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# Effect of excise taxes on economic growth in Southeast Europe

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## *ABSTRACT*

The rapid increase in government expenditure in European member states has raised concerns among policymakers regarding the role of tax revenue generation and its impact on economic growth. The study aims to determine how excise duty revenue influences economic growth in Southeastern Europe (SEE), considering the dual roles of excise taxes in revenue collection and as regulatory tools. It examines how different excise duty policies relate to economic performance and regional integration. Although existing literature addresses fiscal and regulatory issues of excise duties, less attention has been given to their broader macroeconomic implications, such as effects on economic growth and market cohesion within the diverse policy environment of SEE. The study analyzed the impact of excise taxes on economic growth in Romania, Bulgaria, Greece, and Serbia, using panel data from 2006 to 2023 and employing panel least squares estimation. Results indicate that excise tax revenue, gross capital formation, and trade openness positively influence economic growth, while inflation has a negative effect. The study proposes optimal excise tax rates and structures aligned with broader economic objectives. These should avoid depressing consumption or deterring investment in sectors that promote innovation and human capital development. Carefully calibrated tax rates, policies, and revenue administration efforts can facilitate growth without undermining key industries.

**Contribution/ Originality:** Empirical evidence on the relationship between excise duties and economic growth contributes to the literature on taxation and regional economic integration. Evidence-based policy recommendations will support the optimization of excise duty frameworks for sustainable growth and efficient markets in Southeast Europe.

## 1. INTRODUCTION

Taxation is one of the most essential pillars of public finance in developing economies, and policies must be implemented at different levels (Agrawal & Bütikofer, 2022; Barake & Le Pouhaër, 2024). Most excise duties are levied on specific commodities and services, often such as alcohol, tobacco, or energy products (Paraje, Jha, Savedoff, & Fuchs, 2023; Yeomans, 2025). Many governments have originated such duties to raise money or fund public projects (Aleluia, Tharakan, Chikkatur, Shrimali, & Chen, 2022; Fumey, Wiredu, & Essuman, 2024; Wirba, 2024). However, it is essential to know that in the long run, excise duties also serve as instruments for changing or modifying consumption patterns, correcting externalities, and advancing specific health and environmental objectives for society (Tan et al., 2022; Vence & López Pérez, 2021). Apart from these fiscal impacts, taxes on products will have a broader


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effect on the economy as they relate to consumer behavior, industrial production, or relevant macroeconomic indicators (Alinaghi & Reed, 2021; Gechert & Heimberger, 2022). So, before establishing a good framework for taxation that benefits both the economy and society, it is necessary to understand the nuanced impact of excise duties (Adefolake & Omodero, 2022; Stoilova, 2024).

Excise duties, as a regulatory tool, reflect the EU's commitment to sustainable development since they discourage the overconsumption of hazardous goods while promoting cleaner substitutes (Afshan & Yaqoob, 2023; Bruce & Ellis, 2023). The strategic implementation of these taxes fits into the general efforts of the EU to reconcile economic priorities with social and environmental responsibilities.

Besides their domestic impact, excise taxes in the EU are very central to the internal cohesion of the single market (Kozień & Kozłowska, 2022; Papadaki, 2022). Harmonizing rates and structures of excise taxes among member states minimizes trade distortions, encourages fair competition, and facilitates the free movement of goods (Honcharenko, Dudchenko, & Zhuk, 2023). However, because of different national economic demands and priorities, the application and intensity of excise duties vary across member states, which raises questions regarding how they affect economic growth (Opiso et al., 2023). These taxes can potentially influence industry operations, consumer behavior, and cross-border trade dynamics, thereby affecting financial performance in a complex manner (Vidrean-Căpuşan, 2021). Understanding these dynamics becomes imperative for policymakers to design taxation frameworks in line with EU-wide objectives and support long-term economic growth.

Government stability positively affects economic growth, while corruption hurts growth (Fumey et al., 2024; Uddin & Rahman, 2023; Zeeshan, Rehman, Ullah, Hussain, & Afridi, 2022). These factors are more critical in developing countries, where they can influence growth paths upward or downward. Human capital is primarily developed through education, which is a key driver of economic growth. Government investment in education enhances human capital, which is essential for long-term economic development (Gruzina, Firsova, & Strielkowski, 2021).

The study will, therefore, seek to establish how excise duties impact economic growth within Southeast Europe amid the dual roles that excise taxes have in revenue generation and as tools for regulation to determine how these different stances on excise duty policies relate to economic performance and integration among member states. Although a fair volume of literature covers the fiscal and regulatory issues of excise duties, little attention has been paid to their broader macroeconomic implications, such as economic growth and market cohesion in the SEE's harmonized yet diverse policy environment.

The following questions are answered in this inquiry (RQ1): How do excise duties affect GDP growth in the SEE since they are levied as revenue-raising and regulatory instruments? (RQ2) What impacts do inflation, government expenditure, and trade have on the economic growth of the integrated market countries of Southeastern Europe (Romania, Bulgaria, Greece, Serbia)? (RQ3) How do gross capital formation and trade openness interact with excise duties to shape GDP growth across the SEE member states? This study is motivated by the need to bridge the gap between fiscal policy design and its macroeconomic outcomes in a highly integrated economic bloc. Empirical evidence on the relationship between excise duties and economic growth contributes to the literature on taxation and regional economic integration.

