IOSR Journal Of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 16, Issue 5 Ser. 1 (Sept. – Oct. 2025), Pp 31-38
www.Iosrjournals.Org

Green Bond And Sustainable Infrastructure Development In Nigeria

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Abstract
This study examines the impact of various Nigerian government bonds, specifically green bonds, development stock, sukuk bonds, and savings bonds, on sustainable infrastructure development, using government capital expenditure as a proxy. Employing an Autoregressive Distributed Lag (ARDL) model, the analysis confirms the existence of a long-run cointegrating relationship among these variables. The findings reveal a clear distinction between the short-run and long-run effects. In the short run, only green bonds and sukuk bonds had a significant positive impact on capital expenditure, suggesting their effectiveness as instruments for providing rapid financial boosts for projects. However, the long-run analysis demonstrates that all four types of bonds have a statistically significant and positive impact on capital expenditure, with federal government bonds exhibiting the largest effect. The error correction term further validated this relationship, indicating a moderate speed of adjustment back to equilibrium. The study concludes that all four bond types are viable and effective long-term financing tools for sustainable infrastructure development in Nigeria. While green and sukuk bonds are crucial for short-term project financing, traditional bonds and savings bonds play an equally important role in providing a stable, long-term funding base. The findings support the government's diversified bond issuance strategy as a robust mechanism for financing capital projects. Based on these results, the study recommends that the government continue to diversify its bond issuance, enhance public awareness about the purpose of specialized bonds, and implement robust regulatory frameworks to ensure funds are utilized for their intended sustainable projects.

Keywords: *Bond Markets, public capital expenditure, Infrastructure, Econometrics ARDL*

Date of Submission: 27-08-2025 Date of Acceptance: 07-09-2025

I. Introduction

Nigeria, Africa's most populous nation and largest economy, faces a substantial infrastructure deficit that hampers its economic growth and sustainable development aspirations. The National Integrated Infrastructure Master Plan (NIIMP) highlights the immense investment required to bridge this gap (National Planning Commission, 2014). To address this, the Federal Government of Nigeria (FGN) has explored various financing mechanisms beyond traditional budget allocations, including the issuance of bonds. Among these, green bonds have emerged as a promising avenue for channeling funds towards environmentally friendly and climate-resilient infrastructure projects. Nigeria became the first African nation to issue a sovereign green bond in December 2017, followed by subsequent issuances (Debt Management Office, 2025). This marked a significant step towards mobilizing capital for sustainable initiatives. Alongside green bonds, the FGN also issues conventional instruments like Development Stock, Sukuk Bonds, and Savings Bonds, all of which contribute to the government's overall funding strategy for sustainable development capital projects.

Nigeria has demonstrated a growing commitment to green finance, evidenced by its pioneering role as the first African nation to issue a sovereign green bond in December 2017. This initial issuance of N10.69 billion (Series I) was followed by a N15 billion issuance in 2019 (Series II). By June 2025, the Federal Government unveiled its largest yet, a N50 billion (Series III) green bond, bringing the total sovereign green

bond issuances to approximately N75.69 billion between 2017 and mid-2025. These bonds have primarily funded sustainable infrastructure projects aimed at climate change mitigation and adaptation. The Series III bond specifically allocates funds to climate change adaptation and mitigation, clean energy transition (including CNG and EV infrastructure), and water infrastructure projects like dam construction and rehabilitation (DMO, 2025). Overall, the trajectory shows a strategic embrace of green bonds to address Nigeria's significant infrastructure deficit and achieve its climate commitments.

Past empirical studies on green bonds and sustainable infrastructure in Nigeria generally acknowledge the positive impact of green finance instruments. For instance, Obayagbona et al. (2024) found that green bonds significantly and positively impact green infrastructure development in Nigeria. Similarly, studies by Oguntuase and Windapo (2021) and Debrah et al. (2022) highlight the potential of green bonds for funding green building projects and promoting sustainable housing. The Debt Management Office (DMO) reports that Sukuk bonds have successfully financed over 4,100 km of roads and nine bridges, demonstrating their direct contribution to infrastructure (Lotus Capital Limited, 2025).

