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Review Article

Tax Wedge as a Determinant of Poverty: Evidence from OECD Countries in the Pre-COVID Period[1]

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Abstract

Poverty is a fundamental socioeconomic problem faced by almost all countries and constitutes a significant policy area in which public policies aim to reduce its prevalence and develop effective solutions. Accordingly, policy-oriented approaches to poverty alleviation are continuously discussed in the literature, with particular emphasis on the effects of tax systems on income distribution. This study focuses on the pre-COVID-19 period (2005–2017), which represents a structurally more stable era before the pandemic-related fiscal interventions in OECD countries. The article empirically examines whether the tax wedge on wage income affects poverty levels. Findings obtained through panel data analysis for selected OECD countries indicate that an increase in the tax wedge is statistically significantly associated with higher poverty levels. This result is consistent with theoretical expectations regarding the adverse impact of high tax wedges, which tend to reduce disposable income, particularly for low-income groups. The findings suggest that tax policies should be evaluated not only in terms of public revenue generation but also with respect to their potential to enhance social welfare and reduce poverty. Therefore, the results highlight the importance of more inclusive tax reforms that take income distribution into account in OECD countries. In this context, the study draws attention to the distributional effects of the tax burden on labor income and emphasizes that fiscal policy designs aimed at combating poverty should be structured in a more sensitive and targeted manner.

Keywords: *Tax, Tax Wedge, Poverty, Panel Data Analysis, OECD.*

Jel Classification: *E20, E23, E24*

[1] This study is based on the doctoral dissertation of the second author, conducted under the supervision of the first author.

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Yoksulluğun Bir Belirleyicisi Olarak Vergi Takozu: COVID Öncesi Dönemde OECD Ülkelerinden Bulgular

Öz

Yoksulluk, neredeyse tüm ülkelerin karşı karşıya olduğu temel bir sosyoekonomik sorun olup, kamu politikalarının azaltmayı ve çözüm üretmeyi amaçladığı önemli bir politika alanını oluşturmaktadır. Bu doğrultuda, yoksulluğun azaltılmasına yönelik politika temelli yaklaşımlar literatürde sürekli olarak tartışılmakta ve özellikle vergi sistemlerinin gelir dağılımı üzerindeki etkileri ön plana çıkmaktadır. Bu çalışma, OECD ülkelerinde pandemi kaynaklı mali müdahalelerden önceki yapısal olarak daha istikrarlı bir dönemi temsil eden COVID-19 öncesi döneme (2005–2017) odaklanmaktadır. Makalede, ücret gelirleri üzerindeki vergi takozunun yoksulluk düzeylerini etkileyip etkilemediği ampirik olarak incelenmektedir. Seçili OECD ülkeleri için panel veri analizi kullanılarak elde edilen bulgular, vergi takozundaki artışın daha yüksek yoksulluk düzeyleriyle istatistiksel olarak anlamlı biçimde ilişkili olduğunu göstermektedir. Bu sonuç, özellikle düşük gelirli gruplar açısından harcanabilir geliri azaltma eğiliminde olan yüksek vergi takozlarının yoksulluk üzerindeki olumsuz etkilerine ilişkin teorik beklentilerle uyumludur. Bulgular, vergi politikalarının yalnızca kamu gelirleri açısından değil, aynı zamanda sosyal refahı artırıcı ve yoksulluğu azaltıcı yönleriyle de değerlendirilmesi gerektiğine işaret etmektedir. Dolayısıyla, çalışmanın sonuçları OECD ülkelerinde daha kapsayıcı ve gelir dağılımını gözeten vergi reformlarının önemini ortaya koymaktadır. Bu bağlamda, çalışma vergi yükünün emek gelirleri üzerindeki dağılımsal etkilerine dikkat çekerek, yoksullukla mücadelede mali politika tasarımlarının daha hassas ve hedefli biçimde yapılandırılması gerektiğini vurgulamaktadır.

