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Corporate Tax and Economic Growth: A Fourier-Based Analysis in the Context of Türkiye

Kurumlar Vergisi ve Ekonomik Büyüme: Türkiye Özelinde Fourier Temelli Bir Analiz

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ABSTRACT

Theoretically, the detrimental effect of corporate tax on economic growth is often emphasized. However, recent studies emphasize that reductions in corporate tax rates do not always increase economic growth rates. In this regard, there is insufficient evidence regarding the impact of corporate tax on economic growth in Türkiye. Within this scope, this study analyzes the relationship between corporate tax and economic growth in Türkiye for the period 1965-2024 using Fourier-based econometric techniques. According to the analysis results, corporate tax and economic growth series move together under structural breaks in the long term. Long-term estimation tests indicate that corporate tax has a negative and statistically significant effect on economic growth. According to the average of three estimators with different structural properties, a 1% increase in corporate tax under structural breaks has a negative effect on economic growth of 0.084%.

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ÖZ

Teorik olarak kurumlar vergisinin ekonomik büyümeye zarar verici etkisi sıklıkla vurgulanmaktadır. Bununla birlikte, son çalışmalar kurumlar vergisi oranlarındaki indirimlerinin ekonomik büyüme oranlarını her zaman arttırmayacağının altını çizmektedirler. Bu doğrultuda, Türkiye özelinde kurumlar vergisinin ekonomik büyüme üzerindeki etkisinin ne olduğuna ilişkin yeterli düzeyde kanıt bulunmamaktadır. Bu kapsamda, bu çalışmada 1965-2024 yıllarını kapsayan dönem için Fourier temelli ekonometrik tekniklerini kullanarak Türkiye'de kurumlar vergisi ve ekonomik büyüme ilişkisini analiz etmektedir. Analiz sonuçlarına göre, kurumlar vergisi ve ekonomik büyüme serileri uzun dönemde yapısal kırılmalar altında birlikte hareket etmektedirler. Bu doğrultuda yürütülen uzun dönem tahmin sınamaları, kurumlar vergisinin ekonomik büyüme üzerinde negatif ve istatistiksel olarak anlamlı bir etkiye sahip olduğuna işaret etmektedir. Farklı yapısal özelliklere sahip üç tahmincinin ortalamasına göre, yapısal kırılmalar altında kurumlar vergisindeki %1'lik artış ekonomik büyümeyi %0.084 azaltıcı bir etkiye sahiptir.

Introduction

Economic growth (EG), a fundamental macroeconomic parameter, ranks first among the strategic priorities of policymakers globally. In its broadest sense, EG refers to the sustainable increase in total output and national income levels resulting from the expansion of an economy's production capacity over time. Although many developing countries have demonstrated remarkable EG performance in recent years, current data indicate that they have not yet fully closed the structural gap with developed economies in terms of per capita income. Determining which public policies should be implemented to optimize EG performance is of strategic importance to national authorities and international organizations. Fundamental socio-economic goals, such as raising social welfare and combating chronic poverty, are directly related to achieving a sustainable EG rate. The focus of recent economic debates has been on the potential EG capacity that economies can achieve within a stable framework. Globally, multidimensional policy approaches are being adopted to stimulate EG dynamics and alleviate poverty. However, in this process, fiscal policies stand out as the most effective intervention tools available to decision-makers. Fiscal tools such as budget management, public spending, and tax regulations have become fundamental elements that determine both the direction and the inclusiveness of EG. At this point, it is imperative that fiscal tools centered on tax policies be used effectively. In modern fiscal thought, tax policy goes beyond being merely a source of revenue for financing public expenditures; it also fulfills critical functions such as directing, controlling, and managing economic sectors, and encouraging production capacity. In this context, governments aim to maximize tax revenues to strengthen public finances while also using these tools as catalysts to trigger EG (Nguyen et al., 2020, p. 1177; Canavire-Bacarreza et al., 2013, p. 2).

