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Wealth Taxation and Sustainable Development: Could Wealth Related Taxes Play a Role in Achieving the SDGs?

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ABSTRACT

This paper examines the relationship between wealth taxation and Sustainable Development Goals (SDGs) in OECD member countries and analyzes the impacts of wealth (related) taxes on social, environmental, and economic goals for the period of 2000–2021. The results from panel data estimations utilizing fixed effects and Driscoll-Kraay standard errors indicate that wealth taxes positively contribute to social goals (such as reducing inequalities) but negatively affect economic goals. In the data, we observe that wealth taxes are as successful as corporate income taxes in generating the necessary finance for governments. This underscores that wealth taxes hold significant revenue potential in tackling real-world problems such as climate change. However, our empirical results do not show any meaningful impact of wealth taxes on environmental objectives. With their current forms, wealth taxes lead to opposing effects on SDGs in OECD countries. Developing effective implementation strategies for wealth taxes is, therefore, essential for promoting future economic activities toward environmental sustainability and well-being.

1 | Introduction

A group of independent scientists, appointed by the Secretary-General of the United Nations to prepare the 2023 Global Sustainable Development Report, points out a serious deviation from the path toward achieving the 2030 goals (UN 2023, 23). There are only 5 years left to fulfill the 17 Sustainable Development Goals (hereafter SDGs) of the 2030 Agenda (UN 2015), and it is clear that member countries need to demonstrate significantly greater efforts than they have so far. The 2023 report highlights an urgent need for innovative ideas and data-driven science to create effective policies aimed at achieving the targets. It is a fact that within the constraints of the planetary boundaries, sustainability emerges as a complex issue requiring comprehensive transformation and collective action from all stakeholders, including governments, businesses, and societies. For the desired outcomes, transformation must include both local and global perspectives. For instance, the European Green Deal can be seen as a regional commitment; however, it provides a stricter policy guidance not only for the EU nations but also for the trade partners of the EU.

The 2023 report also reveals that SDG financing gap in developing countries has been increasing and reached a level of 56% in 2020. Because of the growing necessities, countries at the 2022 United Nations Climate Change Conference (COP 27) agreed on establishing a loss and damage fund to be financed by wealthy nations to help to vulnerable countries (UN 2023). As global warming continues to impose rising costs, it is crucial to ensure determined political will and coordinated efforts, especially in the areas of economy and finance. Additionally, fiscal reforms, such as changes in taxation, are essential for advancing and accelerating progress toward the SDGs. The UN particularly underlines the importance of a strong tax base to maintain the equilibrium, with a particular emphasis on measures such as "reducing tax exemptions, unifying the value-added tax rates, environmental and carbon taxes, increasing tax rates on the income and assets of the wealthy, increasing property taxes and increasing taxes on tobacco and alcohol." UN (2023, 85).

However, it is also evident that there are ongoing debates and notable exceptions remain: Mathieu-Bolh (2017) demonstrates that major tax reforms may not always yield positive outcomes as commonly assumed. Alstadsæter et al. (2019) show that the top richest individuals in Norway keep a substantial part of their assets in offshore accounts.[1] This and such studies (Leenders et al. (2023) and Guyton et al. (2021)) imply that wealthy individuals continue to exhibit a high sensitivity to taxation. McGill (2010) emphasizes that the existing system of taxation—targeting primarily labor and capital—leads to adverse effects, which are not efficient, not effective, and discourage sustainable development (in the UK). Contrary to the UN's proposal, tax rates on capital income, both at the personal and corporate levels, have been declining over the decades across country groups of all income levels (Hebous et al. 2024, 5–6.). This is most likely due to the phenomenon that high tax rates provoke tax evasion (Fisman and Wei 2004). Furthermore, Durusu-Ciftci et al. (2018) indicate that no consistent relationship exists between different types of taxes and economic development at the country level within the OECD. In light of these arguments, assessing the potential of proposed measures—by thoroughly weighing their advantages and disadvantages before they are put into practice—is crucial. This paper, therefore, aims to provide a comprehensive evaluation in the context of wealth (related) taxes—including property taxes as well—a fiscal instrument which has recently attracted growing attention in public and academic discourse, particularly through the work of the French economist Thomas Piketty, who strongly advocates a global progressive tax on wealth.[2]

We know that individual wealth taxes have a long history; however, many have been gradually abolished over time. Efficiency and administrative costs, the risks of capital flight, and the failures in meeting their objectives due to tax avoidance and evasion are the main justifications in favor of repealing the wealth taxes (OECD 2018). Another argument is that they have a direct negative effect on the stock of capital and entrepreneurship; thus, economic growth. However, Thoresen et al. (2022) suggest that the wealth tax does not have clear negative impacts on investment and employment, which are key economic indicators. More recently, these taxes have begun to be seen as the most appropriate policy instrument to reduce inequality in wealth and consumption distribution and to finance the green transition due to the strong revenue potential (Van Nguyen and Khieu (2020), Chancel and Piketty (2015), Apostel and O'Neill (2022) and Kapeller et al. (2023) just to mention a few). Perret (2021) underlines that the factors that led to the abolition of wealth taxes do not remain as they were 30 years ago. They evolved a lot, and wealth tax regimes might also be relevant today, at least temporarily, within the framework of technological developments (such as cross-border automatic exchange of information) have happened in the last decades. The common point of all these studies is that wealth taxes can be beneficial if they are strategically well designed and if measures to prevent tax avoidance and evasion work properly.