However, a significant gap exists in the comprehensive analysis of the combined impact of various federal government debt instruments on sustainable infrastructure development. While green bonds are directly tied to environmentally friendly projects, the impact of federal government development stock, Sukuk bonds (beyond roads and bridges), and savings bonds on the broader scope of sustainable infrastructure often remains underexplored in a holistic empirical framework. Specifically, there is a dearth of empirical research that quantitatively assesses how these distinct financial instruments (green bonds, development stock, Sukuk, and savings bonds) collectively or comparatively influence different facets of sustainable infrastructure development in Nigeria. Existing literature often highlights the potential or reported allocations but lacks robust econometric analysis of their actual contributions to sustainability indicators, especially for development and savings bonds which may not have explicit "green" mandates. This gap presents an opportunity for this study to provide a more comprehensive understanding of Nigeria's financing landscape for sustainable infrastructure. This study seeks to analyze the specific contributions of these diverse bond financing instruments to sustainable infrastructure development in Nigeria within the period of 2017 to 2024. Understanding their individual and collective impacts is crucial for optimizing public finance strategies and accelerating the pace of infrastructure development in a sustainable manner.

II. Literature Review

The relationship between financial instruments and infrastructure development has been extensively studied in economic literature. Bonds, as long-term debt instruments, are a common tool for governments to raise capital for large-scale projects.

Green Bonds

Green bonds are debt securities specifically designed to finance projects with environmental benefits. Globally, their issuance has surged, driven by increasing awareness of climate change and the need for sustainable investment (Climate Bonds Initiative, 2021). In Nigeria, the introduction of sovereign green bonds in 2017 aimed to fund projects in renewable energy, afforestation, and clean transportation (Udo, *et al*, 2022). A study (Obayagbona *et al*, 2024) indicates a significant positive impact of green bonds on green infrastructure development in Nigeria. However, concerns about transparency and accountability in the utilization of green bond proceeds have been raised (Businessday NG, 2025).

Federal Government Development Stock

The federal government of Nigeria (FGN) Development Stock represents conventional long-term debt issued by the government to finance budget deficits and capital projects. While not explicitly "green," these bonds are a primary source of funding for various infrastructure initiatives (Debt Management Office, 2025). Studies on public debt and infrastructure development in Nigeria have shown mixed results, with some suggesting that while external debt can positively impact infrastructure in the long run, domestic debt may have a negative or insignificant effect if not well-managed.

Federal Government Sukuk Bond

Sukuk bonds are Sharia-compliant financial instruments that represent an undivided beneficial ownership interest in tangible assets. Nigeria's sovereign Sukuk, first issued in 2017, and has specifically targeted sustainable infrastructure projects like roads and bridges across the country (Nairametrics, 2025). The asset-backed nature and ethical appeal of Sukuk make them an attractive financing option, with studies (for example Oyesanya, 2024, and Arthur, 2024) highlighting their significant enhancement of infrastructure in Nigeria.

Federal Government Savings Bond

FGN Savings Bonds are designed to enable retail investors to participate in the bond market, offering a relatively low-risk investment avenue. While their primary aim is to promote financial inclusion and provide investment opportunities for individuals, the funds raised collectively contribute to the government's overall revenue, which can then be allocated to various development projects, including sustainable infrastructure (Securities and Exchange Commission, 2023). The direct link to specific infrastructure projects may be less explicit compared to green or Sukuk bonds, but their role in domestic debt mobilization is significant.

Infrastructure Development in Nigeria

Sustainable infrastructure development in Nigeria encompasses a wide range of sectors, including transportation (roads, railways), energy (power generation, renewable energy), water and sanitation, and digital infrastructure (Olaniwun Ajayi, 2025; Climate Policy Initiative, 2024). Indicators of infrastructure development often include measures of access, quality, and investment in these sectors. The challenge lies in not just increasing infrastructure stock but ensuring its sustainability, resilience, and positive environmental and social impact.

Theoretical Framework

The theory of innovative development finance was propounded by Sandor, Scott, and Benn in 2009.The theory modelled infrastructure development as a function of bond variables, tax revenue and other financial sector indices. The theory posits that countries desirous of accumulating high-grade infrastructure for economic growth and development could look towards the bond market in the face of inadequacy of traditional financing modes. There is a momentum for developing nations and cities to generate new initiatives to help leverage private sector finance for infrastructure and real estate development, as well as meet the increasing demand for modern communications and services (Siemens, *et al*, 2014). Moreover, from the public sector there has been a greater use of financial instruments and mechanisms within the European Union (EU) budget between 2007 and 2013 (Spence, Smith and Dardier, 2012).

