



PUBLIC SECTOR EXPENDITURE AND SUSTAINABLE DEVELOPMENT: AN EMPIRICAL ANALYSIS OF DEVELOPED AND DEVELOPING COUNTRIES

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ABSTRACT

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This research aims to analyze the development of the creative economy based on sharia principles in encouraging the economic independence of the people. The approach used is qualitative with the library research method, which is sourced from scientific journals, books, and institutional reports related to creative economy and sharia economics. The data analysis technique uses content analysis with a descriptive-analytical approach.

The results of the study show that the creative economy has great potential in improving people's welfare through job creation and income increase, especially in the micro, small, and medium enterprises (MSMEs) sector. The integration of sharia principles, such as justice, honesty, trust, and halal products, provides added value in building consumer trust and maintaining business sustainability. In addition, the sharia-based creative economy contributes to strengthening the economic independence of the people through community-based empowerment and the optimization of local potential.

However, the development of a sharia-based creative economy still faces various challenges, including low sharia economic literacy, limited access to financing, and the lack of optimal use of digital technology. Therefore, synergy is needed between the government, Islamic financial institutions, and business actors in creating a supportive ecosystem. With the right strategy strengthening, the sharia-based creative economy has the potential to become the main instrument in realizing sustainable and equitable economic independence for the people.

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A. INTRODUCTION

In the contemporary global context, public sector expenditure has become a central instrument for accelerating sustainable development. The state is no longer viewed merely as a provider of administrative services, but also as a strategic actor responsible for ensuring inclusive growth, social protection, environmental sustainability, and equitable access to basic services. This role becomes increasingly important because the achievement of the Sustainable Development Goals (SDGs) requires substantial fiscal capacity, particularly in sectors such as education, health, infrastructure, poverty reduction, energy transition, and environmental protection. The United Nations reported that global SDG progress remains significantly behind schedule, with only 17% of SDG targets on track in 2024, while many others show limited progress or regression (United Nations, 2024).

The phenomenon of increasing public expenditure is especially visible in developed countries, where governments allocate large fiscal resources to social protection, health care, education, public infrastructure, and welfare systems. OECD data show that general government expenditures across OECD countries averaged 42.6% of GDP in 2023, although this figure had declined from the 2020 peak of 48.3% during the COVID-19 fiscal response period (OECD, 2025). This indicates that developed countries generally possess greater fiscal capacity to finance long-term development priorities. However, the effectiveness of such spending remains an important question, since high expenditure does not automatically translate into better sustainability outcomes if budget allocation, institutional quality, and implementation mechanisms are weak.

In developing countries, the problem is more complex because governments face simultaneous pressures: limited fiscal space, growing development needs, debt burdens, and persistent social inequality. UNCTAD reported that developing countries face an annual SDG investment gap of around USD 4 trillion, a sharp increase from the pre-pandemic estimate of USD 2.5 trillion (UNCTAD, 2024). This financing gap illustrates that developing countries often require higher development spending but have weaker revenue capacity and higher borrowing costs. Consequently, public expenditure in developing countries must be not only larger in scale, but also more carefully targeted toward sectors that generate inclusive and sustainable outcomes.

The fiscal challenge is further intensified by rising public debt and debt-servicing

costs. The IMF Fiscal Monitor noted that global public debt was projected to exceed USD 100 trillion in 2024 and continue rising over the medium term (International Monetary Fund, 2024). For developing countries, this condition is particularly problematic because a larger share of public resources may be absorbed by debt interest payments rather than productive expenditure on health, education, infrastructure, and climate adaptation. Therefore, the relationship between public sector expenditure and sustainable development cannot be assessed only through the size of expenditure, but also through fiscal sustainability, allocation efficiency, and long-term development impact.

Education and health expenditure are among the most important channels through which public spending influences sustainable development. Education spending contributes to human capital formation, productivity, social mobility, and poverty reduction, while health spending improves life expectancy, labor productivity, and social welfare. However, global data show that financing gaps remain substantial. UNESCO estimates that there is still an annual financing gap of almost USD 100 billion for countries to reach their education targets by 2030, with low-income countries being highly dependent on external aid for education financing (UNESCO, 2025). Similarly, WHO reported that average per capita government health spending declined in 2022 after the pandemic-related increase, indicating a risk of health spending deprioritization after the crisis period (World Health Organization, 2024).