The economic literature shows that these strategies can be in different forms and types: For example, the late Nobel Prize-winning economist Robert Solow supports Piketty's idea that a wealth tax (annually) which is equal to about 2% of GDP helps to reduce the gap between the rate of capital return and the growth rate in the US. According to him, this gap is the main reason for the increasing inequality that is distorted in favor of the rich. An excess in this gap leads to a situation the rich-get-richer dynamic Solow (2014) calls.[3] Again, Saez (2013) shows that in contrast to the standard optimal linear taxation studies (such as in Chamley (1986) and Judd (1985)), optimal progressive taxes can have a bigger impact on the long-run wealth distribution.[4] Another strategy is to replace the capital income taxes with wealth taxes. Guvenen et al. (2023) demonstrate that wealth taxes provide more welfare gains rather than capital income taxes and can be used by the policymakers to incentivize unproductive wealth holders to take optimal decisions on their investments which lead to a gain in efficiency, productivity, and output.

As it is mentioned before, negative perceptions of wealth taxes still prevail among the ultra-rich. A notable illustration of this can be found in a public debate that took place 4 years ago between David Beasley, the former Executive Director of the UN World Food Programme, and billionaire entrepreneur Elon Musk. Their discussion centered on whether a small fraction of billionaires' wealth—as a donation or through a one-time wealth tax—could solve the global hunger crisis. Importantly, the core issue was not the feasibility of the proposal itself, but rather a deeper concern regarding the trust in policy institutions. This discussion highlights a widespread skepticism about the design and implementation of effective interventions in global priority areas such as starvation, climate change, and unemployment. As in this case, identifying strategies that reduce societal uncertainty and enhance public confidence is a key priority. For instance, Lu (2022) reveals that the actual effectiveness of wealth taxation depends on policy communication and teaching individuals. The study suggests that if a society agrees on reaching certain goals, these supportive teaching strategies must be implemented to mitigate overreaction alongside wealth taxation.[5] At this point, another important question appears also: Do we really need a (global) wealth tax instead of modifying and improving existing taxes? After a closer look at the literature (see Scheuer and Slemrod (2021) as a must read study), we understand that the discussion on the economic arguments for and against a wealth tax actually depends on different public concerns and motivations (Adam and Miller 2021), and this debate still remains open with its different aspects –such as fairness, effectiveness, and equal treatment principles (Scheve and Stasavage 2016, 3–23)—including the ongoing economic discussion of the choice between wealth and capital income taxation as a means of taxing the rich (Bastani and Waldenström 2023).

What has been discussed so far does not alter a fundamental fact. Taxation is the effective policy tool for governments in raising the revenues, redistributing the incomes, and managing the negative externalities of raising economic activities. Generally speaking, taxes might also be the most supportive vehicles to regulate the resource industries and to speed up the sustainable development. Based on Avi-Yonah (2011) we created the following table including the wealth taxes beside others.

Table 1 shows the goals of taxation and the effectiveness of taxes in this regard. As it is seen, almost all taxes serve the purpose of revenue generation; however, taxes on goods and services and wealth taxes are seen to be at the forefront. The main reason is that, unlike personal and corporate income taxes, there is no uncertainty about the tax incidence. Regarding the redistribution objective, personal income taxes and wealth taxes are more effective because of their progressive natures. Provided that corporate income tax revenues are used for redistribution purposes by the governments, they can also be added in this category. Concerning the regulatory purpose of taxes and correcting market externalities, Pigovian and corporate taxes take the first places together. For example, carbon taxes have been introduced as a result of such need and have been applied in many countries for a while. The aims with these taxes are to reduce carbon emissions, mitigate the negative effects of global warming, and reduce the incomes of fossil fuel companies. Larsen and Shah (2023, 256) argue that although a global carbon tax is still far from implementation, national carbon taxes—*if introduced in* a *revenue-neutral fashion by reducing corporate income taxes*—have a great potential in fighting against climate change and reforming the tax regimes. This therefore leads to a regulation through taxation, as mentioned by Avi-Yonah (2011). However, Naef (2024) reveals that most of the fossil fuel companies surprisingly support carbon taxes. This finding, which points out a paradox between the intended purposes of carbon taxes and their impacts on the fossil fuel industry, aligns with the results of Mathieu-Bolh (2017).

In this global context, this paper seeks to address the following questions: To what extent could wealth-related taxes contribute to the implementation of the SDGs? And to what extent have they been able to achieve targets in their current state? While there is no debate on the primary objectives of wealth taxation, however, it is still unclear whether they possess a potentially transformative impact, particularly with respect to environmental sustainability. Their marginal impacts have received limited attention in the economics and development literature. This study, therefore, contributes to filling this gap by examining the potential role of wealth taxation in advancing the SDGs. To the best of our knowledge, this is the first empirical study among others (such as Rahman (2023), Halim and Rahman (2022) and Kouam and Asongu (2022)) assesses the implications of wealth and wealth-related taxes, relative to other forms of taxation—across all three aspects of sustainable development (social, environmental and economic) within OECD countries.