The relationship between EG and tax revenues is bidirectional rather than unidirectional. EG momentum in a country increases public revenues by broadening the tax base, while tax policies also shape EG dynamics through investment and consumption decisions. In this context, there is an organic and inseparable link between the tax structure and EG (Küçükoğlu, 2019, p. 19). The impact of tax policies on EG has become highly controversial beyond academic circles, extending into political arenas and public debate. Competing economic doctrines regarding the driving forces of EG lie at the root of these differences of opinion. A review of the literature reveals an ongoing paradigm conflict among the Keynesian approach, which focuses on demand-side dynamics, the Neoclassical school, which prioritizes supply-side factors, and hybrid theories that synthesize these two approaches. This theoretical complexity, combined with the diversity of historical and geographical parameters, creates a ground where almost any economic assumption can be supported by data (McBride, 2012, p. 1).

Since the post-World War II era, national tax systems have undergone profound change worldwide. These structural transformations in tax regimes are not merely a result of periodic fluctuations in macroeconomic variables but also reflect a multidimensional set of factors. Among the key elements triggering this dynamic change are transformations in the institutional structures of governments, paradigm shifts in economic policies, and periodic conjunctural changes. However, the general socio-political atmosphere and the prevailing political ideologies have also played a decisive role in shaping tax systems. Therefore, the historical development of modern tax structures should be considered as a product of the interaction between economic necessities and political-ideological preferences (Tosun & Abizadeh, 2005, p. 2251).

From the late 19th century onwards, the rapid proliferation of legal entities such as corporations, limited liability companies, and partnerships in industrialized economies marked a critical turning point in modern tax systems. Corporate tax (CTAX) emerged as a complement to personal income tax to tax legal entities that generated profits from economic activities. The institutional and legal development of CTAX followed a heterogeneous course across countries, starting from a Western European-centered focus and spreading globally in parallel with the level of industrialization (Dökmen, 2019, p. 79).

The raison d'être of CTAX is that it functions as a financial safety valve supporting the personal income tax mechanism and as a central withholding tool. In the absence of taxation at the corporate level, profits retained and not distributed within the company will remain outside the tax system until shareholders realize these gains. Particularly in legal environments where capital gains are not taxed or are subject to exemptions, profits may be permanently excluded from the tax base. Governments aim to prevent shareholders from concealing their equity returns through tax shields under CTAX. This practice also minimizes the competitive imbalance between incorporated entities and unincorporated enterprises, while maintaining the balance of the tax burden between capital and labor income. As a result, CTAX is a structural regulation that preserves the integrity of the tax system and contributes to EG by establishing fairness between income types (Johansson et al., 2008, p. 40).

The impact of structural changes in CTAX regimes on EG has been a central topic of debate among academics and policymakers for decades. On one side of the polarization is the supply-side view, which argues that reducing the tax burden on institutions triggers EG by encouraging capital accumulation and investment; on the other side are critical approaches that view the effectiveness of such fiscal easing on real EG with skepticism.

Although there have been periodic fluctuations in global EG rates, the characteristic fiscal trend of recent decades has manifested itself in a downward trend in CTAX liabilities and a parallel expansion of tax bases worldwide (Gechert & Heimberger, 2022, p. 1).

The study examines the impact of CTAX on EG in Türkiye over the period 1965–2024. The study consists of five main sections. The next section focuses on the theoretical framework underlying the relationship between CTAX and EG. This is followed by a summary of the literature on the subject. The next two sections present the methodology and empirical results of the study, respectively. The final section presents the study's conclusion and policy recommendations.

