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Governance, Public Expenditure and Sustainable Development: Evidence from Developed Economies

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Governance, Public Expenditure and Sustainable Development: Evidence from Developed Economies

Ayesha Siddiqa and Dr Muhammad Hassan Danish [*]

ABSTRACT

It is generally agreed that achieving sustainable development depends on good governance and the effective allocation of funds. But from the perspective of high income countries, prior empirical research has so far focused on the impact of governance on ecological sustainability, and studies on the role of public spending in achieving sustainable development are largely lacking. Thus, this paper aims to examine the nexus of governance, public spending, and sustainable development in the case of high income economies. The appropriate econometric methodology for panel data analysis has been selected based on endogeneity, in addition to a small T and a large N. The data contains a panel of 34 countries for 17 years (2006-2022), where N=34 is larger than T=17. For this purpose, the panel Generalised Method of Moments (GMM) is a suitable methodology for analysis. The empirical findings show a positive and significant impact of governance and public spending on sustainable development. The outcomes indicate that governance and sustainable development have a significant impact on public spending. Public spending has a negative impact on governance, whereas sustainable development has a significant impact on governance. It suggests that high income countries should focus on eliminating expenditure trends directed towards political elites and unproductive subsidies, all of which undermine the effectiveness of the governance structure. Governments should strengthen auditing and regulatory institutions to ensure efficient, transparent and accountable use of public funds.

Keywords: Governance index; Public spending; Sustainable development index; Financial development index; Globalisation index; Misery index; Panel GMM; Panel 3SLS

JEL Classification Codes: O16, H50, O43

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1. INTRODUCTION

The concept of sustainable development emphasises the balanced use of resources for both current and future generations (Duran et al., 2015). Sustainable development is one of the most prestigious policy agendas for nations aiming at long-term economic growth, environmental sustainability, and social welfare. Climate change, high public debt, income inequality, increased healthcare spending, and severe pressures on public infrastructure are among the numerous sustainability issues that many developed economies still struggle with despite their advanced institutional structures and substantial fiscal resources. These challenges have led to concerns about the efficient use of government resources and whether current governance systems can deliver sustainable development from public spending. The key question is not how much more, but how public resources are better managed by effective governance mechanisms that can be leveraged to produce sustainable development impact. This question provides the foundation to explore the role of governance and public spending on sustainable development.

An accountable governance system is also crucial for sustainable development. it encompasses the political, financial, and institutional frameworks that direct organisations, set laws and regulations, and distribute resources. In addition, political stability will increase opportunities for cross-border fund transfers and provide a better environment for investment inflows into countries. Consequently, the absence of violence and terrorism indicators, measured as good governance, is also important for achieving growth (Odugbesan et al., 2021). Moreover, strong regulatory frameworks support sustainable resource management and help stop environmental deterioration (Raper et al., 2022).

A review of empirical studies shows a curious picture with different scholars viewing the nexus between governance and growth, corruption and growth, and environmental sustainability. According to previous research, corruption harms sustainable development (Hope 2023). A few studies have revealed the role of governance in attaining the Sustainable Development Goals (SDGs) (Liu et al., 2022; Lyulyov et al., 2024). Others have reported the role of governance in attaining environmental sustainability (see Elander 2022; Raper et al., 2022). However, these studies have considered only a very narrow scope of governance and sustainable development. Moreover, previous studies have analysed the effect of public spending, such as health and education, on human development and environmental sustainability (Nguyen 2024) or the impact of public spending, such as capital, recurrent, education, health, and defence, on economic growth (Ochinyabo 2021). Similarly, these studies have considered a very narrow scope of public spending and sustainable development.