Evidence-based policy recommendations will support optimizing excise duty frameworks for sustainable growth and efficient markets in the SEE.

Apart from the introduction, the remainder of the work is systematized: Section two summarizes appropriate literary works on the research topic and theoretical underpinnings. Section three covers the data and assessment techniques. Section four presents the empirical findings and discussion. The conclusion, implications, limitations, and future investigations of the study are provided in section five.



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## 2. LITERATURE REVIEW

### *2.1. Theoretical Overview*

The theoretical underpinning of this study is based on the Endogenous Growth Theory pioneered by Romer (1986) and further developed by Barro (1990) and Lucas (1988) which postulates that economic growth is primarily driven by internal factors within the financial system. This theory investigates the nexus between excise duties and economic growth in the countries of southeastern Europe (Romania, Bulgaria, Greece, and Serbia) for the following reasons: it recognizes conduct by the government in terms of policy, including taxation, as an endogenous determinant of steady-state economic growth. It postulates that policy measures can have a permanent effect on growth rates through their impact on investment decisions, human capital accumulation, and technological progress (Afolabi & Raifu, 2025; Hadush, Gebregziabher, & Biruk, 2023). Moreover, the theory accommodates this study's key control variables: human capital development is viewed as a crucial driver of productivity growth, trade openness facilitates technological diffusion and knowledge spillovers, and governance quality affects the efficiency of resource allocation. The given theory emphasizes policy-induced growth, which is especially suitable for analyzing the variation in excise duty rates and structures in countries of southeastern Europe (Romania, Bulgaria, Greece, Serbia), with a view to its influence on respective growth trajectories—both directly through changes in consumption and investment patterns and indirectly through the induction of public revenues and consequent governmental expenditure on productive activities.

### *2.2. Empirical Overview*

#### *2.2.1. Excise Duties and Economic Growth*

Empirical studies conducted within various economic contexts have noted a relationship between excise duties and economic growth. However, in the last decade, the results obtained from such studies on this relationship have been divergent. These findings highlight how the state of tax policies makes assessing impacts on economic performance complex. Using Kenya's economic data between 1973 and 2010, Owino (2019) finds a positive correlation between customs and excise duties and economic growth, but policy inconsistencies moderate this relationship. In contrast, Ogbomoso (2021) presented complex findings in the context of Nigeria, indicating that while excise duties had a negative short-run effect, the long-run effects became positive on GDP, indicating time dimensions to the result of the tax policy. Further complicating this argument, Rehman (2023), who studied the economy of Pakistan from 1972 to 2022, found that federal excise duties harm long-term economic growth in the short term, although their positive impact appears to be significant. These diverging findings were further complemented by the broad review (Cnossen, 2023) underlining the vast social benefits of excise taxation, especially in health and environmental respects, while fully acknowledging their revenue-generating potential. Complementing this, Neupane (2023) analyzed the economic data of Nepal, ranging from 1974 to 2020, and found a significant but negative long-term relationship between excise duties and GDP; hence, the need for context-specific tax reform strategies.

#### *2.2.2. Inflation and Economic Growth*

The relationship between inflation and economic growth is among the common subjects of macroeconomic research, with complex and often nonlinear interactions between the variables. From a broader perspective, it has been firmly put forward (Bonab, 2019) that economic growth responds positively to monetary stability, particularly how inflation erodes purchasing power and hinders investment, hence impeding economic progress. Aneja (2024) took it further in a comparative analysis, painting a subtler picture that moderate inflation boosts growth. Still, excessive inflation slows down the pace of economic development, thus bringing differences in the performance of developed and developing economies to the fore. These findings align with a study by Sitanggang, Aulia, Matondang, and Indriani (2022), who conducted a study in Indonesia and illustrated a high negative empirical correlation between high inflation rates and the economy's growth rate, pointing out price stability as the basis for continued economic



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performance. Other inputs provided by Cibotariu (2023) showed how inflation-economic growth interactions are significantly mediated by monetary and fiscal policy, respectively, and thus, an integrated policy approach is called for. Complementing another aspect of this discourse, Girdzijauskas, Streimikiene, Griesiene, Mikalauskiene, and Kyriakopoulos (2022) developed a new model of inflation that strengthened the need for controlled inflation in support of sustainable growth while warning about the macroeconomic instability due to high inflation rates. These studies thus cumulatively indicated that although economic growth might not be possible without some inflationary pressure, it is a delicate balance of the same with prudent calibration of policies that lead to sustainable economic development.

#### *2.2.3. Government Investment and Economic Growth*

The relationship between government expenditure and economic growth has been extensively researched, considering the impacts observed in different economic contexts and various spending categories. In a comprehensive review of 59 countries, including high-income and low-to-middle-income nations, Chu, Hölscher, and McCarthy (2020) demonstrated that reallocating expenditure toward more productive areas significantly benefited growth across income groups, emphasizing investments in infrastructure and education. Additional research by Selvanathan, Selvanathan, and Jayasinghe (2021) refined this understanding by analyzing data from Sri Lanka, revealing sector-specific effects: health and agriculture spending promoted growth, whereas welfare expenditure had adverse long-term effects, challenging the traditional view of the universal benefits of public spending. The opposite of these findings (Cenc, 2022) revealed a negative relationship in the Euro area countries, indicating that a government expenditure rise of 1% will decrease growth by 0.509%. This indicates the complexity of spending efficiency in developed economies. Ahuja and Pandit (2020) also researched 59 developing countries, which found that public expenditure positively affects growth, especially in high-open-trade and investment environments, indicating significant policy complementarity. More recently, based on data from Tanzania (Masele, 2024) gave granular insights into how expenditures on infrastructure, education, and agriculture substantially increase growth, whereas health expenditure has more modest impacts, underlining the importance of strategic sectoral allocation. All these studies combined hint that the relationship between government expenditure and economic growth is highly context-dependent, influenced by aspects such as efficiency in spending, sectoral allocation, and the larger economic atmosphere.

