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UN sustainable development goals, good governance, and corruption: The paradox of the world's poorest economies

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Abstract

The first objective of this study is to demonstrate that the UN sustainable development goals (SDGs) remain beyond reach for the world's poorest economies by analyzing the trends in the worldwide governance indicators (WGIs), corruption perception index (CPI), the GDP per capita, and the human development index (HDI) using the case of 10 former European colonies (e.g., Burundi, Burkina Faso, Central African Republic, Guinea-Bissau, Haiti, Madagascar, Niger, Sierra Leone, Togo, and the Democratic Republic of Congo). Second, this study compares three-panel regression models (pooled OLS model, fixed-effects model, and random effects model) to examine the influence of the WGIs on CPI, GDP per capita, and HDI and then derive the most appropriate model. Based on the results of these two objectives, a theoretical framework is drawn to provide specific recommendations to overcome some of the challenges to sustainable development in the selected countries.

KEYWORDS

corruption perception index, developing countries, GDP per capita, human development index, panel regression models, UN sustainable development goals, worldwide governance indicators

1 | INTRODUCTION

During the past two decades, widespread corporate abuses and the hazardous health and environmental consequences stemming from business operations have triggered strident calls for immediate courses of action. In reaction to the damaging social and environmental impacts of unstainable business operations, the yet famous Brundtland Report also called "Our common future" was introduced at the UN General Assembly in 1987 as a landmark document for long-term environmental strategies aimed to achieve sustainable development by the year 2000 and beyond (see World Commission on Environment and Development, 1987). Due to the reluctance of businesses and the laxity of government politicians to truly support sustainable development initiatives, the Rio Earth Summit in 1992 has seen light. The 1997 Kyoto Protocol, which is an international climate agreement, was introduced and has resulted in a total setback as many developed countries have declined to commit to this agreement (Napoli, 2012). In 2000, leaders of the world along with the leading development institutions have gathered at the UN headquarters to sign the eight Millennium Development Goals (MDGs), which were supposed to be achieved by the target date of 2015 (see https://www.un.org/millenniumgoals/bkgd.shtml). Nevertheless, facts and evidence have shown that the world's leaders and the leading development institutions have failed to meet the MDGs.

In 2015, governments, experts, policymakers, NGOs, para governmental agencies, and businesses adopted the 17 UN Sustainable Development Goals (SDGs) which encompass a range of social, economic, environmental goals (see https://sustainabledevelopment.un.org/?menu=1300) along with the subsequent barriers to achieving these goals. The goal-setting approach thus makes "the SDGs one of the most intriguing global initiatives in the area of sustainable development" (Biermann et al., 2017, p. 29). The achievement of the SDGs, as cautioned in the UN 2030 Agenda, needs synchronized actions and efforts of corporations and institutional stakeholders, such as government institutions, NGOs, academia, and other normative institutions, and individual stakeholders at local, regional, national, and international levels.

It should be noted that "the success of SDGs will depend on a number of institutional factors such as the extent to which states formalize their commitments, strengthen related global governance arrangements, translate the global ambitions into national contexts, integrate sectoral policies, and maintain flexibility in governance mechanisms" (Biermann et al., 2017, p. 26). It should also be noted that "businesses remain the perpetrators of the world's most environmental problems, as well as the actors through which sustainable development can be achieved" (Mombeuil, 2020, p. 2). It is commonly argued that the achievement of the SDGs depends on the strength of the institutional conditions of any country to corner businesses to embark on the sustainable development discourse (e.g., Blasco & Zølner, 2010; Brammer et al., 2012; Campbell, 2007; Fransen, 2013) and good macroeconomic conditions and competitiveness that could urge them to undertake sustainable development initiatives (Campbell, 2007). In order words, businesses are likely to support SDGs only when government institutions are strong enough to ensure compliance towards sustainable business practices and also when institutional stakeholders or normative institutions are free and conscious in playing their role of watchdogs to constraints them (businesses) to do so (Avetisyan & Ferrary, 2013; Den Hond & De Bakker, 2007; Mombeuil et al., ; Park et al., 2014; see, Thijssens et al., 2015). Conversely, failure or weakness of government institutions (bad governance) and institutional stakeholders (e.g., NGOs & civil society) to hold companies accountable may result in harmful social and environmental consequences (Belal, 2001; Fulop et al., 2000; Jamali & Mirshak, 2007).