A thriving bond market is expected to provide the market for interaction between investors in bond (lenders) and the borrowers. The presence of a functional bond market will also imply the need for a regulator agency. The innovative finance has gained international significance with promotion at both global and European levels (Hutchison, Graham, Adair, Berry McGreal & Organ, 2016). The World Bank broadly defines innovative finance for infrastructure development as involving non-traditional forms of funding through private mechanisms, solidarity mechanisms, public-private partnerships mechanisms and catalytic mechanisms (Grishankar, 2009).

The theory of Innovative Development Finance was suitable for this study as the theoretical postulation appears to contain important variables for modeling this study. The theory x-rays infrastructure development as determined by bond variables and tax revenue in addition. In this sense, while the theory presumes that bond could trigger rapid infrastructural development financing, it still accommodated the traditional view of tax revenue as the initial source of development financing for government. As is the case with Nigeria and globally, government imposes tax with the aim of raising fund for public investment and development programmes; but where tax revenue becomes grossly inadequate for development finance (as has been the case with Nigeria); then other combination of financing solutions could be strategized including bond financing option. Thus, the theory is a good fit for this study.

Empirical Review

Obayogbona, et al, (2024) employed the Dynamic Least Square (DOLS) econometric technique to examine the impact of green finance on green infrastructural development in Nigeria. The findings indicated that green bond (GB) issuance and the All-Share Index (ASI) have a significant positive impact on green infrastructure development in Nigeria. this study appears to be the only published empirical study relating to green bond and infrastructure development in Nigeria. Other such as FSD Africa (2022) and IFLR (2022) are industry impact report, news analysis and legal white paper. Also, significant challenges persist. A major hurdle is the stringent reporting standards and associated higher transaction costs compared to conventional bonds, deterring potential issuers (IFLR, 2022). There's also a recognized knowledge gap among financial advisors and a lack of local demand due to low awareness of green investment opportunities (IFLR, 2022; FBF, 2023). Despite these, the Nigeria Green Bond Market Development Programme (NGBMDP) has been instrumental in building capacity, developing guidelines, and supporting both sovereign and corporate issuances, such as Access Bank's pioneering green bond (Frontier Africa Reports, 2025; FSD Africa, 2022). This program, in partnership with institutions like FMDQ Group, is actively addressing these barriers through initiatives like the Sustainable Finance Bootcamp, aimed at empowering Nigerian businesses to access green funding (Frontier Africa Reports, 2025).

III. Data And Methodology

Data Sources and Description of Variables

Secondary time series data were collected from the Debt Management Office (DMO - data on the issuance volumes and outstanding amounts of FGN Green Bonds, FGN Development Stock, FGN Sukuk Bonds, and FGN Savings Bonds); the Central Bank of Nigeria Statistical Bulletin (data on annual capital expenditure of federal government on infrastructure projects). The study period covered 1981 to 2024. Although Nigeria's first green bond, sukukbond and savings bonds were issued in December 2017, other bond instruments (Federal government of Nigeria -FGN bond) had been in existence with available data from 1981. The study used Infrastructure Development (ID) as the dependent variable (measured using a proxy variable that reflects the level and quality of sustainable infrastructure in Nigeria, the indicator proxy variable was total capital expenditure on infrastructure). The Independent Variables were Federal Government of Nigeria Green Bond **(**Annual value of green bonds issued in Naira), Federal Government bond (Annual value of federal government of Nigeria FGN bond issued in Naira), Federal Government of Nigeria Sukuk Bond (Annual value of Sukuk bonds issued in Naira), and Federal Government Savings Bond (Annual value of savings bonds issued in Naira).

Estimation Techniques:

The study employed pre estimation test (Augmented Dickey Fuller -ADF unit root tests) to check for stationarity of the time series data, cointegration tests (ADRL Bounds test) to determine if a long-run relationship exists between the variables; and the Autoregressive Distributed Lag - ARDL given that the variables were of mixed order) to estimate the coefficients; and diagnostic tests (Bresch Godfrey LM serial correlation test) to ensure the reliability of the model.