Previous studies have examined governance, public spending and sustainable development mainly in pairs, for example the effect of governance on environmental sustainability or on SDG outcomes, or the effect of specific spending categories, such as health, education or defence, on human development or growth. Few studies, to our knowledge, treat the three

as jointly determined in high income economies. The present study addresses this by estimating governance, public spending and sustainable development as a system of simultaneous relationships, using aggregate government expenditure (% of GDP) rather than individual spending categories. It also measures sustainable development with Hickel's (2020) Sustainable Development Index, which combines human development indicators with ecological indicators (CO_2 emissions and material footprints). The relationships are estimated with two-step system GMM for a panel of 34 high income countries over 2006-2022, and panel 3SLS is used as a complementary check. The objectives of the study are as follows:

- Scrutinise the impact of public spending and sustainable development on governance in high income countries.
- Investigate the impact of governance and sustainable development on public spending in high income countries.
- Examine the impact of governance and public spending on sustainable development in high income countries.

2. LITERATURE REVIEW

2.1. Theoretical Literature Review

The concept of sustainable development is based on the definition by Brundtland (1987) as 'development' that satisfies current needs without putting at risk the ability of future generations to satisfy their own needs and aspirations. Theoretically, this three-part relationship is extended by institutional theory (Peters 2011), which argues that advancement in the transparency and accountability of public financial management depends on institutional structures and patterns of behaviours and outcomes. Governance quality is also crucial as it enhances the efficacy of health expenditure and mitigates the detrimental impacts of climate-related risks (Mpfubhusa et al., 2026). Moreover, sound governance has a strong impact on human development in low-income countries (Ezako 2024). Accordingly, governance aspects, especially the rule of law, regulatory quality and political stability, also play a positive role in promoting human development. Martínez Córdoba et al. (2025) examined the effectiveness of public spending on environmental protection in United Nations (UN) member countries. They found that high emissions and fossil fuel subsidies reduce spending efficiency, whereas larger urban populations and higher renewable energy consumption are associated with higher efficiency. Ziaei (2025) reported that public budgets for renewable energy research and development reduce CO_F intensity in the long run, although the relationship is positive in the short run.

2.2. Empirical Literature Review

Prior empirical studies report mixed results on governance, public spending, ecological sustainability and the SDGs. Kouadio and Mom (2025) examined how governance conditions the relationship between education spending and income inequality in West

African countries. Their ARDL estimates indicate that a 1% increase in the interaction between a composite governance index and government education spending is associated with a 0.036% reduction in income inequality. Nasania (2024) analysed the relationship among natural resources, governance, government expenditure and ecological sustainability in East Africa. Using a dynamic panel (system) estimator, the study found that government expenditure is associated with greater environmental degradation, while governance and natural resources are associated with better sustainability outcomes. Cavalheiro et al. (2025) investigated the links between public governance, economic and social development, climate change adaptation and environmental performance. Their structural equation model indicates that effective governance is positively associated with economic development, through its links with investment attraction and institutional stability. Hazarika and Singh (2026) examined the interplay of public spending and governance quality in shaping SDG outcomes, particularly in the social sector. Their regression results show that a 1% increase in per capita social sector spending is associated with an approximately 8.2% higher social sector SDG score, and that stronger institutions are associated with larger SDG gains. Cristóbal et al. (2021) found that effective budget allocation and adequate spending levels are both associated with better progress towards the SDGs. Ngoc and Dang (2026) reported that corruption is negatively associated with SDG outcomes and that good governance significantly weakens this negative association.

The literature offers limited evidence on the simultaneous relationships between governance, public spending and sustainable development, particularly for high income economies. This study addresses this gap by applying two-step system GMM, with panel 3SLS as a complementary estimator, to a panel of 34 high income countries.

> H_1: Governance is positively related to PS (public spending) and Sustainable Development.
>
> H_2: Public spending is positively related to governance and sustainable development.
>
> H_3: Sustainable development is positively related to Governance and PS.