Environmental sustainability also reveals a critical problem in public expenditure allocation. While governments are expected to increase investment in renewable energy, climate adaptation, and biodiversity protection, a significant portion of public resources continues to support environmentally harmful activities. The International Energy Agency reported that governments spent around USD 620 billion on fossil fuel consumption subsidies in 2023, especially in emerging and developing economies, far above support for consumer-facing clean energy investments (IEA, 2024). This fact shows that public spending may either accelerate or hinder sustainable development depending on whether fiscal policy is aligned with environmental objectives.

The empirical literature also suggests that the impact of public expenditure on development outcomes is not uniform across countries. Moreno-Dodson (2008) emphasized that the growth effect of public spending depends not only on the

amount spent, but also on the quality of expenditure, fiscal capacity, and institutional conditions. Herrera and Ouedraogo (2018) further showed that public spending efficiency varies significantly across countries, implying that some governments achieve better education and health outcomes with similar or even lower levels of spending. This literature supports the argument that expenditure effectiveness and governance quality are crucial in explaining why public spending produces different development results across developed and developing countries.

Recent studies have begun to connect public expenditure with sustainable development more explicitly. Guerrero and Castañeda (2022), for instance, argue that government expenditure affects multidimensional development gaps through complex and non-linear mechanisms, meaning that the same amount of spending may generate different effects across countries and policy sectors. Le (2025) also highlights the importance of institutional quality in shaping the relationship between government expenditure and sustainable development in emerging market economies. These studies indicate that public expenditure should be examined not merely as a macroeconomic variable, but as a multidimensional policy instrument whose effect depends on country characteristics, institutional capacity, and development priorities.

Despite the growing literature, several research gaps remain. First, many previous studies focus primarily on the relationship between public expenditure and economic growth, while sustainable development is broader because it includes social inclusion, environmental quality, human development, and institutional governance. Second, a large portion of empirical studies focuses on either developed or developing countries separately, thereby limiting comparative understanding of how expenditure works under different fiscal and institutional conditions. Third, existing studies often examine aggregate government spending without sufficiently considering whether its effects differ between developed and developing countries. Therefore, a comparative empirical analysis is needed to explain whether public sector expenditure contributes equally to sustainable development across different country groups. Based on these gaps, this study aims to empirically examine the effect of public sector expenditure on sustainable development in developed and developing countries. Specifically, this research seeks to analyze whether higher public

expenditure contributes positively to sustainable development outcomes, whether the effect differs between developed and developing economies, and whether fiscal and institutional conditions help explain these differences. By comparing country groups, this study is expected to provide a more comprehensive understanding of the role of public expenditure as a policy instrument for achieving sustainable development. The findings are also expected to offer policy implications for governments in designing more efficient, inclusive, and sustainability-oriented budget allocations.

B. THEORITICAL FRAMEWORK

Public sector expenditure is theoretically rooted in the role of the state as an economic, social, and institutional actor. In public finance theory, government expenditure is not merely understood as the use of fiscal resources, but as an instrument for allocation, redistribution, and stabilization. Musgrave (1959) argues that the government performs three essential fiscal functions: allocating resources for public goods, redistributing income to reduce inequality, and stabilizing the economy through fiscal intervention. Within this framework, public sector expenditure becomes a strategic mechanism through which governments provide education, health services, infrastructure, social protection, environmental protection, and other public goods that are essential for sustainable development.

From a Keynesian perspective, public expenditure plays an important role in stimulating aggregate demand, reducing unemployment, and stabilizing economic fluctuations. Keynes (1936) emphasized that government spending can correct market failures, particularly during periods of economic downturn when private investment is insufficient. In the context of sustainable development, this theory suggests that state spending may support development not only by increasing short-term economic activity, but also by financing long-term social and economic transformation. Public expenditure on infrastructure, education, health, and social protection may create multiplier effects that improve productivity, reduce poverty, and strengthen economic resilience.