Matten and Moon (2008) have described four (4) institutional conditions that shape firms' commitment to meet social, ethical, and environmental expectations, which can be extended to the SDGs. First, there must have an effective market in which businesses have responsibility for their responses to market, social, or political drivers. Second, there must have effective governmental and legal institutions that secure, define, and control the market and correct instances of market failure for the benefit of society. Third, governmental and legal institutions should neither capture nor are captured by market actors. Fourth and last, there must have a civil society that institutionalizes and articulates social values and preferences, to which government and market actors respond. The arguments provided by Matten and Moon thus support the need for good governance and also the need for regulative institutional pressure and normative institutional pressure for sustainable development to happen.

Arguably, good governance determines the capacity of government institutions to trigger social change, correct market imperfections, and create good conditions for sustainable market development (Khan, 2002) leading to substantial economic growth (Mira & Hammadache, 2017) and social well-being (Helliwell et al., 2018) that could draw a country closer in achieving the UN SDGs. It is important to note that the lack of operationalization makes the SDGs ambiguous (Hák et al., 2016) and thereby may lead to contradictions and difficulties to implement them (Spangenberg, 2017). "With limited obligations to governments and none to business or consumers" (Spangenberg, 2017, p. 311), one should question the extent to which the world's poorest and poorly governed nations will reach the UN SDGs.

With many regards, the weaknesses of government institutions and the legacy of corruption, in particular, remain two major obstacles to the achievement of the SDGs (Mackey et al., 2018; Mugellini & Villeneuve, 2019; United Nations, 2019). In most developing countries, for example, the legacy of corruption impedes social and environmental well-being by weakening the capacity of government's institutions (Mo, 2001; Palifka & Bonnie, 2006) and institutional stakeholders in fulfilling their missions (Mombeuil et al.,), which in turns hinder the achievement of UN SDGs. Moreover, the legacy of corruption impedes economic growth, reduces innovation, and creates massive economic losses (Ugur & Dasgupta, 2011) that, in turn, hamper the sustainable development of most developing countries. As "corruption seems to affect the level of investment, entrepreneurial incentives, and the design or implementation of rules or regulations regarding access to resources and assets within a country" (Jain, 2001, p. 72), this, in turn, may deter business initiatives that could support the UN SDGs. Yet, there is a scarcity of studies that challenge the unrealistic stance of un SDGs in the context of developing countries where the overall institutional settings remain very weak, corruption is widespread, and government institutions are subverted to few individuals (economic and political elites) and foreign actors.

This scholarly article is carried out with three main objectives. First, it demonstrates that the achievement of the UN SDGs remains beyond reach for the world's poorest nations particularly the following 10 former European colonies: Burundi, Burkina Faso, Central African Republic, Guinea-Bissau, Haiti, Madagascar, Niger, Sierra Leone, Togo, and the Democratic Republic of Congo. To support this objective, the trends in worldwide governance indicators (WGIs), corruption perception index (CPI), GDP per capita, and human development index (HDI) of these 10 countries will be analyzed. For the second objective, this study compares three econometric models (the pooled model, fixed-effects model, and random-effects model) to estimate the influence of the six aggregate indicators of WGIs (Government Effectiveness, Regulatory Quality, Rule of Law, Political Stability and Absence of Violence, Control of Corruption and Voice and Accountability) on CPI, GDP per capita, or HDI, respectively in order to derive the model that best predicts CPI, GDP per capita, and HDI for these countries.

For the third and last objective, this study proposes to develop a theoretical framework from the results of the second objective and discuss the underlying challenges for the UN SDGs in the context of developing countries.