3. METHODOLOGY

3.1. The Construction of the Governance Index

The governance index is constructed from the six Worldwide Governance Indicators (WGI) compiled by Kaufmann and Kraay (2024): Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. Each indicator is measured on a scale from approximately -2.5 (weak governance) to 2.5 (strong governance). Because the WGI does not publish an aggregate score, the composite index is calculated as the simple average of the six WIGI indicators, as in Roy (2021), and has the same range:

Governance Index = (1/6) × (Voice and Accountability + Political Stability + Government Effectiveness + Regulatory Quality + Rule of Law + Control of Corruption) (1)

3.2. The Sustainable Development Index

The sustainable development index was constructed by Hickel (2020), which includes five indicators: education, life expectancy, income, CO_2 emissions, and material footprint. The sustainable development index has been measured as the human development index as well as the ecological efficiency index. The formula is described as follows:

$$SDI = \frac{Development\ Index}{Ecological\ Impact\ Index} \quad (2)$$

$$Development\ Index = \sqrt[3]{Life\ Expectancy\ Index * Education\ Index * Income\ Index} \quad (3)$$

$$Life\ Expectancy\ Index = \frac{LE-20}{85-20} \quad (4)$$

$$Education\ Index = \frac{MYSI-EYSI}{2} \quad (5)$$

$$Income\ Index = \frac{\ln(GNIpc)-\ln(200)}{\ln(20{,}000)-\ln(200)} \quad (6)$$

The Sustainable Development Index (SDI) establishes a sufficiency threshold of USD 20,000 on the income index scale, implying that additional income is no longer required for positive social outcomes. Two important metrics in the education dimension are the Mean Years of Schooling Index (MYSI) and the Expected Years of Schooling Index (EYSI). By 2025, the maximum number of years of schooling (represented by the MYSI) is predicted to be 15 years, while the expected number of years of schooling (represented by the EYSI) is anticipated to be 18 years.

$$Ecological\ Impact\ Index = 1 + \frac{e^{AO}-e^{1}}{e^{4}-e^{1}} \quad (7)$$

$$AO = \sqrt[2]{(\frac{MF}{boundary} \geq 1) * (\frac{CO2}{boundary} \geq 1)} \quad (8)$$

The average overshoot (AO) is computed by dividing the material footprint and emissions figures by the per capita planetary boundary, which varies depending on the year and population. Undershoot is defined as a result that is less than 1. The geometric mean is then used to average the findings, ensuring that a country cannot compensate for an overshoot at one boundary by undershooting another.

The material footprint (MF) indicator calculates a country's total amount of material extracted and used, which includes biomass, minerals, fossil fuels, and building materials. It is critical because extraction from terrestrial and marine ecosystems causes land use change, chemical loading, and biodiversity loss. Although it does not directly indicate ecological impact, it is a commonly used proxy in policy literature with a solid empirical background (Steinmann et al., 2017).

3.3. Empirical Strategy: Generalised Method of Moments

This study estimates the relationship between governance, public spending and sustainable development for a panel of 34 high income countries. To attain its main objective, a dynamic panel data approach, specifically the panel GMM method, is used, following the earlier literature. The first condition for applying dynamic panel GMM is that the number of cross-sections exceeds the number of time periods (N > T), which is met here (N = 34, T = 17). The second is that country-specific (fixed) effects are present in the model. The third is that the dependent variable enters the model with a lag, and that the data show serial correlation and group-wise heteroscedasticity. On the basis of these conditions, an endogeneity problem exists, which dynamic panel GMM estimators are designed to address (Adekunle 2021). In Equation (9), the lagged dependent variable is included as an explanatory variable; a model of this form is known as a dynamic panel data model:

$$Y_{it} = \delta Y_{it-1} + \beta X_{it} + \mu_{it} \quad (9)$$

Arellano and Bond (1991) introduced the Difference GMM technique of dynamic panel estimation to resolve the issues in autoregressive models, such as endogeneity and autocorrelation. Meanwhile, the lagged values of independent variables used as instrumental variables, determined by the first differences, are known as the Difference GMM approach.

The estimation method of the Two-Step System GMM is used in this study. First, the panel data set is balanced. Furthermore, the System GMM technique is used because endogeneity and autocorrelation problems exist in the model. The Arellano and Bond (1991) test is used to test for serial correlation in the residuals. Finally, the validity of the instruments (overidentifying restrictions) is checked using the Hansen test.

