

The coefficient for FDI (-0.00019, $p = 0.54$) is negative and statistically insignificant, contradicting the expected positive effect. Typically, FDI is seen as a driver of economic growth through capital inflows, job creation, and technology transfer (Borensztein, De Gregorio, & Lee, 1998). However, the insignificance of FDI in this situation may suggest that FDI inflows in OECD countries do not always translate into GDP growth, possibly due to the maturity of financial markets or profit repatriation by multinational corporations (Herzer, 2012). Additionally, high regulatory barriers and diminishing marginal returns on investment in developed economies may weaken the impact of FDI on growth.

4.3.4. Political Stability and GDP

Political stability (-0.124, $p < 0.05$) is negatively correlated with GDP, contradicting the expected positive sign. While stable political environments typically promote investment and long-term growth (Acemoglu & Robinson, 2012), this result may reflect the fact that highly stable economies often experience slower growth rates due to lower levels of risk-taking and innovation. In some OECD countries, excessive regulation and political rigidity may limit economic dynamism (Rodrik, 2017). Another possible explanation is that countries experiencing moderate political fluctuations often undertake structural reforms that boost economic performance in the long run.

4.3.5. Trade Openness and GDP

Trade openness (-0.0053, $p < 0.01$) is significantly negative, which contradicts the expected positive impact. Conventional economic theory suggests that greater openness enhances efficiency, competition, and access to global markets, leading to higher GDP growth (Frankel & Romer, 1999). However, this finding aligns with arguments that trade liberalization can also lead to job displacement, increased inequality, and economic volatility in advanced economies (Rodrik, D. and Rodriguez, F. 2001). In the OECD context, high levels of openness may increase dependency on external demand, making economies more vulnerable to global shocks.

4.3.6. Population Growth and GDP

Population growth (-0.0129, $p = 0.56$) is negative but statistically insignificant. While higher population growth can increase labor supply, it does not necessarily translate into higher GDP per capita (Brander & Dowrick, 1994). In many OECD economies, aging populations, declining birth rates, and workforce automation may weaken the traditional link between population growth and economic expansion.

5. Recommendations

Based on the research results, the researchers propose the following implications for countries in the OECD.

First, the result shows that PIT and CIT positively influence economic growth. However, continuously rising tax rates will not result in a stable growth rate. In contrast, excessively high tax rates can hinder business investment, labor productivity and overall economic growth. According to the Laffer curve, there is an optimal rate that maximizes the government revenue from taxation. Beyond that point, both corporations and individuals lose their motivation to engage in economic activities, leading to possible economic stagnation. Therefore, it is necessary for policy makers to evaluate their taxation structure and maintain suitable tax rates in order to promote sustainable economic growth. A well-designed tax structure alongside effective social welfare programs like those in Finland, Sweden or Norway can improve the overall living standards and encourage residents to actively contribute to the economy through employment and consumption.

Second, VAT negatively affects the growth of OECD economies as shown in the result. Hence, reducing VAT rates on essential goods and services can boost domestic consumption, particularly for low and middle income groups. The government can also consider possible VAT reductions or exemptions for critical business to promote economic development. Moreover, countries should focus on enhancing VAT efficiency rather than increasing the rate. OECD authorities can formulate stricter policies in order to guarantee the transparency of tax collection and minimize the risk of tax evasion. Besides, simplifying VAT structure may make it easier for the government to monitor tax compliance. For example, in the United Kingdom, VAT flat-rate scheme is applied for small and medium businesses which can reduce their administrative burden on tax calculation and reporting.

This study acknowledges that there are significant variations in the taxation systems across countries. The differences make it challenging to provide universal suggestions for the entire OECD.

6. Conclusion

The report has explored key factors influencing the economic growth of OECD countries in the context of different kinds of taxes combined with other elements, offering valuable insights into how variables such as GDP, trade openness, political stability and population growth affect total GDP. Tax structure is analysed in the relationship with economic growth, during a relevant time period. The findings reveal that both personal and corporate income taxes have a positive impact on GDP, emphasizing the role of well-structured tax policies in fostering economic expansion,

contributing to the importance of optimal tax policy design, and giving information about the complex dynamics between taxation, economic structure, and macroeconomic stability, which offers a fresh perspective on the role of distortionary tax revenue in the development of a country. The findings reveal significant patterns that can guide OECD countries in balancing between generating tax revenue and fostering an economic environment.

Due to time constraints and limited knowledge and experiences, this report is not done to perfection and there is still room for improvement. However, this study underscores the importance of having efficient tax policies in the relationship with other economic factors. Therefore, research into the relationship between tax structure and economic growth is crucial. By providing empirical evidence on the complex interactions between taxation and economic performance, this study contributes to the broader policy debate on sustainable economic development. Policymakers should also assess trade policies and governance frameworks to ensure they foster long-term economic resilience. Future research should build upon these findings to explore further complexities in economic and tax structures and refine the model accordingly.