Our findings show that wealth taxes have a positive impact on social goals and have negative effects on economic goals. In the data, we observe that wealth taxes are as successful as corporate income taxes in creating revenue. This implies that wealth taxes have a key financial potential in the fight against real-world problems. Under the current forms of wealth taxes, it is hard to confirm yet whether they have a positive (transformative) role on environmental sustainability. Our estimations show that they do not have any significant impact on environmental goals. From socio-economic and ecological perspectives, we argue that a strong willingness for global wealth taxation requires smart strategies to avoid the opposing effects in the OECD countries.

The paper proceeds as follows: Section 2 describes the data and methodology. Section 3 explains the empirical strategy. Section 4 discusses the results, and Section 5 concludes.

2 | Data and Methodology

The OECD countries are selected as the focus of this study because they provide more harmonized and reliable tax revenue statistics compared to the non-OECD countries in our sample, which consists of 27 countries[6] observed over a 22-year period from 2000 to 2021 in a panel data setting. According to our data, the share of wealth-related tax revenues in OECD countries has reached an average of 2% of GDP. In contrast, this number is considerably lower for non-OECD countries (around 0.76%) which limits our ability to meaningfully discuss wealth tax practices in those countries.[7] Therefore, the OECD sample offers a more suitable context in which wealth taxation mechanisms are likely to be functionally operational, allowing for clearer identification of their effects.

We collect taxation data from the OECD database[8] and SDG scores from the SDG Transformation Center.[9] To categorize the 17 SDGs, we benefit from the systems approach of Barbier and Burgess (2021), which groups the goals into three main systems, namely: social, environmental, and economic. This categorization allows us to calculate the system-level sub-SDG scores. For instance, to get the Social SDG score for a given year, we sum the SDG score 4 (quality education), SDG score 5 (gender equality), SDG score 10 (reduced inequalities), SDG score 16 (peace, justice

TABLE 1 | Goals of taxation and taxes.

	Goals of taxation		
Taxes	**Raising the revenue**	**Redistribution**	**Regulatory**
Taxes on goods and services	Effective	Not intended	Not intended
Personal income taxes	Less effective	Effective	Not intended
Corporate income taxes	Less effective	Not intended	Effective
Wealth taxes	Effective	Effective	Not established
Pigovian taxes	Limited	Not intended	Effective

Source: Author's own illustration.

and strong institutions) and SDG score 17 (partnerships for the goals) and then take the average. We repeat this procedure annually across our sample. The same methodology is applied to obtain the Environmental and Economic SDG scores.[10] Figure 1 illustrates the methodology framework of the paper.

We take real GDP per-capita and population data from the World Bank database[11] to serve as macroeconomic control variables. In addition, we control for other potential confounding factors—such as price levels, carbon emissions, unemployment and income inequality—to account for broader economic, environmental and social aspects relatively. Specifically, we use the Consumer Price Index (CPI), CO_2 emissions per capita and the unemployment rate from the World Bank database.

To measure income inequality, we follow the tier classification provided by UN (2019) and utilize data from the World Inequality Database.[12] We use the income per capita among the bottom 50% of the population to the income per capita of the total population.

As a proxy for taxation, we use tax revenues as a percentage of GDP rather than tax rates or shares of specific tax revenues relative to total tax revenues. We prefer this approach because countries differ in their tax policies, tax rates, size of population, and the scale of their economies. Identical tax rates or similar tax revenues may lead to misleading comparisons when evaluating countries of different sizes. In contrast, tax revenues as a share of GDP offer a more consistent and comparable measure, providing greater explanatory power in assessing the impact of taxation on SDG progress.

Our taxation data consists of taxes on profits and capital gains of individuals (1100), taxes on income, profits and capital gains of corporates (1200), taxes on goods and services (5000) and property taxes (4000). Numbers in parenthesis are representing the classifications of well-established methodology of OECD revenue statistics. In our analyses, we take property taxes, to serve as the indicator of broad wealth taxation because they consist of six distinct types of taxes on wealth stocks: Recurrent taxes on immovable property (4100), recurrent taxes on net wealth (4200), estate, inheritance and gift taxes (4300), taxes on financial and capital transactions (4400), other non-recurrent taxes on property (4500) and other recurrent taxes on property (4600). Following the broad capital taxation approach of Kate and Milionis (2019), we use all components of the property taxes (4000) to derive the wealth taxation. Therefore throughout the paper, the terms wealth taxes and wealth related taxes are used interchangeably. In our empirical analyses, *PIT*, *CIT*, *GST* and *WT* represent the personal income taxation, corporate income taxation, taxation on goods and services and the wealth taxation, respectively.

Figure 2 illustrates the relationship between wealth tax revenues (as a percentage of GDP) and SDG scores in OECD countries. Each color represents a different OECD country, with 22 annual observations. The figure highlights substantial heterogeneity across countries both in terms of SDG performances and wealth tax revenues. It is possible to say that not all countries would have a positive relationship between wealth tax revenues and SDG scores. However, especially for the countries with above 2% of wealth tax revenue, a positive relationship prevails. Thus, we utilize a panel data estimation to observe a meaningful overall relationship and control for the heterogeneity. We also expect that wealth taxation might need targeted strategies to direct it into the structural needs of these countries to improve sustainable development goals.