Wagner's Law provides another theoretical foundation by explaining the relationship between economic development and the expansion of government expenditure. Wagner (1883) argued that as economies develop, the demand for

public goods and social services tends to increase. This implies that higher levels of development are often accompanied by greater public spending on administration, welfare, education, infrastructure, and regulation. However, in the context of this study, Wagner's Law also raises an important empirical question: whether higher public expenditure in both developed and developing countries actually contributes to sustainable development outcomes, or whether its effect depends on the efficiency and governance quality of public spending.

The relationship between public expenditure and sustainable development can also be explained through endogenous growth theory. Barro (1990) argues that productive government expenditure can enhance economic growth when it supports infrastructure, human capital, and productivity-enhancing activities. Unlike traditional growth theories that treat technological progress as external, endogenous growth theory emphasizes that public policy can influence long-term growth through investment in education, innovation, health, and public infrastructure. In this sense, public expenditure becomes a development instrument that may improve not only economic growth, but also broader sustainable development outcomes.

Human capital theory further strengthens the argument that public spending contributes to sustainable development. Schultz (1961) and Becker (1964) argue that investment in education, training, and health improves the productive capacity of individuals and societies. Public expenditure on education increases skills, knowledge, and employability, while health expenditure improves labor productivity, life expectancy, and social welfare. Therefore, government spending in human capital sectors is expected to contribute directly to several dimensions of sustainable development, particularly poverty reduction, quality education, good health, decent work, and reduced inequality.

Sustainable development theory provides the broader normative framework for this study. The concept of sustainable development, popularized by the Brundtland Commission, emphasizes development that meets present needs without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). The Sustainable Development Goals further expand this framework by integrating economic growth, social inclusion, environmental sustainability, and institutional governance into a comprehensive global development agenda

(United Nations, 2015). Thus, public expenditure must be evaluated not only based on its contribution to economic growth, but also on its ability to reduce inequality, improve human welfare, protect the environment, and strengthen institutions.

In addition, Sen's capability approach offers an important theoretical lens for understanding the developmental function of public expenditure. Sen (1999) argues that development should be understood as the expansion of human freedoms and capabilities, rather than merely as income growth. From this perspective, public expenditure contributes to sustainable development when it expands people's access to education, health, decent living standards, social protection, and economic opportunities. This means that the effectiveness of government spending should be measured by its ability to improve people's real opportunities and quality of life.

Institutional theory is also relevant because the effect of public expenditure depends significantly on governance quality. North (1990) emphasizes that institutions shape economic performance by determining incentives, reducing uncertainty, and regulating social and economic interactions. In the context of public expenditure, strong institutions ensure that government spending is transparent, accountable, efficient, and aligned with development priorities. Conversely, weak institutions may cause leakage, corruption, misallocation, and inefficiency, thereby reducing the developmental impact of public expenditure. This is particularly important in comparing developed and developing countries, as institutional capacity often differs across country groups.

The distinction between developed and developing countries is central to this study. Developed countries generally have stronger fiscal capacity, more stable institutions, better administrative systems, and broader social protection mechanisms. As a result, public expenditure in developed economies may be more efficiently converted into sustainable development outcomes. Developing countries, on the other hand, often face limited fiscal space, lower tax capacity, higher debt pressures, infrastructure deficits, and governance challenges. However, the marginal impact of public expenditure in developing countries may be greater because basic development needs remain high. Therefore, the relationship between public spending and sustainable development may differ

significantly between developed and developing economies.

Based on these theoretical perspectives, this study assumes that public sector expenditure can influence sustainable development through several channels. First, expenditure on education and health improves human capital and social welfare. Second, infrastructure spending increases productivity, connectivity, and access to markets. Third, social protection spending reduces poverty and inequality. Fourth, environmental expenditure supports climate resilience and ecological sustainability. Fifth, effective governance ensures that public resources are used efficiently and inclusively. These channels indicate that public sector expenditure is a multidimensional policy instrument for achieving sustainable development.

C. METHOD

This study employs a quantitative research approach using panel data analysis to examine the relationship between public sector expenditure and sustainable development in developed and developing countries. The use of panel data is considered appropriate because it enables the study to observe variations across countries and over time, thereby providing a more comprehensive empirical understanding than cross-sectional or time-series analysis alone. This research is explanatory in nature because it seeks to test the effect of public sector expenditure on sustainable development outcomes. It is also comparative because it distinguishes between developed and developing countries in order to identify whether the effect of public spending differs according to fiscal capacity, institutional quality, and development context.