Anahtar Kelimeler: *Vergi, Vergi Takozu, Yoksulluk, Panel Veri Analizi, OECD.*

Jel Sınıflandırması: *E20, E23, E24*

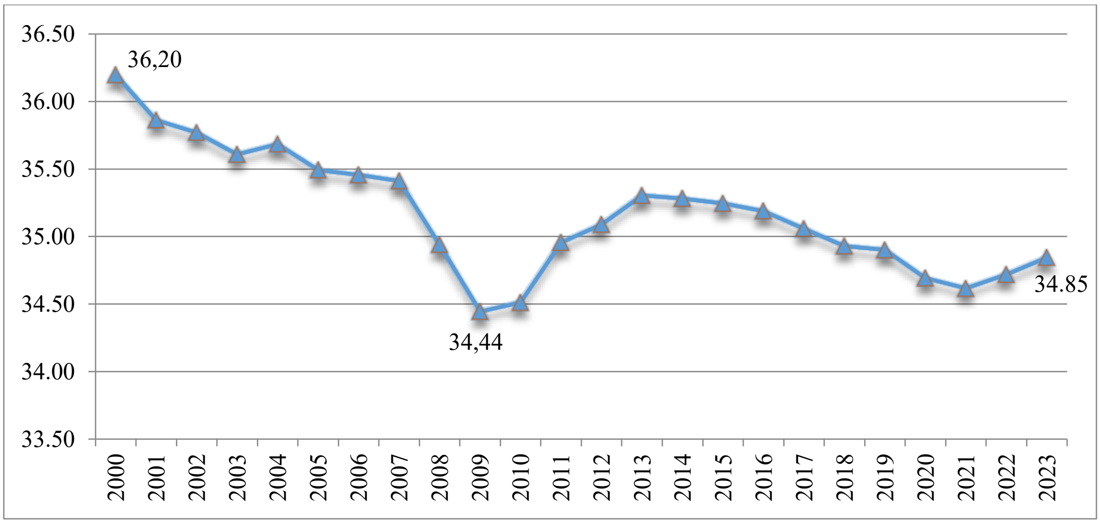
1. Introduction

According to Drewnowski (1977), poverty arises when individuals and households are unable to access a sufficient level of income to sustain their lives and achieve social satisfaction; this condition becomes evident when social income fails to meet private consumption needs**.** Kabeer (2015) notes that early definitions of poverty focused on the level of income required for household members to meet physiologically defined basic living needs. Poverty refers to persistent limitations in individuals or households' capacity to secure adequate living conditions and continues to represent a structural challenge across, both developed and developing. Addressing this challenge depends largely on the development and effective implementation of public policies. Additionally, measures such as social welfare programs, employment-related interventions and enhanced access to educational and healthcare services, well-designed tax policies may serve as an important mechanism in addressing and mitigating poverty. Musgrave and Musgrave (1989) suggest that a key function of taxation and public finance is income redistribution. Furthermore, Atkinson (2015) argues that tax systems should be supported by structural reforms to reduce income inequality. According to Sen's (2000) capability framework, the welfare of individuals ought to be strengthened through supportive public policy measures. Within this framework, mechanisms such as progressive income taxation support the funding of public spending by imposing higher tax burdens on individuals with greater income levels. Such financial resources are directed toward programs intended to enhance the welfare of poor individuals. The International Monetary Fund (IMF, 2022) points out those fiscal policies have an important function as redistributive instruments and that well-designed tax systems have the potential to reduce income inequality.

As reported by the United Nations Development Programme (UNDP, 2023), effective social transfer programs and targeted tax expenditures are important elements of multidimensional poverty reduction. These programs play a critical role in tackling poverty. Within this framework, the tax wedge, defined as the overall tax load on employment including social security contributions, has substantial implications for both labor market efficiency and individual well-being. Imposing high tax rates on low-income individuals may hinder both labor market entry and the ability to generate personal income. The tax wedge has the potential to exacerbate social inequality, with its effects being more pronounced among low-income groups. Dolenc and Vodopivec (2005) define the tax wedge as the portion of labor costs that does not translate into net income for the employee, highlighting the gap created by taxes and social contributions between gross and net wages. According to Hodge and Hickman (2018), the tax burden imposed on labor is generally termed the 'tax wedge.' The tax wedge indicates the amount of taxes and other financial requirements that an employer has to pay on account of its employees. The Organization for Economic Co-Operation and Development (OECD, 2006) conceptualizes the tax wedge as the gap between employers' total labor-related expenditures and employees' take-home pay after taxes and social contributions. The components of labor costs consist of income tax, social insurance payments, and payroll taxes. These taxes and similar payments are represented as a percentage of labor costs.

Income tax forms the main element of the tax wedge. Social security contributions and other wage-related taxes contribute to the overall fiscal burden captured by the tax wedge. Responsibility for these payments is divided between employers and employees. Moreover, the levels of these fiscal burdens and which social security contributions they cover are determined by the laws of each country or state. Therefore, the wage-related policies of countries and regions can affect the tax wedge rate. Figure 1 illustrates the average tax wedge faced by workers across OECD countries.