One can see the summary statistics of our data from Table 2.

It reports that the average SDG score of our sample is 76.94 over 100. This score indicates that if OECD countries are considered as one single country, slightly more than 75% of SDG targets have been met over a 22-year period. In other words, member countries still have about a 25% more to go to accomplish the

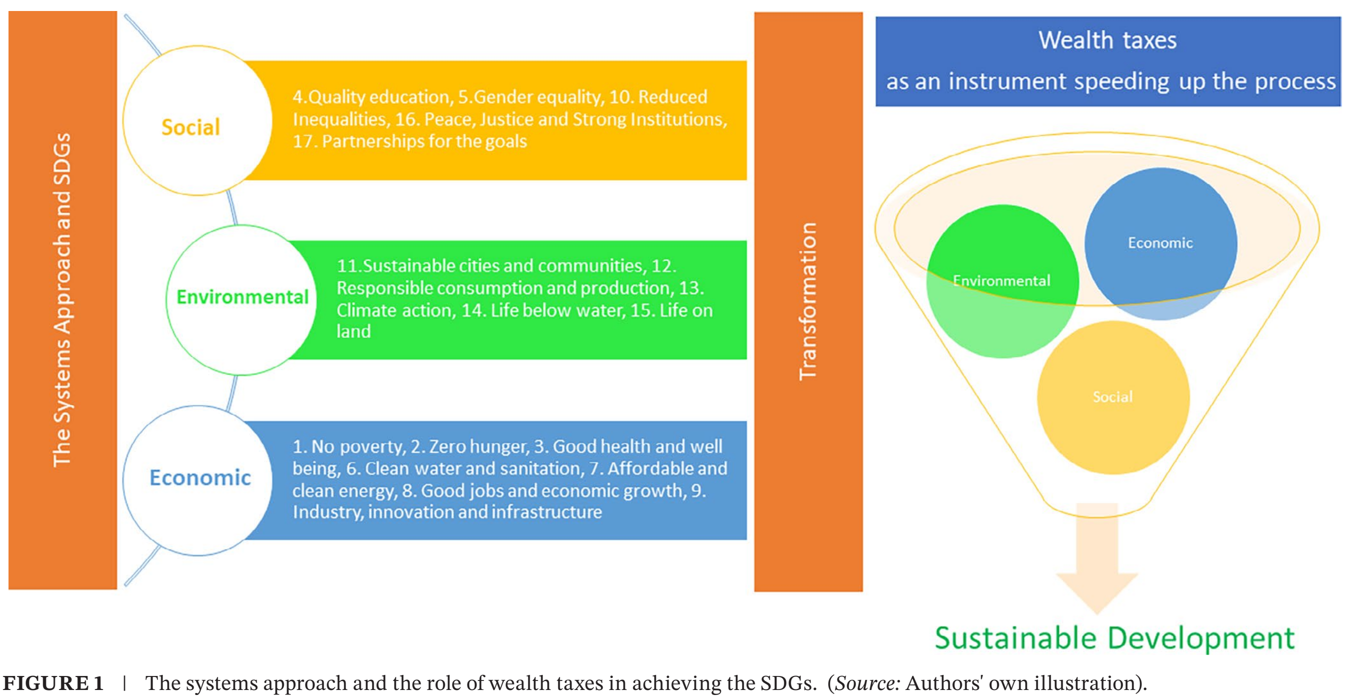

FIGURE 1 | The systems approach and the role of wealth taxes in achieving the SDGs. (*Source:* Authors' own illustration).

