

POLITICAL STABILITY AND SUSTAINABLE DEVELOPMENT IN NIGERIA

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Abstract: After the return of democracy in Nigeria, the country continued to experience changes in political regimes amidst the country's quest of developmental sustainability. This study investigated the symmetric (linear) and asymmetric (non-linear) effect of political stability on sustainable development in Nigeria between 1999 and 2021. The study employed both Autoregressive Distributed Lag (ARDL) and Non-Autoregressive Distributed Lag (NARDL) techniques for estimation purpose. The symmetric result showed that sustainable development positively responds to political stability in Nigeria both in the long run and short run. The asymmetric estimates indicated that sustainable development significantly increased due to positive shock in political stability in the long run in contrast to the short run. While negative changes in political stability has negative effect on sustainable development both in the long run and short run. It was concluded that political stability triggers sustainable development in Nigeria during the study period. The study suggested that government policies related to economic, social, and environmental issues should be consistent and predictable since frequent policy changes can disrupt sustainable development.

Keywords: Political stability, Sustainable development, Happy Planet index, Symmetric and Asymmetric relationship.

Introduction

Sustainable development is a fundamental goal for nations worldwide, encompassing economic growth, social well-being, and environmental sustainability. Sustainable development is a guiding principle that advocates for achieving economic, social, and environmental progress while ensuring the well-being of present and future generations (Mensah, 2019). It is expected that the development of a nation will not come at the expense of depleting natural resources, exacerbating inequality, or compromising the ability of future generations to meet their needs. Instead, it seeks to strike a harmonious balance between human development and environmental preservation. Sustainable development promotes robust and inclusive economic growth that benefits all members of society (Ayamba et al. 2020). This involves responsible resource management, investment in innovation, and the creation of jobs that improve living standards. According to Radu (2015) and Damdam et al. (2023), political stability is a critical factor that can influence a nation's ability to achieve sustainable development. By increasing investors' confidence concerning the security of property rights, political stability affects the level of economic

growth by increasing the value of real GDP per capita and building a coherent and continuous path for sustainable development.

Nigeria, as one of Africa's largest and most populous nations, faces numerous challenges such as corruption, poor communication channels, illiteracy, inadequate infrastructure, a poor implementation framework, and political instability in achieving sustainable development. Political instability manifests itself at local, regional, and national levels, primarily stemming from the discord between the government and various political elites (Tinta et al., 2018). These unbridled dynamics often culminate in alterations to the subsistence patterns of pastoralist communities, the disruption of traditional territorial governance systems, and a diminished capacity to adapt to sustainable rangeland management practices. The undercurrent of political upheaval in Nigeria traces its origins back to the period of colonization, casting a long shadow over the country's post-independence history.

Before the restoration of democratic rule in 1999, Nigeria witnessed a series of changing political leadership, administrative systems, and governance structures, including the parliamentary system, regional governance, and military/autocratic rule, spanning from the year of political independence in 1960 to the return to civilian rule in 1999. This period was marked by more than a dozen distinct administrations between 1960 and 1999, amidst widespread national tensions, a civil war, religious, ethno-cultural, and tribal conflicts, and political unrest. However, Nigeria's reversion to democratic governance in 1999 brought about a relatively consistent federal administration, which endured until 2014, when another political party assumed dominance. Nevertheless, this continuity was not mirrored in all the states within the federation, as various political parties held sway in different states in accordance with their regional political influence. Consequently, a distinct political dynamic emerged between the federal government and the state or regional governments. Furthermore, there persisted a troubling pattern of ongoing violence in certain parts of the country, largely driven by perceptions of the marginalization of specific ethnic groups.

The long-lasting situation has been made worse by the early political parties' and their leadership's polarizing and sectarian political practices. Shehzadi, Siddique, and Majeed (2019) point out that Nigeria's politically unstable environment precedes the period of military control. Consequently, the average Nigerian has endured a prolonged quest for peace and predictability within the realm of politics. Presently, the prevalence of political instability has reached alarming proportions, giving rise to spillover effects that have transformed Nigeria into a source of refugees. The nation has witnessed a series of sporadic outbreaks of violence and counterattacks across various regions, driven by suspicion and mistrust within Nigeria's geopolitical context. These deep-rooted causes of violence often lead to disconcerting and unpredictable experiences, including bombings, the senseless loss of innocent lives, and the destabilization of already vulnerable regions, plunging them into political uncertainty. The issue of political instability is a common phenomenon that continues to dominate the political terrain in Nigeria, which brings about changes in reforms and policies that affect sectoral performance, such as agricultural.