3.4. Three-Stage Least Squares (3SLS)

The simultaneous equations are also assessed using 3SLS, as in Murshed and Mredula (2018). One of the assumptions of the OLS estimation approach is undermined by heteroscedasticity in the data. Conversely, the 3SLS technique supposes that the error terms within each equation are both homoscedastic and serially uncorrelated, regardless of whether structural error terms may be associated with the simultaneous equations. It is essentially a kind of Instrumental Variables (IV) estimate where correlations between various equations, including unobserved error factors, are allowed. By taking these correlations into account, equation-by-equation estimation becomes more efficient.

The 3SLS estimator is used as a robustness check to validate the System GMM results since it explicitly considers the simultaneous relationship of governance, public spending and sustainable development, addressing the endogeneity that might occur due to reverse causality and omitted variable bias. The 3SLS simultaneously estimates the system of equations and gives consistent and efficient estimates in the presence of endogeneity, as opposed to single-equation estimators. The regression models are as follows:

$$Gov_{it} = \alpha_0 + \alpha_1 PS_{it} + \alpha_2 SD_{it} + \alpha_3 MI_{it} + \alpha_4 ICT_{it} + \alpha_5 LnFDI_{it} + \mu_{1it} \quad (10)$$

$$PS_{it} = \beta_0 + \beta_1 Gov_{it} + \beta_2 SD_{it} + \beta_3 LnED_{it} + \beta_4 MRI_{it} + \beta_5 LnPOP_{it} + \mu_{2it} \quad (11)$$

$$SD_{it} = \gamma_0 + \gamma_1 Gov_{it} + \gamma_2 PS_{it} + \gamma_3 FD_{it} + \gamma_4 LnGI_{it} + \gamma_5 Tax_{it} + \mu_{3it} \quad (12)$$

3.5. Data and Definition

The panel data used in this research cover 34 high income economies (Appendix 1). The period of this study is 2006 to 2022, and the sample contains 578 observations. Moreover, only those countries for which there was complete and consistent data for all variables under empirical analysis over the period under study were included. Economies with a large number of missing observations or incompleteness of data were dropped to have a balanced panel dataset and to maintain the reliability and comparability of the econometric estimations. Furthermore, in the study, the World Bank estimates of GNI were used in classifying countries into various categories. The full list of variables is presented in Table 1:

Table 1: Variables and Measurement

Variables	Representation	Description	Data Transformation	Sources
Gov	Governance	The Governance Index is calculated by a weighted average formula. The index ranges from -2.5 to 2.5.	Index	World Governance Indicators (WGI)
PS	Public Spending	Public spending is used as a proxy for government expenditure (% of GDP). Government expenditures include expenditures on general services for the public, economic issues, healthcare, social protection, defence, and environmental protection. It also includes expenditures on public order and safety, housing and community amenities, education recreation, culture and religion.	% of GDP	IMF
SD	Sustainable Development	The SDI is measured as HDI and the ecological efficiency index. It is an index that ranges from 0-1.	Index	Hickel (2020)
GI	Globalisation Index	The indicators of globalisation, such as economic, social, and political, are included in the	Index Natural Log	Gygli et al. (2019)

		globalisation index. This index has a range of 0 to 100.		
FD	Financial Development	The financial market index and the financial institutions are combined. The range of this index is 0 to 1.	Index	IMF
TAX	Tax Revenue	A percentage of the GDP is used to calculate tax revenue.	% of GDP	WDI
ED	External Debt	External Debt includes the total external debt stock. Data are in current USD.	Current USD Natural Log	WDI
IMR	Infant Mortality Rate	The infant mortality rate is the total number of newborns who die before the age of one year out of every 1,000 infants born alive in a year.	Per 1,000 live births	WDI
POP	Population	The total population represents calculations made during the midyear population, which includes every resident without consideration of legal status or citizenship.	Total Natural Log	WDI
MI	Misery Index	The unemployment and inflation rates are summed up to determine the misery index. The range of this index is 0 to infinity.	Index	WDI
ICT	Information Communication Technology	Information and communication technology is measured as a percentage of the total imports of goods.	% of the total imports	WDI
FDI	Foreign Direct Investment	FDI indicates direct investment flows into the economy. Data are in current USD.	Current USD Natural Log	WDI

Source: Authors' own compilation.