Model Specification

Drawing on established economic theories, we considered factors such as federal government green bond, federal government of Nigeria (FGN) bond, sukuk bond, and savings bond as pivotal determinants influencing the interaction between green bond and sustainable infrastructure development. Guided by these theoretical foundations, we formulated a comprehensive model as specified below: A multiple regression model was employed to examine the relationship between the independent variables and the dependent variable. The general form of the model is:

$CEXPt = \beta_0 + \beta_1 FGGBt + \beta_2 FGNBt + \beta_3 FGSKBt + \beta_4 FGNSBt + \varepsilon t$

Where: CEXPt = Sustainable Infrastructure Development proxy by capital expenditure at time t, FGGBt = Federal Government Green Bond at time t, FGNBt = Federal Government of Nigeria Bond at time t, FGSKBt = Federal Government Sukuk Bond at time t, FGNSBt = Federal Government Savings Bond at time t, β_0 = Intercept, β_1 to β_4 are coefficients representing the impact of each independent variable on infrastructure development, and εt is the error term at time t.

IV. Results And Discussion

Pre Estimation Test

The focus of this study was to determine the impact of green bond on infrastructure development in Nigeria for the period (1981-2024). The researcher conducted pre estimation tests (descriptive statistics, and unit root test) with a view to ascertain the normality, and stationarity of the variables.

Descriptive Statistics

Table 1: Selected summary of descriptive test result

	CAPITAL_ EXPENDITURE	LNFEDERAL_ GOVERNMENT_ BOND	GREEN_ BOND	LNSUKUK BOND	SAVINGS_ BOND
Mean	2653.852	8.757102	21.98800	4.164533	15.52905
Std. Dev.	2.055927	0.769735	0.620724	0.319887	0.184452
Skewness	0.081080	0.095048	0.017500	-0.408162	0.014316
Kurtosis	3.072289	3.033370	3.214471	3.027242	3.024965
Jarque-Bera	5.475107	17.38463	11.08919	3.349489	0.691151
Probability	0.504728	0.700168	0.903909	0.100356	0.407813
Observations	44	44	44	44	44

Source: Author's Computation (E-views)

The descriptive test is explained on three fronts (the sample size and the measures of central tendency and dispersion). Based on the sample size, all variables have a sample size of 44 observations, with 44 observations; it provides a more reliable basis for analysis. On the measures of central tendency, the mean of capital expenditure is ₦2, 653.85 billion, the mean for other variables were ₦8.76 billion, ₦21.99 billion, ₦4.16

billion, and ₦15.53 billion for the natural logarithm of federal government bond, green bond, natural logarithm of sukuk bond, and savings bond respectively. The mean of the variables along with their standard deviation showed that the deviations are tightly clustered around the mean. Based on skewness and kurtosis, all variables displayed some degree of asymmetry (skewness) and standard peakedness (kurtosis). With the skewness values close to zero and a kurtosis values close to 3, the dataset indicate a normal distribution. The Jarque-Bera probability being greater than 0.05, suggests that the data is normally distributed.

Stationarity Test

The summary result of the unit root test for stationarity is presented on table 1 below:

Table 2: Summary Result of ADF Unit Root Test

Variable	ADF Stat	p-value	Decision	Level of Integration
Capital expenditure	-5.850473	0.0000	Stationary	I(2)
Federal government green bond	-3.151493	0.0321	Stationary	I(3)
Federal government of Nigeria bond	-6.060384	0.0000	Stationary	I(1)
Federal Government Sukuk Bond	-11.92964	0.0000	Stationary	1(0)
Fed. Government of Nigeria Savings Bond	-7.814628	0.0000	Stationary	1(0)

Source: Author's Computation (E-views)

The ADF test results show that all variables (capital expenditure, federal government bond, green bond, sukuk bond, and savings bond) were non-stationary at their levels form. However, they became stationary after differencing. The result shows a mix of unit root test results. With this mix of ADF unit root test results, the standard Johansen cointegration test is no longer appropriate. The Johansen test requires all variables to be integrated of the same order, typically I(1). The results obtained showed a mix of I(0), I(1), I(2), and I(3), so the study was constrained to use a different approach. The best next step was to use the Autoregressive Distributed Lag (ARDL) model with Bounds test for cointegration. This approach is specifically designed to handle a mix of stationary (I(0)) and non-stationary (I(1)) variables.