1. Theoretical Background

Public policies are strategic intervention tools that regulate the establishment of social welfare and its fair distribution among individuals and generations. Structural changes in the global environment, particularly in recent years, have further highlighted the decisive role of tax policies within broader policy frameworks. The literature recognizes four fundamental objectives of tax policy. These include the financing of public services, the provision of social justice through the redistribution of income, the establishment of macroeconomic stability, and the promotion of EG. From this perspective, tax policies are of vital importance both in providing the necessary liquidity for public spending and in serving as the key to sustainable EG and stability. The strategic use of tax instruments is a critical factor, particularly in efforts to raise nations' welfare levels. The state can contribute to the economic development process in multiple ways by mobilizing tax revenues to create financial resources for the formation of new industries, offering fiscal incentives to increase the economic efficiency of existing sectors, and eliminating market failures (Aslantaş & Bulut, 2022, p. 115).

Taxes represent a critical cost factor for companies and play a decisive role in shaping corporate investment strategies and financing preferences. Since the literature generally accepts that overall EG is driven by productivity growth, capital accumulation, and labor investments (e.g., Solow, 1957), the impact of CTAX policies on real investment decisions at the firm level has strategic implications for macroeconomic performance (Jacob, 2022).

The Neoclassical EG model developed by Solow and Swan, considered a turning point in the history of economic thought, predicts, under the assumption of diminishing marginal returns to capital, that economies will converge to a steady state in which per capita output does not increase in the long run. In this model, technological progress, the sole source of sustainable EG, is considered an exogenous variable, determined outside the system. However, leaving technological development outside the model is one of the most significant limitations of the neoclassical approach. Endogenous EG theories, developed to address this theoretical gap, have made technological progress an internal component of the model. In this approach, the concept of capital has been expanded beyond physical elements to include human capital. Investments in human capital and knowledge accumulation, in particular, have become the fundamental engine of long-term EG by overcoming the obstacle of diminishing marginal productivity; they have been defined as a dynamic that prevents economies from becoming stagnant (Macek, 2014, p. 311). In these models, taxation on both physical and human capital negatively affects EG. A wide variety of other studies support the common findings in the endogenous EG literature that taxation has an impact on EG (Öz Yalaman, 2019).

Under current economic conditions, many economies face a macroeconomic environment in which heavy financial obligations, rising income inequality, and the systemic pressures created by global competition intersect. In this complex environment, the functional role CTAX should play is central to economic policy discussions. CTAX is not only a critical source of financing for the central budget but also a strategic intersection directly linked to the effectiveness of the personal income tax regime. This type of tax, which affects both local capital and the investment motivations of multinational companies, has a broad behavioral response structure that transcends national borders (Clausing, 2011, p. 433).

The fundamental theory guiding hypothesis testing in the empirical literature assumes that CTAX can lead to allocative efficiency losses by distorting relative factor prices. According to this perspective, the CTAX burden increases capital costs on the one hand and suppresses investment incentives by reducing post-tax expected rates of return on the other hand. These cost increases not only slow the accumulation of physical capital but also disrupt processes of innovation and technological adaptation, thereby negatively affecting growth in total factor productivity. The suppression of total factor productivity by CTAX can be explained by four main mechanisms. First, it distorts factor prices, causing resources to shift from more efficient to less productive sectors. Second, the high compliance and administrative costs created by complex legislation consume productive resources. Third, it weakens incentives for R&D and innovation by reducing after-tax returns. Furthermore, the deductibility of interest expenses from the tax base encourages companies to rely on debt financing, thereby distorting their capital structure. This places knowledge-intensive sectors with limited borrowing capacity and innovative ventures requiring venture capital at a disadvantage, thereby weakening overall productivity growth and the economy's long-term EG potential. Therefore, the restrictive effect of CTAX on EG operates through a two-pronged mechanism: both a quantitative decline in the capital stock and a qualitative slowdown in productivity growth (Gechert & Heimberger, 2022, p. 3; Johansson et al., 2008, p. 34). In addition, CTAX acts as a barrier to international capital mobility, thereby discouraging foreign direct investment and local capital formation. Direct foreign investment contributes positively to the host country's economic development and balance of payments by providing a source of financing, facilitating technology transfer, developing managerial skills, increasing productivity, and supporting exports. It also supports social welfare through its employment and income-boosting effects. Due to these advantages, foreign direct investment plays an important role in EG. Increases in tax burdens hinder physical investment by disrupting the risk-return balance for domestic and international investors, thereby weakening EG dynamics. In this context, CTAX is not only a cost factor but also a strategic barrier that determines the global competitiveness and investment attractiveness of the economy (Dackehag & Hansson, 2012, p. 4; Ela & Yurtkuran, 2020, p. 66; Serin & Demir, 2023, p. 225-226).

