ASSESSING GOVERNANCE PERFORMANCE IN AFRICAN COUNTRIES IN THE 21st CENTURY

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ABSTRACT

In this paper, a governance performance framework was developed to evaluate how effective or ineffective African countries were in terms of governance in the first two decades of the 21st century. We utilized the World Bank's scores for the six governance indicators to construct a unique K-shaped governance performance curve in which the upward sloping segment depicts functionally effective governance performance, and the downward sloping segment depicts functionally ineffective governance performance. Using the difference-in-difference estimator to assess each country's transition in the governance performance pathway, the results show that very few African countries experienced minor improvements in transition while governance performance worsened and/or remained unchanged in an overwhelming majority of African countries. The results indicate the need for African leaders and policymakers to focus on rebuilding and strengthening their political, economic, and social institutions, which are fundamental for achieving successful transition into the functionally effective governance performance pathway needed to achieve their Agenda 2063.

Keywords: Governance Indicators, Performance Pathways, Effective, Ineffective, Africa
JEL classification: C40, G38, H11, O10, O49

1. Introduction

The broad sets of relatively specific policy[1] recommendations, which Williamson (1990, 2000) codified as the Washington Consensus advice, inspired a wave of policy reforms in developing countries in Latin America and sub-Saharan Africa during the 1990s. These policy prescriptions fundamentally transformed the policy landscape in many developing countries; and despite the implementation of these policies, the governance of economic, political, and social institutions in African countries still remained weak with poor development outcomes relative to other less developed countries.

The research questions are: Do African leaders and policymakers know whether their current governance practices are functionally effective or ineffective? For those African countries plagued with dysfunctional governance practices, is there data evidence of transition to effective governance practices in the 21st century? What governance indicators can research scholars and policy experts utilize to educate African leaders and policymakers about the position of their countries on the governance performance pathways and the level of transition achieved within and across the governance performance pathways in the first two decades of the 21st century during which the African Union launched Agenda 2063?

This paper makes two major contributions to the literature with respect to the relationship between governance and economic growth. First, a novel K-shaped governance performance curve is constructed, based on scores of the six World Governance Indicators provided by the World Bank (2021). The intention is to provide graphic illustration of the relative position of each African country in terms of governance quality in the first two decades of the 21st century. The upward sloping segment of the curve consists of three zones: good, better, and excellent governance zones, which conceptually depict the functionally effective governance performance pathway. In contrast, the downward sloping segment of the K-curve consists of three governance zones: bad, worse, and worst governance, which depict functionally ineffective governance performance. Second, to the best of our knowledge, this is the first

[1] The Washington Consensus as codified by Williamson included: fiscal policy discipline, primary health care, tax reform, interest rates, exchange rates, liberalization of inward foreign direct investment, trade liberalization, privatization of state enterprises, deregulation, and legal security or enforcement of property right.

study to use the difference-in-difference estimator to assess governance performance in 54 African countries and to show how these countries may have transitioned within and across the functionally effective and functionally ineffective governance performance pathways in the first two decades of the 21st century.

The results show that some African countries are located in both the functionally effective and functionally ineffective governance pathways with minor improvements in transition within and across the zones. The results also show that the overwhelming majority of African countries are located in the downward sloping segment of the K-shaped governance performance curve. This means that African countries continued to be afflicted with ineffective or dysfunctional governance with the very few exceptions being Botswana and Mauritius, which consistently stayed on the functionally effective governance performance pathway as depicted by the six governance indicators. Cabo Verde and South Africa also stayed on the functionally effective governance performance pathway in five out of the six governance indicators. Importantly, having 50 African countries on the functionally ineffective governance pathway does not bode well for Africa's Agenda 2063 regarding the transformation of Africa into the global powerhouse of the future.

The rest of this paper is organized as follows. In section 2, we provide a review of studies that examine the relationship between governance and economic growth. Section 3 provides the conceptual framework underpinning the K-shaped governance performance curve. Section 4 contains the methodology. Section 5 provides the discussion of the empirical results. The paper concludes in section 6 with some implications for governance reforms and policy recommendation.

2. Literature Review

The emergence of governance matters, which Kaufmann, Kraay, Zoido-Lobatón, and Mastruzzi developed and quantified in the late 1990s and early 2000s, has changed how growth theorists now explain economic growth and development outcomes in less-developed countries. Kaufmann, Kraay, and Zoido-Lobatón (1999a, 1999b) used a large sample of countries to document the strong positive association between each of the six aggregate governance

indicators capturing various dimensions of governance and three development outcomes (measured by per capita income, infant mortality, and adult literacy) to answer their question about how much governance matters for development outcomes. Their study used a series of cross-sectional parsimonious regressions of per capita income, infant mortality, and adult literacy on each of the six governance indictors and they found that improvements in governance have a very large payoff in terms of development outcomes. Over the past two decades, the significance of good governance in economic growth and development outcomes has gained attention. Thus, studies such as Olson, Sarna and Swany (2000), Amdt and Oman (2006), Dixit (2009), Ahlerup, Baskaran and Bigsten (2016), and Ekpo (2021), and others have emphasized the importance of better governance performance in the formulation and implementation of successful economic policies.

According to Arulrajah (2016), good governance entails eight major characteristics that are important for organizational sustainability. The eight characteristics include participation by both men and women, consensus orientation, accountability, transparency, responsiveness, effectiveness and efficiency, equity and inclusiveness, and following the rule of law. Ang (2017) used China as an illustrative example to argue that good governance may not be necessary for economic growth. Ang (2017) argued that countries should start with what they have, not with what they want, and that they should not blindly import global best practices, which may be counterproductive in achieving good governance. According to Ang (2017), institutional changes considered to be weak or wrong in China from 1978 to 2014 led to the building of its emerging markets, which culminated in the stimulation of strong institutions necessary to preserve its markets.

The United Nations Department of Economic and Social Affairs (UNDESA, 2007) also emphasized the strong correlation between good governance and economic growth and better development outcomes in its detailed review of the literature about public governance indicators. UNDESA's study provided different definitions of governance, what constitutes "good" governance, why it is necessary to evaluate governance, and how to conduct the evaluation of governance. According to UNDESA (2007), there exist many definitions of governance in the literature due to the inherent diversity in national traditions and public culture, but these can be distilled into

just three main types of governance, which Nzongola-Ntalaja's (2002) study laid out as political or public governanc**e,** considered to be fundamental to governing political institutions; economic governance, needed for governing economic institutions; and social governance, necessary for governing social institutions.

According to UNDESA, for political or public governance, the authority is the State, government, or the public sector, which relates to the process by which a society organizes its affairs and manages itself. For economic governance, the authority is enhanced by the private sector, which relates to the policies, the processes or organizational mechanisms that are necessary to produce and distribute goods and services. For social governance, the authority comes from the civil society, including citizens and non-for-profit organizations, and is related to a system of values and beliefs that are necessary for social behaviours to happen and for public decisions to be taken. According to Dixit (2009), "economic governance is important because markets, and economic activity and transactions more generally, cannot function well in its absence. Good governance is needed to secure three essential prerequisites of market economies," especially with respect to the security of property rights, the enforcement of contracts, and collective action.

Based on UNDESA's definition of political or public governance, its effectiveness can be evaluated using two governance indicators: voice and accountability and political stability and absence of violence/terrorism, while the effectiveness of economic governance can be evaluated with two other governance indicators, namely government effectiveness and regulatory quality. For social governance, its effectiveness can be evaluated by two governance indicators: the rule of law and the control of corruption. According to UNDESA (2007), governance is "good" when it allocates and manages resources in response to collective problems. In other words, good public governance is the necessary foundation for good corporate governance when viewed from the perspective of allocative and management efficiencies, which would ensure stable and successful economies. In addition, UNDESA (2007) pointed out that the evaluations and the instruments used to conduct the evaluations of good governance are crucial not only for the strong positive association with better development outcomes, but also good governance can

convey good signals to domestic investors, international agencies, and external donors.

Another important aspect of UNDESA's (2007) study is the focus on information and communications technology (ICT) in the information age. According to UNDESA, the use of ICT can improve the ability of government, using e-governance, to address the needs of society through "improved dissemination of information to citizens, better coordination of the strategic planning process, and facilitating the attainment of development goals." In addressing the impact of globalization on public governance, UNDESA (2007) pointed out that "globalization has made public policies more global [Mimicopoulos 2006] and transformed the supply of services in developed countries, with more and more private services replacing state-supplied services (Cheema, 2005)."

As the governance theory with respect to economic growth and development was gaining momentum in the 1990s, Ndulu and O'Connell (1999) used a political economy approach to argue that Africa countries' economic growth record reflected a groping towards satisfactory modes of national governance under objectively difficult political and social circumstances since these countries gained independence in the 1960s and 1970s. According to Ndulu and O'Connell (1999: p. 60), "Governance affects long-term growth not only through policy distortions and transactions costs, but via capacity to handle external economic shocks as they occur." Since the late 1990s, many studies have examined the issue of governance and growth in African countries from different perspectives. Some studies have used panel data within the generalized methods of moments (GMM) framework to analyse the relationship between governance quality [proxied by the six World Governance Indicators[2] (WGIs) provided by the World Bank] and economic growth in sub-Saharan Africa (SSA). The results vary significantly across SSA countries.