A study by Shehzadi, Siddique, and Majeed (2019) found that a lack of political stability has contributed significantly to economic stagnation on the black continent. Aisen and VeigHow (2010) held that political instability is associated with lower growth rates of GDP per capita, while stable policy could be more economy-driven. It is argued that political

instability adversely affects growth by lowering the rates of productivity growth. Conversely, in the view of Northon (2017) as well as Nadia and Mouna (2017), political stability or regime change has no side effect on economic activities. Most leaders want to follow nation-building initiatives while legitimizing their hold of power, and these are not always complementary. Thus, changes in political regimes could strengthen or weaken the overall economic performance based on policy reviews. The unstable political environment may affect sustainable development through irrational political and economic decision-making, which could reduce private investment, public sector programs, patterns of public spending, and economic growth (Jong & Pin, 2009). Adebayo et al. (2022), on the other hand, argued that political stability must not guarantee development that is sustainable. This link suggests that while the effects of increasing political stability may not be replicated when political stability declines, the impact of political stability on sustainable development is not constant and can vary depending on the degree of political stability or instability. A nation's capacity for sustainable development may benefit disproportionately from improvements in political stability. This is due to the fact that stronger political stability can result in improved governance, heightened investor confidence, and more successful policy implementation, all of which can support social progress, economic expansion, and environmental preservation. However, a decline in political stability may have a disproportionately detrimental effect on sustainable development. Economic downturns, social unrest, and environmental deterioration can result from political instability and can be challenging to repair quickly. Although political stability is frequently seen as a precondition for growth, there may be complications in this relationship. One could envision the nature of the policy and reform changes that have accompanied Nigeria's political regime changes since democracy returned in 1999 and how they have affected the country's economy. However, there is a dearth of empirical data regarding how sustainable development reacts to these political shifts. Based on the aforementioned, this study examined the symmetric and asymmetric effects of political stability on Nigeria's sustainable development. The policy relevance of this study is that it provides insight into whether a linear or non-linear effect of political stability can be sustained in the Nigerian economy. While political stability is often considered a prerequisite for development, the relationship may not be straightforward; hence, there is a need for such a study for developmental policies. The rest of the paper is segmented into a literature framework, methodology, presentation and discussion of empirical findings, conclusion, and recommendation.

Review of literature

Conceptual Review

There is no agreement among researchers regarding the concept of political stability, as it varies from one country to another and changes over time within the same society. Political stability, as defined by Masry (2015), pertains to the sustainability and resilience of a political system. A politically stable country is one in which the government is secure, and there is a low likelihood of political turmoil or significant changes in the system. This stability is often characterized by an effective government, robust institutions, and a general atmosphere of order and predictability in the political environment. Al Arif and Harahap (2020) view political stability as the sustainability and continuity of a government

and its institutions without frequent changes or disruptions. In their study, the authors employed the Political Stability Index as an indicator to assess political stability. This index measures perceptions of the likelihood of political instability and/or politically motivated violence, and it is adopted in the current study.

There is no unanimously agreed upon concept of sustainability. The first globally discussed concept can be found in *The Limits to Growth*, a report for the Club of Rome in 1972, which clearly described how an exponential economic growth in a world with a finite supply of resources can lead to a variety of negative global scenarios. A political reaction to this academic debate was the United Nations report published in 1987 by Brundtland Commission. This report established itself as the cornerstone of sustainability and is still regularly cited, referenced, and mentioned over 30 years after its. The report defines sustainable development as follows: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (World Commission on Environment and Development, [1987](#)). With this definition, the responsibility of one generation for the consequences of its actions on all subsequent generations, is stated explicitly. The report also makes it clear that the ecological challenges should be considered alongside economic growth and social justice, as these aspects can have significant impact on ecological aspects of sustainability.

According Feil and Schreiber (2017) point out, sustainable development can be defined as a long-term strategy for improving the quality of life (well-being) of society. This strategy should integrate environmental, social and economic aspects. According to these authors, sustainable development has its main properties: It aims at economic growth without human environmental aggression; Long-term vision for future generations; It covers the environmental, the economic and the social in mutual equilibrium; Proposes change in the behaviour of humanity; Materialized through strategies and involves processes and practices.