References

- Acemoglu and Robinson (2015). *Acemoglu, D. and Robinson, J.A. (2012) Why Nations Fail The Origins of Power, Prosperity, and Poverty. Crown Publishing Group-A Division of Random House, Inc., New York. - References - Scientific Research Publishing.* [online] Scirp.org. Available at: <https://www.scirp.org/reference/referencespapers?referenceid=1836336>.
- Acosta-Ormaechea, S., Sola, S. and Yoo, J. (2018). Tax Composition and Growth: A Broad Cross-country Perspective. *German Economic Review*, 20(4). doi:<https://doi.org/10.1111/geer.12156>.
- Adegbite, E.O. and Ayadi, Folorunso.S. (2011). The role of foreign direct investment in economic development: A study of Nigeria. *World Journal of Entrepreneurship, Management and Sustainable Development*, 6(1/2), pp.133–147. doi:<https://doi.org/10.1108/20425961201000011>.
- Arnold, J.M. (2008). Do Tax Structures Affect Aggregate Economic Growth? *OECD Economics Department Working Papers*, [online] 643. doi:<https://doi.org/10.1787/236001777843>.
- Arnold, J.M., Brys, B., Heady, C., Johansson, Å., Schweltnus, C. and Vartia, L. (2011). Tax Policy for Economic Recovery and Growth. *The Economic Journal*, [online] 121(550), pp.F59–F80. doi:<https://doi.org/10.1111/j.1468-0297.2010.02415.x>.
- Baranova, V. and Janickova, L. (2012). Taxation of Corporations and Their Impact on Economic Growth: The Case of EU Countries. *Journal of Competitiveness*, 4(4), pp.96–108. doi:<https://doi.org/10.7441/joc.2012.04.07>.
- Bengoa, M. and Sanchez-Robles, B. (2003). Foreign direct investment, economic freedom and growth: new evidence from Latin America. *European Journal of Political Economy*, [online] 19(3), pp.529–545. Available at: <https://ideas.repec.org/a/eee/poleco/v19y2003i3p529-545.html>.
- Berg, A. and Krueger, A.O. (2003). *Trade, Growth, and Poverty: A Selective Survey.* [online] Ssrn.com. Available at: <https://ssrn.com/abstract=879105> [Accessed 25 Feb. 2025].
- Bleaney, M., Gemmell, N. and Kneller, R. (2001). Testing the endogenous growth model: public expenditure, taxation, and growth over the long run. *Canadian Journal of Economics/Revue canadienne d'économique*, [online] 34(1), pp.36–57. doi:<https://doi.org/10.1111/0008-4085.00061>.
- Chiricu, C.-Ş. (2019). The Analysis of the Economic Impact of VAT on the Economic Growth in Southern Europe. *Review of Economic and Business Studies*, 12(2), pp.47–56. doi:<https://doi.org/10.1515/rebs-2019-0091>.
- Dackehag, M. and Hansson, Å. (2025). Taxation of Income and Economic Growth: An Empirical Analysis of 25 Rich OECD Countries. *Handle.net.* [online] doi:<http://hdl.handle.net/10419/260033>.
- Dowrick, J., Brander, J. and Dowrick, S. (2024). The Role of Fertility and Population in Economic Growth: Empirical Results from Aggregate Cross-National Data. *Journal of Population Economics*, [online] 7(1), pp.1–25. Available at: https://econpapers.repec.org/article/sprjopoec/v_3a7_3ay_3a1994_3ai_3a1_3ap_3a1-25.htm.