Figure 1: Average Tax Wedge Progress for an OECD Worker (2000-2023)



Source: (OECD, 2025)

An assessment of the average tax wedge rate in OECD countries reveals an irregular downward trend throughout the period spanning 2000 to 2009. A possible explanation for this trend is that many OECD countries adopted policies to reduce the tax burden on labor in the 2000s. One possible explanation for the decline in the tax wedge rate in 2009 is the influence of the global economic downturn. The rise in unemployment, especially after the 2008 global financial crisis, has emphasized employment incentives. After a low point in 2009 the average tax wedge started to rise again and approached its highest levels in 2013. This increase may be related to the increase in indirect and direct taxes in countries seeking to recover their public budgets after the economic crisis. From 2014 to 2020, there is a general decreasing trend in the average tax wedge rate with slight fluctuations. During this period, some countries provided tax cuts for wage income and flexibility in social security contributions. In the post-Covid-19 pandemic period, the average tax wedge rate increased slightly to 34.85%. This could be a consequence of the tightening of tax policies in some countries in order to maintain fiscal balances after the pandemic.

From a theoretical perspective, the tax wedge influences poverty primarily through its effect on disposable income and labor market outcomes. By increasing mandatory deductions from labor earnings, a higher tax wedge reduces net wages, which may disproportionately affect low-income households. In addition, elevated labor taxation can raise employment costs and discourage formal labor market participation, particularly among low-skilled workers. Although taxation is commonly viewed as a redistributive policy instrument, its effectiveness in reducing poverty depends on the balance between tax burdens and compensatory transfer mechanisms (Atkinson, 2015; Günaydın & Yıldız, 2016; IMF, 2022; Musgrave & Musgrave, 1989).

This analysis focuses on the association between the tax wedge and poverty outcomes across OECD countries in the period preceding the COVID-19 pandemic, covering the years 2005–2017. The literature indicates that global health and economic crises, such as COVID-19, exacerbate poverty through income losses and contractions in employment, while substantially increasing the need for social transfer mechanisms during such periods (Aslan, 2022).This period represents a structurally stable timeframe that was not affected by the temporary tax reductions, social security contribution subsidies, and extraordinary transfer programs introduced during the pandemic. Therefore, focusing on the pre-COVID-19 period allows for a clearer identification of the fundamental and persistent implication of the tax wedge on poverty. Thus, the tax wedge emerges as a key determinant with a measurable effect on poverty. This research aims to assess how the tax wedge is associated with poverty levels by based on panel observations based on a sample of 24 OECD countries spanning 2005–2017.

2. Literature Review

Sen (2000) identifies insufficient income as a significant contributor to the enduring nature of poverty. In the context of poverty reduction, taxation-related legislation should be formulated by integrating social policy objectives. From this perspective, the tax wedge, comprising both direct taxes and tax-like charges on labor income, is expected to contribute considerably to poverty alleviation strategies. It may be argued that tax wedge policies are instrumental in determining labor market outcomes for unskilled workers, where poverty rates are higher, given that wage income represents a fundamental component of household budgets for a significant portion of the population. Beyond, expanding the scope of transfer payments within the scope of the tax wedge for employees earning low income may be effective in the fight against poverty. Günaydın and Yıldız (2016) imply that the poverty levels of workers can be reduced and controlled by using tax policies. However, it is stated that this may be more effective in developed countries. Anjarwi (2025) examined the correlation between tax burden, fiscal freedom and poverty in a study analyzing 24 countries with limited economic resources. The study concluded that a high tax burden may increase poverty rates, but fiscal autonomy may mitigate this effect.

Lustig (2018) examines the effects of tax and transfer systems on poverty and finds that even in low-income countries; significant improvements can be realized with effective practices. In their study focusing on the European Union countries and Turkey, Ertekin and Hayat (2022) indicate that higher public social expenditures are generally associated with lower poverty rates. The authors emphasize that increases in social spending reduce poverty risk, and that this influence tends to intensify during phases of economic shocks and crises. These findings suggest that public social expenditures may be regarded as a key policy tool for poverty alleviation. Burniaux, Padrini, and Brandt (2006) highlighted the significant role of labor market dynamics in shaping income inequality and poverty levels in OECD countries. Accordingly, this study examined the extent to which labor market conditions influence poverty levels. The findings indicate a statistically significant negative association between the tax wedge and poverty rates.