4. RESULTS AND DISCUSSION

The descriptive statistics of all variables are presented in Table 2. We can see that the mean values are higher than the standard deviation for nearly all variables. This indicates that the variables are dispersed and evenly distributed around a single mean value. Hence, it can be implied that governance, public spending, and SD have similar dispersion patterns across the sample. Furthermore, SD (Min=0.111 and Max= 0.823) and PS (Min=13.2 and Max= 66.8) values show noticeable variations between observations. The FD (Min=0.144 and Max=0.977) values show visible variations between observations. The GI (Min=3.864 and Max= 4.51) values indicate low variation. The Tax (Min=0.042 and Max= 48.5) values reflect considerable variation between observations. The IMR (Min=1.6 and Max=15.4) values show noticeable variation between observations. The POP (Min=12 and Max=19) values indicate moderate variation. The MI (Min=0.39 and Max=27) and ICT (Min=2.06 and Max=23) values reflect a large variation between observations. The FDI (Min=34 and Max=54) values reflect moderate variation between observations.

Table 2: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
SD	0.427	0.177	0.111	0.823
PS	42.13	9.553	13.241	66.823
Gov	1.075	0.529	-0.488	1.883
FD	0.619	0.197	0.144	0.977
GI	4.384	0.108	3.864	4.51
TAX	20.025	7.544	0.042	48.563
ED	30.472	2.086	25.175	35.326
IMR	4.407	2.464	1.6	15.4
POP	16.189	1.525	12.624	19.625
MI	10.065	4.577	0.399	27.499
ICT	7.763	3.206	2.065	23.174
FDI	46.227	3.554	34.636	54.643

Note: Max = Maximum, Min = Minimum, Std.D = Standard Deviation.

Source: Authors' analysis.

4.1. Results (GMM Estimation Method)

Results of the two-step system GMM for models 1, 2, and 3 are presented in Table 3. The main finding of this section is a two-way relationship between core variables such as governance, public spending, and sustainable development.

4.1.1. Governance Model

The findings of the governance model are presented in this section. Public spending has a negative and significant impact (β = -0.0020; $p<0.01$) on governance. Higher public expenditures sometimes result in reduced governance performance within high income countries because of dis-organisation, bureaucratic expansion, and rising fiscal deficits.

Sustainable development has a positive and significant impact (β = 0.0565; $p<0.05$) on governance. Sustainable development improves governance in developed nations by achieving stability across economic sectors as well as environmental and social equality.

The results indicate that the misery index is negatively and significantly associated with governance (β = -0.0019; $p<0.01$). The misery index leads to lower governance in high income countries through public discontentment, reduced institutional trust, and disturbances in social welfare systems. High inflation causes prices to become unfavourable, which can trigger public protests along with political unrest. Information and communication technology has a negative and significant impact on governance (β = -0.0015; $p<0.1$). Consequently, ICT reduces governance effectiveness when it creates cyber threats, lowers transparency, and allows the spread of misinformation. FDI has a positive and significant impact on governance (β =0.0010; $p<0.05$). FDI promotes transparency,

improves the regulatory framework, and enhances economic stability in developed countries.

4.1.2. Public Spending Model

The results of the public spending model are presented in this section. The outcomes demonstrate that governance is positively and significantly related to public spending and the findings are consistent with those of Mpfubhusa et al. (2026). Good governance practices focus on boosting public spending through appropriate resource allocation, transparency, and policy-based investment in high income countries. Sustainable development has a positive and significant impact ($\beta = 8.3069$; $p<0.01$) on public spending. The SDGs have major importance in raising public expenditure through enhanced investment in social, economic, and environmental sectors.

External debt has a positive and significant impact on public spending ($\beta = 0.9029$; $p<0.05$). External debt allows governments in high income countries to enhance public expenditure through extra funding, which they can use for infrastructure construction, social welfare programmes, and nationwide growth initiatives. It also fills financial gaps and expands public infrastructure and economic development.

The infant mortality rate is negatively and significantly associated with public spending ($\beta = -0.7260$; $p < 0.01$). Countries with higher infant mortality tend to have lower public spending. The association may also run in the opposite direction, since higher spending on health, maternal care and child welfare programmes can lower infant mortality.