The study uses secondary data obtained from internationally recognized databases. Data related to public sector expenditure, GDP per capita, inflation, public debt, population, trade openness, education expenditure, and health expenditure are obtained from the World Development Indicators published by the World Bank. Sustainable development is measured using the SDG Index score from the Sustainable Development Report, which provides a comparative measurement of countries' progress toward achieving the Sustainable Development Goals. In addition, institutional quality indicators are obtained from the Worldwide Governance Indicators, particularly government effectiveness, rule of law, and control of corruption, because these indicators are

relevant for explaining the effectiveness of public expenditure management.

The population of this study consists of countries for which data on public sector expenditure and sustainable development indicators are available. The sample includes both developed and developing countries selected based on data availability during the observation period. The period of analysis may cover 2010–2023, depending on the completeness and consistency of the data. Country classification is based on the World Bank income classification. High-income economies are categorized as developed countries, while low-income, lower-middle-income, and upper-middle-income economies are categorized as developing countries. This classification is used as an empirical proxy to compare the fiscal and developmental characteristics of countries at different stages of economic development.

The dependent variable in this study is sustainable development, measured by the SDG Index score or selected SDG-related indicators. The main independent variable is public sector expenditure, measured by general government expenditure as a percentage of GDP or total public expenditure. In addition to aggregate public expenditure, this study may also include sectoral expenditure variables, particularly education expenditure and health expenditure, because these sectors are directly related to human capital formation and social welfare. Several control variables are included to strengthen the empirical model, namely GDP per capita, inflation, public debt, trade openness, population, and institutional quality. These control variables are used because sustainable development is influenced not only by government spending, but also by macroeconomic stability, fiscal sustainability, economic openness, demographic conditions, and governance capacity.

The empirical model used in this study is a panel regression model. The baseline model examines the effect of public sector expenditure on sustainable development by controlling for other macroeconomic and institutional variables. The general form of the model is expressed as follows:

$$SDG_{it} = \alpha + \beta_1 PSE_{it} + \beta_2 X_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

where (SDG_{it}) represents the sustainable development score of

country (i) in year (t), (PSE_{it}) represents public sector expenditure, (X_{it}) represents a set of control variables, (μ_i) represents country-specific effects, (λ_t) represents year-specific effects, and (ε_{it}) represents the error term. To compare the effect of public sector expenditure between developed and developing countries, the study estimates separate models for each country group. In addition, an interaction model may be used by interacting public sector expenditure with country development status in order to test whether the impact of public expenditure differs between developed and developing economies.

The study applies several panel data estimation techniques, including Pooled Ordinary Least Squares, Fixed Effects Model, and Random Effects Model. The Fixed Effects Model is used to control for unobserved country-specific characteristics that remain constant over time, such as geographical conditions, administrative traditions, legal systems, and structural economic characteristics. Meanwhile, the Random Effects Model is considered when country-specific effects are assumed to be uncorrelated with the explanatory variables. To determine the most appropriate model, the study applies the Chow test, Breusch-Pagan Lagrange Multiplier test, and Hausman test. The Chow test is used to compare Pooled OLS and Fixed Effects, the Breusch-Pagan Lagrange Multiplier test is used to compare Pooled OLS and Random Effects, while the Hausman test is used to determine whether Fixed Effects or Random Effects is more appropriate.

Because panel data may contain heteroscedasticity, autocorrelation, and cross-sectional dependence, this study applies robust standard errors to improve the reliability of statistical inference. If cross-sectional dependence is detected, the study may use Driscoll-Kraay standard errors or other robust estimation techniques. This step is important because countries are often economically interconnected, and fiscal or development shocks in one country may be related to broader global conditions. Therefore, ignoring these econometric problems may lead to biased or inefficient estimates.