Tingyun et al. (2018) indicated the impact of financial instruments and labor market variables on income inequality and poverty. For this purpose, they carried out panel regression analysis in European Union member countries. So, a significant inverse relation between direct tax revenues and poverty rates was found. A positive significance was determined between the long-term unemployment rate, labor force flexibility and the poverty rate. Additionally, Scholz, Moffitt and

Cowan (2009) concluded that social security contributions reduce poverty by 38% and transfer payments by 22%. Fiszbein et al. (2014) demonstrate that social protection programs significantly narrow the poverty gap in developing countries and play a decisive role in poverty reduction. The authors further note that the cost-effectiveness of policy instruments that directly affect household income —such as child benefits, social assistance programs, and income tax threshold arrangements— has been examined. Nazareno and Castro Galvão (2023) find that conditional cash transfer programs implemented during the COVID-19 pandemic were highly effective in curbing the rise in poverty and reducing income inequality. However, the authors also note that these programs had a limited impact on addressing non-monetary vulnerabilities associated with poverty. These findings suggest that while cash transfers are effective in alleviating the monetary dimension of poverty, they are insufficient on their own to address its structural and multidimensional aspects. Therefore, integrating social transfer policies with labor market dynamics and the tax system is crucial for achieving a sustained reduction in poverty.

Adukonu and Ofori-Abebrese (2016) estimated the impact of various tax types on poverty in Ghana for the period of 1984-2003. The analysis indicated that an increase in direct taxes reduces poverty over the long run yet contributes to a growth in poverty in the short term. Ahmad and Awan (2021) examined the extent to which taxation effects on poverty in Pakistan for the period 1998-2018. Results obtained from the analysis indicate that the increase in taxes was associated with higher poverty levels. Regarding this situation, the increase in taxes will increase poverty because it will reduce the income level of individuals. Caminada and Goudswaard (2009) focused on evaluating the effect of taxes and social transfers on poverty in EU countries. As a result, a statistically significant negative relationship was identified between social transfers and poverty, indicating that higher levels of social transfers are linked with lower poverty rates. According to Schanzenbach and Strain (2021), the earned income tax credit, which includes income tax regulation, is effective in reducing poverty by increasing women's incomes in the United States. Hoynes (2019) also reached similar evidence to this conclusion and concluded that EITC reduces poverty.

Recent studies indicate that the COVID-19 pandemic has generated temporary and extraordinary effects on tax and transfer systems (Erdoğdu, Demir & Önder, 2021; Koç & Yardımcıoğlu, 2020; Cengiz & Sürücü, 2021). For this reason, many empirical studies employ pre-COVID data to investigate the structural relationship between tax policies and poverty (Özkan, 2021; Durmuş 2021; Şeren & Akdoğan, 2022). In addition, a growing body of research emphasizes that emergency public expenditures, temporary wage subsidies, tax deferrals, and targeted social transfer programs implemented during the COVID-19 period played a substantial role in mitigating short-run poverty risks. These crisis-specific fiscal interventions, however, largely reflect temporary policy responses designed to stabilize household income during an exceptional period. Therefore, while this literature provides important contextual insight, the present study deliberately focuses on the pre-COVID period in order to isolate the more structural and persistent relationship between the tax wedge and poverty. In line with the existing literature, this study also focuses on the pre-pandemic period in order to isolate the more structural and persistent relationship between the tax wedge and poverty.

3. Methodology and Data

This study employs panel data techniques based on observations from 24 OECD countries[2] between 2005 and 2017 to explore the association between the tax wedge and poverty, and to assess how differences in labor-related tax burdens are linked to social welfare outcomes across countries. The dataset covers the years 2005–2017 by design, as the extraordinary fiscal policies implemented in

[2] The OECD member countries examined in this study are presented in alphabetical order as follows: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Turkey, the United Kingdom, and the United States.