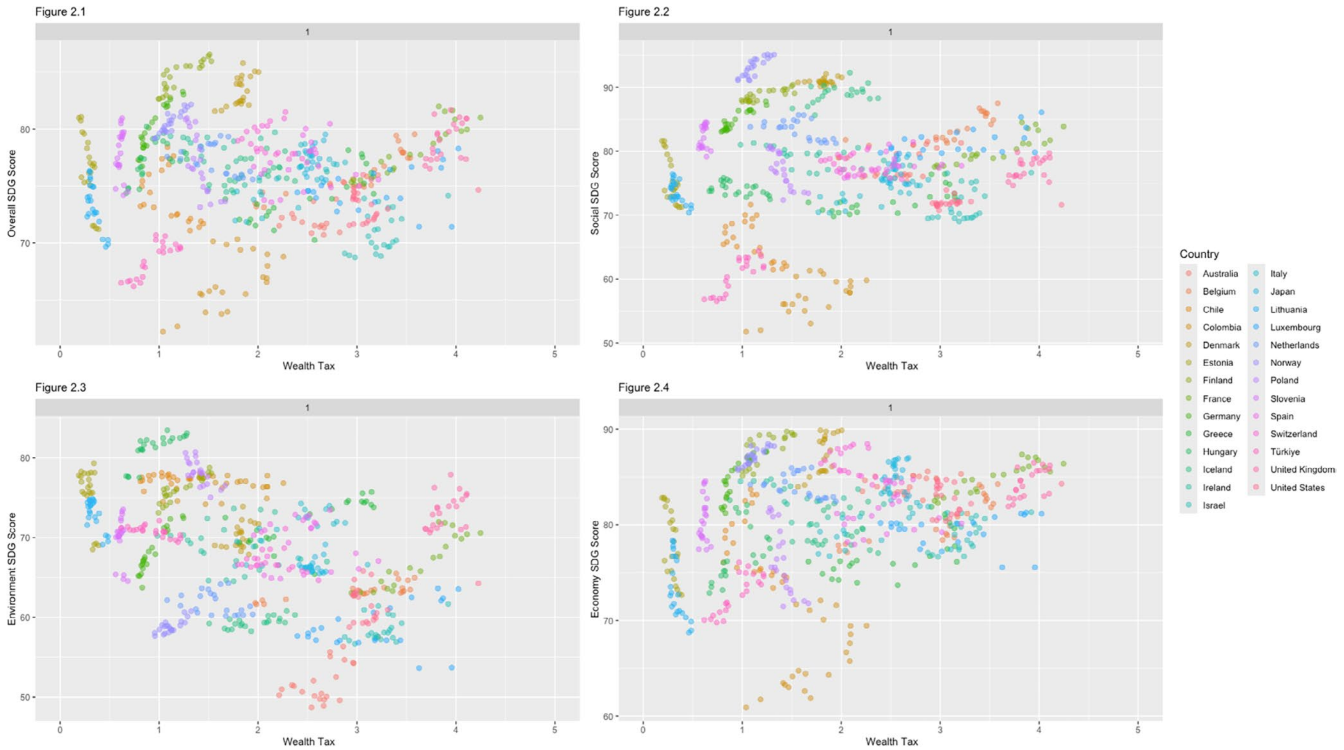

FIGURE 2 | SDG scores and wealth tax revenues as a percentage of GDP in OECD countries over a 22-year period (2000–2021).

TABLE 2 | Summary statistics.

Variable	Mean	SD	Min	Max
$SDG^{Overall}$	76.94372	3.592684	68.73244	86.55664
SDG^{Social}	79.17891	6.782041	61.46216	95.14812
$SDG^{Environmental}$	67.93076	7.439316	48.6807	83.47776
$SDG^{Economic}$	81.64844	4.401483	68.72174	89.87434
WT	2.016031	1.225749	0.189	17.026
PIT	8.671373	4.336812	0.958	26.196
CIT	2.987587	1.671938	0.53	12.54
GST	10.96513	2.897562	4.139	17.384
GDP	40004.23	22961.06	6423.421	112417.9
Population	36,700,000	64,000,000	279,296	336,000,000

2030 agenda. When we look at the subcategories, we see that the lowest scores belong to the environmental goals, with a mean value of 67.93 and a standard deviation of 7.43. On the other hand, relatively higher scores among OECD countries are coming from social (with a mean value 79.17, and a standard deviation of 6.78) and economic goals (with a mean value 81.64, and a standard deviation of 4.40). It suggests that more progress is needed for the environmental objectives.

The 22-year tax revenue data shows that taxes on goods and services are the most effective taxes in generating revenue among OECD countries (averaging of 10.96 percentage of total revenues in OECD countries). They are followed by personal income taxes (8.67% of GDP on average), corporate income taxes (2.98% of GDP on average) and wealth taxes (2.01% of GDP on average), respectively. One can also argue that wealth taxes are as successful as corporate income taxes in creating finance. They show the smallest deviation (with a value of 1.22) from the average, while personal income taxes have the largest deviation (with a value of 4.33) among the member countries.

3 | Empirical Strategy

As we mentioned above, our aim is to investigate how tax revenues (as percentage of GDP) relate to SDG performances of 27 OECD countries. For the assessment, we benefit from a panel data regression over the period of 2000–2021, where SDG scores are functions of tax revenues ($T_{n,i,t}$). We control our model by including variables GDP per capita ($\text{GDP}_{i,t}$) and population ($\text{POP}_{i,t}$). In our estimations, we use four different SDG scores ($\text{SDG}_{i,t}^{\text{type}}$) as dependent variables where type denotes the SDG overall, SDG social, SDG environmental and SDG economic.

Table 3 shows Pesaran cross-sectional dependency (CD) and Cross-sectionally augmented Im-Pesaran Shin (CIPS) unit root tests. As it can be seen, Pesaran cross-sectional dependency (CD) test's p-values reject the null hypothesis, which is robust to the presence of unit roots and structural breaks (Pesaran 2021). We confirm that variables present cross-sectional dependency. Cross-sectionally augmented Im-Pesaran Shin (CIPS) unit root test statistics for panel data also indicate the presence of unit root (Pesaran 2007). Thus, we obtain stationary forms of all variables by taking the first differences (represented by Δ), except for population (and additional control variables in Table 5) which turns into stationary after the second difference (represented by $\Delta\Delta$). CIPS test statistics show that all variables are stationary in their differenced forms. We therefore specify our model in first differences as given in Equation (1) using logarithmic forms (log–log models) where μ represents the fixed effect. n, i and t stand for type, country and year respectively.

$$\begin{aligned}\Delta \log\left(\text{SDG}_{i,t}^{n}\right) = \alpha_0 + \sum_{n} \alpha_{1,n} \Delta \log\left(T_{i,t}^{n}\right) + \beta_1 \Delta \log\left(\text{GDP}_{i,t}\right) \\ + \beta_2 \Delta\Delta \log\left(\text{POP}_{i,t}\right) + \mu_i + \varepsilon_{i,t}\end{aligned} \tag{1}$$

where $T_{i,t}^{n}$ is the vector of tax revenue variables which consists of the following types:

$$T_{i,t}^{n} = T\left(WT_{i,t}, PIT_{i,t}, CIT_{i,t}, GST_{i,t}\right)$$

In order to get a better statistical range and to avoid the challenges in interpreting the results, we needed a log transformation to all variables. Please note that with the first difference of the logarithms we get the percentage change (growth rates) of each variable.