There are several reasons behind the choice of these 10 former European colonies supporting the significance of this study. They constitute multilingual nations with French as the dominant language and were under the ruling of France mostly and Belgium. These 10 former European colonies dominate consistently the lists of the world's poorest, fragile states, most corrupt, and unstable countries. The absence of sustainable development's vision and bad governance, bad business climate, social and political turmoil, and the practice of embezzlement of public funds remain the legacies that unfortunately dominate the socioeconomic environment of these countries. Moreover, post-conflict tensions, the ongoing wars, and the ever-growing social and environmental issues in developing nations (Darkoh, 2009), especially in the former European colonies, provide an important setting for scholarly research on the interaction between business and society, as well as social, economic, and environmental sustainability (Kolk & Rivera-Santos, 2018). Also, the coexistence of colonial institutional patterns and the primitive institutional ones not only conflict but provides a proper motive to examine the dynamic interactions between institutional conditions, businesses, and society at large. Therefore, a broader understanding of a country's socioeconomic, historical, and political factors is important to understand the extent to which business organizations will support sustainable development (Brammer et al., 2012). Moreover, there is a scarcity of research addressing the role of institutional conditions in influencing sustainable business conduct (Aguilera et al., 2007; Apostolakou & Jackson, 2010). One of the remarkable limits of the SDGs is that it does not fully capture the limits in terms of human capital, knowledge capital, public institutional capital, infrastructure, and business capital of the developing nations to meet these complex goals.

2 | DATA AND METHODOLOGY

2.1 | Data and data sources

To meet the purpose of this study, we explore the trends of the Worldwide Governance Indicators (WGI), CPI, GDP per capita, and HDI of 10 former European colonies from 2007 to 2017 based on the availability of the data at the time of this study. The WGI is an aggregate of six different key governance indicator variables (government effectiveness, regulatory quality, rule of law, political stability and absence of violence, control of corruption and voice and accountability), taking all together, measure the level of governance of a country on a scale measurement from -2.5 to $+2.5$, with -2.5 being highly underperformed governance and $+2.5$ being excellent governance (for more insights, visit: https://info.worldbank.org/governance/wgi/#doc). By calculating the sum of the six different key governance indicator variables, we define a new scale measure WGI where -15 and $+15$ denote the lowest level of governance (very poor governance) and the highest level of governance (excellent governance), respectively. It should be noted that the zero scores for WGI or any aggregate indicators represent the average threshold value upon which one can assess the trends in WGI and any of its aggregate indicators. Since corruption represents a major obstacle to sustainable development, we explore the trends in CPI of the yearly report by Transparency International for the 10 former European colonies using a scale measurement of 0–100. For CPI, the average threshold value of 50 helps situate

whether the trends in the CPI for a given country remain below this average over time. Below this average suggests that a country is corrupt and the lower is the CPI the higher the level of corruption can be assumed.

The GDP per capita, expressed in USD, fits somehow the SDGs as it commonly uses to evaluate the living standards and economic well-being of citizens of a given country (Ranis & Stewart, 2000) though its usage in the measurement of quality of life has been under harsh criticism in recent years (see, e.g., Booysen, 2002; Lutz & Goujon, 2004; Wolff et al., 2011). Similarly, the HDI is one of the important indicators that help to anticipate the likelihood that a country will achieve the sustainable development goals (SDGs), as it measures a country's levels of social and economic development based on life expectancy, education, and per capita income (see: http://hdr.undp.org/en/content/human-development-index-hdi). The scale measurement of HDI varies from 0 to 1 where 0 denotes very poor human development and 1 excellent human development. For comparative analysis, the value of 0.5 represents the average threshold upon which we can evaluate or observe the trends in the HDI of a given country over time.

2.2 | Models development

Using an exploratory research approach, we propose that CPI, log GDP per capita, or HDI is influenced by the levels of government effectiveness, regulatory quality, rule of law, political stability and absence of violence, control of corruption, and voice and accountability. These influences are used to draw on a theoretical framework to provide more specific options for overcoming obstacles to sustainable development for the selected countries. Thus, the following equation is proposed:

$$CPI_{it}; GDPper\ capit_{it}; HDI_{it} = f(Gov-Eff, Reg-Qua, Rul-Law, Pol-Sta\ and\ Abs-Vio, Con-Cor\ and\ Voi-Acc), \quad (1)$$

where *CPI* is the corruption perception index, log *GDP* per capita is the logarithm of the per capita income of gross domestic product, and *HDI* is the human development index for *i*th country in *t*th year; and Gov-Eff, Reg-Qua, Rul-Law, Pol-Sta and Abs-Vio, Con-Cor, and Voi-Acc are the value of six different key governance indicator variables: Government Effectiveness, Regulatory Quality, Rule of Law, Political Stability and Absence of Violence, Control of Corruption and Voice and Accountability of 10 selected countries. Based on Equation 1, the following three assumptions were formulated, considering how the selected variables will be influenced by the six different key governance indicator variables for these 10 selected countries.