Ever since the concept of sustainability started to emerge, several attempts have been made to quantify and measure sustainability, but the intention to fairly account for all the three dimensions of sustainable development (environmental, social, economic) still remains challenging. While indices related to the natural environment (such as CO₂ emissions, water quality and biodiversity) can be calculated and modeled, the socio-economic factors represent the main obstacles for creating sustainability metrics due to their very subjective nature. In order to be able to cover all the three sustainability aspects, it is important to treat them all equally without highlighting, for instance, the economic performance. Moreover, the completely different natures of social and natural sciences adds complexity to the modeling task. According to [Kissinger and Rees \(2010\)](#), [Sustainable Development Indicators](#) are defined as an attempt to create a holistic approach to measure sustainability through assigning a value or a number to describe the relation between environmental, social and economic dimensions of sustainability. The authors identified Happy Index among others as a set of indicators for sustainable development. As introduced by the New Economics Foundation (NEF), the Happy Planet Index is a measure of sustainable development that takes into account the well-being of citizens and the environmental impact of human activities (New Economics Foundation, 2012). This study adopts the definition by Kissinger and Rees (2010) and uses the Happy Planet Index, which serves as a valuable tool for measuring sustainable development by integrating well-being and ecological considerations. The Planet Index combines subjective well-being indicators

with ecological footprint data to provide a comprehensive view of how efficiently countries are using environmental resources to achieve a good life for their citizens (Aksoy & Arlı, 2019).

Theoretical Framework

Theoretically, this study is anchored on Modernization theory and Regime theory. The theory of modernization associated with Samuel Huntington in 1970S suggests that as societies progress in terms of economic and social development, they tend to achieve greater political stability (Goorha, 2010). This theory attributes political stability to various factors, including economic growth, urbanization, enhanced education, and technological advancements. According to modernization theory, economic growth plays a pivotal role in reducing social unrest and political instability by generating employment opportunities and raising living standards. As people's material well-being improves, they are less inclined to engage in political violence or advocate for radical political transformations. Education holds a central position within the modernization framework, as educated populations typically exhibit greater political awareness and engagement. An educated citizenry can participate more effectively in the political process and contribute to political stability by demanding transparency and accountability in governance. Urbanization, often intertwined with modernization, can contribute to increased political stability by fostering social cohesion and communication among diverse societal groups. Nevertheless, it can also pose challenges related to urban management and service provision, necessitating attention to maintain stability.

According to Black, (1996), the relationship between development and political stability is not linear and that various cultural, historical, and political factors can complicate this connection. Development can lead to both stability and instability, depending on how it is managed and distributed. Modernization theory emphasizes economic and social development as a pathway to modernity. In the context of sustainable development, modernization theory can be seen as one perspective among many, and it has limitations in addressing the environmental and social dimensions of sustainability. Sustainable development entails the responsible management of resources, which often necessitates that modernized economies adopt more sustainable practices, reduce resource consumption, and address environmental degradation. An integral aspect of sustainable development is its emphasis on social equity, ensuring that the benefits of progress are equitably distributed across all segments of society. Unlike modernization theory, which primarily concentrates on development without inherently prioritizing equity, addressing this dimension may require the implementation of supplementary policies and efforts. Modernization theory, with its focus on economic growth, sometimes fails to fully consider the environmental consequences that unchecked development may bring about. Sustainable development, on the other hand, calls for a delicate balance between economic growth, environmental preservation, and social inclusivity.

While modernization theory proposes that economic and social development can lead to both political stability and progress toward sustainable development, it is important to acknowledge that this theory offers just one perspective. The intricate relationships among development, stability, and sustainability are influenced by a multitude of factors. Achieving sustainable development demands a more comprehensive approach, one that takes into account environmental conservation, social equity, and political stability, in

addition to economic growth. Critics contend that modernization theory oversimplifies the connection between development and stability, as it does not adequately consider the cultural, historical, or political factors that can significantly influence a nation's stability. On the other hand, the Regime theory put forward by Stephen Krasner in 1983 directs its attention toward the specific political system in operation, be it democratic or authoritarian, and assesses its influence on political stability (Hynek, 2016). This theory posits that particular regime types may exhibit greater stability than others. It delves into the ways in which the features and conduct of political regimes impact the overall stability of a nation's political framework. Regime theory classifies political systems into different categories based on their attributes, particularly in terms of decision-making processes, governance structures, and the distribution of power. Nonetheless, it's worth noting that regime theory can sometimes be overly deterministic and may not adequately consider the wide range of outcomes that can occur within a given regime type.