#### *2.2.4. Trade Openness and Economic Growth*

Empirical evidence on the link between trade and economic growth points to complex interactions when the result depends on economic contexts. For example, in the analysis of the ASEAN country group, Purnama and Yao (2019) noted a positive effect of international trade and foreign direct investment on economic growth but added the adverse impact of the exchange rate under long-run conditions. Complementing these results, an Indonesian study was conducted by Ifa and Yahdi (2020) from 1986 to 2017, employing the GMM method and providing evidence of positive impacts of trade openness on economic growth, considering FDI and labor force participation, and also accounting for mixed inflation effects.

Most recently, Kırcıcek and Ozparlak's (2023) analysis has furthered such understanding for G-20 countries by noting a bidirectional causality between trade components and economic growth, whereby exports and imports have positive impacts over the longer term. Contributing to this debate, Ahmad and Sudha (2023) provided cogent evidence from the Indian experience to substantiate trade as a core driver in the rise of India as an emerging economic power. On the contrary, Wani (2019) identified asymmetric effects operating for the Afghanistan economy, where exports contributed to growth. Still, imports had an adverse impact, bringing out the role of trade composition in shaping economic outcomes.



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#### *2.2.5. Human Capital and Economic Growth*

This relationship between human capital and economic growth has become one of the most investigated research areas. The strands of research highlight the complicated linkages and the differential impacts of various economic contexts. Broasca (2018), using dynamic panel data analysis, proved that human capital impacts economic growth, which is conditioned by the country's characteristics and industrial specializations, underlining the importance of country-specific human capital development strategy. Building on this conceptual platform, Neupane (2023) estimated the overall significant multiplier of economic growth due to investment in education and healthcare and highlighted human capital investment as a catalyst for sustainable development. These results also accord with the finding by Rashid (2020) in a study based on multi-linear regression and Solow production function analysis, which indicated that, among human capital indicators, secondary school enrollment bears the highest association value with GDP growth. Going ahead in furthering this discourse with some element of sophistication, Ali, Egbetokun, and Memon (2018), using data from 130 countries, showed how the influence of human capital on growth is strongly moderated by institutional quality and economic opportunity-suggesting holistic policy approaches. Recently, Saroj et al. (2024) showed that human capital enhances the nexus between financial development and economic growth in India by showing significant synergies between human capital and financial systems. This body of research would suggest that while human capital is essential and fundamental for economic growth, its effectiveness depends upon complementary institutional frameworks, industrial policies, and levels of financial development.

#### *2.2.6. Governance and Economic Growth*

Governance and growth are increasingly related, and complex interactions between the quality of institutions and the economy's performance are evidenced. Indeed, a cross-country analysis of 145 countries by Samarasinghe (2018) showed that control of corruption significantly enhances economic growth, more so in high-income countries compared to middle and low-income countries. Further developing this theme, Khyareh and Amini (2021) used a more sophisticated analysis through a three-stage least squares regression across 64 countries and found good governance to significantly amplify the positive effect of entrepreneurship on growth, particularly in innovation-driven economies, but less so in efficiency-driven economies. Hamida, Lassoued, and Hadhek (2020) further qualified this by distinguishing between economic and political governance; according to their study, economic governance influences growth positively through the investment channel, while political governance has little direct influence on growth. Adding yet another critical dimension to the discussion, Hsieh, Chen, and Lin (2019) showed that better governance reduces imperfections in credit markets, with the consequent benefit accruing mainly to industries reliant on external finance, again pointing to an essential interaction between the quality of institutions and financial market development. These studies collectively support the proposition that while quality governance is imperative in attaining economic growth, it differs across various governance dimensions and for different economic contexts, requiring nuanced, context-specific institutional reforms.

## 3. RESEARCH METHODOLOGY

### *3.1. Data Issues*

The study conducts panel analysis for four Southeast European (SEE) countries with similar economic environments and members of the Craiova Group, which aims to improve the economic conditions of its member states: Romania, Bulgaria, Greece, and Serbia. Based on the availability of secondary data, the analysis uses panel data from 2006 to 2023 for these four SEE countries, totaling 72 observations. The study variables, as reviewed in empirical and theoretical literature, (Barro, 1990), include economic growth (GDP), excise taxes (EXT), gross capital formation (GCF), inflation (INF), and trade openness (OPE). Excise duties, as a significant source of government revenue, are closely linked to government expenditure; increased collections can enhance fiscal space, enabling higher public investment in key sectors such as health, education, and infrastructure, which in turn can influence economic



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growth, income distribution, and overall macroeconomic stability. Annual data for all variables are provided by the World Bank in the World Development Indicators database and the European Commission in the Eurostat database. Consistent with empirical and theoretical literature, economic growth is measured by the annual GDP growth rate. Excise taxes are proxied by excise tax revenue as a percentage of total tax revenue (Stoilova, 2024). The study uses gross capital formation as a percentage of GDP as a proxy for gross capital formation. The study proxies trade openness with the ratio of total trade to GDP. Further, the inflation rate is proxied with the percentage of a consumer price index. Table 1 shows the expected signs of study variables.