> **Assumption 1.** *CPI* will be influenced by the government effectiveness, regulatory quality, rule of law, political stability and absence of violence, control of corruption, and voice and accountability of the selected countries.

The CPI measure selected in this paper for the 10 selected countries expressed in a scale measurement of 0–100 and was transformed into the natural logarithmic form to avoid the impact of higher values and variance. The six key governance indicators for a selected country are powerful contributing factors for log CPI. This thus suggests that improvements in these indicators will influence positively the log CPI.

Assumption 2. *Log GDP* per capita will be influenced by the government effectiveness, regulatory quality, rule of law, political stability and absence of violence, control of corruption, and voice and accountability of the selected countries.

The income measure selected in this paper is the GDP per capita for 10 selected countries, expressed in constant 2010 US$, and was transformed into the natural logarithmic form to avoid the impact of higher values and variance. The six key governance indicators are powerful contributing factors for log GDP per capita. If these indicators increase, they will impact the log GDP per capita positively. Therefore, we expected the sign for the estimated coefficient of this variable to be positive.

Assumption 3. *HDI* will be influenced by the government effectiveness, regulatory quality, rule of law, political stability and absence of violence, control of corruption, and voice and accountability of the selected countries.

The impact of HDI improvements in a country is important to the analysis because it is a development indicator that consists of other important social and economic indicators (Bhattacharyya, 2012). In most cases, the six key governance indicator variables tend to be correlated with HDI (see, for example, Marino et al., 2016; Pradhan, 2011), GDP, and CPI. We expect a positive correlation between these indicator variables and HDI. Therefore, the econometric panel regression models on estimating log CPI, log GDP per capita, or HDI is written as follows:

$$\begin{aligned} Log\,CPI_{it}; Log\,GDP\,per\,capita_{it}; HDI_{it} = {} & \alpha + \beta 1 * \mathrm{Gov} - \mathrm{Eff}it + \beta 2 * \mathrm{Reg} - \mathrm{Qua}it + \beta 3 * \mathrm{Rul} - \mathrm{Law}it \\ & + \beta 4 * \mathrm{Pol} - \mathrm{Sta}it + \beta 5 * \mathrm{Con} - \mathrm{Cor}it\,\beta 6 * \mathrm{Voi} - \mathrm{Acc}it + \beta 7 \\ & * Dummy - 2 + \beta 8 * Dummy - 3 + \beta 9 * Dummy - 4 + \beta 10 \\ & * Dummy - 5 + \beta 11 * Dummy - 6 + \beta 12 * Dummy - 7 \\ & + \beta 13 * Dummy - 8 + \beta 14 * Dummy - 9 + \beta 15 * Dummy \\ & - 10 + \varepsilon i \end{aligned} \tag{2}$$

where α is the constant term, β are the coefficients of each variable.

Dummy-2 to 10 represents 10 countries and ε_i is the error term. Three types of panel regression models were developed to estimate the log CPI, log GDP per capita, or HDI for 10 selected countries, namely a pooled ordinary least squares (OLS) model, fixed-effects model, and the random-effects model.

Because of the exploratory nature of this study and the complexity of the variables of interest, we combine different research approaches to support our statements in line with the results. First, we used the evidence (the trends in the variables) and justifications based-argument to support the assumption that the UN SDGs remain beyond reach for the 10 selected countries (see Erduran, 2007; Erduran et al., 2004). We also used an interpretive research approach because the complexity of the social realities of the selected countries is rooted within and "impossible to abstract from their social settings," which leads us to interpret results through facts and sense-making process (Bhattacherjee, 2012). The interpretive research approach also helps to explore "hidden reasons behind the complex, interrelated, or multifaceted social processes where quantitative evidence may be biased, inaccurate, or otherwise difficult to obtain" (Bhattacherjee, 2012, p. 103). Also, the interpretive research approach helps to produce an

understanding of the social context of the phenomenon and the process (Abdel-Fattah, 2015). To meet the first objective of this study, we mostly rely on descriptive statistics as they provide a powerful summary of results and also enables comparisons among the variables of interest (Brownstein et al., 2019; Kaur et al., 2018). We also rely on the use of XY scatter plots as they allow better visualization, observation, and evolution in the trends of variables of interest (Evergreen, 2019; Knaflic, 2015) (Figure 1).