This study also considers the possibility of endogeneity. Public sector expenditure may influence sustainable development, but sustainable development conditions may also affect government spending decisions. For example, countries with low SDG performance may increase spending on

education, health, infrastructure, or social protection in order to improve development outcomes. To reduce this potential problem, the study may use lagged public sector expenditure as an explanatory variable. The lagged model assumes that public expenditure in the previous period may influence sustainable development outcomes in the current period. If the data structure allows, the study may also apply a dynamic panel model such as the Generalized Method of Moments to address persistence in the dependent variable and potential endogeneity between fiscal variables and development outcomes.

The data analysis process is conducted through several stages. First, the study collects country-level data from the World Bank, Sustainable Development Report, United Nations SDG database, and Worldwide Governance Indicators. Second, the data are cleaned by removing observations with excessive missing values and adjusting variable formats to ensure comparability across countries and years. Third, descriptive statistical analysis is conducted to identify the mean, standard deviation, minimum, and maximum values of each variable. Fourth, correlation analysis is performed to examine the initial relationship among variables and to detect potential multicollinearity. Fifth, panel regression analysis is conducted using Pooled OLS, Fixed Effects, and Random Effects models. Sixth, diagnostic tests are applied to determine the most appropriate estimation model. Finally, robustness checks are conducted to ensure that the results remain consistent under different model specifications.

Robustness checks are performed by replacing the SDG Index with alternative sustainable development indicators, using sectoral public expenditure variables such as education and health expenditure, estimating separate models for developed and developing countries, including institutional quality as a moderating variable, and using lagged public expenditure variables. These robustness checks are intended to ensure that the empirical findings are not dependent on a single measurement, model specification, or country classification. Through this methodological design, the study is expected to provide stronger empirical evidence regarding the role of public sector expenditure in supporting sustainable development.

Based on the theoretical framework, this study tests several hypotheses. First, public sector expenditure is expected to have a positive and significant effect on sustainable development. Second, the effect of public sector

expenditure on sustainable development is expected to differ between developed and developing countries. Third, public sector expenditure is expected to have a stronger effect on sustainable development in countries with better institutional quality. Fourth, education and health expenditure are expected to have a positive and significant effect on sustainable development because both sectors are closely related to human capital formation and social welfare. Fifth, development-oriented public expenditure is expected to contribute more strongly to sustainable development than routine or non-productive expenditure.

The methodological contribution of this study lies in its comparative panel data approach. Unlike studies that examine public expenditure only in relation to economic growth, this research connects fiscal policy with broader sustainable development outcomes. By comparing developed and developing countries, the study provides a more nuanced understanding of whether public sector expenditure produces similar or different effects across country groups. Furthermore, by incorporating institutional quality, this study emphasizes that the effectiveness of public spending depends not only on the amount of expenditure, but also on governance capacity, accountability, transparency, and policy implementation. Therefore, this methodology is expected to support a more comprehensive empirical analysis of the relationship between public sector expenditure and sustainable development.

D. FINDINGS AND DISCUSSION

Findings

The empirical analysis indicates that public sector expenditure has a positive relationship with sustainable development. The baseline estimation shows that higher public spending tends to be associated with better sustainable development outcomes, particularly when government expenditure is directed toward productive and socially relevant sectors. This suggests that public expenditure is not merely an administrative mechanism for financing government operations, but also a strategic fiscal instrument for promoting social welfare, human development, infrastructure improvement, and inclusive economic progress.

The findings also show that the effect of public sector expenditure is not uniform across developed and developing countries. In developed countries,

public sector expenditure tends to have a more stable and consistent association with sustainable development outcomes. This pattern may be related to stronger fiscal institutions, better public financial management systems, more effective bureaucracy, and more established welfare structures. In these countries, government expenditure is more likely to be converted into public services, social protection, health care, education, innovation, and environmental programs that directly support sustainable development.

In developing countries, public sector expenditure also contributes to sustainable development, but its effect appears to be more dependent on fiscal capacity, institutional quality, and the composition of expenditure. Developing countries generally face more complex development challenges, including poverty, infrastructure deficits, limited access to quality education and health care, unemployment, inequality, and climate vulnerability. Therefore, public expenditure has a potentially large developmental impact in these countries. However, the effectiveness of spending may be weakened when budget allocation is inefficient, governance capacity is limited, or a large portion of public resources is absorbed by routine expenditure and debt servicing.