For instance, Orayo and Mose (2016) used panel data covering the 1999-2013 period to examine the relationship between good governance and economic growth in countries in the East Africa Community. The study

[2] See Governance Matters III, IV, V, and VIII by Kaufmann, Kraay, and Mastruzzi (2003, 2005, 2006, 2009).

showed political stability and regulatory quality to be negatively related to economic growth and thus the authors called for more effective regulation on both public and private enterprises or institutions. Using panel data covering 27 sub-Saharan African countries over the 1996-2014 period, Jeleta and Takyii (2017) examined the relationship between institutional quality and economic growth and found a long-run relationship between institutional quality and economic growth, thus the recommendation to enhance institutional quality in SSA countries. Similarly, Salawu et al. (2018) employed panel data covering the 1996-2016 period to examine the impact of governance on economic growth in Ghana, Nigeria, and South Africa. Empirical results from the study show that governance had a positive effect on economic growth in Ghana and South Africa because the two countries have better governance performances compared to Nigeria, and that the relationship is negative because of bad governance in Nigeria.

Afolabi (2019) utilized the data for the six WGIs covering the 2002-2016 period for West African countries in a generalized methods of moments model to show that voice and accountability, political stability, government effectiveness, and rule of law are positively related to development; and that "in the long-run, all governance indicators are directly related to development in West African countries, with political stability and regulatory quality having the largest impact." Fayissa and Nsiah (2013) investigated the role of governance in explaining the sub-optimal economic growth performance of African economies while controlling for the conventional sources of growth; and their results suggest that good governance or lack thereof contributes to the gaps in income per capita between richer and poorer African countries. In addition, their results indicate that the role of governance on economic growth depends on the type and the level of income growth of countries under consideration.

Adzima and Baita (2019) also examined the impact of governance on economic growth in SSA countries, and they found that governance positively influenced economic growth in SSA countries, thus their recommendation that "effective governance and the rule of law should be strengthened to improve the performance of governance on economic growth." In related studies, Ekpo (2016a, 2016b) examined the relationship between governance, growth, and development in SSA countries using panel data. According to Ekpo (2021),

government effectiveness, regulatory quality, and the rule of law are negatively related to growth while voice and accountability as well as political stability have statistically significant positive impact on growth. Ekpo (2021) distinguished between growth and development by emphasizing that "regulatory quality, size of government, political stability, and government effectiveness are positively linked to development but not growth," hence the call for improvement in governance quality in SSA countries. According to Hammadi et al. (2019), SSA countries tend to lag behind countries in most other regions of the world in terms of governance, and perceptions of corruption and weak governance undermine economic performance through various channels, including deficiencies in government functions and distortions to economic incentives. They recommended that SSA countries could strengthen their economic performance by improving governance and reducing corruption, which could be associated with large growth dividends in the long run (Habtamu, 2008; Alonso and Garcimartin, 2013; Egharevba, 2017; and Beyene, 2022).

3. Conceptual Framework

As the literature reveals, the relationship between governance and economic growth varies across SSA countries; therefore, a one-size-fits-all policy prescription about governance reforms would be counterproductive. For effective governance policy intervention, it is important to identify measures of governance indicators since they affect economic growth in each country. Thus the goal of this study is to construct a governance performance curve that can be used to assess governance performance in each African country and also pinpoint each country's relative location on the governance performance curve over the 2000-2020 period. We use the six World Governance Indicators (WGIs) provided by the World Bank (2021) – voice and accountability (VA), political instability and absence of violence/terrorism (PV), government effectiveness (GE), regulatory quality (RQ), rule of law (RL), and control of corruption (CC) – to construct the unique K-shaped governance performance curve.

Generally, the scores for these six governance indicators range from 0 to 2.5 for the upper bound and 0 to –2.5 for the lower bound. For the positive upper bound scores, which reflect the upward sloping segment of the K-curve,

we divide this section into three transition zones consisting of good governance (G1), better governance (G2), and excellent governance (G3). Conceptually, this is the functionally effective governance (FEG) pathway with three transition zones, which countries must pass through if they hope to achieve sustainable economic growth and better development outcomes. For the negative lower bound scores, which comprise the downward sloping segment of the K-shaped performance curve, we also divide this section into three transition zones made up of bad governance (B1), worse governance (B2), and worst governance (B3). Schematically, this is the functionally ineffective governance (FIG) performance pathway, which will ultimately lead countries to experience anaemic economic growth and poor development outcomes.

With respect to the FEG pathway, the G1 zone ranges between 0 and 0.83, the G2 zone ranges between 0.84 and 1.66, and the G3 zone ranges between 1.67 and 2.5 scores. For the FIG pathway, the B1 zone ranges between 0 and -0.83, the B2 zone ranges between -0.84 and -1.66, and the B3 zone ranges between -1.67 and -2.5 scores. Achieving functionally effective governance requires time and resources and is also dependent on the country's political and social history; therefore, one should not expect African countries to leapfrog into any of the three zones along the FIG and FEG pathways. In other words, it takes time for any country to demonstrate effective governance; therefore, in the construction of the K-shaped governance performance curve, we take the pre-2000 period as the years of learning about what it means to have effective governance. These two distinct governance performance pathways provide the mechanism by which we can view and gauge governance performance in 54 African countries over the 2000-2020 period. In Figure 1, t_0 = 2000 is the beginning of the 21st century, viewed as the take-off or transition period into the FEG and/or the FIG pathway. Therefore, 2000 is the transition starting point for all African countries because studies such as Ndulu and O'Connell (1999) started the analysis of governance and growth in sub-Saharan Africa when the theory of governance was gaining momentum. Given the momentum of the governance theory and that the time required to learn about good governance and the socio-political history of Africa may continue into the first decade of the 21st century, we expect African countries in the FIG pathway in the first decade will learn and plan to transition into the FEG pathway in the second decade.

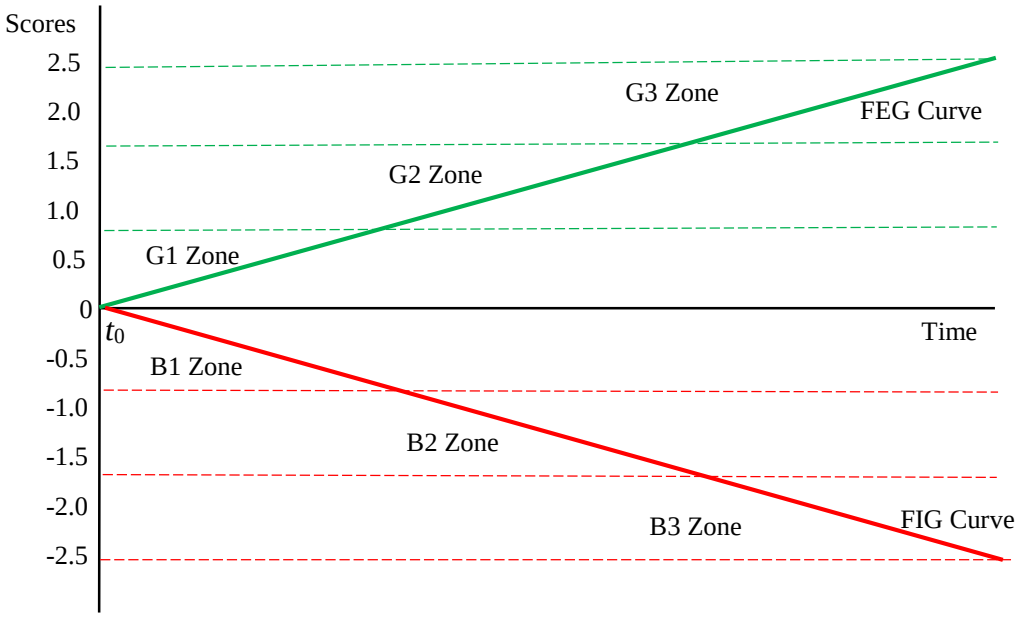

Figure 1. Governance Performance Pathways in the 21st Century

Source: Constructed by the authors using the scores for the WGIs – World Bank (2021).

In this graphic illustration, the main issue is the level of improvements or lack thereof while in the FIG and FEG pathways. This is an important issue for analysis because the expectation is that African countries in the G1 zone of the FEG pathway in the first decade of the 21st century would strive to transition into the G2 and G3 zones during the second decade of the century and thereafter. Similarly, those African countries that started initially in the B1, B2, and B3 zones in the FIG pathway would aspire to transition into the FEG pathway in the second decade and thereafter. For both the FEG and FIG pathways, we expect to find African countries where the governance performance actually improved, worsened, or remained unchanged in the second decade (2011-2020) of the 21st century. The questions are: In which zones along the FEG and FIG pathways are the 54 African countries located? And how many African countries actually experienced improvements in governance performance while in the FIG and FEG pathways?

4. Methodology

To answer these and the other research questions posed earlier, we use the difference-in-difference estimator technique, which is commonly employed in economics and other social sciences as the summary statistics in meta-analysis when measuring outcomes made on the same scale of variables, before and after.[3] The WGIs compiled by the World Bank since 1996 provide adequate data with which to measure the level of governance performance outcomes for each African country while in the FEG and FIG pathways. For simplicity and comprehension, we denote the first and second decades of the 21st century in the equations in subscript as 1*stD* and 2*ndD*, respectively; therefore, the governance performance outcomes between the two decades for each African country can be written as:

$$DID = \overline{WGI}_{2ndD} - \overline{WGI}_{1stD} \gtreqless 0 \text{ or } DID = \overline{WGI}_{2ndD} - \overline{WGI}_{1stD} \lessgtr 0$$
$$= \Delta\overline{WGI} \gtreqless 0 \text{ or } \Delta\overline{WGI} \lessgtr 0 \quad (1)$$

where: $\overline{WGI}$ and $\Delta\overline{WGI}$ represent the average and the change or the difference in the average of each one of the six governance indicators (*VA*, *PV*, *GE*, *RQ*, *RL*, and *CC*) over the two decades.