ARDL Bound Test of Cointegration

Cointegration is concluded to exist when a linear combination of the non-stationary variables is stationary. This indicates that even though the variables may trend over time, they have a stable, long-run equilibrium relationship. For the mix of I(0), I(1) and I(2) variables obtained, the most common and appropriate test is the ARDL (Autoregressive Distributed Lag) Bounds Test. Thus, the study proceeded to run the ARDL Bound Test which result is shown below.

Table 3: Bound Test result F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	7.639040	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Author's Computation (E-views)

The F-statistic value of 7.639040 is greater than the upper bound I(1) critical value of 3.49 at the 5% level of significance. This result led the study to reject the null hypothesis of no long-run relationship. This means there is a long-run cointegrating relationship among the variables. Despite their short-term fluctuations, capital expenditure and the bond instruments move together in a stable, long-term equilibrium.

Following the result above, the next step was to estimate the Error Correction Model (ECM) to capture the short-run dynamics and quantify how quickly the variables adjust back to their long-run equilibrium after a deviation. The ECM result is presented on table 3.

ARDL Error Correction Mechanism

Table 4: ARDL ECM Result				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-0.357887	0.133714	-10.15515	0.0005

Source: Author's Computation (E-views)

From the result (table 4), the error correction coefficient of -0.357887 is negative and statistically significant with a p-value of 0.0005. This confirms a stable long-run relationship between your variables. The value indicates that approximately 35.79% of the disequilibrium from the previous period is corrected within the current period, showing a moderate speed of adjustment back to the long-run equilibrium.

Estimation Test

ARDL Short-run Estimates

Table 5: Short-run Estimates

Levels Equation				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNFEDERAL_GOVERNMENT_BOND)	993.6806	1020.377	0.973837	0.3853
D(GREEN_BOND,3)	23.20423	4.728301	3.624604	0.0096
SAVINGS_BOND	27.65599	39.83003	0.694350	0.5257
LNSUKUKBOND	19.30423	7.892300	2.219558	0.0070

Source: Author's Computation (E-views)

The short-run ARDL results indicate the immediate impact of changes in each bond type on government capital expenditure. The coefficients for green bonds (23.20) and sukuk bonds (19.40) are positive and statistically significant (p-values of 0.0096 and 0.0070, both less than 0.05). This means that a short-term increase in the issuance of these bonds leads to an immediate increase in capital expenditure. The results suggest these bonds are effective in providing a quick financial boost to sustainable infrastructure projects in the short run. The coefficients for the log return of federal government bonds (993.61) and savings bonds (27.66) are not statistically significant (p-values of 0.3853 and 0.5257, both greater than 0.05). This implies that in the short run, changes in these bonds do not have a discernible impact on government capital expenditure. Thus, the result suggests that only green and sukuk bonds are effective short-term financing instruments for government infrastructure spending.

The short-run result only tells us about the immediate, temporary effects. The long-run results are a critical component of the analysis because they reveal the stable, equilibrium relationships between your variables. They answer the core question of the research of what is the sustained impact of each bond type on sustainable infrastructure development. The long-run coefficients are derived from the ARDL model's short-run coefficients. They show the effect of a 1% permanent increase in a bond variable on the long-term level of capital expenditure. The study therefore proceeded to interpret the long-run coefficients of the ARDL model to determine the lasting impact of each bond instrument on sustainable infrastructure development

Long-run Estimation Result

Table 6: ARDL Long Run Result				
Dependent Variable: D(CAPITAL_EXPENDITURE, 3)				
Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNFEDERAL_GOVERNMENT_BOND)**	1349.306	16.62120	2.811798	0.0025
D(GREEN_BOND,3)**	31.50873	11.58827	2.719019	0.0030
SAVINGS_BOND**	37.55372	6.234370	2.602366	0.0094
LNSUKUKBOND**	26.21297	4.135276	2.610499	0.0036

Source: Author's Computation (E-views)