the post-COVID period have the potential to distort the structural integrity of the empirical model. Accordingly, the analysis deliberately focuses on the pre-COVID period. Panel data analysis involves analyzing data from different units, such as individuals, firms and countries, pooled together over a period of time. Thus, this method makes forecasts about changes and trends over time (Baltagi, 2005). Panel data analysis is more advantages compared to other analysis methods by evaluating both the time dimension and the cross-sectional dimension together (Çetin & Ecevit, 2010). The equation that forms the basis of the panel data analysis is stated below (Baltagi, 2005):

$$y_{it} = \alpha_{it} + \beta x'_{it} + \varepsilon_{it} \qquad (1)$$

In this framework, y_{it} is denotes the dependent variable for country i at time t, while x_{it} represents the vector of explanatory variables. The parameter vector β captures the slope coefficient, and ε_{it} denotes the error term. The index i refers to cross-sectional units (i=1,....,N), and t represents the time dimension (t=1,...,T). Building on the theoretical and empirical insights in the literature, the empirical model utilized to examine the effect of the tax wedge on poverty is specified as follows:

$$pvit = \alpha it + \beta 1lntxit + \beta 2lngdpit + \beta 3edit + \beta 4drit + \beta 5toit + \varepsilon it \, (2)$$

Poverty is proxied by the variable pv_{it}, capturing the proportion of individuals with income or consumption below the international poverty threshold of USD 5.50 per day. In interpreting this variable, an important methodological consideration should be noted. Because this threshold is designed to reflect absolute deprivation, it primarily captures absolute poverty rather than the relative poverty concepts more commonly used in OECD policy discussions, such as 50% or 60% of median disposable income. Accordingly, the findings should be interpreted as evidence on the relationship between the tax wedge and absolute poverty, and any generalization to broader relative poverty measures should be made with caution. The variable $lntx_{it}$ denotes the logarithmic value of the tax wedge rate, while $lngdp_{it}$ reflects the gross domestic product in constant 2015 US dollars. ed_{it} captures the share of individuals aged 25 to 64 who have attained a university-level education. The dependency ratio, dr_{it}, indicates the number of individuals under the age of 15 relative to the working-age population, expressed per 100 working-age individuals. Trade openness to_{it} computed as total trade flows (exports and imports) as a percentage of GDP. In order to verify the robustness of the empirical findings, all data utilized in the model were sourced from the official databases of the OECD and the World Bank.

4. Finding

Empirical findings from the analysis are provided in this section, which begins by reporting descriptive statistics to give a general picture of the dataset. Following this, the time-series characteristics of the variables are assessed, and potential long-run relationships are considered, after which the panel regression models are estimated. Table 1 provides descriptive summary measures for all variables employed in the analysis.

Table 1: Descriptive Statistics (number of observations = 312)

	pv	*lntx*	*lngdp*	*ed*	*dr*	*to*
Mean	0,8900	3,7057	1,0442	29,8812	25,2256	104,7221
Median	0,5000	3,7086	0,9892	31,0220	24,3496	88,7527
Maximum	8,5000	4,0268	2,1894	46,3568	44,1888	408,3620
Minimum	0,0000	3,3959	0,1126	10,2386	19,5847	24,6415
Standard Error	1,1484	0,1454	0,5007	8,6560	4,5022	63,7459

As shown in Table 1, the descriptive measures indicate a wide dispersion in the variables, reflecting notable heterogeneity within the dataset. The analysis then proceeds with the correlation matrix shown in Table 2 to examine the linear relationships among the variables and to provide a preliminary assessment of potential multicollinearity.

Table 2: Correlation Matrix

	pv	*lntx*	*lngdp*	*ed*	*dr*	*to*
pv	1					
lntx	-0,0023	1				
lngdp	0,0474	-0,0061	1			
ed	-0,3766	-0,3209	0,0968	1		
dr	0,2903	-0,3307	0,3016	0,1182	1	
to	-0,2379	0,1323	0,3151	0,1203	0,2412	1

The correlation matrix shows that the pairwise correlation coefficients among the variables are generally low to moderate. These results imply that multicollinearity is unlikely to be a major problem in the estimated model. Prior to the regression analysis, panel unit root tests were conducted to assess the time-series characteristics of the variables.