With the deepening of international trade and the acceleration of globalization, the mobility of factors of production has increased significantly. In this dynamic process, differences in tax regimes between countries have become fundamental variables that determine the geographical distribution of capital and serve as strategic criteria in investment location preferences. Investors now include tax costs as a decisive externality in their risk and return analyses; this situation transforms national tax policies into a critical instrument that determines the direction of global capital flows (Veronika & Lenka, 2012, p. 99). Multinational enterprises operating in multiple tax jurisdictions use the asymmetry between statutory (legal) and effective tax rates as a strategic lever. The statutory rate represents the basic obligation set by legislation, while the effective rate reflects the actual tax burden resulting from tax deductions, exemptions, and investment incentives. The structural gap between these two indicators drives companies toward aggressive tax planning practices, paving the way for a model in which profits are transferred to low-tax jurisdictions while operational assets are retained in high-tax economies. These strategic behaviors are at the center of discussions on tax fairness and economic efficiency in contemporary fiscal literature (Umeaduma, 2022, p. 726).

The composition of taxes, which comprises the components of the total tax burden, is also a critical determinant of EG dynamics. In the economic literature, it is accepted that different types of taxes create disruptive effects on market mechanisms to varying degrees, depending on the flexibility and stability of the tax base. In this context, it is often argued that taxes that target capital directly, such as CTAX, are much more costly in terms of economic efficiency than property taxes on immovable assets. Therefore, various tax instruments have heterogeneous effects on the level of economic activity. However, the extent to which these effects permeate long-term EG rates remains a controversial area in the literature (Dackehag & Hansson, 2012, p. 2-3).

The development of CTAX in the United States began as an alternative in response to the inadequacy of wealth taxes for public financing. Initially covering only specific financial sectors such as banking and insurance, this tax has expanded over time to encompass all corporate profits, thereby acquiring a general character. This financial instrument, which spread rapidly at the international level, began to be applied in Türkiye in 1950 (Doğan & Akıncı, 2023, p. 544). In Türkiye, the ratio of CTAX revenues to GDP was approximately 1% in 1990; by 2022, it had increased more than threefold, reaching 3.4%. In 2024, however, it declined to 2.1%. An examination of CTAX rates indicates that statutory rates have also followed different trends over the years. For example, this rate, which was 33% in 2000, decreased to 20% in 2006 and remained at that level for approximately 10 years. Due to developments, it has changed by between 20% and 25% over the last 10 years. The effective average tax rate, which was around 18% in 2017, rose to 22% in 2025. Similarly, the effective marginal tax rate rose from around 7% to 10% (OECD, 2026). These changes in Türkiye indicate that CTAX is used as a significant policy tool, and the effects of these practices on EG are of interest. Our study contributes to the literature by examining the relationship between CTAX and EG in Türkiye.

2. Literature Review

The effects of CTAX on EG can differ in the short and long term. In the short term, based on certain assumptions (profit maximization and competitive markets), it is believed that institutions do not have the capacity to shift the tax burden. In the long term, however, the impact of CTAX may vary depending on returns on investment in relevant sectors. Accordingly, CTAX is generally considered to lead to economically inefficient distributions, or, in other words, to be a distortionary tax. Therefore, the impact of CTAX on EG is thought to be negative (Turan, 2008). From a Schumpeterian perspective, CTAX reduces the expected return (reward) on innovation, thereby negatively impacting EG. Furthermore, it is argued that reductions in CTAX rates, while making the market more competitive, increase labor costs through the labor market channel, thereby undermining EG by making the Schumpeterian effect dominant (Suzuki, 2022). Gechert and Heimberger (2022)