Since our country observations are greater than the number of years ($N > T$), we employ fixed effects with Driscoll-Kraay standard errors, which is robust to cross-sectional dependency, serial correlation and heteroskedasticity. Unlike Parks-Kmenta and Beck-Katz estimators, Driscoll-Kraay standard errors estimation allows us to eliminate insufficiencies produced by large cross-sections even when $N \to \infty$ (Hoechle 2007). It applies a Newey-west type estimation which gives the consistent covariance matrix independent to number of cross sections (Driscoll and Kraay 1998). We control fixed effects in our sample due to the fact that within variation is greater than between variation in all differenced logarithmic variables. Therefore, Driscoll-Kraay estimation with fixed effects has the property that fits better to our sample where $N > T$ presents robust and consistent standard errors in the presence of cross-sectional dependency.

We also checked the results for random effects with robust standard errors, consistent with the approach of Abbas and Zaman (2024), we do not observe any crucial and meaningful differences compared to our fixed effect estimations.[13]

4 | Results

Table 4 presents the estimation results of our base model in Equation (1). The results show that taxes on goods and services are the only among others that have a significant impact on overall SDG scores in OECD countries (see column 1). In our findings, neither personal income taxes nor corporate income taxes show any significant effect on promoting overall SDG scores. Contrary to our study, Rahman (2023) and Halim and Rahman (2022) find positive and significant effects, but they do not examine the wealth taxes and use different proxies for taxation.[14] Our results reveal that wealth taxes do not perform a significant effect on overall SDG scores in OECD countries. However, when we break the SDGs into three subcategories – such as social, environmental, and economic—we get ambiguous results. Our findings demonstrate that wealth taxes have a positive and significant effect on social goals and have a negative effect on economic goals. It is plausible to say that the positive effect is mostly due to the progressive nature of these taxes, which certainly has a role in improving inequalities, and the negative effect on economic objectives is probably because these taxes hinder the countries' abilities to accumulate more capital.

Concerning the environmental goals, we do not observe any significant effect of wealth taxes. These different results across the SDG categories indicate that one should carefully read the

TABLE 3 | CIPS and CD test results.

Level	CIPS stat.	First diff.	CIPS stat.	CD test (p-value)
$\log(\text{SDG}^{\text{Overall}})$	−2.112	$\Delta \log(\text{SDG}^{\text{Overall}})$	−4.637	0.000
log(WT)	−2.476	Δ log(WT)	−4.540	0.046
log(PIT)	−2.313	Δ log(PIT)	−4.021	0.000
log(CIT)	−2.589	Δ log(CIT)	−4.924	0.000
log(GST)	−2.164	Δ log(GST)	−4.465	0.000
log(GDP)	−1.725	Δ log(GDP)	−3.518	0.000
log(POP)	−0.696	$\Delta\Delta$ log(POP)	−3.487	0.000

Note: CIPS Test Critical Values: 10% = −2.58, 5% = −2.67, 1% = −2.83. CD Test: Under the null hypothesis of cross-section independence, CD ~ $N(0,1)$. P-values close to zero indicate cross-sectional dependence.

TABLE 4 | Fixed effect estimation results with Driscoll-Kraay standard errors.

	(1) $\Delta \log\left(SDG^{Overall}\right)$	(2) $\Delta \log\left(SDG^{Social}\right)$	(3) $\Delta \log\left(SDG^{Environmental}\right)$	(4) $\Delta \log\left(SDG^{Economic}\right)$
Δ log(WT)	−0.0000330	**0.00482*****	0.000532	**−0.00461****
	(−0.03)	(4.91)	(0.19)	(−3.04)
Δ log(PIT)	0.000504	−0.00156	0.00365	−0.0000947
	(0.28)	(−0.30)	(0.75)	(−0.03)
Δ log(CIT)	0.000470	−0.00148	0.00304	0.000320
	(0.49)	(−0.70)	(1.97)	(0.23)
Δ log(GST)	**0.00801***	0.00619	0.00795	0.0114
	(2.48)	(0.86)	(0.95)	(2.01)
Δ log(GDP)	−0.0121	**−0.0242***	**−0.0560***	**0.0244****
	(−1.37)	(−2.25)	(−2.08)	(3.11)
ΔΔ log(POP)	−0.0892	−0.159	−0.225	0.0450
	(−1.30)	(−1.06)	(−1.64)	(0.46)
_cons	**0.00385*****	**0.00399*****	**0.00464*****	**0.00342*****
	(18.40)	(9.53)	(7.06)	(7.97)
N	540	540	540	540

Note: t statistics in parentheses.
*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$.

TABLE 5 | Fixed effect estimation results with Driscoll-Kraay standard errors and additional control variables.