Table 3: Panel Unit Root Test Results (P-Value)

	LLC	IPS	ADF	PP
pv	0,0014***	0,0144**	0,0236**	0,000***
lntx	0,000***	0,000***	0,0639*	0,2562
lngdp	0,000***	0,000***	0,0093***	0,0397**
ed	0,000***	0,000***	0,000***	0,000***
dr	0,000***	0,000***	0,000***	0,000***
to	0,000***	0,0816*	0,1392	0,000***

Note: LLC, IPS, ADF, and PP denote Levin–Lin–Chu, Im–Pesaran–Shin, Augmented Dickey–Fuller, and Phillips–Perron panel unit root tests, respectively. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

Panel unit root tests indicate that *pv* is stationary in levels, as the null hypothesis of a unit root is rejected across LLC, IPS, ADF–Fisher, and PP–Fisher tests ($p<0.05$). The panel unit root test results for *lngdp* indicate that the variable is stationary in levels according to the LLC and IPS tests, while Fisher-type tests yield weaker evidence. Given that the main variables are stationary in levels, the empirical analysis proceeds with conventional panel regression techniques without applying panel cointegration methods. For the tax wedge variable (*lntx*), the LLC, IPS, and ADF–Fisher tests reject the null hypothesis of a unit root, while the PP–Fisher test provides weaker evidence of stationarity ($p = 0.2562$). This mixed pattern suggests that the level stationarity of lntx is supported by the majority of panel unit root tests, although some degree of cross-sectional heterogeneity may remain. Given that the dominant evidence supports level stationarity and the fixed effects model was strongly preferred by the F, LM, and Hausman tests, the empirical analysis proceeds with the conventional fixed effects estimator. Panel unit root test results indicate that the education (*ed*) and dependency ratio (*dr*) variables are stationary in levels, as the null hypothesis of a unit root is rejected across all tests at the 1% significance level. For the trade openness variable (*to*), the panel unit root test results provide mixed evidence at levels. While the LLC and PP–Fisher tests reject the null hypothesis of a unit root, the IPS and ADF–Fisher tests yield weaker results. Overall, the findings suggest that *to* exhibits level stationarity with some heterogeneity across tests.

Table 4 presents the results of the panel data analysis examining the relationship between the tax wedge and poverty. Based on the outcomes of the F Test, LM Test, and Hausman Test applied to serve the objectives of the study, five distinct models were specified. These findings reflect the effects of labor market conditions and tax structures on poverty in OECD countries during the pre-COVID period. Table 4 presents the results of the model selection procedure used to determine the appropriate panel estimator.

Table 4: Model Selection

	FEM 1	FEM 2	FEM 3	FEM 4	FEM 5
F Test	46,2754 [0,0000]	85,7994 [0,0000]	51,5557 [0,0000]	67,5715 [0,0000]	66,0268 [0,0000]
LM Test	1046,548 [0,0000]	1031,122 [0,0000]	859,3861 [0,0000]	847,5318 [0,0000]	812,5732 [0,0000]
Hausman Test	8,7525 [0,0031]	81,1375 [0,0000]	126,5898 [0,0000]	105,5529 [0,0000]	104,2994 [0,0000]

Note: Values in brackets [ ] denote p-values. FEM = Fixed Effects Model

As reported in Table 4, the results of the F, LM, and Hausman tests indicate that the fixed effects model is preferred for all specifications. Table 5 reports the results of the panel data analysis.

Table 5: The Effect of the Tax Wedge on Poverty

Dependent Variable: pv | N = 24 | T = 13 | Observations = 312					
Variables	FEM 1	FEM 2	FEM 3	FEM 4	FEM 5
C	-17,6519 (-2,4489)**	-5,1056 (-1,4135)	-4,4250 (-1,2355)	-6,0932 (-1,4002)	-1,6537 (-0,7075)
lntx	5,0035 (2,5627)**	2,8954 (2,7069)***	2,6877 (2,4927)**	2,7336 (2,5404)**	1,2561 (2,2786)**
lngdp		-4,5200 (-8,7597)***	-5,5507 (-10,3767)***	-5,3538 (-12,7308)***	-3,6643 (-11,5361)***
ed			0,0391 (8,4591)***	0,0398 (9,3142)***	0,0350 (9,8771)***
dr				0,0503 (1,8082)*	0,0140 (0,7792)

to					0,0030 (5,4061)***
R^2	0,7876	0,8737	0,8837	0,8851	0,8924
Cor. R^2	0,7698	0,8626	0,8837	0,8741	0,8817
F Test	44,3475	51,8044	83,3449	81,0411	83,8474

Note: ***, ** and * denote significance at the 1 %, 5 %, and 10 % levels, respectively. "( )" denotes t statistical value. FEM: Fixed Effects Model

The estimation results indicate that the tax wedge has a statistically significant positive effect on poverty. Furthermore, the findings indicate that a 1% rise in the tax wedge is associated with an increase in poverty by 2.7336 units in FEM 4 and 1.2561 units in FEM 5. According to the estimation results, the poverty level will increase as the income levels of individuals will decrease with the increase in the tax wedge. In the relevant models, it is seen that the GDP variable is significant in poverty and the coefficient sign is negative. It is also observed that a 1% increase in the GDP variable reduces poverty by 5.3538 units for FEM 4 and 3.6643 units for FEM 5. Based on the mentioned results, it can be said that poverty decreases with the increase in the national income level.