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emphasize that findings in the relevant literature suggesting that reductions in CTAX rates increase EG rates tend to be exaggerated. This is because the meta-analysis conducted by Gechert and Heimberger (2022) reveals that, contrary to expectations, no such effect exists. In this context, this section reviews the empirical literature on the relationship between CTAX and EG. The summary findings of the relevant empirical literature are presented in Table 1.

The findings in the literature on the link between CTAX and EG, presented in Table 1, point to notable results. The main findings for the sample excluding Türkiye are as follows: (I) Increases in CTAX rates negatively affect EG (Lee & Gordon, 2005; Veronika & Lenka, 2012). (II) Decreases in CTAX rates positively affect EG (Ferede and Dahlby, 2012; Zellner and Ngoie, 2015; Ferede and Dahlby, 2019). (III) CTAX positively affects EG (Bağcı & Sever, 2022; Stoilova, 2024). (IV) CTAX negatively affects EG (Arnold, 2008; Arnold et al., 2011; Macek, 2014; Öz Yalaman, 2019; Neog & Gaur, 2020; Şen & Kaya, 2023). (V) There is no statistically significant relationship between CTAX and EG (Stoilova, 2017; Durusu-Ciftci et al., 2018; Efe, 2021; Gechert & Heimberger, 2022). Based on these results, the argument that the relationship between CTAX and EG is negative appears relatively strong. However, evidence of either a positive or a statistically insignificant effect of CTAX should not be ignored.

In Türkiye, few studies examine the relationship between CTAX and EG. The findings of these studies, however, point to entirely different relationships. For example, while Songur and Yüksel (2018) argue that there is no causal relationship between the two variables, Aslantaş and Bulut (2022) and Korkmaz and Korkmaz (2023) report that the effect of CTAX on EG is positive and negative, respectively. Therefore, consistent with other sample findings, there is no clear evidence regarding the impact of CTAX in Türkiye. This study aims to empirically test the effects of CTAX on EG in Türkiye over the period 1960–2024, thereby contributing to the literature. By utilizing Fourier-based techniques and current data in the empirical research process, the aim is to reveal the long-term direction of the relationship between the two variables, taking into account the impact of structural breaks. Thus, the aim is to reveal the extent to which the CTAX policy pursued in Türkiye under structural breaks has shaped the EG.

Table 1: Literature Review Summary

Authors	Sample	Method	Findings
Lee and Gordon (2005)	70 Countries 1970-1997	Panel Data	The increase in CTAX rates is negatively affecting EG.
Arnold (2008)	OECD 1971-2004	Panel Data	CTAX has a negative impact on EG.
Arnold et al. (2011)	OECD 1971-2014	Panel Data	CTAX has a negative impact on EG.
Veronika and Lenka (2012)	EU Countries 1998-2010	Panel Data	The increase in CTAX rates is negatively affecting EG.
Ferede and Dahlby (2012)	Canada (State Level) 1977-2006	Panel Data	A 1 percentage point reduction in the CTAX rate leads to a 0.1-0.2 percentage point increase in the annual EG rate.
Macek (2014)	OECD 2000-2011	Panel Data	CTAX has a negative impact on EG.
Zellner and Ngoie (2015)	USA 1987-2008	VAR	A permanent 5-point reduction in CTAX rates has been found to increase EG by 3 points.
Stoilova (2017)	EU Countries 1996-2013	Panel Data (2SLS)	CTAX has no statistically significant effect on EG.
Songur and Yüksel (2018)	Türkiye 1980-2015	Granger, Toda-Yamamoto, and Frequency Causality	No causal relationship has been identified between CTAX and EG.
Durusu-Ciftci et al. (2018)	OECD 1995-2016	Panel Data	CTAX has no statistically significant effect on EG.
Ferede and Dahlby (2019)	Canada (State Level)) 1981-2016	Panel Data	The decrease in CTAX rates has a positive effect on EG.
Öz Yalaman (2019)	OECD 1998-2016	Panel Data	CTAX has a negative impact on EG.
Neog and Gaur (2020)	India 1980-2016	ARDL	CTAX has a negative impact on EG.
Efe (2021)	54 Developing Countries	Dynamic Panel Data	CTAX has no statistically