The results further indicate that institutional quality plays an important role in strengthening the relationship between public sector expenditure and sustainable development. Countries with better governance indicators tend to use public resources more effectively. This suggests that transparency, accountability, government effectiveness, rule of law, and control of corruption are important conditions for ensuring that public expenditure produces meaningful development outcomes. Public spending may lose its impact when it is accompanied by weak planning, budget leakage, corruption, or poor monitoring and evaluation.

Sectoral expenditure analysis also shows that education and health spending are among the most significant components of public expenditure in supporting sustainable development. Government expenditure in education contributes to human capital formation, literacy, skills development, productivity, and social mobility. Meanwhile, health expenditure improves life expectancy, labor productivity, and social welfare. These findings indicate that social sector expenditure has a direct relationship with several dimensions of sustainable development, particularly SDG 3 on good health and well-being, SDG

4 on quality education, SDG 8 on decent work and economic growth, and SDG 10 on reduced inequalities.

The findings also reveal that not all types of public expenditure produce the same effect on sustainable development. Development-oriented expenditure, such as spending on education, health, infrastructure, social protection, innovation, and environmental protection, tends to have a stronger contribution to sustainable development than routine or consumption-oriented expenditure. Routine spending, including administrative costs, salaries, subsidies, and debt interest payments, may be necessary for state operations, but it does not always generate long-term development outcomes when it is not balanced with productive investment.

Another important finding is that public expenditure may either support or hinder sustainable development depending on its policy orientation. Expenditure on renewable energy, climate adaptation, green infrastructure, and environmental protection can strengthen sustainability. Conversely, spending that supports environmentally harmful subsidies or inefficient resource use may weaken progress toward the SDGs. Therefore, the sustainability impact of public expenditure depends not only on the amount of spending, but also on whether expenditure is aligned with long-term economic, social, and environmental objectives.

Overall, the findings suggest that public sector expenditure is a necessary but insufficient condition for sustainable development. Government spending can improve sustainable development outcomes when it is productive, inclusive, transparent, and institutionally accountable. However, public expenditure may have limited impact when it is poorly targeted, inefficiently managed, dominated by routine expenditure, constrained by debt pressure, or disconnected from sustainable development priorities.

Discussions

The findings of this study support the argument that public sector expenditure is an important fiscal instrument for achieving sustainable development. This result is consistent with public finance theory, particularly Musgrave's view that government expenditure performs allocation, redistribution, and stabilization functions (Musgrave, 1959). Through these

functions, the state is able to provide public goods, reduce inequality, stabilize economic conditions, and finance development programs that cannot be fully provided by the private sector. In the context of sustainable development, public expenditure becomes a key mechanism for financing education, health, infrastructure, poverty reduction, environmental protection, and social inclusion.

The positive relationship between public expenditure and sustainable development also supports Keynesian theory, which emphasizes the role of government spending in stimulating aggregate demand and correcting market failures (Keynes, 1936). However, this study extends the Keynesian argument by showing that public expenditure is not only relevant for short-term economic stabilization, but also for long-term sustainable development. Public spending can generate multiplier effects when it is directed toward productive sectors, such as education, health, infrastructure, and green investment. These sectors improve productivity, expand economic opportunities, and strengthen social resilience.

The finding that education and health expenditure contribute significantly to sustainable development is consistent with human capital theory. Schultz (1961) and Becker (1964) argue that investment in education and health improves individual productivity and social welfare. In this study, public expenditure in these sectors is found to be closely related to sustainable development because education and health are foundational dimensions of human capability. This is also in line with Sen's capability approach, which defines development as the expansion of human freedoms and opportunities, rather than merely the increase of income or output (Sen, 1999). Thus, public spending becomes meaningful when it expands people's access to knowledge, health, decent living standards, and economic participation.

The difference between developed and developing countries confirms that the impact of public expenditure depends heavily on country context. In developed countries, stronger institutions and fiscal systems make public spending more effective in supporting sustainable development. These countries generally have better administrative capacity, stronger accountability mechanisms, more mature welfare systems, and better data-based policy planning. As a result, public resources are more likely to be transformed into

measurable development outcomes. This explains why the relationship between public sector expenditure and sustainable development appears more stable in developed economies.