**Table 1.** Definition of variables.

| Variable | Definition | Data source | Expected sign |
|---|---|---|---|
| Economic growth (GDP) | GDP growth rate (%) | World bank | Not defined (Albimana & Moh'd Hemedb, 2022) |
| Excise tax revenue (EXT) | Selected excises on goods and services (% of revenue) | World bank | Positive (Stoilova, 2024) |
| Gross capital formation (GCF) | Gross capital formation (% of GDP) | World bank | Positive (Masele, 2024) |
| Trade openness (OPE) | Trade (% of GDP) | World bank | Positive (Ifa & Yahdi, 2020) |
| Inflation (INF) | Consumer price index (%) | World bank | Negative (Sitanggang et al., 2022) |

### *3.2. Model Specification*

The regression function is based on the endogenous growth model proposed by Barro (1990) and further advanced by Davoodi and Zou (1998) and Stoilova (2024) thus shows the long-term growth rates as a function of taxation and tax structure changes at different government level, so the variables can be given as the general model (Equation 1).

$$GDP = f(EXT, GCF, OPE, INF) \quad (1)$$

Further, the basic linear regression model has the following structure (Equation 2).

$$GDP_{it} = \alpha + \delta_1 EXT_{it} + \delta_2 GCF_{i,t} + \delta_3 OPE_{it} + \delta_4 INF_{it} + \varepsilon_{it} \quad (2)$$

Where $\delta$ represent the elasticities of the variables in the regression model. $t$ represents the time dimension, $i$ represents the country dimension, and $\varepsilon$ is the error term.

### *3.3. Data Analysis*

This study employs descriptive, correlation, and regression analysis on panel data to investigate the effect of excise duty tax revenue on economic growth in SEE countries. The descriptive and correlation coefficients between study variables are analyzed and presented in the explanatory and correlation matrix to indicate the characteristics of the regression variables.

Preliminary tests on the variables are crucial when analyzing panel data to ensure the reliability of the estimated parameters from the designated model. To ensure the accuracy of the results, the study first examines the stationarity characteristics of each variable using the Levin-Lin-Chu unit root test. Next, a cointegration test using the Kao cointegration method is performed to assess the long-run relationships among the variables. The study employs a panel least squares estimation approach to estimate the regression model. Causality hypotheses are tested using the Granger causality test to examine the relationships between variables. Finally, post-diagnostic tests such as the normality test (Jarque-Bera), serial correlation tests (Durbin-Watson and Breusch-Godfrey), and heteroscedasticity tests (Breusch-Pagan) are conducted to validate the model and results.



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## 4. RESULTS AND DISCUSSION

### *4.1. Descriptive Statistics and Correlation Matrix*

Based on Table 2, the descriptive statistics reveal key characteristics of the variables across 72 observations. GDP shows a mean of 1.98% with considerable variation, ranging from -9.88% to 9.31%. EXT averages 38.28% of total revenue, fluctuating between 30.56% and 46.22%. GCF has a mean of 21.90% of GDP, ranging from 11.89% to 36.92%. OPE demonstrates the highest variability with a standard deviation of 24.48, averaging 89.84% and ranging from 46.38% to 138.84%. INF averages 4.24%, with a minimum of -1.74% and a maximum of 15.33%. The Jarque-Bera test results and associated probabilities indicate that GDP, EXT, and INF do not follow a normal distribution ($p < 0.05$). Meanwhile, GCF and OPE show standard distribution patterns ($p > 0.05$).

**Table 2.** Descriptive statistics results.

| Variable | GDP | EXT | GCF | OPE | INF |
|---|---|---|---|---|---|
| Mean | 1.975 | 38.282 | 21.897 | 89.842 | 4.237 |
| Median | 2.383 | 39.483 | 21.807 | 85.130 | 3.246 |
| Maximum | 9.307 | 46.222 | 36.924 | 138.840 | 15.325 |
| Minimum | -9.876 | 30.563 | 11.888 | 46.377 | -1.735 |
| Std. dev. | 4.198 | 5.018 | 5.600 | 24.481 | 4.141 |
| Skewness | -0.705 | -0.021 | 0.085 | 0.271 | 0.785 |
| Kurtosis | 3.427 | 1.581 | 2.856 | 1.962 | 2.882 |
| Jarque-Bera | 6.520 | 6.043 | 0.150 | 4.115 | 7.446 |
| Probability | 0.038 | 0.048 | 0.927 | 0.127 | 0.024 |
| Sum | 142.205 | 2756.342 | 1576.600 | 6468.667 | 305.086 |
| Sum sq. dev. | 1251.711 | 1787.853 | 2227.035 | 42553.290 | 1217.828 |
| Observations | 72 | 72 | 72 | 72 | 72 |

Based on Table 3, GDP shows a moderate positive correlation with GCF (0.484). EXT has a strong positive correlation with OPE (0.663), while other correlations are relatively weak but positive, ranging from 0.143 to 0.467, indicating no concerning multicollinearity among the variables.