	2000-2018		significant effect on EG.
Bağcı and Sever (2022)	28 Developed Countries, 34 Developing Countries 1990-2018	Panel Data	CTAX has a growth-enhancing effect in both country groups.
Aslantaş and Bulut (2022)	Türkiye 2006M01-2022M03	NARDL	CTAX has a positive impact on EG.
Gechert and Heimberger (2022)	441 Estimates Obtained from 42 Primary Studies	Meta Regression	CTAX has no statistically significant effect on EG.
Şen and Kaya (2023)	OECD 1981-2017	Panel Data	CTAX has a negative impact on EG.
Korkmaz and Korkmaz (2023)	Türkiye 2006Q1-2022Q4	ARDL	CTAX has a negative impact on EG.
Stoilova (2024)	EU Countries 2000-2022	Panel Data	CTAX has a positive impact on EG.
Öner and Duramaz (2025)	Türkiye 2005-2026	Granger Causality	No causal relationship has been identified between CTAX rate and EG.
Merza and Khatatbeh (2025)	177 Countries Cross Section Data	Quantile Regression	The decrease in the CTAX rate has no effect on EG.
Phiri et al. (2025)	Zambia 1994-2023	OLS, 2SLS	CTAX has a negative impact on EG.

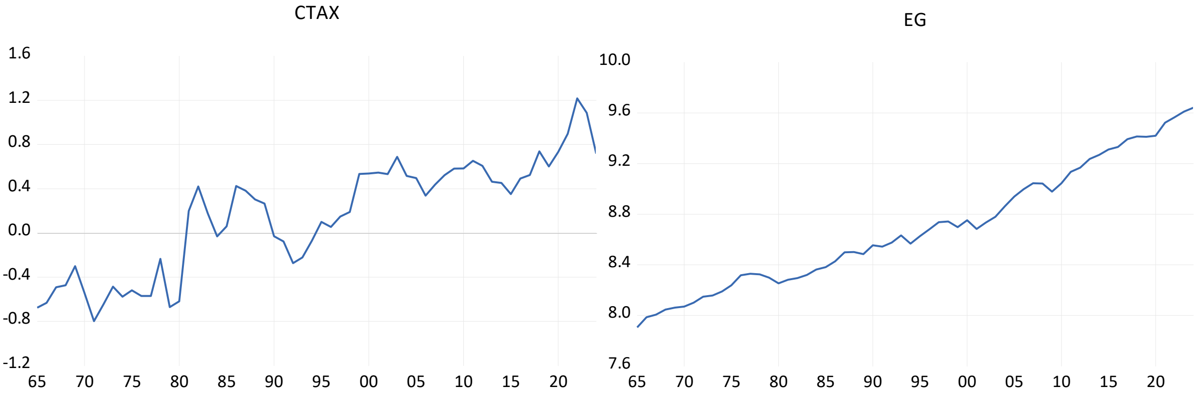
3. Methodology

This study analyzes the effects of CTAX on EG in Türkiye, using annual data from 1965 to 2024 and applying Fourier-based time-series techniques. Accordingly, the model under investigation is presented in equation (1).

$$\ln EG_t = \beta_0 + \beta_1 \ln CTAX_t + \varepsilon_t \tag{1}$$

In Equation (1), the dependent variable is per capita income, denote by EG. The relevant data were obtained from the World Bank database at 2015 constant prices ($). The coefficient whose effect is being studied represents CTAX. CTAX revenue data were obtained from the OECD database, expressed in %GDP units. Based on preliminary studies, notably Arnold (2008), it is expected that CTAX has a negative effect on EG. The β_0 and ε_t notations in the equation represent the constant and error terms, respectively. Finally, the expression "ln" implies that a logarithmic transformation has been applied to all variables. Figure 1 presents the time path graphs for both series. Accordingly, both series have shown an upward trend within a certain range. Therefore, this aspect must be considered during empirical analysis.