3 | RESULTS AND DISCUSSION

3.1 | Results of descriptive analysis

Table 1 shows the mean, the standard deviation, the coefficient of variation of the WGI of 10 former European colonies. The results of the WGI show that none of these countries has a positive mean score, meaning all these countries are dominated by the poor quality of governance. Among these 10 countries, the Democratic Republic of Congo (Mean = −9.53; SD = 0.33; C. V = −3.44) occupies the bottom line of poorest government performance followed by the Central African Republic (Mean = −8.64; SD = 0.55; C. V = −9.71), and Burundi (Mean = −7.16; SD = 0.77; C. V = −10.78). Table 1 also shows that Madagascar (C. V = −27.59) and Burkina Faso (C.V = −24.62) have registered the largest decline in their WGI. As shown in Figures 2–7, none of these 10 former European colonies has ever reached a positive WGI value over the past decade. Moreover, Figures 2 and 7 show that the trends in government effectiveness, regulatory quality, rule of law, and control of corruption of these 10 countries remain below the average threshold value of zero.

As indicated in Table 2, the 10 former European colonies considered in this study fall within the category of highly corrupt countries. Among these 10 countries, Haiti (average CPI = 17.81 out of 100) and Guinea-Bissau (average CPI = 19.64 out of 100) score the lowest average CPI

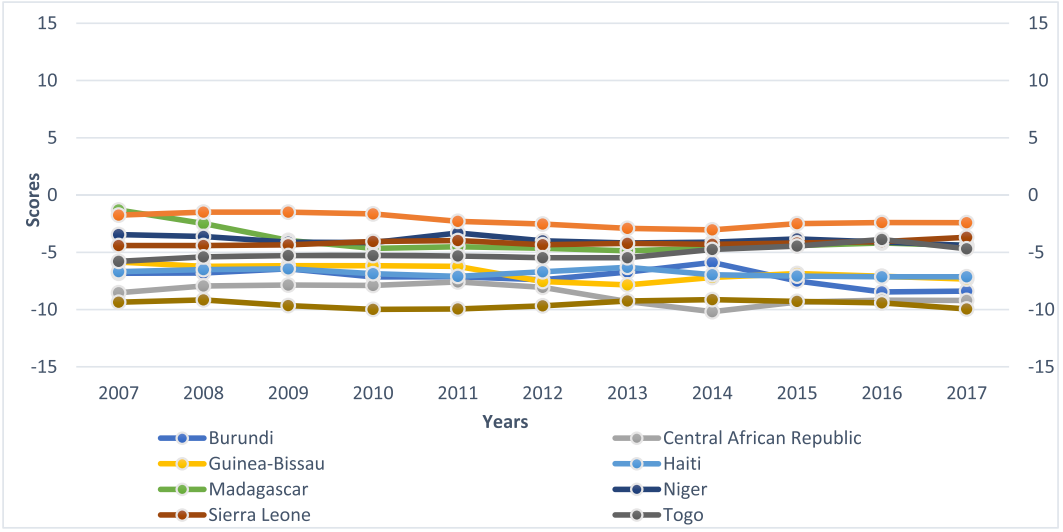


FIGURE 1 Trends of the overall WGI for10 former European colonies from 2007 to 2017 [Color figure can be viewed at wileyonlinelibrary.com]

TABLE 1 Descriptive statistics of worldwide governance indicators for 10 former European colonies

	WGI						
Country	**N**	**Min**	**Max**	**Mean**	**S. Dev.**	**C. Var.**	**Skew.**
Burundi	11	−8.46	−5.89	−7.16	0.77	−10.78	−0.42
Burkina Faso	11	−3.04	−1.49	−2.22	0.55	−24.62	0.12
Central African Rep.	11	−10.19	−7.59	−8.64	0.84	−9.71	−0.42
Guinea-Bissau	11	−7.85	−5.85	−6.77	0.67	−9.96	−0.17
Haiti	11	−7.14	−6.31	−6.81	0.30	−4.38	0.41
Madagascar	11	−4.87	−1.30	−4.01	1.11	−27.59	1.96
Niger	11	−4.39	−3.31	−3.93	0.34	−8.61	0.79
Sierra Leone	11	−4.41	−3.69	−4.18	0.22	−5.29	1.13
Togo	11	−5.79	−3.88	−5.07	0.56	−11.02	1.01
Dem. Rep. Congo	11	−9.99	−9.13	−9.53	0.33	−3.44	−0.32