Population growth is significantly and negatively related to public spending ($\beta = -0.9154$; $p<0.1$). Increase in population can lead to increased demands on education, healthcare, housing and infrastructure.

4.1.3. Sustainable Development Model

The findings of the SD model are presented in Table 3. The outcome demonstrates that governance is positively and significantly related to SD. These outcomes are aligned with a previous study by Hazarika and Singh (2026), which explains that sustainable development increases in high income countries through good governance systems that effectively execute policy implementation, ensuring transparency and accountability.

The outcomes demonstrate that public spending is positively and significantly related to sustainable development, as found by Cristóbal et al. (2021). Public spending on healthcare and education increases human capital and, in turn, supports productivity and the workforce.

Financial development has a negative and significant impact on sustainable development ($\beta = -0.0349$; $p<0.01$). Financial development harms sustainable development in developed countries when their financial sector grows, because it causes environmental destruction along with resource degradation, the imbalanced distribution of wealth, and excessive

resource usage. However, the rapid growth of financial institutions has encouraged businesses to make more industrial investments, thus increasing their carbon footprint and environmental harm.

The finding is that globalisation has a significant and negative impact on sustainable development. When a high income country is globalised, there is a decline in sustainable development because it leads to excessive consumption while increasing carbon emissions, which causes environmental pollution to spread across regions.

Tax revenue has a significant and negative impact on sustainable development ($\beta = -0.0009$; $p<0.01$). Tax revenue, which serves as the foundation for public service funding, sometimes has negative consequences for the sustainable development of developed nations because it generates economic inefficiencies and drives away investment opportunities, alongside lowering private sector innovation.

4.2. Diagnostic Test

The diagnostic tests of this model are shown in Table 3. The diagnostic test shows that the Wald chi-squared value is significant, which shows that the model is a good fit and the parameters significantly differ from zero. The valid instrumentation is supported by the Hansen test ($p > 0.05$), which shows that the null hypothesis of valid instruments cannot be rejected. The statistical insignificance ($p > 0.05$) of the Arellano-Bond AR(2) test supports model consistency and shows that there is no second-order serial correlation. The AR(2) z-statistic is not statistically significant at the 5% level, hence supporting the validity of model specification. The difference in the Hansen test also confirms the validity of system GMM results, as the null hypothesis of exogeneity is not rejected ($p > 0.10$).

Table 3: Empirical Results (GMM)

Variables	(Gov) GMM	(PS) GMM	(SD) GMM
Gov		3.0847*** (0.000)	0.0188** (0.050)
PS	-0.0020*** (0.000)		0.0026*** (0.000)
SD	0.0565** (0.013)	8.3069*** (0.000)	
FD			-0.0349*** (0.006)
LnGI			-0.1619*** (0.000)
Tax			-0.0009*** (0.001)
LnED		0.9029** (0.016)	
IMR		-0.7260*** (0.000)	
LnPOP		-0.9154* (0.090)	
MI	-0.0019*** (0.000)		
ICT	-0.0015* (0.095)		
LnFDI	0.0010** (0.017)		
Constant	0.0732** (0.024)	1.6446 (0.614)	0.6494*** (0.000)
Observation	510	510	510
Number of IDs	34	34	34
No. of Instruments	33	55	55
Wald Chi2	2.10***	35058***	63099***
Hansen Test (Prob)	31.24 (0.181)	33.61(0.929)	32.43(0.948)
AR (2)	1.56 (0.119)	1.20(0.232)	0.18(0.860)
Diff. in Hansen Test for Exogeneity	6.67 (0.154)	0.16 (0.997)	-0.07 (1.000)

***p<0.01, **p<0.05, *p<0.1.

Source: Authors' analysis.