The positive coefficient of the education variable is initially counterintuitive, as the dominant literature generally identifies education as a factor that reduces poverty. In the present macro-level panel setting, however, a one-unit increase in education is associated with a 0.0398-unit rise in poverty in FEM 4 and a 0.0350-unit rise in FEM 5. This finding may reflect structural labor market mismatches, over qualification, delayed labor market entry, temporary employment, and unequal returns to tertiary education across OECD countries. Therefore, the positive association should be interpreted cautiously within the broader institutional and macroeconomic context of the sample, rather than as direct evidence that education itself increases poverty.

It is observed that the impact of the dependency ratio on poverty is not significant in FEM 5, but it is positively significant in FEM 4. In line with the findings, a one-unit rise in the dependency ratio is associated with a 0.0503-unit increase in poverty. This result is broadly consistent with theoretical expectations. The effect of the trade openness variable, which is included last in FEM 5, on poverty is positive and significant at the 1% level. The estimation results also demonstrate that a one-unit increase in trade openness corresponds to a 0.0030-unit rise in poverty.

5. Conclusion

Tax wedge refers to the financial burdens that both the employee and the employer must pay due to employees earning wage income. In this context, it may be asserted that the high/low tax wedge rate, the rate of social security contributions within the scope of the tax wedge and the level of transfer payments within the tax wedge may have an impact on poverty. In this study, panel data analysis was carried out using OECD country data to determine the effect of the tax wedge on poverty. In this context, five different Fixed Effects Models were created and the results were estimated. The analysis indicates that a rise in the tax wedge is positively associated with poverty. This can be attributed to higher tax wedges reduce individuals' disposable income, which in turn may increase poverty rates. Within the scope of the model developed for poverty, variables such as GDP, education, dependency ratio and trade openness are also included. Based on the analysis, the increase in the GDP variable has a positive effect on reducing poverty; it was concluded that the increase in education, dependency ratio and trade openness caused an increase in poverty. Policy recommendations that can be developed regarding the effect of the tax wedge on poverty are classified as follows:

- One potential policy implication involves lowering the effective tax burden on low-income workers in order to increase their disposable income. In this context, net income can be increased by reducing both income tax and social security premium burden. This would reduce poverty.
- Progressive income tax systems can be strengthened. Thus, high income earners can be taxed at a higher rate, while low-income earners can be taxed at a lower rate, easing the tax burden on low-income groups.
- The tax burden on families with children can be eased. This would encourage women's employment.
- Social transfer payments for low-wage workers can be increased and diversified. This would reduce the risk of poverty. In this context, individuals' life satisfaction and well-being can be improved by increasing the share allocated to social expenditures in the public budget.
- Poverty reduction can be reduced by excluding minimum wage earners from taxation or providing them with various privileges.

Although the temporary tax and transfer policies implemented after the COVID-19 pandemic have limited the short-term effects of the structural relationships identified in this study, the fundamental impact of the tax wedge on disposable income and poverty persists. In this respect, the findings provide an important reference point for post-pandemic policy debates. In conclusion, high tax wedge may directly affect the poverty level. However, a high tax wedge rate will lead to informal employment, which may make the fight against poverty more difficult. In implementing tax policies, taxation should be viewed not merely as a fiscal tool but also as an important means of ensuring social justice and redistributing income. It is important to restructure the tax structure to support the fight against poverty.

AUTHOR CONTRIBUTIONS

The authors jointly participated in the development of the research idea, data analysis, and the preparation of the manuscript. All authors have read and agreed to the final version submitted for publication.

CONFLICT OF INTEREST STATEMENT

The authors report that no financial, personal, or professional relationships exist that could be perceived as influencing the research process or the interpretation of the findings.

ETHICAL STATEMENT REGARDING THE USE OF ARTIFICIAL INTELLIGENCE AND OTHER SITUATIONS

In the writing process of this study, limited use was made of artificial intelligence-supported software called chatgpt for language control purposes. The content creation, analysis, and scientific evaluation were entirely performed by the author(s).

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