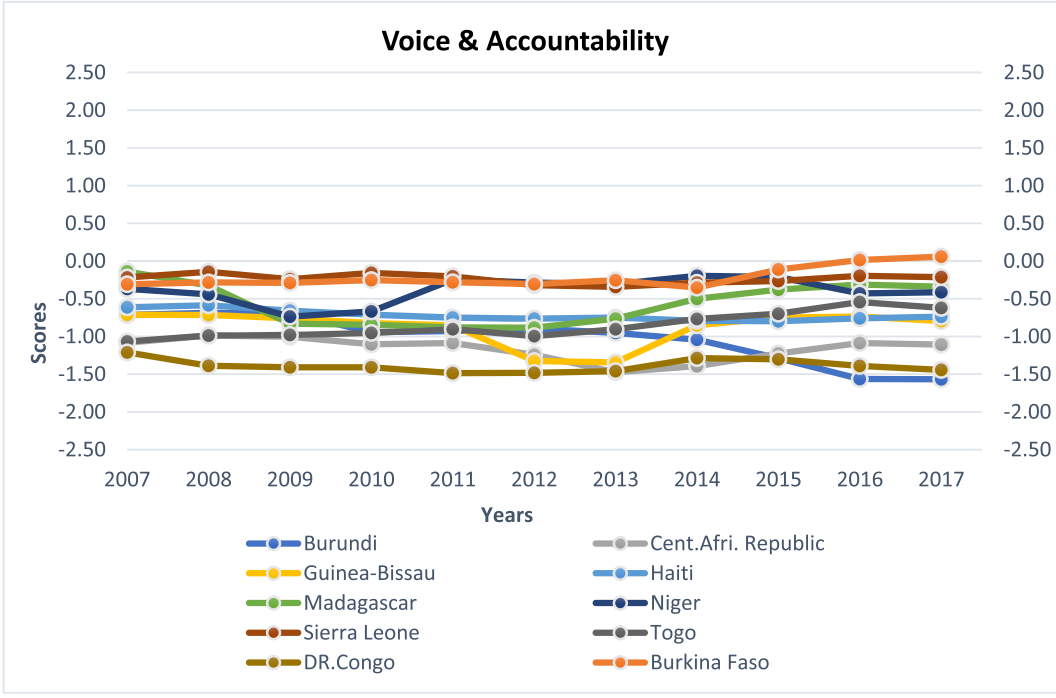
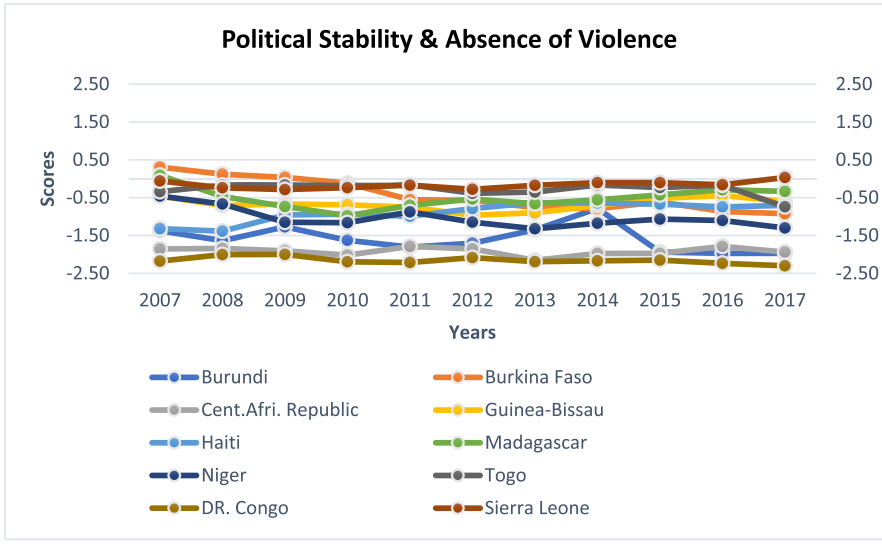