- Easterly, W. and Rebelo, S. (1993). Fiscal policy and economic growth. *Journal of Monetary Economics*, 32(3), pp.417–458. doi:[https://doi.org/10.1016/0304-3932\(93\)90025-b](https://doi.org/10.1016/0304-3932(93)90025-b).
- Emmanuel, U.C. (2025). The Effects of Value Added Tax (V.A.T) on the Economic Growth of Nigeria. *Journal of Economics and Sustainable Development*, [online] 4(6), pp.190–201. Available at: <https://www.iiste.org/Journals/index.php/JEDS/article/view/5245>.
- Francis, A. (2023). *Theories of Taxation - MBA Knowledge Base*. [online] MBA Knowledge Base. Available at: <https://www.mbaknol.com/business-taxation/theories-of-taxation/> [Accessed 24 Feb. 2025].
- Frankel, J.A. and Romer, D. (1999). Does Trade Cause Growth? *American Economic Review*, [online] 89(3), pp.379–399. doi:<https://doi.org/10.1257/aer.89.3.379>.
- Gashi, B., Asllani, G. and Boqolli, L. (2018). The Effect of Tax Structure in Economic Growth. *International Journal of Economics and Business Administration*, VI(Issue 2), pp.56–67. doi:<https://doi.org/10.35808/ijeba/157>.
- Gemmell, N., Kneller, R. and Sanz, I. (2006). *Fiscal Policy Impacts on Growth in the OECD: Are They Long-or Short-Run?* [online] Available at: <https://archivo.alde.es/encuentros.alde.es/anteriores/ixeea/trabajos/s/pdf/sanz.pdf> [Accessed 25 Feb. 2025].
- Gorton, D. (2023). *Taxes definition: Types, Who pays, and Why*. [online] Investopedia. Available at: <https://www.investopedia.com/terms/t/taxes.asp>.
- Herzer, D. (2012). How Does Foreign Direct Investment Really Affect Developing Countries' Growth? *Review of International Economics*, 20(2), pp.396–414. doi:<https://doi.org/10.1111/j.1467-9396.2012.01029.x>.
- Jalata, D. (2014). The Role of Value Added Tax on Economic Growth of Ethiopia. *Science, Technology and Arts Research Journal*, 3(1), p.156. doi:<https://doi.org/10.4314/star.v3i1.26>.
- Karimi, M.S. and Yusop, Z. (2009). FDI and Economic Growth in Malaysia - Munich Personal RePEc Archive. *Uni-muenchen.de*. [online] doi:https://mpra.ub.uni-muenchen.de/14999/1/MPRA_paper_14999.pdf.
- Kneller, R., Bleaney, M.F. and Gemmell, N. (1999). Fiscal policy and growth: evidence from OECD countries. *Journal of Public Economics*, 74(2), pp.171–190. doi:[https://doi.org/10.1016/s0047-2727\(99\)00022-5](https://doi.org/10.1016/s0047-2727(99)00022-5).
- Kotlán, I., Machová, Z. and Janíčková, L. (2011). Vliv zdanění na dlouhodobý ekonomický růst. *Politická ekonomie*, 59(5), pp.638–658. doi:<https://doi.org/10.18267/j.polek.812>.
- Lee, Y. and Gordon, R.H. (2005). Tax structure and economic growth. *Journal of Public Economics*, [online] 89(5-6), pp.1027–1043. doi:<https://doi.org/10.1016/j.jpubeco.2004.07.002>.
- Nazeer, A.M. and Masih, M. (2017). *Impact of political instability on foreign direct investment and Economic Growth: Evidence from Malaysia*. [online] mpra.ub.uni-muenchen.de. Available at: <https://mpra.ub.uni-muenchen.de/79418/>.
- OECD (2006). *SPECIAL FEATURE: TAX REFORMS AND TAX BURDENS*. [online] Available at: https://www.oecd.org/content/dam/oecd/en/publications/reports/2008/03/taxing-wages-2007_g1gh8c08/tax_wages-2007-en.pdf [Accessed 25 Feb. 2025].

- Onakoya, Adegbemi; Afintinni, Oluwatobi Ibukun, Onakoya, A. and Afintinni, Oluwatobi Ibukun (2016). Taxation and Economic Growth in Nigeria. *Asian Journal of Economic Modelling*, [online] 4(4), pp.199–210. Available at: https://econpapers.repec.org/article/asiajmod/v_3a4_3ay_3a2016_3ai_3a4_3ap_3a199-210_3aid_3a873.htm [Accessed 25 Feb. 2025].
- Padovano, F. and Galli, E. (2007). Tax rates and economic growth in the OECD countries. *Economic Inquiry*, 39(1), pp.44–57. doi:<https://doi.org/10.1111/j.1465-7295.2001.tb00049.x>.
- Pham, Q.M. (2021). *Ảnh hưởng của chính sách thuế tới tăng trưởng kinh tế Việt Nam*. [online] Tạp chí Tài chính. Available at: <https://tapchitaichinh.vn/anh-huong-cua-chinh-sach-thue-toi-tang-truong-kinh-te-viet-nam.html> [Accessed 25 Feb. 2025].
- Rodriguez and Rodrik (2020). *Rodriguez, F. and Rodrik, D. (2001) Trade Policy and Economic Growth: A Skeptic's Guide to Cross-National Evidence. In Bernanke, B.S., and Rogoff, K.S., Eds., NBER Macroeconomics Annual 2000, MIT Press, Cambridge, MA. - References - Scientific Research Publishing.* [online] Scirp.org. Available at: <https://www.scirp.org/reference/referencespapers?referenceid=2663386> [Accessed 25 Feb. 2025].
- Romer, C.D. and Romer, D.H. (2010). The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks. *American Economic Review*, 100(3), pp.763–801. doi:<https://doi.org/10.1257/aer.100.3.763>.
- Thuy Tien Ho, Xuan Hang Tran and Nguyen, Q. (2023). Tax revenue-economic growth relationship and the role of trade openness in developing countries. *Cogent Business & Management*, 10(2). doi:<https://doi.org/10.1080/23311975.2023.2213959>.
- Tosun and Abizadeh (n.d.). *Tosun, M.S. and Abizadeh, S. (2005) Economic Growth and Tax Components: An Analysis of Tax Changes in OECD. Applied Economics*, 37, 2251-2263. - *References - Scientific Research Publishing.* [online] www.scirp.org. Available at: <https://www.scirp.org/reference/referencespapers?referenceid=1913032>.
- Ugwunta, O.D. and Ugwuanyi, U.B. (2015). Effect of distortionary and non-distortionary taxes on economic growth: Evidence from Sub-Saharan African countries. *Journal of Accounting and Taxation*, 7(6), pp.106–112. doi:<https://doi.org/10.5897/jat2015.0175>.
- Zhang, K. (2001). Does foreign direct investment promote economic growth? evidence from East Asia and Latin America. *Contemporary Economic Policy*, 19(2), pp.175-185.