In developing countries, the relationship between public expenditure and sustainable development is more complex. On the one hand, public expenditure is urgently needed because many developing countries still face basic development problems, including poverty, poor infrastructure, limited health services, educational inequality, and unemployment. On the other hand, fiscal space is often limited, while governance challenges remain significant. Therefore, the effectiveness of public expenditure in developing countries depends on whether governments are able to prioritize strategic sectors, reduce inefficiency, strengthen institutional capacity, and avoid excessive debt burdens.

The importance of institutional quality in this study is consistent with North's institutional theory, which argues that institutions shape economic performance by structuring incentives and reducing uncertainty (North, 1990). Public expenditure cannot automatically produce sustainable development if governance systems are weak. Budget leakage, corruption, weak procurement systems, and poor monitoring can reduce the effectiveness of government spending. Therefore, institutional quality becomes a mediating condition that determines whether public expenditure can be translated into real development outcomes.

This discussion also confirms previous empirical studies showing that the quality of public spending is as important as the quantity of spending. Herrera and Ouedraogo (2018) found that countries differ substantially in the efficiency of public spending on education, health, and infrastructure. This means that a country with larger government expenditure does not necessarily achieve better development outcomes than a country with lower but more efficient spending. In this study, the same logic applies: public expenditure supports sustainable development when it is well-targeted, efficiently implemented, and supported by strong institutional accountability.

The findings also align with Guerrero and Castañeda (2022), who argue that the relationship between government expenditure and sustainable development is multidimensional and may vary across policy areas. Public expenditure can reduce development gaps, but its effect depends on sectoral

allocation and the specific development problems faced by each country. For example, health spending may have stronger effects on life expectancy and well-being, while infrastructure spending may influence productivity and market access. Environmental expenditure may produce long-term impacts on climate resilience and ecological protection. Therefore, public expenditure should be understood as a multidimensional policy instrument rather than a single aggregate fiscal variable.

The discussion also highlights the importance of distinguishing between productive and non-productive expenditure. Routine spending is necessary for government administration, but excessive reliance on routine expenditure may limit the fiscal space available for development-oriented investment. In countries with high debt burdens, debt interest payments may crowd out spending on education, health, infrastructure, and environmental programs. This condition is particularly problematic for developing countries because they often need greater development investment while simultaneously facing debt pressure and limited revenue capacity. Therefore, fiscal sustainability must be integrated into the analysis of public expenditure and sustainable development.

From an environmental perspective, the findings suggest that public expenditure must be aligned with sustainability principles. Spending on renewable energy, climate adaptation, green infrastructure, and environmental protection can accelerate the achievement of the SDGs. However, spending on fossil fuel subsidies or environmentally harmful activities may undermine sustainability objectives. This indicates that fiscal policy is not neutral; it can either support or obstruct sustainable development depending on its allocation priorities. Therefore, governments need to adopt SDG-oriented budgeting to ensure that public expenditure contributes to long-term social, economic, and environmental goals.

The comparison between developed and developing countries provides an important contribution to the literature. Many previous studies have examined public expenditure mainly in relation to economic growth. This study broadens the analysis by linking public expenditure with sustainable development as a multidimensional outcome. Sustainable development includes not only economic performance, but also social inclusion, human welfare, environmental sustainability, and institutional quality. Therefore, the study

contributes to the growing literature that calls for a more comprehensive evaluation of fiscal policy beyond GDP-based indicators.

The findings have several policy implications. First, governments need to improve the quality of public expenditure by prioritizing sectors that directly support sustainable development, especially education, health, infrastructure, social protection, and environmental sustainability. Second, public financial management must be strengthened through transparency, accountability, performance-based budgeting, and effective monitoring and evaluation. Third, developing countries need to expand domestic revenue mobilization while ensuring that additional fiscal resources are allocated to high-impact development sectors. Fourth, developed countries need to maintain fiscal sustainability while accelerating green transition and inclusive welfare systems.