Empirical Review

Adebayo, et al. (2022) investigated the impact of political risk on environmental sustainability within the top 10 most politically stable economies, which include Australia, Canada, Germany, Finland, Denmark, Norway, Netherlands, New Zealand, Sweden, and Switzerland, spanning the period from 1991 to 2019. They employed both quantile-on-quantile regression and quantile causality methodologies to investigate the relationship between political risk and environmental sustainability. The results of the quantile-on-quantile regression analysis unveiled that, for a significant portion of the quantiles, political risk had a positive effect on environmental quality in the cases of Norway, Sweden, Canada, and Switzerland. Conversely, in the instances of Australia, Germany, and Denmark, political risk was found to have a detrimental impact on environmental quality. For the remaining countries, the outcomes exhibited a mix of effects. Consequently, ensuring continued political stability is likely to entice more foreign investment, thereby exerting pressure on the governments of these nations to address climate concerns with greater urgency.

In another study, Akinlo et al. (2022) conducted an analysis spanning from 1984 to 2020 and examined the impact of political instability on economic growth in Nigeria. They employed the Autoregressive Distributed Lag (ARDL) technique to explore both short and long-term relationships. Their findings indicated a negative effect of political instability on economic growth in both the short and long run. Government expenditure was shown to contribute positively to economic growth in both time frames, while gross capital formation and financial development had detrimental effects. These findings underscore the need for addressing political instability to achieve sustained economic growth.

The influence of political stability on foreign direct investment in Nigeria was studied by Okeke and Kalu (2020) using annual time series data from 1970 to 2015. Employing the Auto Regressive Distributed Lag (ARDL) model, they reported a significant impact of political stability, alongside other variables, on foreign direct investment in Nigeria. In a panel study, Mohammad (2020) looked at the impact of exports and political stability on economic growth, using data from 2004 to 2018 across D-8 Organization for Economic Cooperation countries. The panel regression results showed that the volume of exports did not significantly contribute to economic growth, while political stability exhibited a positive influence. Altun (2017) also explored the effect of political stability and

governance on economic development using a panel dataset spanning 157 countries, encompassing both developed and developing nations over a ten-year period from 2002 to 2011. Their results affirmed the significant impact of political stability on economic development in both the short and long run. Governance factors, including control of corruption, government efficiency, and regulatory quality, were also significant and robust, while the rule of law and voice and accountability yielded insignificant results. The study highlighted the negative impact of untimely and unexpected executive changes on growth rates and found that elections had no significant effect regardless of the political system and level of development.

In Nigeria, Nomor and Iorember (2017) empirically investigated the relationship between political stability and economic growth in Nigeria for the period 1999 to 2014 using the ARDL model approach. Their findings revealed a positive and significant relationship between political stability and economic growth in both the short and long run, emphasizing the critical role of a stable political environment for economic growth. Employing a different analytical techniques, Radu (2015) analyzed the influence of political stability on economic growth in Romania using data spanning from 1990 to 2011. Employing statistical and econometric approaches, the study concluded that political stability played a crucial role in a country's economic growth, facilitating a coherent and sustained path toward sustainable development.

Jong-A-Pin (2009) investigated the multidimensionality of political instability and its implications for economic growth across 90 economies using a dataset with five-year intervals. They categorized 25 political instability indicators into four dimensions and found that the instability of the political regime had a significant negative effect on economic growth, measuring de facto uncertainty. Interestingly, more instability within the political regime was associated with higher economic growth. From the reviewed works, researcher rarely looked at the non-linear effect of political stability on sustainable development in Nigeria which presents a gap for further study. Thus, this study change the approach of investigating the influence of political stability to see whether its effect on sustainable development is a straightforward one. Again, none of these studies considered the effect of political stability on sustainable development using Happy Planet Index which is an innovative new index that measures life expectancy, experienced well-being, inequality of outcomes, and ecological footprint in order to determine the level of sustainability of a nation (Marks, et al. 2006).