FIGURE 2 Trends in the voice and accountability for 10 former European countries [Color figure can be viewed at wileyonlinelibrary.com]

score. Though Burkina Faso (35.62), Niger (29.07), and Madagascar (28.75) also have a mediocre average CPI score their score, however, outpaced the average CPI score of most of the other countries considered in this study. Among these 10 countries, Sierra Leone has known the largest positive variation in the trends of its CPI (C.V = 16.79) and the Democratic Republic of Congo (C.V = 7.69) the lowest variation. Figure 8 shows that the trends in CPI of these 10 countries remain below the average threshold value of 50 during the period running from 2007 to



NB. The score for Central African Republic has been recalculated for 2014 using arithmetic mean as the score provided for that year equals to -2.70, which conflicted to the lowest minimum value of -2.50

FIGURE 3 Trends in the Political stability and absence of violence for 10 former European countries. The score for Central African Republic has been recalculated for 2014 using arithmetic mean as the score provided for that year equals to −2.70, which conflicted to the lowest minimum value of −2.50 [Color figure can be viewed at wileyonlinelibrary.com]

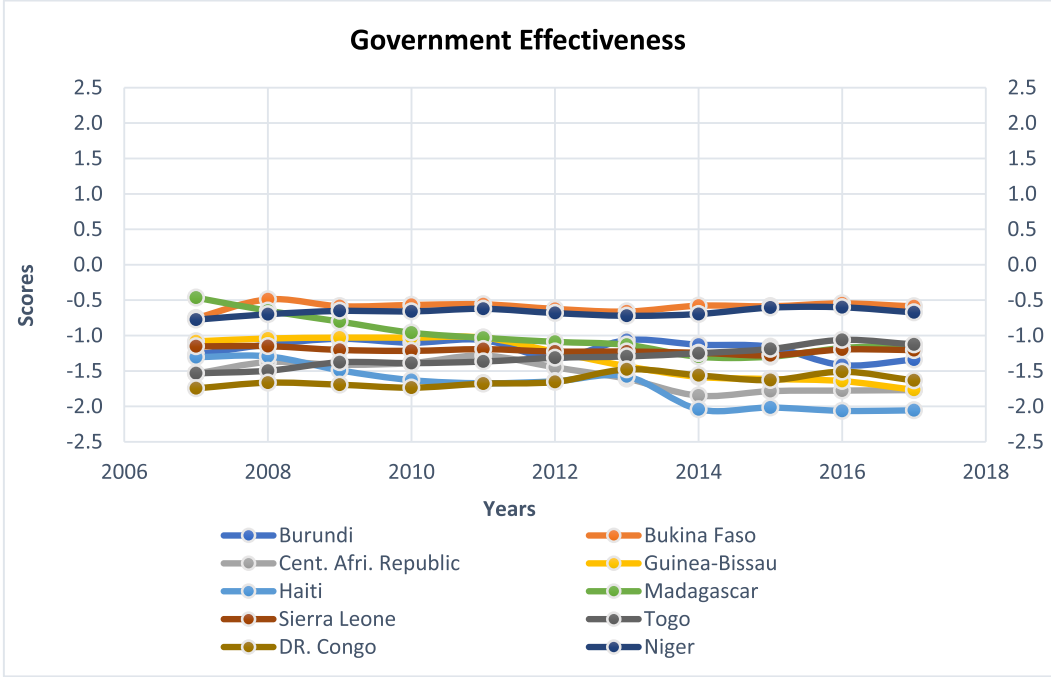


FIGURE 4 Trends in the government effectiveness for 10 former European countries [Color figure can be viewed at wileyonlinelibrary.com]