Figure 1: CTAX and EG Time Series Graphs (1965-2024)



Methodologically, a Fourier-based approach is followed. This is because ignoring structural changes in economic relationships can lead to biased results. In this context, the stationarity properties of the variables initially considered are examined using the Fourier KPSS test (Becker et al. 2006), which accounts for smooth structural breaks. Becker et al. (2006) extended the traditional KPSS (Kwiatkowski et al. 1992) stationarity test by using Fourier terms, enabling the consideration of smooth structural breaks. Furthermore, this test offers a significant advantage because it does not require prior knowledge of the number or shape of structural breaks. Within this framework, the method was chosen based on the view that investigating the stationarity properties of time series by considering the shocks they were exposed to during a specific period would yield more reliable results (Bozatli et al. 2024).

In the second stage of the empirical research, the cointegration relationship is examined using the Fourier ADL method developed by Banerjee et al. (2017). Such a choice was made, as emphasized by Banerjee et al. (2017), considering the risk of incorrectly rejecting a null hypothesis that may be correct when investigating cointegration relationships by neglecting the presence of structural breaks. Accordingly, the cointegration relationship specified in equation (1) is examined using the Fourier ADL method, which accounts for smooth structural breaks.

In the final stage, long-run coefficients are calculated using three cointegration estimators based on different methodological foundations, depending on the validity of the cointegration relationship. These are fully modified least squares (FMOLS, Phillips & Hansen, 1990), dynamic least squares (DOLS, Stock & Watson, 1993), and canonical cointegration regression (CCR, Park, 1992). The aim is to compare the results obtained using methods with different characteristics.

4. Empirical Results

In the first stage of the empirical analysis, the stationarity properties of the EG and CTAX revenue series were examined using the Fourier KPSS test, and the findings are reported in Table 2.

Table 2: Stationarity Test Findings

Variables	I(0)	C.V (%5)	I(1)	C.V (%5)
EG	0.062 (1)*	0.054	0.044 (3)	0.142
CTAX	0.169 (3)*	0.142	0.019 (3)	0.142

Note: * implies that the null hypothesis was rejected at the 5% significance level. The values in parentheses indicate the optimal number of frequencies. The null hypothesis is that the series is stationary.

According to the test results in Table 2, both series are nonstationary in levels. However, when the Fourier KPSS test is applied to the first differences of the series, the null hypothesis is not rejected. The EG and CTAX series are stationary in their first differences. Accordingly, in the subsequent stage of the analysis, the cointegration relationship was investigated using the Fourier ADL method, which assumes that all series are I (1). The findings are reported in Table 3.

Table 3: Fourier ADL Test Findings

Model	k	FADL Test Statistic	Decision	Critical Value (1%)
EG=f(CTAX)	1	-5.187*	✓	-5.17

Note: The * symbol indicates that the null hypothesis implying no cointegration relationship was rejected at the 1% significance level. k indicates the optimal number of frequencies.

As shown in Table 3, the cointegration relationship holds for the model that accounts for structural breaks, and there is no impediment to estimating long-term coefficients. Accordingly, long-term coefficients were estimated using the FMOLS, DOLS, and CCR methods with Fourier terms. The findings are presented in Table 4.