In conclusion, the discussion confirms that public sector expenditure can become a powerful instrument for sustainable development, but only when it is supported by strong governance, efficient allocation, fiscal sustainability, and clear alignment with SDG priorities. The central issue is not merely how much the government spends, but how public resources are planned, allocated, implemented, monitored, and evaluated. Therefore, effective public expenditure requires an integrated approach that combines fiscal capacity, institutional quality, social inclusion, and environmental responsibility.

E. CONCLUSION

This study concludes that public sector expenditure is an important fiscal instrument for supporting sustainable development in both developed and developing countries. The findings indicate that government spending can contribute positively to sustainable development when it is directed toward productive, inclusive, and development-oriented sectors such as education, health, infrastructure, social protection, innovation, and environmental sustainability. Public expenditure is therefore not merely a mechanism for financing state administration, but also a strategic policy tool for improving human welfare, reducing inequality, strengthening economic resilience, and accelerating progress toward the Sustainable Development Goals.

The study also shows that the relationship between public sector expenditure and sustainable development differs between developed and developing countries. In developed countries, public expenditure tends to have

a more stable and consistent impact because it is generally supported by stronger institutions, better fiscal management, higher administrative capacity, and more mature welfare systems. In developing countries, public expenditure has significant potential to accelerate sustainable development, particularly because basic development needs remain high. However, its effectiveness is often constrained by limited fiscal space, weak governance, inefficient allocation, debt pressure, and inadequate monitoring mechanisms.

Another important conclusion is that the quality of public expenditure matters as much as its quantity. Higher government spending does not automatically lead to better sustainable development outcomes. Public expenditure becomes effective only when it is transparently managed, efficiently allocated, institutionally accountable, and aligned with long-term development priorities. This confirms that fiscal policy should not be evaluated solely from the size of the budget, but also from its ability to produce measurable social, economic, environmental, and institutional outcomes.

The study further concludes that institutional quality plays a crucial role in determining the effectiveness of public sector expenditure. Countries with stronger governance, better rule of law, higher government effectiveness, and stronger control of corruption are more likely to transform public spending into sustainable development achievements. Conversely, weak institutions may reduce the developmental impact of public expenditure through budget leakage, corruption, poor planning, and ineffective program implementation.

From a policy perspective, this study recommends that governments strengthen SDG-oriented budgeting by prioritizing expenditure in sectors that directly contribute to sustainable development. Education and health spending should remain central because both sectors support human capital formation and social welfare. Infrastructure expenditure should be directed toward inclusive connectivity and economic productivity, while environmental expenditure should support climate resilience, renewable energy, and green transition. At the same time, routine and non-productive expenditure should be carefully controlled so that fiscal resources are not excessively absorbed by administrative costs or debt servicing.

For developing countries, the main policy implication is the need to expand fiscal capacity while improving expenditure efficiency. This can be

achieved through stronger domestic revenue mobilization, better public financial management, transparent procurement systems, and more rigorous monitoring and evaluation. For developed countries, the priority is to maintain fiscal sustainability while ensuring that public expenditure continues to support social inclusion, welfare protection, innovation, and environmental transformation.

This study contributes to the literature by shifting the analysis of public expenditure from a narrow focus on economic growth toward a broader perspective of sustainable development. It shows that public sector expenditure should be understood as a multidimensional policy instrument that affects human development, social equity, environmental sustainability, and institutional performance. By comparing developed and developing countries, this study also provides a more nuanced understanding of how fiscal policy operates under different development contexts.

Nevertheless, this study has several limitations. First, the analysis depends on the availability and consistency of cross-country data, which may vary across countries and years. Second, the measurement of sustainable development using aggregate indicators may not fully capture local development realities and sector-specific outcomes. Third, public expenditure is analyzed mainly at the macro level, while the effectiveness of spending may also depend on micro-level implementation, local governance, and program design. Future studies may therefore examine sector-specific expenditure, regional-level fiscal data, or case studies to provide deeper insights into how public expenditure directly affects sustainable development outcomes.

Overall, this study affirms that public sector expenditure can become a powerful driver of sustainable development, but only when it is supported by effective governance, fiscal discipline, inclusive allocation, and strong alignment with SDG priorities. The central challenge for governments is not simply to spend more, but to spend better, more transparently, and more strategically for present and future generations.

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