4.3. Robustness Check

Table 4: Empirical Results of 3SLS

Equation	**Obs**	**Parms**	**RMSE**		**Chi2**	
Gov	578	5	0.5087976	0.0722	357.73	0.0000
PS	578	5	9.947719	-0.0863	575.44	0.0000
SDI	578	5	0.1637962	0.1425	379.39	0.0000
		Variables	(Gov) 3SLS	(PS) 3SLS	(SD) 3SLS	
		Gov		12.48*** (0.000)	-0.361*** (0.000)	
		PS	0.031*** (0.000)		-0.004* (0.079)	
		SD	-2.023*** (0.000)	46.97*** (0.000)		
		FD			-0.057 (0.156)	
		LnGI			0.761*** (0.000)	
		Tax			0.0009*** (0.000)	
		LnED		1.599*** (0.000)		
		IMR		-1.620*** (0.000)		
		LnPOP		-1.544*** (0.001)		
		MI	-0.013*** (0.001)			
		ICT	0.0007 (0.863)			
		LnFDI	-0.0003 (0.949)			
		Constant	0.775*** (0.003)	-7.978 (0.144)	-2.499*** (0.000)	

Note: *** p<.01, ** p<.05, * p<.1.

Source: Authors' analysis.

This study applies the 3SLS estimator to assess the robustness of two-step system GMM estimations. The signs of the main coefficients in the governance and sustainable development models flip but remain significant in the 3SLS robustness estimation (both models are assessed with the same set of variables). This divergence can be explained by differences in the estimation methods rather than the choice of variables. In the baseline GMM regression, there is a positive and significant effect of governance and sustainable development on public spending. The sign of these coefficients is still positive and significant in the 3SLS test, which shows that the results are robust.

5. CONCLUSION

The results for the high-income countries in the sample suggest that governance is positively associated with both public spending and sustainable development, and that public spending is in turn positively associated with sustainable development. Better governance is associated with higher public spending, which is associated with higher sustainable development. This points to governance as a possible channel through which countries can improve sustainability outcomes. Whether the same pattern holds for developing countries is a question for future research. Although this study contributes to the literature, it has some limitations that future research can address. First, it is limited to 34 high income countries. Country-by-country gaps in the data weaken the comparability of the results. Second, the study covers a single period (2006-2022). Therefore, results may not apply to other periods or to countries outside the sample, which limits their generalisability.

6. POLICY RECOMMENDATIONS

This study offers an integrated perspective on the relationship between institutional quality and fiscal decisions by examining governance, public spending and sustainable development together. The empirical estimates provide indicative guidance for policy.

Financial development and tax revenue are negatively associated with sustainable development in the sample. Governments may wish to strengthen governance systems and fiscal transparency, and to direct financial sector activity towards long-term investment in economic, social and environmental objectives, rather than expanding the financial sector or collecting more taxes for their own sake. These are suggestions that follow from the associations found and are not tested policy effects; future research could examine them directly. Public spending has a negative effect on governance in high income countries. As a policy implication, their governments should aim to reduce or remove expenditure trends focused on political elites and unproductive subsidies, and improve the systems of audit and regulation to guarantee that public money is used efficiently.

Globalisation has a negative relationship with sustainable development. Governments in high income states should also encourage responsible trade and investment policies that strike a reasonable balance between economic openness and environmental protection and social inclusion.

The empirical results show that an increase in the misery index has a negative impact on the quality of governance; high income countries should strengthen governance and increase fiscal and monetary coordination to reduce inflation and unemployment and enhance efficiency, transparency, and accountability of public spending. These policy implications suggest that sustainable development requires more than an increase in public funding; it also requires good governance, responsible macroeconomic management, and transparent institutions.

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Appendix 1: List of High Income Countries

1	Austria	13	Greece	25	Portugal
2	Bahamas	14	Hungary	26	Romania
3	Belgium	15	Iceland	27	Saudi Arabia
4	Canada	16	Ireland	28	Spain
5	Chile	17	Israel	29	Sweden
6	Croatia	18	Italy	30	Switzerland
7	Cyprus	19	Japan	31	United Arab Emirates
8	Denmark	20	Latvia	32	United Kingdom
9	Estonia	21	Netherlands	33	United States of America
10	Finland	22	New Zealand	34	Uruguay
11	France	23	Norway		
12	Germany	24	Poland		

Source: The World Bank.