Methodology

Model Specification

Modernization theory held that as societies undergo economic and social development, they become more politically stable. This suggest that a stable polity is capable of sustaining development of a nation. Thus, empirically, this study adopted the model by Okeke and Kalu (2020) who looked at impact of political stability on foreign direct investment but modified it to achieve the aim of the study. Guerrero and Castañeda (2021) in their study identify government expenditure as a major factor that affect sustainable development among nations. Consequently, the modified and estimated model is written as:

$$HPI = PLT, TOT, GEXP \text{-----} 1$$

Where; (HPI) is Happy Planet Index which is a proxy for sustainable development; PLT represent political stability; TOT is Terms of Trade and government expenditure (GEXP). Partial transformation using log was applied given that all other series were either in percentages or index except government expenditure that is in nominal terms. Equation 1 was fitted into an ARDL model using the partial transformation given that the series had mixed order as:

$$\Delta HPI_t = \beta_0 + \sum_{i=1}^p \beta_1 \Delta HPI_{t-i} + \sum_{i=1}^q \beta_2 \Delta PLT_{t-i} + \sum_{i=1}^q \beta_3 \Delta TOT_{t-i} + \sum_{i=1}^q \beta_4 \Delta \ln GEXP_{t-i} + \lambda ECM_{t-1} + \mu_t \text{-----} 2$$

The liner effect of political stability on sustainable development in Nigeria was therefore, examine using equation 2. Following Shin et al, (2014), the study employed non-linear asymmetric conditional ARDL model to investigate the non- linear relationship between political stability and sustainable development. Thus the asymmetric (NARDL) model of equation 2 is specified as:

$$\ln HPI_t = \alpha_0 + \alpha_1 PLT_POS_t + \alpha_2 PLT_NEG_t + \alpha_3 TOT_t + \alpha_4 \ln GEXP_t + \sum_{i=1}^n \gamma_{1i} \Delta \ln HPI_{t-i} + \sum_{i=0}^q \gamma_{2i} \Delta PLT_POS_{t-i} + \sum_{i=0}^q \gamma_{3i} \Delta PLT_NEG_{t-i} + \sum_{i=0}^q \gamma_{4i} \Delta TOT_{t-i} + \sum_{i=0}^q \gamma_{5i} \Delta \ln GEXP_{t-i} + \varepsilon_t \text{-----} 3$$

To ascertain the non-linearity effects of political stability on sustainable development in Nigeria, the study build a non-linear autoregressive distributed lagged model following Schodert (2003), and Apanisile & Oloba (2020) the NARDL approach can be specified by building new variables that explain instances of increasing financial development and decreasing financial development. This involves disintegrating the time series into two, namely (PLT_POS_t and PLT_NEG_t) as follows:

$$PLT_POS_t = \sum_{j=1}^t \Delta PLT_POS_t = \sum_{j=1}^t \max(\Delta PLT_t, 0) \text{-----} 3$$

$$PLT_NEG_t = \sum_{j=1}^t \Delta PLT_NEG_t = \sum_{j=1}^t \min(\Delta PLT_t, 0) \text{-----} 4$$

Where; ΔPLT_POS_t and ΔPLT_NEG_t represent fractional sums of increasing financial development and decreasing financial development, respectively. The error correction specification that captured the speed of adjustment towards the long-run equilibrium is given as

To specify the non-asymmetric forms, the equation becomes:

$$\Delta \ln HPI_t = \alpha_0 + \sum_{i=1}^n \alpha_{1i} \Delta \ln HPI_{t-i} + \sum_{i=1}^n \alpha_{2i} \Delta PLT_{t-i} _ POS_t + \sum_{i=1}^n \alpha_{3i} \Delta PLT_{t-i} _ NEG_t + \sum_{i=1}^n \alpha_{4i} \Delta TOT_t + \sum_{i=1}^n \alpha_{5i} \Delta \ln GEXP_t + \alpha_6 ECM_{t-1} + \mu_t \text{-----} 5$$

Where α_0 is the intercept, $\alpha_1 - \alpha_4$ are coefficients, ECM_{t-1} is the error correction and μ_t is the stochastic term.

Kinds and Sources of Data

The data used is obtained from the Bulletin of the Central Bank of Nigeria and the Nigeria Bureau of Statistics (NBS). The data are Happy Planet Index (HPI) as a proxy for sustainable development, political stability Index (PLT) to represent political stability, Terms of Trade (TOT) and government expenditure (GEXP). The data spanned between 1999 and 2021 (from the return of democracy to post global health crisis era (2021). Year 2021 is also based on the available data at the time of this research.

Method of data Analysis

This study utilized both Autoregressive Distributed Lag (ARDL) and Non- Autoregressive Distributed Lag (NARDL) techniques to investigate the symmetric and asymmetric effect of political stability on sustainable development. The use of NARDL is primary to its ability to handle the non-linearity effect and it takes into account the partial sum processes of (+) and (-) changes in the model’s parameters unlike the symmetric effect captured in the ARDL model. While the diagnostic tests of Heteroskedasticity, autocorrelation, Jarue-Bera test and cumulative sum were conducted to validate the results.