Next, to determine statistically the outcomes with respect to each African country while in the FEG and/or the FIG pathway, we express *DID* in equation (1) in six separate sets of null hypotheses (H_0) and the alternative hypotheses (H_A) as:

$$H_0: \overline{VA}_{2ndD} > \overline{VA}_{1stD} \text{ versus } H_A: \overline{VA}_{2ndD} \leq \overline{VA}_{1stD} \quad (2)$$

$$H_0: \overline{PV}_{2ndD} > \overline{PV}_{1stD} \text{ versus } H_A: \overline{PV}_{2ndD} \leq \overline{PV}_{1stD} \quad (3)$$

$$H_0: \overline{GE}_{2nD} > \overline{GE}_{1stD} \text{ versus } H_A: \overline{GE}_{2ndD} \leq \overline{GE}_{1stD} \quad (4)$$

$$H_0: \overline{RQ}_{2ndD} > \overline{RQ}_{1stD} \text{ versus } H_A: \overline{RQ}_{2ndD} \leq \overline{RQ}_{1stD} \quad (5)$$

[3] For more about the difference-in-difference or the difference-in-means method, see Athey and Imbens (2006, 2017), Stock and Watson (2019), Wooldridge (2016), and Bertrand, Duflo and Mullainathan (2004).

$$H_0: \ \overline{RL}_{2ndD} > \overline{RL}_{1stD} \ \text{versus} \ H_A: \ \overline{RL}_{2ndD} \leq \overline{RL}_{1stD} \tag{6}$$

and $$H_0: \ \overline{CC}_{2ndD} > \overline{CC}_{1stD} \ \text{versus} \ H_A: \ \overline{CC}_{2ndD} \leq \overline{CC}_{1stD} \tag{7}$$

Interpretatively, the six H_0 expressed in equations (2) – (7) suggest that each African country achieved a higher level of functionally effective governance performance in the second decade than it did in the first decade of the 21st century while the H_A implies that governance performance in each African country in the second decade was equal to or less than in the first decade of the 21st century.

To test the differences in both periods, we let WGI_{1stD} and WGI_{2ndD} represent each of the six governance indicators as expressed in the H_0 and H_A hypotheses, ΣWGI_{1stD} and ΣWGI_{2ndD} are the sums of each of the six governance indicators while $\overline{WGI}_{1stD} = \Sigma WGI_{1stD}/N_{1stD}$ and $\overline{WGI}_{2ndD} = \Sigma WGI_{2ndD}/N_{2ndD}$ are the means for the 2000-2010 and 2011-2020 periods, respectively. Furthermore, the difference in means for both periods is $D = \overline{WGI}_{2ndD} - \overline{WGI}_{1stD}$ while D^2 and ΣD^2 are the square difference in means and the sum of the square difference in means, respectively. To make comparisons between the periods, we estimate the standard deviation (S_D) and standard error ($S_{\bar{D}}$) for each of the 54 African countries in the sample expressed as:

$$S_D = \sqrt{\frac{1}{N}\sum D^2 - \left(\Delta\overline{WGI}\right)^2} \tag{8}$$

$$S_{\bar{D}} = \frac{S_D}{\sqrt{N-1}} \tag{9}$$

$$t = \frac{\Delta\overline{WGI}}{S_{\bar{D}}} \tag{10}$$

and $$df = N - 1 \tag{11}$$

where: t is the estimated value with which to confirm or reject the H_0 if the estimated values of the t-statistics are less than or greater than the table values, df is the degree of freedom while N stands for each decade covering 2000-2020, and $\Delta\overline{WGI}$ (or $\overline{WGI}_{2ndD} - \overline{WGI}_{1stD}$) is as defined earlier, that is, the mean difference between the 2011-2020 and 2000-2010 period for each governance indicator.

If we confirm or fail to reject any of the six null hypotheses (H_0) expressed in (2) – (7), that means each of the 54 African countries would be considered to have transitioned to the functionally effective governance performance pathway during the 2011-2020 period of the 21st century. In contrast, if we reject each of the six H_0 in favour of H_A, then we can conclude that African countries did not transition to the effective public governance performance pathway in the 21st century.

5. Estimated Results and Discussion

We use the data for the six World Governance Indicators (WGIs) provided by the World Bank (2021) to evaluate how African countries transitioned into effective or ineffective governance performance pathways with respect to political governance, economic governance, and social governance. In this regard, the estimated results for the H_0 and H_A hypotheses reported in Tables 1 and 2, in Tables 3 and 4, and in Tables 5 and 6 provide the evaluations of the transitions of each of the 54 African countries into effective political or public governance, economic governance, and social governance respectively. Based on the results reported in Table 1, we fail to reject the null hypotheses with respect to voice and accountability (*VA*) in 15 countries (Angola, Burkina Faso, Cabo Verde, Côte d'Ivoire, Ghana, Lesotho, Liberia, Libya, Malawi, Namibia, Nigeria, Rwanda, Togo, Tunisia, and Zimbabwe), which showed statistically significant minor improvements in transition in different zones of the FEG and FIG pathways. For example, Ghana and Namibia showed slight improvements in transition within the G1 zone, Cabo Verde transitioned from G1 into G2, while Tunisia transitioned from the B2 zone into the G1 zone.

In contrast, we reject the H_0 in favour of H_A in 9 countries (Botswana, Central African Republic, Djibouti, Equatorial Guinea, Gabon, Guinea, Mali, Mozambique, and South Sudan) where the transitions further worsened while in the FIG pathway. Among these 9 African countries where transitions worsened, Guinea transitioned from the G2 zone along the FEG pathway into the B2 zone in the FIG pathway while Mali transitioned from the G1 zone to the B1 zone, and Botswana transitioned downward within the G1 zone while still in the FEG pathway. The remaining 30 African countries demonstrated statistically insignificant transition while in different zones of the FIG pathway.

With respect to political stability and absence of violence (*PV*) reported in Table 2, we fail to reject H_0 in 11 countries (Algeria, Angola, Chad, Côte d'Ivoire, Guinea, Liberia, Rwanda, Senegal, Sierra Leone, Uganda, and Zimbabwe) because they showed statistically significant minor improvements in transition from the B2 zone to the B1 zone while in the FIG pathway. In contrast, we reject the H_0 in favour of H_A in 14 countries where the transitions worsened. While Benin transitioned to the lowest level within the G1 zone in the FEG pathway, Cameroon, Gambia, Libya, Mali, and Mozambique transitioned from the G1 zone into different zones in the FIG pathway; and at the same time, Burkina Faso, Central African Republic, Egypt, Eswatini, Gabon, Malawi, Mali, Mauritania, and Niger transitioned into different zones in the FIG pathway. Regarding the *PV* governance indicator, 29 African countries did not transition or demonstrate statistically significant transition from one zone to another in the FIG pathway.

For government effectiveness (*GE*) reported in Table 3, we fail to reject the H_0 in seven countries because they showed statistically significant minor improvements in transition. For example, while Kenya and Zambia experienced improved transition within the B1 zone, Togo's transition improved within the B2 zone, and Côte d'Ivoire transitioned from B2 to B1. While Seychelles transitioned within the G1 zone, Mauritius transitioned from G1 into G2, and Rwanda transitioned from the B1 zone into the G1 zone. In contrast, we reject the H_0 in favour of H_A in 17 countries (Botswana, Central African Republic, Egypt, Eritrea, Ghana, Guinea Bissau, Lesotho, Libya, Madagascar, Mali, Mozambique, South Africa, South Sudan, Sudan, Tanzania, Tunisia, and Uganda) where the results showed statistically significant worsened transitions. These countries showed patterns of transition similar to what we explained for *VA*. Similar to the *VA* governance indicator, another group of 30 African countries did not transition and the overwhelming majority of these countries remained in different zones within the FIG pathway.

Table 1. Voice and Accountability (*VA*) in African Countries in the 21st Century

	Country	$\overline{VA}_{2ndD}$	S^2_{2ndD}	$\overline{VA}_{1stD}$	S^2_{1stD}	$\Delta\overline{VA}$	*t*-value
1.	Algeria	–0.94	0.01	–0.97	0.03	0.03	1.09
2.	Angola	–1.04	0.01	–1.23	0.02	0.19	5.79*
3.	Benin	0.21	0.02	0.24	0.02	–0.03	–0.49
4.	Botswana	0.46	0.00	0.58	0.01	–0.12	–3.12*
5.	Burkina Faso	–0.16	0.01	–0.33	0.01	0.17	3.57*
6.	Burundi	–1.31	0.11	–0.95	0.09	–0.36	–1.87
7.	Cabo Verde	0.96	0.00	0.76	0.03	0.29	4.31*
8.	Cameroon	–1.06	0.01	–1.05	0.00	–0.01	–0.48
9.	Central African Republic	–1.23	0.02	–1.04	0.03	–0.19	–5.26*
10.	Chad	–1.38	0.00	–1.26	0.04	–0.13	–2.04
11.	Comoros	–0.44	0.03	–0.48	0.05	0.04	0.33
12.	Congo, Democratic Republic	–1.40	0.01	–1.48	0.03	0.08	1.15
13.	Congo, Republic of the	–1.15	0.01	–1.09	0.03	–0.06	–0.89
14.	Côte d'Ivoire	–0.51	0.08	– 1.14	0.01	0.63	5.55*
15.	Djibouti	–1.41	0.00	–1.03	0.05	–0.38	–5.11*
16.	Egypt	–1.20	0.04	–1.09	0.01	–0.11	–1.78
17.	Equatorial Guinea	–1.92	0.00	–1.75	0.01	–0.17	– 3.69*
18.	Eritrea	–2.16	0.00	–2.01	0.05	–0.15	–1.87
19.	Eswatini (former Swaziland)	–1.35	0.00	–1.39	0.01	0.04	0.95
20.	Ethiopia	–1.26	0.02	–0.92	0.01	–0.92	–0.92
21.	Gabon	–0.94	0.01	–0.78	0.03	–0.16	–3.86*
22.	Gambia, The	–0.89	0.28	–0.86	0.04	–0.03	–0.17
23.	Ghana	0.52	0.00	0.30	0.04	0.22	5.25*
24.	Guinea	–0.86	0.01	1.22	0.02	0.36	–5.37*
25.	Guinea-Bissau	–0.82	0.09	–0.73	0.02	–0.09	–0.98
26.	Kenya	–0.24	0.01	–0.34	0.05	0.10	1.64
27.	Lesotho	0.04	0.01	–0.08	0.02	0.12	2.29*
28.	Liberia	–0.17	0.02	–0.63	0.31	0.46	3.36*
29.	Libya	–1.32	0.06	–1.86	0.01	0.54	7.77*
30.	Madagascar	–0.49	0.07	–0.24	0.11	–0.25	–1.46