	(1) $\Delta \log\left(SDG^{Overall}\right)$	(2) $\Delta \log\left(SDG^{Social}\right)$	(3) $\Delta \log\left(SDG^{Environmental}\right)$	(4) $\Delta \log\left(SDG^{Economic}\right)$
Δ log(WT)	−0.0003	**0.0052*****	−0.0006	**−0.0046****
	(−0.23)	(5.12)	(−0.22)	(−3.04)
Δ log(PIT)	0.0006	−0.0013	0.0038	−0.0003
	(0.35)	(−0.27)	(0.71)	(−0.11)
Δ log(CIT)	**0.0014**	0.0003	**0.0029** (1.93)	0.0003
	(1.65)	(0.15)		(0.20)
Δ log(GST)	**0.0079****	0.0042 (0.58)	0.0099	**0.0116***
	(2.82)		(1.19)	(1.98)
Δ log(GDP)	−0.0051	**−0.0318** (−1.96)	−0.0309	**0.0247****
	(−0.81)		(−1.13)	(3.09)
ΔΔ log(POP)	−0.0282	−0.0166	**−0.2627** (−1.85)	0.0430
	(−0.32)	(−0.11)		(0.44)
ΔΔ log(CO_2)	**−0.0132*****		**−0.0314***	
	(−3.85)		(−2.23)	
ΔΔ log(UNEMP)	0.0006	0.0009		
	(0.70)	(0.33)		
ΔΔ log(BOT50)	**0.0332*****	**0.0614*****		
	(5.12)	(5.63)		
ΔΔ log(CPI)	−0.0045			−0.0088
	(−0.48)			(−0.72)

Note: t statistics in parentheses. $p < 0.1$.
*$p < 0.05$.
**$p < 0.01$.
***$p < 0.001$.

net effect of wealth taxes in promoting the SDG achievements in OECD countries. Columns 2 and 4 in Table 4 show us that wealth taxes have opposing effects on SDG progress. It is highly interesting to observe that we do not find any significant impact of other taxes on social, environmental, and economic aspects of the SDGs. Wealth taxes are the only taxes among the group that show a clear association with SDGs in OECD countries. This finding provides a sensible insight that we need a different perspective to approach the current debates on taxation reform. If we consider the question of whether we need wealth taxes instead of reforming the others, we can confirm that a comprehensive discussion on the contribution of current taxes in the context of SDG progress is essential. These findings suggest us to think along these lines.

Our findings also reveal that OECD countries need to transform their economic activities in favor of social and environmental aspects of SDGs. Our results demonstrate that economic growth in OECD countries significantly increases the inequalities and leads to detrimental effects on social SDG scores, and has highly negative effects on environmental progress (see columns 2 and 3 in Table 4). On the other hand, we did not find any significant effect of population growth on SDG scores in OECD countries. As of 2025, the global population will reach approximately 8 billion, and 1.4 billion people live in OECD countries.[15] It is clear that this is a fundamental factor that needs to be examined carefully when it comes to achieving the SDGs. Contrary to the studies suggesting decreasing growth rates of population for having a sustainable development, there are also studies revealing that a positive sustainable growth—in favor of environmental issues—is possible under increasing growth rates of population.[16] However, we know that more people mean more waste and more pollution. As the population increases, the demand for natural resources such as energy, water, and agricultural land increases. This can lead to excessive consumption, depletion, and environmental degradation. If one checks the estimation results (with additional controls) in (Table 5) can see a weak significant negative effect of population growth on environmental SDGs.

When our base model (Equation 1) is extended by the additional controls, we observe that the signs of wealth taxes for columns 2 and 4 remain the same. Corporate income taxes, which are with 10% significance level like population, do not represent a major deviation in our model. In addition to the results of base model, the extended model reveals that taxes on goods and services have a positive effect on economic SDG score as well. As it is expected, CO_2 emissions negatively affects the environmental and overall progresses. As the share of bottom 50% increases in the income distribution, inequality decreases which results in a positive impact on social and overall SDG scores. We do not observe any significant effects for unemployment and price levels on the SDG performances of OECD countries.

5 | Conclusion

This study examines the role of wealth taxation in promoting sustainable development in a sample of 27 OECD countries over the period of 2000–2021 and contributes to the literature twofold: (1) It provides a new empirical evidence on the implications of different taxes in achieving the SDGs. To the best of our knowledge, this is the first study taking wealth taxes at the center of the SDGs research, and (2) it offers a detailed analysis utilizing the systems approach of Barbier and Burgess (2021) to group 17 SDGs into three broad systems according to their similar objectives: social, environmental, and economic SDGs.

This paper uses tax revenue statistics (percentage of GDP) as the proxy for taxation and takes real GDP per capita and population data as controls in the base model. In addition to the overall SDG scores, sub-system SDG scores for social, environmental, and economic systems are involved in the estimations as the dependent variables. The panel data results with fixed effects and Driscoll-Kraay standard errors show that in the base model, wealth taxes are the only taxes in OECD countries that have significant effects on social and economic systems. These taxes affect social SDG scores positively, while they have negative effects on economic SDG scores. However, this study does not find any significant impact of wealth taxes on environmental SDG scores and overall SDG scores.