Empirical finding and discussion

Unit Root Test

The unit root tests was conducted on each variable to determine the level of stationarity in the series prior to estimating the model. The Augmented Dicker-fuller (ADF) unit root was considered in this study to validate the stationary of the data.

Table 1: Results of the ADF Unit Root Test

z	ADF t-statistic @ Level	ADF t-statistic @ 1st Difference	Order of Integration
HPI	-2.012277(0.2797)	-4.732760(0.0013)	I(1)
PLT	-7.144255(0.0000)	-3.116028(0.0407)	I(0)
TOT	-0.294524(0.9110)	-4.952532(0.0008)	I(1)
LNGEXP	-1.465815(0.5307)	-8.401982(0.0000)	I(1)

Source: Extract from EView

The ADF unit root result in Table 1 revealed that the series in the model are of mixed order of integration owing to the fact that both Sustainable development (HPI), Terms of Trade (TOT) and government expenditure (LNGEXP) were stationary after differencing (integrated of order one). While political stability (PLT) was stationary at levels. Therefore, since the variables under the study are not integrated of the same order, the application of ARDL is justified and hence the use of bounds approach to cointegration to test for symmetric effect over other conventional approaches that require the variables to be integrated of the same order.

Table 2: Result of ARDL Bound Test

F-Test Statistic	Critical Value	Pesaran Lower Bound	Pesaran Upper Bound
	1%	3.65	4.66
6.42	5%	2.79	3.67
	10%	2.37	3.2

Source: Extract from EView

Result in Table 2 indicated that, there is a long-run relationship among variables incorporated in the model. As justify by the F-statistic value of 6.42 which is larger than the Pesaran Upper Bound value of 3.67 at 5% level of significance and the Pesaran Lower Bound value of 2.79 is below the upper bound value. The result showed the existence of cointegration among sustainable development, political stability, terms of trade and government expenditure. Therefore, the null hypothesis of no cointegration among the variables is rejected implying presence of a long run relationship among the variables in the model.

Long Run Relationship among the Study Variables

The existence of a long run relationship among the variables of the study suggests the estimation of long run coefficients and short run dynamic parameters. The estimation of the ARDL model is based on the Akaike info criterion (AIC) optimal lag of 2. The long-run results are presented in the Table 3.

Table 3: Result of Long Run Relationship among the Study Variables

Regressand	HPI (Sustainable development)			
	Linear(Symmetric effect)		Non-linear(Asymmetric effect)	
	Coefficient	Std Error	Coefficient	Std Error
PLT	1.234152**	0.543628	-	-
PLT POS	-	-	0.320074***	0.017471
PLT NEG	-	-	-1.148701***	0.085605
TOT	0.000280	0.000175	5.75E-06	5.30E-06
LNGEXP	-0.905912*	0.455783	-0.085172***	0.013294
C	15.99099**	5,306517	2.940251	0.148341

Note: *, ** and *** represent significance levels at 10%, 5% and 1% respectively.
Source: Extracted from EView

The ARDL estimates for symmetric effect in Table 3 reveals that political stability and terms of trade have positive effect on sustainable development in Nigeria. This sustainable development positively responds to increase in political stability and terms of trade in Nigeria. The positive effect of political stability is significant in contrast to the insignificant effect of terms of trade at 5% level. Though, the result is consistent with theoretical expectation signifying that both political stability and terms of trade determines the level of sustainable development in Nigeria during the study. The implication of this result is that Political stability can contribute to social well-being by fostering an atmosphere of security and reducing the likelihood of conflict and unrest. This, in turn, can lead to improved living standards, better access to education and healthcare, and an overall increase in the quality of life for citizens. This finding is in line with Altun (2017) empirical findings which confirmed significant effect of political stability on economic development. The positive effect of terms of trade signifies that it can help reduce trade imbalances by increasing export revenues in Nigeria. This, in turn, can alleviate trade deficits and bolster a country's economic stability, creating a more conducive environment for sustainable development. However, result also suggests that government expenditure has adverse but not significant effect on sustainable development at 5% level of significance. It indicates that increase in government expenditure during the study period has failed to sustain development in Nigeria which defines the mismanagement of budgeted fund through

corruption or inefficiencies in the use of resources in the country. Though, the result is at variant with theoretical expectation.