	Country	$\overline{VA}_{2ndD}$	S^2_{2ndD}	$\overline{VA}_{1stD}$	S^2_{1stD}	$\Delta\overline{VA}$	*t*-value
31.	Malawi	–0.09	0.01	–0.33	0.03	0.24	3.96*
32.	Mali	–0.29	0.05	0.20	0.01	–0.49	–5.35*
33.	Mauritania	–0.86	0.00	–0.87	0.02	0.01	0.13
34.	Mauritius	0.83	0.00	0.86	0.00	–0.03	–0.92
35.	Morocco	–0.65	0.00	–0.65	0.02	0.00	–0.06
36.	Mozambique	–0.36	0.02	–0.09	0.01	–0.27	–4.89*
37.	Namibia	0.50	0.01	0.35	0.01	0.15	5.25*
38.	Niger	–0.38	0.02	–0.35	0.04	–0.03	–0.69
39.	Nigeria	–0.51	0.03	–0.72	0.01	0.21	2.67*
40.	Rwanda	–1.16	0.01	–1.33	0.01	0.17	7.29*
41.	Sao Tome and Principe	0.27	0.01	0.24	0.03	0.03	0.50
42.	Senegal	0.18	0.03	0.02	0.06	0.16	1.38
43.	Seychelles	0.15	0.02	0.10	0.01	0.05	0.67
44.	Sierra Leone	–0.22	0.01	–0.42	0.12	0.20	1.85
45.	Somalia	–1.97	0.02	–1.81	0.02	–0.16	–1.70
46.	South Africa	0.64	0.00	0.65	0.00	–0.01	–0.25
47.	South Sudan‡	–1.88	0.01	–1.42	0.04	–0.49	–6.01*
48.	Sudan	–1.74	0.02	–1.68	0.00	–0.06	–1.31
49.	Tanzania	–0.30	0.03	–0.30	0.02	0.00	–0.02
50.	Togo	–0.77	0.02	–1.13	0.02	0.56	7.72*
51.	Tunisia	0.10	0.05	–1.13	0.06	1.23	8.92*
52.	Uganda	–0.60	0.00	–0.64	0.04	0.04	0.57
53.	Zambia	–0.23	0.02	–0.31	0.01	0.08	1.22
54.	Zimbabwe	–1.25	0.02	–1.48	0.03	0.23	2.55*
	Africa	–0.63	0.00	–0.66	0.00	0.03	3.09*

Source: Authors' estimated results using the World Bank's (2021) data on *VA*.

Table 2. Political Stability and Absence of Violence (*PV*) in African Countries in the 21st Century

	Country	$\overline{PV}_{2ndD}$	S^2_{2ndD}	$\overline{PV}_{1stD}$	S^2_{1stD}	$\Delta\overline{PV}$	*t*-value
1.	Algeria	–1.15	0.03	–1.29	0.07	0.20	3.20*
2.	Angola	–0.38	0.01	–0.87	0.33	–0.06	2.67*
3.	Benin	0.01	0.07	0.50	0.04	–0.49	–10.02*

	Country	$\overline{PV}_{2ndD}$	S^2_{2ndD}	$\overline{PV}_{1stD}$	S^2_{1stD}	$\Delta\overline{PV}$	*t*-value
4.	Botswana	1.04	0.00	1.09	0.01	0.04	1.23
5.	Burkina Faso	–0.89	0.09	0.02	0.03	–0.91	–7.70*
6.	Burundi	–1.62	0.14	–1.79	0.19	0.17	0.74
7.	Cabo Verde	0.78	0.03	0.90	0.02	–0.12	–1.38
8.	Cameroon	–1.05	0.14	0.02	0.03	–0.60	–4.70*
9.	Central African Republic	–2.07	0.07	–1.67	0.08	–0.40	–3.31*
10.	Chad	–1.27	0.03	–1.60	0.06	0.33	4.11*
11.	Comoros	–0.24	0.04	–0.47	0.23	0.23	1.25
12.	Congo, Democratic Republic	–2.10	0.04	–2.16	0.03	0.06	0.83
13.	Congo, Republic of the	–0.54	0.04	–0.90	0.17	0.36	2.02
14.	Côte d'Ivoire	–1.04	0.03	–1.78	0.10	0.74	5.41*
15.	Djibouti	–0.31	0.12	–0.20	0.20	–0.11	–0.63
16.	Egypt	–1.39	0.04	–0.59	0.07	–0.80	–7.72*
17.	Equatorial Guinea	–0.09	0. 04	0.03	0.08	–0.12	–0.93
18.	Eritrea	–0.76	0.01	–0.74	0.04	–0.02	–0.30
19.	Eswatini (former Swaziland)	–0.39	0.01	–0.06	0.03	–0.33	–5.88*
20.	Ethiopia	–1.49	0.03	–1.51	0.08	0.02	0.23
21.	Gabon	0.05	0.05	0.33	0.02	–0.28	–5.89*
22.	Gambia, The	–0.04	0.03	0.23	0.07	–0.27	–3.03*
23.	Ghana	0.04	0.01	–0.03	0.02	0.07	1.02
24.	Guinea	–0.87	0.12	–1.65	0.28	0.78	3.55*
25.	Guinea-Bissau	–0.66	0.03	–0.55	0.02	–0.11	–1.63
26.	Kenya	–1.26	0.01	–1.23	0.01	0.02	0.36
27.	Lesotho	–0.09	0.09	0.06	0.07	–0.15	–1.07
28.	Liberia	–0.45	0.03	–1.44	0.28	0.99	6.11*
29.	Libya	–2.14	0.18	0.33	0.15	–2.47	–10.09*
30.	Madagascar	–0.48	0.02	–0.11	0.24	–0.37	–2.03
31.	Malawi	–0.15	0.03	0.02	0.02	–0.17	–2.67*
32.	Mali	–1.78	0.18	0.21	0.04	–1.99	–15.62*
33.	Mauritania	–0.78	0.06	–0.23	0.25	–0.55	–2.55*
34.	Mauritius	0.91	0.01	0.88	0.02	0.03	0.56
35.	Morocco	–0.39	0.00	–0.39	0.02	0.00	0.08
36.	Mozambique	–0.51	0.30	0.27	0.05	–0.78	–3.35*
37.	Namibia	0.74	0.02	0.64	0.19	0.10	0.55
38.	Niger	–1.25	0.05	–0.46	0.19	–0.79	–8.12*

	Country	$\overline{PV}_{2ndD}$	S^2_{2ndD}	$\overline{PV}_{1stD}$	S^2_{1stD}	$\Delta\overline{PV}$	*t*-value
39.	Nigeria	–1.99	0.01	–0.46	0.19	–0.79	–1.79
40.	Rwanda	–0.05	0.02	–0.88	0.28	0.83	6.31*
41.	Sao Tome and Principe	0.24	0.04	0.43	0.10	–0.19	–1.25
42.	Senegal	–0.11	0.01	–0.26	0.03	0.15	2.71*
43.	Seychelles	0.72	0.02	0.83	0.04	–0.11	2.14
44.	Sierra Leone	–0.14	0.01	–0.58	0.29	0.44	2.64*
45.	Somalia	–2.54	0.08	–2.82	0.19	0.28	1.28
46.	South Africa	–0.15	0.01	–0.09	0.03	–0.06	–0.75
47.	South Sudan‡	–2.41	0.02	–1.87	0.39	–0.54	–1.80
48.	Sudan	–2.11	0.08	–2.19	0.13	0.08	0.43
49.	Tanzania	–0.35	0.05	–0.39	0.10	0.04	0.34
50.	Togo	–0.50	0.11	–0.36	0.17	–0.14	–0.71
51.	Tunisia	–2.41	0.02	–1.87	0.39	–0.54	–1.80
52.	Uganda	–0.78	0.02	–1.19	0.06	0.41	7.30*
53.	Zambia	0.21	0.07	0.25	0.07	–0.04	–0.31
54.	Zimbabwe	–0.78	0.02	–1.19	0.03	0.41	6.50*
	Africa	–0.65	0.00	–0.51	0.00	–0.14	–7.26*

Source: Authors' estimated results using the World Bank's (2021) data on *PV*.