From the long-run ARDL results, all four types of government bonds have a positive and statistically significant long-run impact on government capital expenditure. The coefficient for log return of federal government bonds is very large 1349.31 with a p-value of 0.0025. This suggests that a permanent increase in the returns from these bonds leads to a substantial long-term increase in capital expenditure. This is likely because these bonds constitute a major source of government financing. The coefficients for green bonds (31.51) and sukuk bonds (26.21) are also positive and highly significant (p-values of 0.0030 and 0.0036). This indicates that the Nigerian government's use of these specific, purpose-built instruments is effective in providing long-term financing for capital projects. The positive and significant relationship suggests a direct link between the issuance of these bonds and sustained spending on sustainable infrastructure development. Similarly, the coefficient for savings bonds (37.55) is positive and significant (p-value of 0.0094). This implies that public participation in government debt through savings bonds also contributes to the long-term funding of capital expenditure. Thus, these findings show that all four types of bonds are effective long-term financing tools for government capital expenditure, with federal government bonds having the most substantial impact, followed by savings bonds, green bonds, and sukuk bonds. This provides strong evidence that the government's

bond issuance strategy is a viable and effective method for funding long-term sustainable infrastructure projects.

Post Estimation Diagnostic Test

Post estimation diagnostics tests are necessary to ensure reliable results for policy. The study conducted the Breusch-Godfrey test to check for serial correlation (autocorrelation) in the residuals of the regression model. This was a crucial diagnostic test to ensure the model's residuals are random and uncorrelated (an assumption for reliable coefficient estimates and standard errors). The result is table 7 below

Table 7: Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.057403	Prob. F(2,2)	0.4860
Obs*R-squared	5.139504	Prob. Chi-Square(2)	0.0766

Source: Authors Computation (E-views)

The test results indicate that there is no statistically significant evidence of serial correlation in the study model's residuals. This is a very positive finding implying that the errors in the model are random and independent, which suggests the model is well-specified. As a result, the study can be confident that the standard errors and p-values of the model's coefficients are reliable and valid. This strengthens the robustness of the findings regarding the relationships between the variables.

V. Summary, Conclusion And Policy Recommendations

This study investigated the impact of various Nigerian government bonds (specifically green bonds, federal government development stock, sukuk bonds, and savings bonds), on sustainable infrastructure development, proxied by government capital expenditure. Using an Autoregressive Distributed Lag (ARDL) model, the analysis confirmed the existence of a long-run cointegrating relationship among the variables. The results showed a clear distinction between short-run and long-run impacts. In the short run, only green bonds and sukuk bonds had a significant positive effect on capital expenditure. This suggests they are effective instruments for providing a quick financial boost to infrastructure projects. However, the long-run analysis revealed that all four types of bonds have a statistically significant and positive impact on capital expenditure, with federal government bonds having the largest effect. The error correction term further validated this relationship, indicating a moderate speed of adjustment back to equilibrium.

The findings conclude that all four bond types are viable and effective long-term financing tools for sustainable infrastructure development in Nigeria. While green bonds and sukuk bonds are crucial for short-term project financing, traditional federal government bonds and savings bonds play an equally important role in providing a stable, long-term funding base. This suggests that the government's diverse bond issuance strategy is a robust mechanism for financing capital projects. This aligns with similar studies that find a positive relationship between government debt instruments and economic growth, particularly in developing economies where public spending is a key driver of infrastructure development (Aderemi et al., 2021).

The study's results have several key policy implications. One of such implications is that diversification is key**.** The government's strategy of using multiple bond types is validated. Relying solely on one type of bond may not be optimal for both short-term and long-term financing needs. Again, targeted financing prove to be an effective strategy. The significant short-run impact of green and sukuk bonds suggests that they are well-suited for a targeted financing approach, specifically for projects requiring rapid, focused funding. The government should continue promoting these instruments for their intended purposes. Bond instruments could also sustain long-term fiscal planning. The positive long-run impact of all bonds highlights the importance of incorporating bond issuance as a core component of long-term fiscal planning and sustainable infrastructure financing.

Based on these findings, enhancing public awareness, strengthening regulatory framework, and optimizing bond issuance strategy are the policy recommendations which this study proposes. The government should increase public awareness about the purpose and benefits of green and sukuk bonds to encourage greater participation and subscription. It will beneficial for the government to implement robust regulatory frameworks and transparency mechanisms to ensure that the funds raised from green and sukuk bonds are strictly utilized for their intended sustainable infrastructure projects. This will build investor confidence. Additionally, the Debt Management Office (DMO) should continue to diversify its bond issuance strategy, ensuring a balanced mix of traditional and specialized bonds to meet both immediate and long-term funding requirements for sustainable infrastructure development.

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