**Table 3.** Correlation matrix results.

| Variables | GDP | EXT | GCF | OPE | INF |
|---|---|---|---|---|---|
| GDP | 1 | | | | |
| EXT | 0.198 | 1 | | | |
| GCF | 0.484 | 0.223 | 1 | | |
| OPE | 0.319 | 0.663 | 0.186 | 1 | |
| INF | 0.259 | 0.200 | 0.467 | 0.143 | 1 |

### *4.2. Regression Results*

#### *4.2.1. Panel Unit Root*

Based on Levin, Lin, and Chu's unit root test, economic growth, gross capital formation, and inflation rates are non-stationary. At the same time, excise taxes and trade openness are stationary at this level in Table 4.

**Table 4.** Unit root result.

| Variables in logs | Levin-Lin-Chu at level | | Conclusion | LLC at first difference | | Conclusion |
|---|---|---|---|---|---|---|
| | t-statistics | P-value | | t-statistics | p-value | |
| GDP | -0.942 | 0.172 | I(1) | -2.957 | 0.001 | I(0) |
| EXT | -10.668 | 0.000 | I(0) | _ | _ | _ |
| GCF | -0.555 | 0.289 | I(1) | -33.247 | 0.000 | I(0) |
| OPE | -6.297 | 0.000 | I(0) | - | - | - |
| INF | -0.011 | 0.495 | I(1) | -3.686 | 0.000 | I(0) |



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### *4.2.2. Cointegration Test*

The Kao test indicates an insignificant long-run relationship between economic growth and exogenous variables, implying the absence of a long-run relationship, as shown in Table 5.

**Table 5.** Kao cointegration result.

| ADF | t-statistics | Prob. |
|---|---|---|
| | -1.121 | 0.131 |
| Residual variance | 12.386 | |
| HAC variance | 3.190 | |

**Note:** Null hypothesis: No cointegration.

The P-value is insignificant, implying the series has no long-term relationship.

### *4.2.3. Panel Least Squares Regression Results*

The regression results in Table 6 reveal significant relationships between study variables and GDP in SEE countries. EXT shows a positive and significant impact (β=0.374378, p=0.0028), indicating that a 1% increase in EXT leads to a 0.37% increase in GDP, meaning that a 1% increase in excise tax can lead to a 0.37% rise in GDP if the revenue is efficiently used for productive government spending, such as infrastructure or education, which stimulates economic activity more than the tax reduces consumption. GCF also demonstrates a positive significant effect (β=0.273014, p=0.0018), while OPE exhibits a more minor but significant positive impact (β=0.062487, p=0.0090). INF shows a substantial adverse effect (β=-0.257348, p=0.0007). The model's adjusted R-squared of 0.451754 suggests that approximately 45% of the variations in GDP are explained by the independent variables. The positive relationship between EXT and GDP aligns with Owino (2019), who found a positive correlation between customs and excise duties and GDP in Kenya. However, our findings contrast with Rehman (2023), who discovered that federal excise duties negatively impact short-term GDP in Pakistan. This difference is attributed to SEE countries' varying economic structures and tax administration systems. The positive impact of GCF on GDP supports the findings of Masele (2024), who demonstrated that investment in physical capital significantly contributes to GDP. This relationship emphasizes the importance of capital accumulation in driving economic growth in SEE countries, mainly through infrastructure development and technological advancement. OPE's positive effect on GDP confirms the findings of Kırcıcek and Ozparlak (2023), who established a bidirectional causality between trade components and GDP in G-20 countries. This suggests that SEE countries' integration into international markets through trade contributes to their GDP, although the magnitude of impact is relatively smaller compared to other variables. The negative relationship between INF and GDP corroborates (Sitanggang et al., 2022) findings in Indonesia, demonstrating how high inflation rates negatively correlate with GDP. These support Aneja's (2024) assertion that while moderate inflation might boost growth, excessive inflation impedes economic development, highlighting the importance of maintaining price stability in SEE countries for sustained GDP growth.

**Table 6.** Regression results.

| Variable | Coefficient | Standard error | t- statistics | p –value |
|---|---|---|---|---|
| EXT | 0.374 | 0.118 | 3.150 | 0.002 |
| GCF | 0.273 | 0.084 | 3.246 | 0.001 |
| OPE | 0.062 | 0.023 | 2.689 | 0.009 |
| INF | -0.257 | 0.071 | -3.574 | 0.000 |
| CONS | -7.304 | 4.283 | -1.705 | 0.094 |
| Goodness of fit test | Adjusted R-squared | | 0.451 | |
| F-statistic | 1.961 | | Prob > F =0.026 | |
| Durbin-Watson statistics | 1.918 | | | |
| Pesaran CD test | $\chi^2$ (6) = -0.310 | | Prob> $\chi$2 =0.756 | |
| Breusch-Pagan LM test | $\chi^2$ (6) = 1.613 | | Prob> $\chi$2 = 0.951 | |
| Jarque-Bera test | 5.862 | | Prob=0.053 | |



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*4.2.4. Granger Causality Result*