Table 3. Governance Effectiveness (*GE*) in African Countries in the 21st Century

	Country	$\overline{GE}_{2ndD}$	S^2_{2ndD}	$\overline{GE}_{1stD}$	S^2_{1stD}	$\Delta\overline{GE}$	*t*-value
1.	Algeria	–0.52	0.05	–0.59	0.02	0.07	1.65
2.	Angola	–1.09	0.01	–1.20	0.02	0.11	2.08
3.	Benin	–0.51	0.01	–0.46	0.02	–0.05	–0.74
4.	Botswana	0.42	0.01	0.57	0.01	–0.15	–4.65*
5.	Burkina Faso	–0.62	0.00	–0.60	0.01	–0.02	–0.33
6.	Burundi	–1.26	0.02	–1.24	0.02	–0.02	–0.21
7.	Cabo Verde	0.18	0.01	0.06	0.03	–0.12	1.96
8.	Cameroon	–0.83	0.02	–0.82	0.02	0.01	–0.30
9.	Central African Republic	–1.67	0.03	–1.46	0.01	–0.21	–4.16*
10.	Chad	–1.47	0.00	–1.28	0.10	–0.19	–2.21
11.	Comoros	–1.61	0.01	–1.51	0.11	–0.10	–0.92
12.	Congo, Democratic Republic	–1.60	0.01	–1.66	0.02	0.06	1.98
13.	Congo, Republic of the	–1.20	0.02	–1.24	0.00	0.04	0.85
14.	Côte d'Ivoire	–0.77	0.06	–1.13	0.03	0.36	2.91*

	Country	$\overline{GE}_{2ndD}$	S^2_{2ndD}	$\overline{GE}_{1stD}$	S^2_{1stD}	$\Delta\overline{GE}$	*t*-value
15.	Djibouti	–0.92	0.02	–0.84	0.02	–0.08	–1.23
16.	Egypt	–0.67	0.02	–0.36	0.01	–0.31	–6.48*
17.	Equatorial Guinea	–1.47	0.01	–1.53	0.03	0.06	0.80
18.	Eritrea	–1.61	0.01	–1.12	0.05	–0.49	–10.84*
19.	Eswatini (former Swaziland)	–0.60	0.01	–0.76	0.03	0.16	2.21
20.	Ethiopia	–0.57	0.02	–0.68	0.05	0.11	1.24
21.	Gabon	–0.82	0.01	–0.69	0.03	–0.13	–2.05
22.	Gambia, The	–0.68	0.01	–0.62	0.01	–0.06	–1.62
23.	Ghana	–0.15	0.01	–0.04	0.02	–0.11	–2.78*
24.	Guinea	–1.06	0.02	–1.02	0.04	–0.04	–0.44
25.	Guinea-Bissau	–1.47	0.05	–1.14	0.02	–0.33	4.93*
26.	Kenya	–0.40	0.01	–0.60	0.00	0.20	5.47*
27.	Lesotho	–0.66	0.05	–0.26	0.02	–0.40	–8.79*
28.	Liberia	–1.33	0.01	–1.39	0.03	0.06	0.94
29.	Libya	–1.70	0.05	–1.05	0.01	–0.65	–9.72*
30.	Madagascar	–1.14	0.01	–0.57	0.04	–0.57	–7.11*
31.	Malawi	–0.63	0.02	–0.61	0.03	–0.02	–0.28
32.	Mali	–0.99	0.01	–0.72	0.01	–0.27	–6.93*
33.	Mauritania	–0.84	0.03	–0.54	0.18	–0.30	–1.64
34.	Mauritius	0.93	0.01	0.66	0.02	0.27	4.41*
35.	Morocco	–0.10	0.00	–0.15	0.00	0.05	1.79
36.	Mozambique	–0.75	0.01	–0.51	0.01	–0.24	–9.05*
37.	Namibia	0.14	0.00	0.11	0.00	0.03	0.69
38.	Niger	–0.69	0.00	–0.75	0.01	0.06	1.27
39.	Nigeria	–1.04	0.00	–1.01	0.01	0.03	–0.86
40.	Rwanda	0.11	0.02	–0.45	0.11	0.56	8.25*
41.	Sao Tome and Principe	–0.70	0.00	–0.65	0.01	–0.05	–1.24
42.	Senegal	–0.33	0.03	–0.28	0.04	–0.05	–0.48
43.	Seychelles	0.42	0.01	0.10	0.00	0.32	14.63*
44.	Sierra Leone	–1.18	0.00	–1.23	0.02	0.05	1.18
45.	Somalia	–2.21	0.01	–2.11	0.06	0.10	–1.17
46.	South Africa	0.34	0.00	0.57	0.01	–0.23	–7.30*
47.	South Sudan‡	–2.42	0.00	–1.88	0.06	–0.54	–4.12*
48.	Sudan	–1.50	0.01	–1.22	0.01	–0.28	–8.52*
49.	Tanzania	–0.69	0.01	–0.46	0.01	–0.23	–14.03*
50.	Togo	–1.13	0.04	–1.42	0.02	0.29	3.38*

	Country	$\overline{GE}_{2ndD}$	S^2_{2ndD}	$\overline{GE}_{1stD}$	S^2_{1stD}	$\Delta\overline{GE}$	*t*-value
51.	Tunisia	–0.10	0.01	0.44	0.02	–0.54	–13.06*
52.	Uganda	–0.56	0.00	–0.49	0.01	–0.07	–2.57*
53.	Zambia	–0.60	0.01	–0.83	0.00	0.23	6.44*
54.	Zimbabwe	–1.24	0.01	–1.21	0.07	–0.03	–0.23
	Africa	–0.80	0.00	–0.72	0.00	–0.08	–6.58*

*Source***:** Authors' estimated results using the World Bank's (2021) data on *GE*.

Table 4. Regulatory Quality (*RQ*) in African Countries in the 21st Century

	Country	$\overline{RQ}_{2ndD}$	S^2_{2ndD}	$\overline{RQ}_{1stD}$	S^2_{1stD}	$\Delta\overline{RQ}$	*t*-value
1.	Algeria	–1.23	0.00	–0.70	0.06	–0.53	–7.79*
2.	Angola	–0.97	0.01	–1.23	0.06	0.26	3.80*
3.	Benin	–0.44	0.01	–0.42	0.02	0.26	–0.36
4.	Botswana	0.49	0.01	0.60	0.02	–0.11	–3.78*
5.	Burkina Faso	–0.32	0.01	–0.23	0.01	–0.09	–1.97
6.	Burundi	–0.89	0.01	–1.21	0.00	0.32	6.28*
7.	Cabo Verde	–0.15	0.02	–0.14	0.02	–0.01	–0.03
8.	Cameroon	–0.85	0.00	–0.80	0.01	–0.05	–1.96
9.	Central African Republic	–1.35	0.02	–1.18	0.02	–0.17	–4.68*
10.	Chad	–1.12	0.01	–1.02	0.02	–0.10	–2.77*
11.	Comoros	–1.16	0.02	–1.41	0.02	0.25	3.00*
12.	Congo, Democratic Republic	–1.43	0.01	–1.52	0.05	0.09	1.35
13.	Congo, Republic of the	–1.29	0.01	–1.18	0.01	–0.11	–2.40*
14.	Côte d'Ivoire	–0.49	0.06	–0.81	0.04	0.32	2.51*
15.	Djibouti	–0.63	0.02	–0.67	0.01	0.04	0.97
16.	Egypt	–0.58	0.24	–0.36	0.02	–0.22	–1.51
17.	Equatorial Guinea	–1.43	0.01	–1.41	0.01	–0.02	–0.43
18.	Eritrea	–2.21	0.00	–1.77	0.24	–0.44	–2.95*
19.	Eswatini (former Swaziland)	–0.54	0.01	–0.50	0.02	–0.04	–0.96
20.	Ethiopia	–1.02	0.00	–1.02	0.02	0.00	0.12
21.	Gabon	–0.77	0.02	–0.37	0.04	–0.40	–11.02*
22.	Gambia, The	–0.48	0.02	–0.42	0.01	–0.06	–1.02
23.	Ghana	–0.03	0.01	–0.12	0.03	0.09	1.14
24.	Guinea	–0.90	0.01	–1.05	0.04	0.15	1.60
25.	Guinea-Bissau	–1.21	0.00	–1.07	0.02	–0.14	–3.02*
26.	Kenya	–0.29	0.00	–0.21	0.00	–0.08	–2.20