The paper also demonstrates that taxes on goods and services are the only taxes which have a significant effect on overall SDG scores. Unlike the prior literature, the implications of personal and corporate income taxes on the overall SDG performances are not statistically significant. These results suggest that wealth taxes, as well as other traditional capital taxes, need to be carefully designed to support sustainable development in OECD countries. In the extended model—which includes additional control variables such as price levels, carbon emissions, unemployment, and income inequality—main findings regarding the impacts of wealth taxes and taxes on goods and services remain consistent with those of the basic model, but we additionally find that taxes on goods and services positively affect economic SDG scores. We also note that the effects of corporate income taxes on both overall and environmental scores turn positively significant; however, the level of significance is very low.

The recent discussions tend to raise the attention to the idea of a having a global wealth taxation. The supporters of this idea argue that if wealth taxes are designed with smart strategies (for example: wealth taxes as a climate policy), they may have a transformative role in favor of social, economic, and environmental goals. If one looks at the results of the base model, one can notice that neither personal income taxes, corporate income taxes, nor taxes on goods and services show any significant effect on the social, environmental, and economic systems of the SDGs. However, wealth taxes are the only taxes that provide a clear association with SDGs. This finding suggests that the current debates on tax reforms should be approached through the lenses of sustainable development. It is clear that a comprehensive discussion on the transformative roles of taxes is urgently needed. These results shed light on potential answers to the frequently asked question: Do we really need a wealth tax, or would we reform the existing ones?

As a final remark on smart strategies, it would be useful to discuss a newly legislated law that has come into effect in Türkiye.[17] This legislation allows the state to lease agricultural lands that have been transferred through inheritance but have remained idle and unused for two consecutive years. It is aimed at contributing to environmental and economic goals by converting unproductive agricultural areas into economic use. However, besides the expected benefits, this legislation will bring some implementation costs. For example, the determination of unused lands, the establishment of commissions in every single province, finding and binding the economic agents for these purposes, the determination of the rental prices, and the final inspection of whether the lands leased after the completion of the rental agreements need to be processed. It is plausible that anticipated benefits and objectives could have been reached through a wealth taxation with a special focus on agricultural properties—that could be applied to idle agricultural assets—at a lower cost either. It would not only be a financial innovation (as regulation) in terms of sustainable practices, but also would assign a transformative role to the wealth taxes.

A further research on how wealth taxes can gain the regulatory power—especially in favor of environmental sustainability and well-being—would therefore be interesting to investigate.

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Conflicts of Interest

The authors declare no conflicts of interest.

Endnotes

[1] As of 2021, Norway is one of the five OECD countries that still apply a net wealth tax on individuals. The others are Colombia, France, Spain, and Switzerland.

[2] See Piketty (2014).

[3] One can look at Van Nguyen and Khieu (2020) for the theoretical explanation of the conditions—mentioned by Solow- in which a global wealth tax decreases the wealth inequality in the long run.

[4] It is important to note here that due to a given threshold wealth level, this model rules out a case for creating new-fortunes, therefore; wealth can only accumulate under the threshold.

[5] There is a growing empirical literature analyzing the behavioral responses to a wealth tax, however; our focus in this study is not the individual reactions to a wealth tax. For those who are interested in this literature can have a look at Londoño-Vélez and Avila-Mahecha (2024), Brülhart et al. (2022), Advani and Tarrant (2021), Jakobsen et al. (2019) and Seim (2017). See also the Appendix of Bastani and Waldenström (2023). See also the Appendix of Bastani and Waldenström (2023) for a survey of the main studies.

[6] Australia, Belgium, Chile, Colombia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Lithuania, Luxembourg, Netherlands, Norway, Poland, Slovenia, Spain, Switzerland, Türkiye, United Kingdom and United States.

[7] Among the non-OECD group, only 29 countries applied at least one form of wealth-related taxes, and the results for these countries are not significant. The data is available upon request.

[8] Please visit the global tax revenues section at: https://data-explorer.oecd.org/total and find the tax revenue menu under the revenue category.

[9] All data is publicly available and downloadable at: https://datahub.sdgtransformationcenter.org/reports.

[10] The Environmental SDG score include SDG score 11 (sustainable cities and communities), SDG score 12 (responsible consumption and production), SDG score 13 (climate action), SDG score 14 (life below water) and SDG score 15 (life on land). The economic SDG score includes SDG score 1 (no poverty), SDG score 2 (zero hunger), SDG score 3 (good health and wellbeing), SDG score 6 (clean water and sanitation), SDG score 7 (affordable and clean energy), SDG score 8 (good jobs and economic growth) and SDG score 9 (industry, innovation and infrastructure).

[11] Available at: data.worldbank.org.

[12] Available at: wid.world/data.

[13] Results are available upon request.

[14] Rahman (2023) uses the total taxable amount over all taxes of OECD countries. Halim and Rahman (2022) examine the effects for emerging countries—just 2 out of 10 are OECD countries; Colombia and Türkiye—, uses tax rates as the proxy for taxation.

[15] Current population statistics available at: www.oecd.org/en/data/indicators/population.html.

[16] Please see Liu et al. (2017) for a theoretical explanation in an endogenous growth setting.

[17] For more detail about the legislation (only in Turkish) please visit the Official Journal of Republic of Türkiye, Issue: 32640 dated on 22 August 2024, Available at: www.resmigazete.gov.tr/eskiler/2024/08/20240822.pdf.

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