The causality tests in Table 7 confirm unidirectional causality between the variable and economic growth. EXT Granger causes GDP growth with significant values (F=10.0046, p=0.0002), but GDP does not cause EXT. Likewise, GCF Granger causes GDP (F=2.83071, p=0.0670), and OPE Granger causes GDP with significant values (F=11.9229, p=4.E-05). INF confirms unidirectional causality towards GDP, but with less critical values. All these confirm direction causality in the study regarding how these variables, excise taxes, cause economic growth in SEE countries. These unidirectional causality results confirm current studies of emerging economies' impact on fiscal policies. The strong causality between EXT and GDP confirms (Cnossen, 2023) the conclusion regarding the effectiveness of taxing through an excise in driving performance in terms of the economy. Likewise, the unidirectional causality between OPE and GDP confirms (Ahmad & Sudha, 2023)that openness towards trading is a root cause, not its reverse counterpart. Although classical economic theory posits that taxation generally impedes economic growth, our findings challenge this view and are supported by robust empirical evidence, suggesting that under certain conditions, such as effective public spending, improved fiscal management, and correction of market failures, taxation can positively influence economic performance. Weak causality between INF and GDP, but unidirectionality, confirms (Cibotariu, 2023) observation that inflation contribution towards growth tends to go through intermediate macroeconomics and policy structures. The weak but unidirectional causality observation is that inflation influences growth indirectly through intermediate macroeconomic channels rather than direct mechanisms. This finding suggests policymakers should account for these indirect transmission pathways and potential lags when designing monetary policies. Thus, central banks should anticipate 3–6-month policy lags and monitor credit markets, consumer confidence, and business investment patterns as key transmission variables when calibrating interest rate adjustments to manage inflation without undermining growth momentum.

**Table 7.** Pairwise granger causality tests.

| Direction | F-stat. | Prob. | Status |
|---|---|---|---|
| EXT ⟶ GDP | 10.004 | 0.000 | Unidirectional |
| GDP ⟶ EXT | 1.911 | 0.156 | |
| GCF ⟶ GDP | 2.830 | 0.067 | Unidirectional |
| GDP ⟶ GCF | 0.311 | 0.733 | |
| OPE ⟶ GDP | 11.922 | 0.000 | Unidirectional |
| GDP ⟶ OPE | 1.525 | 0.225 | |
| INF ⟶ GDP | 0.685 | 0.508 | Unidirectional |
| GDP ⟶ INF | 2.600 | 0.082 | |

**Note:** Lags 2; observations 64, Null hypothesis: does not Granger cause.

## 5. CONCLUSION AND RECOMMENDATIONS

The empirical results indicate the complex relationship between excise duties and growth paths in Southeastern Europe (Romania, Bulgaria, Greece, Serbia). More precisely, excise tax rates and structures significantly affect consumption and investment patterns and, thus, overall economic growth. Results have highlighted the importance of well-designed taxation policies that delicately balance revenue generation with financial incentives. Additionally, government expenditure and trade openness also emerged as other critical mediators in the impact of excise duties on growth. The results suggest that in Southeastern Europe, governments must consider the fiscal objectives of excise taxes alongside their broader effects on long-term economic performance.

This study proposes several policy recommendations for fostering sustainable economic growth in South Eastern Europe: optimal excise tax rates and structures duly aligned with broader economic objectives. These should neither depress consumption nor deter investment in sectors that drive innovation and human capital development. Such carefully calibrated tax rates would facilitate growth without undermining key industries. Secondly, concerted attention needs to be given to human capital development. Governments should emphasize investments in education



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and workforce skills, as these are fundamental drivers of productivity. This will further enhance the positive effects of excise taxation on growth, entrenching a more resilient and skilled labor force capable of adapting to evolving economic challenges.

Furthermore, government expenditure in productive areas should be increased. As the study points out, public investment is crucial in stimulating economic growth. In this regard, excise tax revenues should be directed toward infrastructure development, technological innovation, and R&D, among other vital areas for long-term economic growth. The aforementioned negative impacts from excise taxation can be somewhat softened by further trade openness and the facilitation of technological diffusion. Trade openness and foreign direct investment will guarantee access to worldwide markets and more advanced technologies, thus further integrating Southeastern Europe into European and global systems. This would facilitate technological spillovers and knowledge transfer, ultimately contributing to higher productivity and growth.

Good governance and the quality of institutions are also crucial for effective economic development. Transparent and accountable institutions will ensure that revenues from excise taxes are managed efficiently. Governance improvements enable governments to allocate resources better to growth-enhancing initiatives. Finally, monitoring inflationary trends will be necessary, as inflation may distort investment decisions and erode positive impacts due to excise taxes. This is where stable macroeconomic conditions become crucial for maximizing the benefits of fiscal policy measures in supporting long-term economic growth.

While this study provides valuable insights into the effect of excise taxes on economic growth in Southeastern Europe, it has some limitations. First, the analysis is restricted because data regarding variations in the excise tax structure over time are unavailable for many countries. Second, the study primarily focuses on aggregate macroeconomic indicators, which may obscure sector-specific dynamics. Future research could explore the effects of excise taxes in more detail, such as the sectoral impact on industries like alcohol, tobacco, and fuel. Additionally, an expanded set of control variables, including social factors and regional disparities, would be useful in developing a more comprehensive understanding of the taxation-growth relationship. Furthermore, examining the long-term effects of excise taxation and its role within broader changes in the global economy and regional integration processes would be valuable for future studies.

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## REFERENCES

Adefolake, A. O., & Omodero, C. O. (2022). Tax revenue and economic growth in Nigeria. *Cogent Business & Management*, *9*(1), 2115282.