The Asymmetric estimates in Table 3 indicated the distinction in the effect of positive and negative shocks of political stability on sustainable development in Nigeria. The result indicates that sustainable development increase due to positive changes (PLT_POS) in political stability. It suffice to say that positive shocks in political stability would triggers sustainable development by 32% and the coefficient is significant at 5% level. This suggest that political stability is a driving force behind the achievement of sustainable development goals in Nigeria. It further signifies that when political stability improves significantly, it leads to the initiation or acceleration of sustainable development efforts. On the other hand, negative changes in political stability (PLT_NEG) has negative relationship with sustainable development. It show that negative changes in political stability will exact positive effect on sustainable development at 5% level of significance. This implies that whenever political stability is decreasing, sustainable development increase by 1.15%. Terms of trade was found to exact positive but not significant effect on sustainable development in Nigeria in the long run implying that increase in Nigeria’s terms of trade would bring about improvement in sustainable development. Contrarily, estimates reveals a negative and significant effect of government expenditure on sustainable development, implying that the government spending in Nigeria is inefficient and has failed to assume a strong role in sustaining development.

Short Run Relationship among the Study Variables

The existence of a short run relationship among the variables of the study suggests the estimation of short run coefficients and short run dynamic parameters. The estimation of the ARDL model is based on the Akaike info criterion (AIC) optimal lag of 2. The short-run results are presented in the Table 4.

Table 4: Result of the short-run relationship among the variables

Regressand	HPI (Sustainable development)			
	Linear(Symmetric effect)		Non-linear(Asymmetric effect)	
	Coefficient	Std Error	Coefficient	Std Error
D(PLT)	0.746572***	0.248987	-	-
D(PLT POS)	-	-	-0.669314***	0.041510
D(PLT NEG)	-	-	0.283101***	0.062505
D(TOT)	1.70E-05	6.23E-05	2.56E-07	1.63E-06
D(LNGEXP)	-	-	0.022922***	0.005316
ECM	-0.491973***	0.075224	0.610919***	0.006130
R-squared	0.787777		0.999919	
Adjusted R-squared	0.734721		0.999847	
Durbin Watson Stat.	2.034324		2.861225	

Note: *, ** and *** represent significance levels at 10%, 5% and 1% respectively.

Source: Extracted from EViews

The short run estimated result in Table 4 showed that political stability has positive and significance effect on sustainable development at 5% level in the short run. The implication of the result is that improve in political stability strongly help to sustained development in Nigeria and the outcome is in accordance with the a priori expectation. A positive but insignificant effect of terms of trade on sustainable development was found in the short

run. It signifies that within the shortest possible time, sustainable development responds positively to political stability and terms of trade in Nigeria. The error correction coefficient of 0.49 with a probability value of 0.0000 is highly significant and is correctly sign which implies a high speed of adjustment to equilibrium after a shock. The result indicated that in an event of temporary deviation from the long run path, it will take an average speed of 49% for the variables to revert back to the equilibrium within the shortest possible time. Approximately 78.5% of disequilibria from the previous year's shock converge back to the long run equilibrium in the current year. All the variables of the study were found to be significant at 5% probability level.

The short run asymmetric estimates in table 4 shows that sustainable development responds adversely due to positive changes (PLT_POS) in political stability and the finding is significant at 5% level. The result implies that in the short run, increase in political stability does not lead to similar improvement in sustainable development in Nigeria. Contrary, a positive relationship was found between negative changes in political stability and sustainable development. This signifies that, decrease in political stability will decline the level of sustainable development in Nigeria. The result is statically significant at 5% level and the finding is consistent with theoretical expectation. The terms of trade and government expenditure affects sustainable development positively. It means that increase in terms of trade and government expenditure are relevant in determining the level of sustainability in Nigeria. The error correction coefficient of 0.61 with a probability value of 0.000 is highly significant and is correctly sign which implies a high speed of adjustment to equilibrium after a shock. The result indicated that in an event of temporary deviation from the long run path, it will take an average speed of 49% for the variables to revert back to the equilibrium within the shortest possible time. Approximately 61% of disequilibria from the previous year's shock converge back to the long run equilibrium in the current year. All the variables of the study were found to be significant at 5% probability level

Diagnostic Tests

Table 5: Diagnostic Test results

Test	Null Hypothesis	Linear(Symmetric effect)		Non-linear(Asymmetric effect)	
		F-Statistics	Prob	F-Statistics	Prob
Heteroskedasticity	No Heteroscedasticity	1.942947	0.1446	0.166114	0.9964
Serial Correlation	No Serial Autocorrelation	1.355663	0.3013	1.009454	0.4621
Ramsey Reset	No Misspecification	0.329352	0.7269	0.065673	0.8012
Normality (Jarque-Bera)	There is normal Dist.	0.388247	0.8236	0.388247	0.8236