	Country	$\overline{RQ}_{2ndD}$	S^2_{2ndD}	$\overline{RQ}_{1stD}$	S^2_{1stD}	$\Delta\overline{RQ}$	*t*-value
27.	Lesotho	–0.46	0.01	–0.57	0.14	0.11	1.78
28.	Liberia	–0.96	0.01	–1.47	0.07	0.51	5.72*
29.	Libya	–2.08	0.09	–1.35	0.07	–0.73	–4.39*
30.	Madagascar	–0.68	0.01	–0.32	0.02	–0.35	–7.34*
31.	Malawi	–0.74	0.00	–0.46	0.01	–0.28	–9.05*
32.	Mali	–0.54	0.01	–0.42	0.02	–0.12	–3.98*
33.	Mauritania	–0.76	0.01	–0.36	0.12	–0.40	–4.20*
34.	Mauritius	1.02	0.01	–0.63	0.03	0.59	6.61*
35.	Morocco	–0.17	0.00	–0.18	0.01	0.01	0.32
36.	Mozambique	–0.58	0.02	–0.46	0.02	–0.12	–2.00
37.	Namibia	–0.05	0.01	0.17	0.02	–0.22	–8.61*
38.	Niger	–0.65	0.01	–0.53	0.01	–0.12	–2.92*
39.	Nigeria	–0.81	0.01	–0.94	0.06	0.13	1.31
40.	Rwanda	0.08	0.02	–0.64	0.06	0.72	9.04*
41.	Sao Tome and Principe	–0.82	0.00	–0.72	0.02	–0.10	–2.50*
42.	Senegal	–0.14	0.00	–0.25	0.01	0.11	3.45*
43.	Seychelles	–0.22	0.01	–0.57	0.08	0.35	4.15*
44.	Sierra Leone	–0.83	0.01	–1.05	0.03	0.22	2.88*
45.	Somalia	–2.22	0.01	–2.37	0.04	0.15	2.31*
46.	South Africa	0.23	0.03	0.57	0.02	0.34	–7.33*
47.	South Sudan	–2.02	0.01	–1.60	0.01	–0.42	–6.72*
48.	Sudan	–1.51	0.01	–1.32	0.01	–0.19	–4.31*
49.	Tanzania	–0.48	0.02	–0.44	0.01	–0.04	–0.67
50.	Togo	–0.79	0.02	–0.80	0.01	0.01	0.13
51.	Tunisia	–0.37	0.01	–0.01	0.01	–0.36	–7.01*
52.	Uganda	–0.26	0.01	–0.14	0.01	–0.12	–3.47*
53.	Zambia	–0.49	0.00	–0.53	0.02	0.04	0.91
54.	Zimbabwe	–1.64	0.04	–2.01	0.05	0.32	2.63*
	Africa	–0.74	0.00	–0.69	0.00	–0.05	–5.17*

Source: Authors' estimated results using the World Bank's (2021) data on *RQ*.

Table 5. Rule of Law (*RL*) in African Countries in the 21st Century

	Country	$\overline{RL}_{2ndD}$	S^2_{2ndD}	$\overline{RL}_{1stD}$	S^2_{1stD}	$\Delta\overline{RL}$	*t*-value
1.	Algeria	–0.80	0.00	–0.76	0.03	–0.04	–0.76
2.	Angola	–1.12	0.01	–1.43	0.02	0.31	13.14*
3.	Benin	–0.61	0.01	–0.47	0.03	–0.14	–2.64*

	Country	$\overline{RL}_{2ndD}$	S^2_{2ndD}	$\overline{RL}_{1stD}$	S^2_{1stD}	$\Delta\overline{RL}$	*t*-value
4.	Botswana	0.56	0.01	0.65	0.00	–0.09	–2.45*
5.	Burkina Faso	–0.45	0.00	–0.45	0.03	0.00	–0.10
6.	Burundi	–1.25	0.04	–1.21	0.03	–0.04	–0.39
7.	Cabo Verde	0.50	0.01	0.50	0.02	0.00	–0.05
8.	Cameroon	–1.05	0.01	–1.15	0.00	0.10	2.98*
9.	Central African Republic	–1.66	0.03	–1.39	0.03	–0.27	–6.05*
10.	Chad	–1.32	0.01	–1.41	0.04	0.09	1.02
11.	Comoros	–1.01	0.01	–1.03	0.01	0.02	0.51
12.	Congo, Democratic Republic	–1.65	0.01	–1.66	0.01	0.01	0.03
13.	Congo, Republic of the	–1.13	0.00	–1.26	0.01	0.13	4.03*
14.	Côte d'Ivoire	–0.75	0.06	–1.35	0.01	0.60	5.99*
15.	Djibouti	–0.89	0.01	–0.82	0.01	–0.07	–1.48
16.	Egypt	–0.51	0.01	–0.09	0.01	–0.42	–7.55*
17.	Equatorial Guinea	–1.39	0.01	–1.37	0.01	–0.02	–0.39
18.	Eritrea	–1.50	0.01	–1.01	0.10	–0.49	–6.16*
19.	Eswatini (former Swaziland)	–0.40	0.01	–0.70	0.01	–0.30	4.74*
20.	Ethiopia	–0.53	0.01	–0.81	0.01	0.28	8.87*
21.	Gabon	–0.59	0.01	–0.49	0.03	–0.10	–2.61*
22.	Gambia, The	–0.56	0.02	–0.34	0.03	–0.22	–2.49*
23.	Ghana	0.06	0.00	0.00	0.00	0.06	1.66
24.	Guinea	–1.29	0.01	–1.35	0.03	0.06	0.82
25.	Guinea-Bissau	–1.39	0.01	–1.27	0.01	–0.11	–1.92
26.	Kenya	–0.56	0.03	–0.91	0.00	0.35	4.94*
27.	Lesotho	–0.27	0.01	–0.11	0.03	–0.16	–3.32*
28.	Liberia	–0.93	0.00	–1.32	0.17	0.39	2.72*
29.	Libya	–1.60	0.09	–0.97	0.01	–0.63	–6.09*
30.	Madagascar	–0.83	0.01	–0.43	0.05	–0.42	–6.66*
31.	Malawi	–0.29	0.01	–0.21	0.02	–0.08	–1.26
32.	Mali	–0.74	0.01	–0.25	0.02	–0.49	–10.26*
33.	Mauritania	–0.77	0.02	–0.72	0.04	–0.05	–0.48
34.	Mauritius	0.85	0.01	0.97	0.01	–0.12	–4.63*
35.	Morocco	–0.15	0.00	–0.14	0.02	–0.01	–0.16
36.	Mozambique	–0.88	0.03	–0.62	0.00	–0.26	–3.43*
37.	Namibia	0.24	0.01	0.17	0.02	0.07	1.68
38.	Niger	–0.59	0.01	–0.60	0.01	0.01	0.29
39.	Nigeria	–0.99	0.02	–1.22	0.02	0.23	4.78*
40.	Rwanda	–0.01	0.03	–0.72	0.07	0.71	13.15*
41.	Sao Tome and Principe	–0.71	0.00	–0.44	0.03	–0.31	–4.40*
42.	Senegal	–0.21	0.01	–0.15	0.03	–0.06	–0.95
43.	Seychelles	0.12	0.01	0.15	0.02	–0.03	–0.45
44.	Sierra Leone	–0.82	0.00	–1.08	0.02	0.26	6.75*
45.	Somalia	–1.89	2.16	–2.30	0.04	0.41	0.86

	Country	$\overline{RL}_{2ndD}$	S^2_{2ndD}	$\overline{RL}_{1stD}$	S^2_{1stD}	$\Delta\overline{RL}$	*t*-value
46.	South Africa	0.05	0.01	0.14	0.00	–0.09	–2.66*
47.	South Sudan	–1.95	0.00	–1.60	0.05	–0.35	–3.54*
48.	Sudan	–1.18	0.01	–1.45	0.02	0.27	7.13*
49.	Tanzania	–0.48	0.01	–0.37	0.01	–0.11	–4.10*
50.	Togo	–0.76	0.02	–0.91	0.02	0.15	2.45*
51.	Tunisia	–0.03	0.01	0.00	0.01	–0.03	–1.44
52.	Uganda	–0.33	0.00	–0.49	0.02	0.16	4.34*
53.	Zambia	–0.36	0.01	–0.46	0.01	0.10	2.28*
54.	Zimbabwe	–1.42	0.03	–1.72	0.02	0.30	2.88*
	Africa	–0.71	0.00	–0.70	0.00	–0.01	–0.66

Source: Authors' estimated results using the World Bank's (2021) data on *RL*.

Table 6. Control of Corruption (*CC*) in African Countries in the 21st Century

	Country	$\overline{CC}_{2ndD}$	S^2_{2ndD}	$\overline{CC}_{1stD}$	S^2_{1stD}	$\Delta\overline{CC}$	*t*-value
1.	Algeria	–0.59	0.00	–0.64	0.02	0.05	0.77
2.	Angola	–1.27	0.03	–1.32	0.01	0.05	0.62
3.	Benin	–0.52	0.05	–0.58	0.02	0.06	0.68
4.	Botswana	0.84	0.01	0.98	0.03	–0.14	–1.99
5.	Burkina Faso	–0.28	0.03	–0.20	0.02	–0.08	–0.83
6.	Burundi	–1.35	0.01	–1.00	0.02	–0.35	–7.54*
7.	Cabo Verde	0.87	0.00	0.71	0.03	0.16	2.42*
8.	Cameroon	–1.17	0.00	–1.08	0.01	–0.09	–2.61*
9.	Central African Republic	–1.17	0.02	–1.15	0.02	–0.02	–0.30
10.	Chad	–1.38	0.00	–1.36	0.02	–0.02	–0.72
11.	Comoros	–0.80	0.03	–0.85	0.01	0.05	0.67
12.	Congo, Democratic Republic	–1.40	0.01	–1.41	0.01	0.01	0.12
13.	Congo, Republic of the	–1.25	0.01	–1.09	0.01	–0.16	–6.73*
14.	Côte d'Ivoire	–0.60	0.04	–1.05	0.04	0.45	3.77*
15.	Djibouti	–0.63	0.02	–0.61	0.04	–0.02	–0.16
16.	Egypt	–0.64	0.01	–0.62	0.01	–0.02	–0.39
17.	Equatorial Guinea	–1.67	0.02	–1.53	0.01	–0.14	–4.05*
18.	Eritrea	–1.11	0.08	–0.23	0.13	–0.88	–15.30*
19.	Eswatini (former Swaziland)	–0.39	0.01	–0.30	0.02	–0.09	–2.01
20.	Ethiopia	–0.49	0.01	–0.65	0.01	0.16	3.01*
21.	Gabon	–0.79	0.01	–0.84	0.03	0.05	1.04
22.	Gambia	–0.58	0.03	–0.58	0.03	0.00	0.07
23.	Ghana	–0.13	0.00	–0.14	0.02	0.01	0.06