Afolabi, J. A., & Raifu, I. A. (2025). Toward economic resilience in Sub-Saharan Africa: The role of institutional quality and human capital development. *Sustainable Development*, *33*(2), 2566-2578.

Afshan, S., & Yaqoob, T. (2023). Unravelling the efficacy of green innovation and taxation in promoting environmental quality: A dual-model assessment of testing the LCC theory in emerging economies. *Journal of Cleaner Production*, *416*, 137850.

Agrawal, D. R., & Bütikofer, A. (2022). Public finance in the era of the COVID-19 crisis. *International Tax and Public Finance*, *29*(6), 1349-1372.

Ahmad, R. I., & Sudha, D. T. (2023). Trade and growth in india: an analysis of the relationship and its implications. *International Journal of Social Science, Educational, Economics, Agriculture Research and Technology*, *2*(4), 1331-1336.



© 2025 AESS Publications. All Rights Reserved.

Ahuja, D., & Pandit, D. (2020). Public expenditure and economic growth: Evidence from the developing countries. *FIIB Business Review*, *9*(3), 228-236.

Albimana, M. M., & Moh'd Hemedb, I. (2022). The determinants of tax revenues among EAC members. *African Tax and Customs Review*, *5*(1), 20–32.

Aleluia, J., Tharakan, P., Chikkatur, A., Shrimali, G., & Chen, X. (2022). Accelerating a clean energy transition in Southeast Asia: Role of governments and public policy. *Renewable and Sustainable Energy Reviews*, *159*, 112226.

Ali, M., Egbetokun, A., & Memon, M. H. (2018). Human capital, social capabilities and economic growth. *Economies*, *6*(1), 1-18.

Alinaghi, N., & Reed, W. R. (2021). Taxes and economic growth in OECD countries: A meta-analysis. *Public Finance Review*, *49*(1), 3-40.

Aneja, P. S. (2024). A comparative study for exploring the nexus between inflation and economic growth. *International Journal of Social Science and Economic Research*, 1-15.

Barake, M., & Le Pouhaër, E. (2024). Tax revenue from Pillar One Amount A: Country-by-country estimates. *International Tax and Public Finance*, 1-61.

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

Bonab, A. F. (2019). A review of inflation and economic growth. *Journal of Management and Accounting Studies*, *5*(02), 1-4.

Broasca, S. L. (2018). The influence of human capital on economic growth. *Risk in Contemporary Economy*, 295-300.

Bruce, N., & Ellis, G. (2023). Green taxes and policies for environmental protection. In taxing choices for managing natural resources, the environment, and global climate change: Fiscal Systems Reform Perspectives. In (pp. 83–119). USA: Springer.

Cenc, H. (2022). Government expenditure and economic growth in Euro area countries. *Our Economy*, *68*(2), 19-27.

Chu, T. T., Hölscher, J., & McCarthy, D. (2020). The impact of productive and non-productive government expenditure on economic growth: An empirical analysis in high-income versus low-to middle-income economies. *Empirical Economics*, *58*, 2403-2430.

Cibotariu, I.-S. (2023). Methods of measuring and analyzing inflation and its effect on economic growth. *Ovidius University Annals, Economic Sciences Series*, *23*(2), 36-45.

Cnossen, S. (2023). Excise taxation to preserve health and to protect the environment: a review. *Canadian Tax Journal/Revue Fiscale Canadienne*, *70*, 159-184.

Davoodi, H., & Zou, H.-f. (1998). Fiscal decentralization and economic growth: A cross-country study. *Journal of Urban Economics*, *43*(2), 244-257.

Fumey, M. P., Wiredu, J., & Essuman, A. N. (2024). Evaluating taxation's dual impact on business and social development: A case study of the Cape Coast metropolis in Ghana. *Financial Statistical Journal*, *7*(1), 1–13.

Gechert, S., & Heimberger, P. (2022). Do corporate tax cuts boost economic growth? *European Economic Review*, *147*, 104157.

Girdzijauskas, S., Streimikiene, D., Griesiene, I., Mikalauskiene, A., & Kyriakopoulos, G. L. (2022). New approach to inflation phenomena to ensure sustainable economic growth. *Sustainability*, *14*(1), 518.

Gruzina, Y., Firsova, I., & Strielkowski, W. (2021). Dynamics of human capital development in economic development cycles. *Economies*, *9*(2), 67.

Hadush, M., Gebregziabher, K., & Biruk, S. (2023). Determinants of economic growth in East African countries: A dynamic panel model approach. *Cogent Economics & Finance*, *11*(2), 2239629.

Hamida, A., Lassoued, T., & Hadhek, Z. (2020). The effects of governance on economic growth. *Economics, Politics and Regional Development*, *1*(2), 34–44.

Honcharenko, I., Dudchenko, N., & Zhuk, V. (2023). Particularities of indirect taxation in countries of the EU. *Financial & Credit Activity: Problems of Theory & Practice*, *3*(50), 42–51.

Hsieh, J., Chen, T.-C., & Lin, S.-C. (2019). Credit constraints and growth gains from governance. *Applied Economics*, *51*(11), 1199-1211.



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Ifa, K., & Yahdi, M. (2020). Trade openness and economic growth in Indonesia. *Wiga: Jurnal Penelitian Ilmu Ekonomi, 10*(2), 163-170.