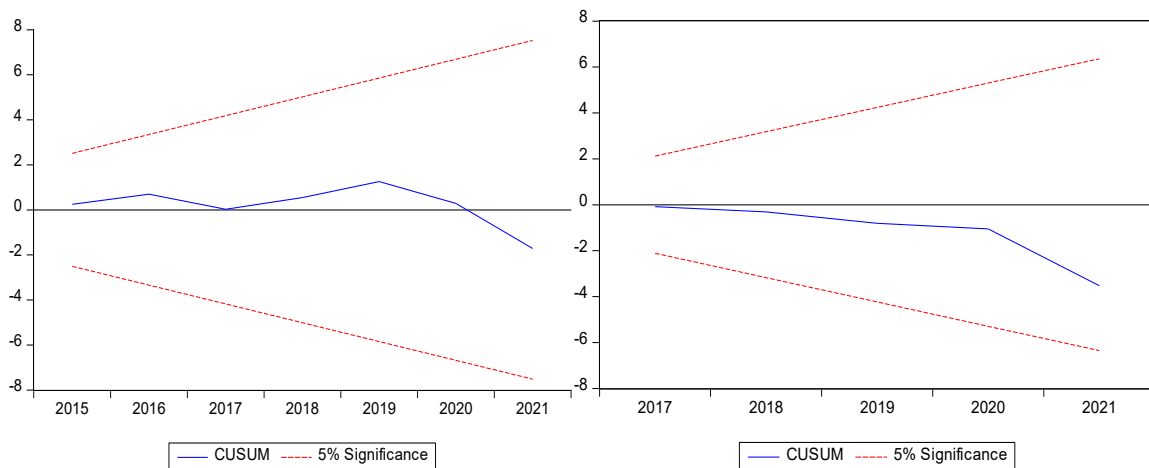
Source: Extracted from EViews

For the symmetric effect, the result of Breusch-Pagan-Godfrey Heteroskedasticity Test in table 5 revealed absence of heteroskedasticity in the model implying that the variables are homoscedastic as justify by the probability values of both F-statistic and observed R-Square which are greater than the critical value of 0.05. Therefore, the null hypotheses are accepted which implies that there is no co-variance of the error term with the explanatory

variables. The null hypothesis is that there is no serial correlation in the residuals up to a specified lag order. The above results show that the null hypothesis cannot be rejected because the p-value is greater than the 5% significance level. Thus, the model does not suffer from serial correlation. Results of the Ramsey regression equation specification error test shows that the relationship among the variables were correctly specified given that the probability value of 0.7269 for F-statistic is greater than the 0.05 threshold. With a high probability value 0.82 for Jarque-Bera statistic, it indicates that the model captures the main patters and sources of variation in data, and the errors are random independent.

For the asymmetric effect, the result of the heteroskedasticity test in table 5 unveil that the probability values of the F-statistic (0.9964), the observed R-squared (0.9569) and the Scaled explained SS (1.0000) are more than 0.05; this implies that the model is homoscedastic. The outcome of the Ramsey test clearly reveals that the model is correctly specified. This is because the probability values of 0.8012 for t- statistic and 0.8012 for F-statistic are greater than 0.05 threshold. This means the model has no specification error. A check for serial correlation was further examines as presented underneath. The result show that the residuals are not serially correlated. This implies that the outcome is free from autocorrelation problem. The asymmetric result also it indicates that the model captures the main patters and sources of variation in data, and the errors are random independent given the probability value of 0.82 just like in the linear model.

The CUSUM test was conducted to check if the model is stable and the outcome is



Conclusion and recommendations

The symmetric result showed that sustainable development positively responds to political stability in Nigeria both in the long run and short run. The asymmetric estimates indicated that sustainable development significantly increased due to positive shock in political stability in the long run in contrast to the short run. While negative changes in political stability has negative effect on sustainable development both in the long run and short run. The study theretofore, concluded that political stability triggers sustainable development in Nigeria during the study period. Based on the findings, the study recommended that policymakers should prioritize political stability, enhance economic management, adopt long-term planning approaches, invest in conflict prevention and resolution, and promote further research and data collection to inform evidence-based policy formulation. Through

concerted efforts in these areas, Nigeria can strengthen its capacity for sustainable development and improve the well-being of its citizens in the face of persistent challenges posed by political instability.

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