	Country	$\overline{CC}_{2ndD}$	S^2_{2ndD}	$\overline{CC}_{1stD}$	S^2_{1stD}	$\Delta\overline{CC}$	*t*-value
24.	Guinea	–1.01	0.00	–1.03	0.03	0.02	0.36
25.	Guinea-Bissau	–1.42	0.02	–1.14	0.00	–0.28	–7.31*
26.	Kenya	–0.93	0.01	–0.97	0.01	0.04	0.88
27.	Lesotho	0.05	0.02	–0.00	0.01	0.05	0.80
28.	Liberia	–0.74	0.01	–0.96	0.15	0.22	1.59
29.	Libya	–1.53	0.01	–1.01	0.02	–0.52	–14.18*
30.	Madagascar	–0.85	0.03	–0.26	0.01	–0.59	–8.09*
31.	Malawi	–0.64	0.02	–0.58	0.04	–0.06	–0.66
32.	Mali	–0.71	0.00	–0.61	0.02	–0.10	–2.80*
33.	Mauritania	–0.81	0.01	–0.50	0.07	–0.31	–3.38*
34.	Mauritius	0.32	0.01	0.41	0.01	–0.09	–1.98
35.	Morocco	–0.28	0.01	–0.27	0.01	–0.01	–0.21
36.	Mozambique	–0.71	0.02	–0.52	0.00	–0.19	–4.66*
37.	Namibia	0.33	0.00	0.31	0.03	0.02	0.34
38.	Niger	–0.63	0.00	–0.79	0.01	0.16	4.36*
39.	Nigeria	–1.13	0.01	–1.17	0.03	0.04	1.07
40.	Rwanda	0.59	0.01	–0.22	0.11	0.81	7.31*
41.	Sao Tome and Principe	0.01	0.03	–0.24	0.04	0.25	2.65*
42.	Senegal	–0.09	0.03	–0.27	0.07	0.36	1.48
43.	Seychelles	0.70	0.08	0.33	0.01	0.37	3.96*
44.	Sierra Leone	–0.71	0.05	–0.92	0.01	0.21	2.95*
45.	Somalia	–1.68	0.00	–1.65	0.05	–0.03	–0.47
46.	South Africa	0.01	0.01	0.36	0.03	–0.35	–6.18*
47.	South Sudan	–1.77	0.01	–1.47	0.03	–0.30	–6.78*
48.	Sudan	–1.43	0.01	–1.20	0.03	–0.23	–5.57*
49.	Tanzania	–0.58	0.02	–0.54	0.04	–0.04	–0.72
50.	Togo	–0.83	0.02	–0.93	0.01	0.10	1.53
51.	Tunisia	–0.07	0.00	–0.11	0.05	0.04	0.53
52.	Uganda	–1.04	0.00	–0.85	0.00	–0.19	–7.39*
53.	Zambia	–0.46	0.02	–0.55	0.01	0.09	1.13
54.	Zimbabwe	–1.31	0.01	–1.29	0.01	–2.02	–0.34
	Africa	–0.66	0.00	–0.62	0.00	–0.04	–5.63*

Based on the estimated results for regulatory quality (RQ) reported in Table 4, we also fail to reject the H_0 in 12 countries (Angola, Burundi, Comoros, Côte d'Ivoire, Liberia, Mauritius, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, and Zimbabwe) because they showed statistically significant minor improvements in transition across the three zones in the FIG pathway. Among these 12 countries, Rwanda transitioned from the B1 zone to the G1 zone, while

Mauritius transitioned from the same B1 zone to the G2 zone – a quantum leap. For the *RQ* governance indicator, we reject the H_0 in favour of H_A for 22 countries (Algeria, Botswana, Central African Republic, Chad, Republic of Congo, Eritrea, Gabon, Guinea-Bissau, Kenya, Libya, Madagascar, Malawi, Mali, Mauritania, Namibia, Niger, Sao Tome and Principe, South Africa, South Sudan, Sudan, Tunisia, and Uganda) whose results also showed statistically significant evidence that their transitions further worsened while in the FIG pathway. Another group of 20 countries did not transition as they remained in the same zone during the first two decades of the 21st century.

Premised on the estimated results for the rule of law (*RL*) reported in Table 5, we fail to reject the H_0 for a group of 16 countries (Angola, Cameroon, Republic of Congo, Côte d'Ivoire, Eswatini, Ethiopia, Kenya, Liberia, Nigeria, Rwanda, Sierra Leone, Sudan, Togo, Uganda, Zambia, and Zimbabwe), which showed statistically significant minor improvements in transition across the three zones in the FIG pathway. For another group of 17 African countries, we reject the H_0 in favour of H_A because the estimated *t*-values showed statistically significant cases in which the transitions further worsened while in different zones in the FIG pathway. Among this group, Botswana and South Africa experienced worsened transitions while in the G1 zone in both periods. Similar to the *RQ* governance indicator, 21 African countries did not transition, which means they remained in the same zone in the first two decades of the 21st century.

With respect to the results for the control of corruption (*CC*) reported in Table 6, we also fail to reject the H_0 for a group of eight African countries because they experienced statistically significant minor improvements in their transitions. While Seychelles transitioned up within the G1 zone, Cabo Verde barely transitioned from the G1 zone into the G2 zone. Furthermore, Côte d'Ivoire and Sierra Leone transitioned from the B2 zone to the B1 zone in the FIG pathway, Ethiopia and Niger transitioned within the same B1 zone, while both Rwanda and Sao Tome and Principe experienced slight improvements in transition from the B1 zone in the FIG pathway to the G1 zone in the FEG pathway. For a group of 15 African countries (Burundi, Cameroon, Republic of Congo, Equatorial Guinea, Eritrea, Guinea-Bissau, Libya, Madagascar, Mali, Mauritania, Mozambique, South Africa, South Sudan, Sudan, and Uganda), we reject the H_0 in favour of H_A as the estimated *t*-values showed

statistically significant cases in which the transitions also worsened while in the B1and/or the B2 zones in the FIG pathway. Within this group of 15 countries, South Africa is the only country whose transition worsened while in the G1 zone of the FEG pathway. Similar to the *VA*, *PV*, and *GE* governance indicators, another group of 31 African countries did not transition from their zones while in the FIG pathway during both decades.

Given the results of the null and research hypotheses reported in Tables 1-6, Table 7 presents the decade-by-decade summary of the location for all the zones in the FEG and FIG pathways where African leaders and policymakers could find their countries for country-specific assessment with respect to whether they actually transitioned into functional effective governance pathways in the second decade of the 21st century. Based on the results of the six governance indicators reported in Tables 1-6 for all 54 African countries, the summary reported at the bottom of Table 7 shows that the majority of African countries were plagued with bad governance since they remained in the B1 zone in the FIG pathway throughout the 2000-2020 period of this analysis. In addition, Table 8 provides a summary of the number of cases in which some African countries experienced minor improvements in transition within and/or across the zones, worsened transitions, and unchanged transitions while in the FIG and/or FEG pathways over the period of assessment.

Table 7. Locations of Governance Performance in Zones on FEG and FIG Pathways

		VA		*PV*		*GE*		*RQ*		*RL*		*CC*	
	Country	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st
1.	Algeria	B2	B2	B2	B2	B1	B1	B2	B1	B1	B1	B1	B1
2.	Angola	B2	B2	B1	B2	B2	B2	B2	B2	B2	B2	B2	B2
3.	Benin	G1	G1	G1	G1	B1	B1	B1	B1	B1	B1	B1	B1
4.	Botswana	G1	G1	G2	G2	G1	G1	G1	G1	G1	G1	G2	G2
5.	Burkina Faso	B1	B1	B2	G1	G1	G1	B1	B1	B1	B1	B1	B1
6.	Burundi	B2	B2	B2	B3	B2	B2	B2	B2	B2	B2	B2	B2
7.	Cabo Verde	G2	G1	G1	G2	G1	G1	B1	B1	G1	G1	G2	G1
8.	Cameroon	B2	B2	G2	G1	B1	B1	B1	B1	B2	B2	B2	B2
9.	Central African Republic	B2	B2	B3	B2	B2	B2	B2	B2	B2	B2	B2	B2
10.	Chad	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2
11.	Comoros	B1	B1	B1	B1	B2	B2	B2	B2	B2	B2	B1	B2
12.	Congo, Democratic Republic	B2	B2	B3	B3	B2	B2	B2	B2	B2	B2	B2	B2
13.	Congo, Republic of the	B2	B2	B1	B2	B2	B2	B2	B2	B2	B2	B2	B2
14.	Côte d'Ivoire	B1	B2	B2	B3	B1	B2	B2	B2	B1	B2	B1	B2
15.	Djibouti	B2	B2	B1	B1	B2	B2	B1	B1	B2	B1	B1	B1
16.	Egypt	B2	B2	B2	B1	B1	B1	B1	B1	B1	B1	B1	B1
17.	Equatorial Guinea	B3	B3	B1	G1	B2	B2	B2	B2	B2	B2	B3	B2
18.	Eritrea	B3	B3	B2	B2	B2	B2	B3	B3	B2	B2	B2	B1
19.	Eswatini (former Swaziland)	B2	B2	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
20.	Ethiopia	B2	B2	B2	B2	B1	B1	B2	B2	B1	B1	B1	B2
21.	Gabon	B2	B1	G1	G1	B1	B1	B1	B1	B1	B1	B1	B1
22.	Gambia, The	B2	B2	B1	G1	B1	B1	B1	B1	B1	B1	B1	B1
23.	Ghana	G1	G1	G1	B1	B1	B1	B1	B1	G1	G1	B1	B1
24.	Guinea	B2	G2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2
25.	Guinea-Bissau	B1	B1	B1	B1	B2	B2	B2	B2	B2	B2	B2	B2
26.	Kenya	B1	B1	B2	B2	B1	B1	B1	B1	B1	B2	B2	B2
27.	Lesotho	G1	B1	B1	G1	B1	B1	B1	B1	B1	B1	G1	B1
28.	Liberia	B1	B1	B1	B2	B2	B2	B2	B2	B2	B2	B1	B2