Table 4: Long-Term Estimation Findings

	Estimators		
Variables	FMOLS	DOLS	CCR
CTAX	-0.077*	-0.099**	-0.078*
	(0.007)	(0.015)	(0.009)
C	7.797*	7.779*	7.796*
	(0.000)	(0.000)	(0.000)
@TREND	0.030*	0.031*	0.030*
	(0.000)	(0.000)	(0.000)
COS	0.083*	0.080*	0.083*
	(0.000)	(0.000)	(0.000)
SIN	0.047*	0.005*	0.048*
	(0.001)	(0.002)	(0.000)
R^2	0.99	0.99	0.99

Note: *p<0.01, **p<0.05. Probability values are shown in parentheses.

Based on the findings obtained from the FMOLS, DOLS, and CCR estimators presented in Table 4, the following conclusions can be drawn: CTAX has a statistically significant and negative effect on EG. Such a result implies that CTAX has a growth-reducing effect. Accordingly, a 1% increase in CTAX reduces EG by 0.077%, 0.099%, and 0.078%, as estimated by the FMOLS, DOLS, and CCR methods, respectively. Based on the average of the three estimators, a 1% increase in CTAX is associated with a 0.084% reduction in EG. Therefore, consistent with prior expectations, CTAX hinders EG. Such a finding is consistent with empirical evidence conducted specifically on Türkiye (Korkmaz & Korkmaz, 2023) and other samples (Arnold, 2008; Arnold et al. 2011; Macek, 2014; Öz Yalaman, 2019; Neog & Gaur, 2020; Şen & Kaya, 2023). Finally, the coefficients associated with deterministic terms (SIN and COS) have statistically significant effects, indicating the importance of considering structural changes in the relationship between CTAX and EG.

Conclusion

This study investigates the effects of CTAX on EG in Türkiye for the period 1965–2024, using Fourier-based econometric methods. It was determined that, in the presence of structural breaks, the CTAX and EG series move together over the long term. According to long-term estimation results, the CTAX policy implemented in Türkiye has a negative effect on EG.

The negative impact of CTAX on EG in Türkiye demonstrates that the tax burden is not merely a cost factor but also a variable that distorts investment and innovation decisions. In this context, the idea of gradually reducing statutory CTAX rates, supported by a broad tax base, stands out as a policy recommendation. This is because a reduction in rates will encourage domestic investment by lowering the cost of capital and will make Türkiye a more attractive location for foreign direct investment in terms of international tax competition. However, based on past experience and current studies, it should not be expected that reductions in CTAX rates will always increase EG performance. In particular, the comprehensive meta-analysis conducted by Gechert and Heimberger (2022) highlights that findings in the relevant literature suggesting that reductions in CTAX rates increase EG rates tend to be overstated. Therefore, reducing tax rates is not always a valid policy prescription for improving economic performance. In this regard, the tax system requires transformation focused on efficiency rather than solely on adjustments to tax rates. Accordingly, policies such as selective tax incentives for R&D expenditures, technology transfer, and high value-added sectors, as well as investment deductions, should be reconsidered. Finally, predictability and stability of tax policies are crucial. In this context, instead of frequently changing tax legislation and temporary regulations, a simplified tax regime with low compliance costs, aligned with long-term development goals, should be adopted. These structural reforms will reduce the burden of CTAX on EG and establish an optimal balance between public finances and economic performance.

This study analyzes the effects of CTAX on EG. In doing so, other determinants of EG have been excluded. Therefore, this is a significant limitation of this study. It would be useful for future researchers to investigate the relationship between CTAX and EG, taking this situation into account. On the other hand, the compositional effect of taxes has been neglected. Future studies could examine the effects of other types of taxes (such as income tax, VAT, excise duties, or property taxes) on EG. Thus, by comparing the effects of different types of taxes on the Turkish economy, a more comprehensive understanding can be achieved.

AUTHOR STATEMENT

Research and Publication Ethics Statement: This study was prepared in accordance with the rules of scientific research and publication ethics.

Ethics Committee Approval: This study does not require ethics committee approval as it does not include analyses that require ethics committee approval.

Author Contributions: Both authors contributed equally.

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