Khyareh, M. M., & Amini, H. (2021). Governance quality, entrepreneurship and economic growth. *Journal of Competitiveness, 13*(2), 1-24.

Kırcıcek, T., & Ozparlak, G. (2023). The essential role of international trade on economic growth. *Journal of Economics Finance and Accounting, 10*(4), 191-202.

Kozień, A., & Kozłowska, N. (2022). Harmonization and deharmonization of excise duty in the European Union as contemporary challenges of the EU tax law. *WSEAS Transactions on Business and Economics, 19*, 815–824.

Lucas, J. R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics, 22*(1), 3-42.

Masele, R. E. (2024). Government expenditure and economic growth in Tanzania. *Tanzanian Economic Review, 13*(2), 60–76-60–76.

Neupane, D. (2023). Analysis of the relationship between tax revenue and economic growth in Nepal. *Siddhajyoti Interdisciplinary Journal, 4*(1), 25-36.

Ogbomoso, O. (2021). *The cointegration analysis of effect of value added tax and excise duties on economic growth in Nigeria*. Retrieved from https://consensus.app/papers/thecointegrationanalysisofeffectofvalueaddedtaxandoyonigeria/30205c5cad185e7692d33bd28093e4eb/

Opiso, J., Korutaro Nkundabanyanga, S., Tumwine, S., Kigongo Kaawaase, T., Senyonga, L., & Echegu, S. (2023). The digital era of taxation: Analysing the effectiveness of digital tax adoption on petroleum excise duty revenue. *Cogent Business & Management, 10*(3), 2272370.

Owino, O. B. (2019). The effect of custom and excise duties on economic growth in Kenya. *International Journal of Scientific and Research Publications, 9*(1), 530-546.

Papadaki, Š. (2022). The amount of excise tax and its effect on the consumption of alcohol and cigarettes in European countries. *Adiktologie, 22*(4), 234–243.

Paraje, G. R., Jha, P., Savedoff, W., & Fuchs, A. (2023). Taxation of tobacco, alcohol, and sugar-sweetened beverages: reviewing the evidence and dispelling the myths. *BMJ Global Health, 8*(Suppl 8), e011866.

Purnama, P. D., & Yao, M. H. (2019). The relationship between international trade and economic growth. *International Journal of Applied Business Research, 1*, 112-123.

Rashid, H. (2020). *Human capital and economic growth in India*. Retrieved from https://consensus.app/papers/humancapitalandeconomicgrowthinindiarashid/37946e74c0415594b5cadb219e5a5ee4/

Rehman, W. (2023). Contribution of indirect taxes on goods to economic growth of Pakistan (1972-2022). *Qeios*.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy, 94*(5), 1002-1037.

Samarasinghe, T. (2018). *Impact of governance on economic growth*. Retrieved from https://consensus.app/papers/impact-of-governance-on-economic-growth-samarasinghe/44c08f08e78950e78f80ab5393b7c714/

Saroj, S., Shastri, R. K., Singh, P., Tripathi, M. A., Dutta, S., & Chaubey, A. (2024). In what ways does human capital influence the relationship between financial development and economic growth? *Benchmarking: An International Journal, 31*(4), 1073-1091.

Selvanathan, E. A., Selvanathan, S., & Jayasinghe, M. S. (2021). Revisiting Wagner's and Keynesian's propositions and the relationship between sectoral government expenditure and economic growth. *Economic Analysis and Policy, 71*, 355-370.

Sitanggang, E., Aulia, J., Matondang, K. A., & Indriani, R. (2022). The effect of inflation on the rate of economic growth. *Asian Journal of Applied Business and Management, 1*(1), 1-10.

Stoilova, D. G. (2024). Tax structure and economic growth: New empirical evidence from the european union. *Journal of Tax Reform, 10*(2), 240-257.

Tan, Z., Wu, Y., Gu, Y., Liu, T., Wang, W., & Liu, X. (2022). An overview on implementation of environmental tax and related economic instruments in typical countries. *Journal of Cleaner Production, 330*, 129688.



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Uddin, I., & Rahman, K. U. (2023). Impact of corruption, unemployment and inflation on economic growth evidence from developing countries. *Quality & Quantity*, *57*(3), 2759-2779.

Vence, X., & López Pérez, S. d. J. (2021). Taxation for a circular economy: New instruments, reforms, and architectural changes in the fiscal system. *Sustainability*, *13*(8), 4581.

Vidrean-Căpuşan, T. (2021). The European excises system. *International Journal of Legal and Social Order*, *1*(1), 465-470.

Wani, N. U. H. (2019). Nexus between openness to trade and economic growth: an empirical investigation of Afghanistan. *South Asia Economic Journal*, *20*(2), 205-223.

Wirba, A. V. (2024). Corporate social responsibility (CSR): The role of government in promoting CSR. *Journal of the Knowledge Economy*, *15*(2), 7428-7454.

Yeomans, H. (2025). Reconnecting genealogies of criminal justice and excise tax enforcement. *Theoretical Criminology*, *29*(2), 141-160.

Zeeshan, M., Rehman, A., Ullah, I., Hussain, A., & Afridi, F. E. A. (2022). Exploring symmetric and asymmetric nexus between corruption, political instability, natural resources and economic growth in the context of Pakistan. *Resources Policy*, *78*, 102785.

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