		VA		*PV*		*GE*		*RQ*		*RL*		*CC*	
	Country	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st
29.	Libya	B2	B2	B3	G1	B2	B2	B3	B2	B2	B2	B2	B2
30.	Madagascar	B1	B1	B1	B1	B2	B1	B1	B1	B1	B1	B2	B1
31.	Malawi	B1	B1	B1	G1	B1	B1	B1	B1	B1	B1	B1	B1
32.	Mali	B1	G1	B3	G1	B2	B1	B1	B1	B1	B1	B1	B1
33.	Mauritania	B2	B2	B1	B1	B2	B1	B1	B1	B1	B1	B1	B1
34.	Mauritius	G2	G2	G2	G2	G2	G1	G2	B1	G2	G2	G1	G1
35.	Morocco	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
36.	Mozambique	B1	B1	B1	G1	B1	B1	B1	B1	B2	B1	B1	B1
37.	Namibia	G1	G1	G1	G1	G1	G1	B1	G1	G1	G1	B1	B1
38.	Niger	B1	B1	B2	B1	B1	B1	B1	B1	B1	B1	B1	B1
39.	Nigeria	B1	B1	B3	B1	B2	B2	B1	B2	B2	B2	B2	B2
40.	Rwanda	B2	B2	B1	B2	G1	B1	G1	B1	B1	B1	G1	B1
41.	Sao Tome and Principe	G1	G1	G1	G1	B1	B1	B1	B1	B1	B1	G1	B1
42.	Senegal	G1	G1	B1	B1	B1	B1	B1	B1	B1	B1	G1	B1
43.	Seychelles	G1	G1	G1	G1	G1	G1	B1	B1	B1	B1	G1	G1
44.	Sierra Leone	B1	B1	B1	B1	B2	B2	B1	B2	B1	B2	B1	B2
45.	Somalia	B2	B2	B3	B3	B3	B3	B3	B3	B3	B3	B2	B2
46.	South Africa	G1	G1	B1	B1	G1	G1	G1	G1	G1	G1	G1	G1
47.	South Sudan	B2	B2	B3	B3	B3	B3	B3	B2	B3	B2	B3	B2
48.	Sudan	B2	B2	B3	B3	B2	B2	B2	B2	B2	B2	B2	B2
49.	Tanzania	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1
50.	Togo	B1	B2	B1	B1	B2	B2	B1	B1	B1	B2	B1	B2
51.	Tunisia	G1	B2	B3	B3	B1	G1	B1	B1	B1	B1	B1	B2
52.	Uganda	B1	B1	B1	B2	B1	B1	B1	B1	B1	B1	B2	B2
53.	Zambia	B1	B1	G1	G1	B1	B1	B1	B1	B1	B1	B1	B1
54.	Zimbabwe	B2	B2	B1	B2	B2	B2	B2	B3	B2	B3	B2	B2
	Africa	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1

Note: Compiled by the authors. G1= good, G2 = better, and G3 = excellent governance performance while B1= bad, B2 = worse, and B3 = worst governance performance in the second (2nd) and first (1st) decades of the 21st century.

Table 8. Summary of Transitions in Governance Performance in African Countries

	Governance Indicator	Improved	Worsened	Unchanged
1.	Voice and Accountability	15	9	30
2.	Political Stability and Absence of Violence	11	14	29
3.	Government Effectiveness	7	17	30
4.	Regulatory Quality	12	22	20
5.	Rule of Law	16	17	21
6.	Control of Corruption	8	15	31
	Total	69	93	162

Source: Compiled by the authors based on the estimated results from the H_0 and H_A.

Table 9. Number of African Countries in Each Zone in the FIG and FEG Pathways using the World Governance Indicators

			Governance Performance Zone							
	Governance Indicator	Dec	B1	B2	B3	Total	G1	G2	G3	Total
1.	Voice and Accountability	1st	17	23	2	42	10	2	0	12
		2nd	18	22	2	42	10	2	0	12
2.	Political Stability and Absence of Violence	1st	16	13	7	36	15	3	0	18
		2nd	23	11	9	43	8	3	0	11
3.	Government Effectiveness	1st	24	20	2	46	8	0	0	8
		2nd	22	22	2	46	7	1	0	8
4.	Regulatory Quality	1st	29	18	3	50	4	0	0	4
		2nd	30	16	4	50	3	1	0	4
5.	Rule of Law	1st	25	21	2	48	5	1	0	6
		2nd	27	19	2	48	5	1	0	6
6.	Control of Corruption	1st	23	25	0	48	5	1	0	6
		2nd	24	18	2	44	8	2	0	10

Source: Compiled by the authors based on $0 \leq$ B1 ≤ -0.83, $-0.84 \leq$ B2 ≤ -1.66, and $-1.67 \leq$ B3 ≤ -2.50 for FIG pathway while $0 \leq$ G1 ≤ 0.83, $0.84 \leq$ G2 ≤ 1.66, and $1.67 \leq$ G3 ≤ 2.50 for FEG pathway.

Note: Dec = 1st and 2nd decades of the 21st century.

Finally, Table 9 provides a breakdown of the number of African countries in different zones in the FIG and FEG pathways in the first and second decades of the 21st century. For both decades, no African country transitioned into the

G3 zone along the functionally effective governance pathway. Simply put, over the 2000-2020 period, not a single African country scored 1.67, which is the lowest score required to be in the G3 zone, in any of the six World Governance Indicators. In a decade-by-decade analysis, we observe that the overwhelming majority of African countries remained in the FIG pathway.

6. Conclusion and Policy Implications for Governance Reforms

This study complements the plethora of extant studies that have examined the relationship between governance and economic growth and better development outcomes in sub-Saharan African countries. The research questions posed in the paper revolve around whether African countries have transitioned to effective public governance performance in the 21st century. In answering these questions, the study utilized the six governance indicators provided by the World Bank (2021) to construct a K-shaped governance performance curve. This K-curve served as a graphic representation of the pathways that African countries can take in terms of governance performance. The upward sloping segment of the curve represents the functionally effective governance (FEG) pathway, which African countries need to traverse in order to achieve sustainable economic growth and better development outcomes. On the other hand, the downward sloping segment of the curve represents the functionally ineffective governance (FIG) pathway that African countries should avoid or transition away from in the 21st century. More importantly, the FEG and FIG pathways illustrated by the K-curve provide African leaders and policymakers in the 54 African countries with a visual representation of where their country stands in terms of governance performance. This framework can assist African leaders and policymakers in identifying their country's current position and guide them in implementing strategies to transition towards more effective governance, which is crucial for achieving sustainable growth and better development outcomes in the 21st century.

Based on the country-specific results reported in Tables 1-6 for the six null and alternative hypotheses covering the six World Governance Indicators, which we summarized in Table 8, we can deduce that very minor improvements in transition occurred in: 15 countries for voice and accountability; 11 countries for political stability and absence of

violence/terrorism; 7 countries with respect to government effectiveness; 12 countries for regulatory quality; 16 countries for the rule of law; and 8 countries with respect to the control of corruption. In addition, the results show that the transitions actually worsened in 9, 14, 17, 22, 17 and 15 countries for VA, PV, GE, RQ, RL, and CC, respectively, and then remained unchanged in 30, 29, 30, 20, 21, and 21 countries for VA, PV, GE, RQ, RL, and CC, respectively.

Furthermore, it is important to point out that the majority of the reported minor improvements in transition occurred within the three zones (B1= bad, B2 = worse, and B3 = worst governance performance) of the FIG pathway. This suggests that African countries, as a whole, have struggled to make noteworthy progress in transitioning towards the FEG pathway. From the country-specific results presented in Tables 1-7, it is apparent that 50 out of 54 African countries have been affected by misgovernance in the first two decades of the 21st century.

As for the policy implications for governance performance reforms, our results indicate that those 50 African countries need to know their current location in the FIG pathway so that they can focus on transitioning into, at least, zone G1 in the FEG pathway between now and 2030 if they hope to achieve sustainable economic growth and development outcomes in the 21st century. Similarly, the four African countries (Botswana, Cabo Verde, Mauritius, and South Africa) currently in different zones in the FEG pathway should solidify/improve their governance practices in order to prevent sliding backwards into the FIG pathway. Being in the FEG pathway is crucial for achieving the goals outlined in the African Union's Agenda 2063, which emphasizes development and progress across the continent. In other words, our policy recommendation is that African leaders and policymakers must focus on rebuilding and strengthening their political, economic, and social institutions, which are fundamental to achieving the quality of governance needed to accomplish their Agenda 2063 of transforming the African continent into the global powerhouse of the future.

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