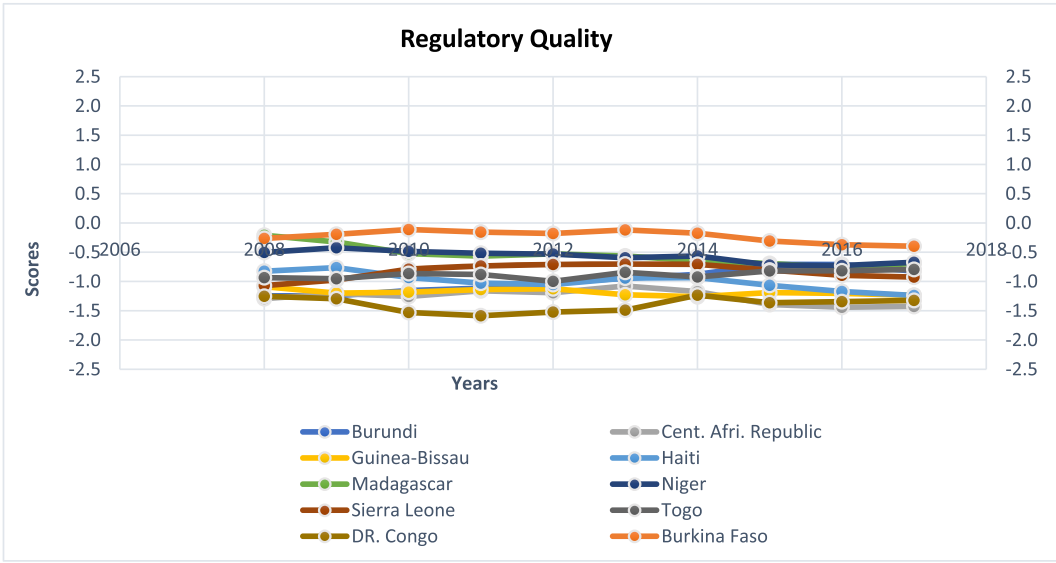


FIGURE 5 Trends in regulatory quality for 10 former European countries [Color figure can be viewed at wileyonlinelibrary.com]

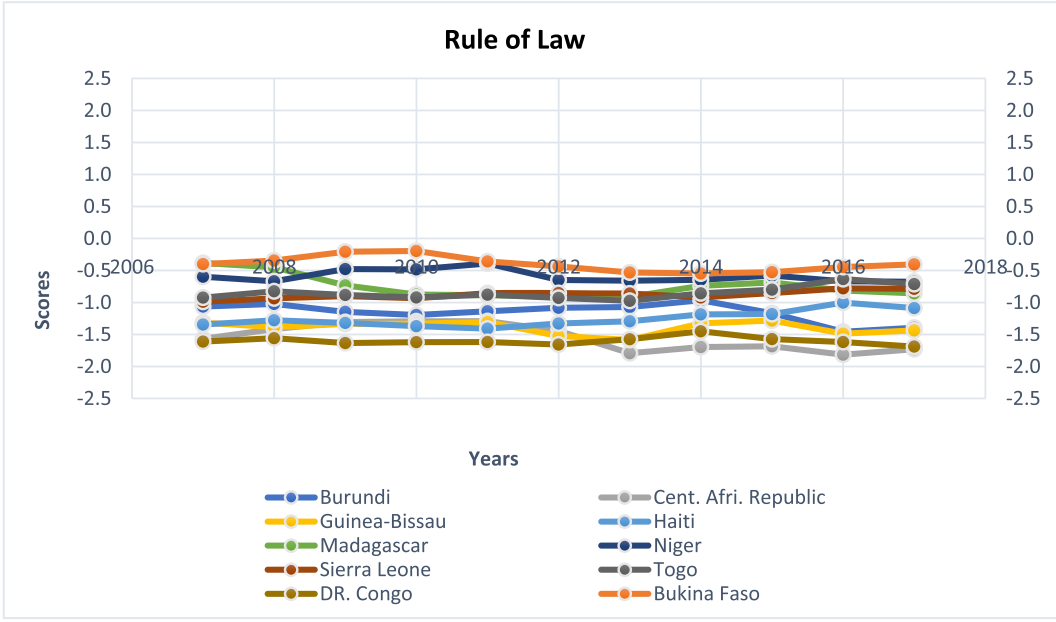


FIGURE 6 Trends in regulatory rule of law for 10 former European countries [Color figure can be viewed at wileyonlinelibrary.com]

2017 which corroborates the persistence and legacy of corruption in these countries. These results once again corroborate the lack of capacity/will of governments of these developing countries to curtail widespread corruption. Also, the trends in CPI corroborate our assumption stated that the UN SDGs remain beyond reach for the world's poorest economies and is supported by several studies (Akhbari & Nejati, 2019; Marchini et al., 2019; Muma, 2018; Sinha et al., 2019; Smith, 2010; Venard, 2013).

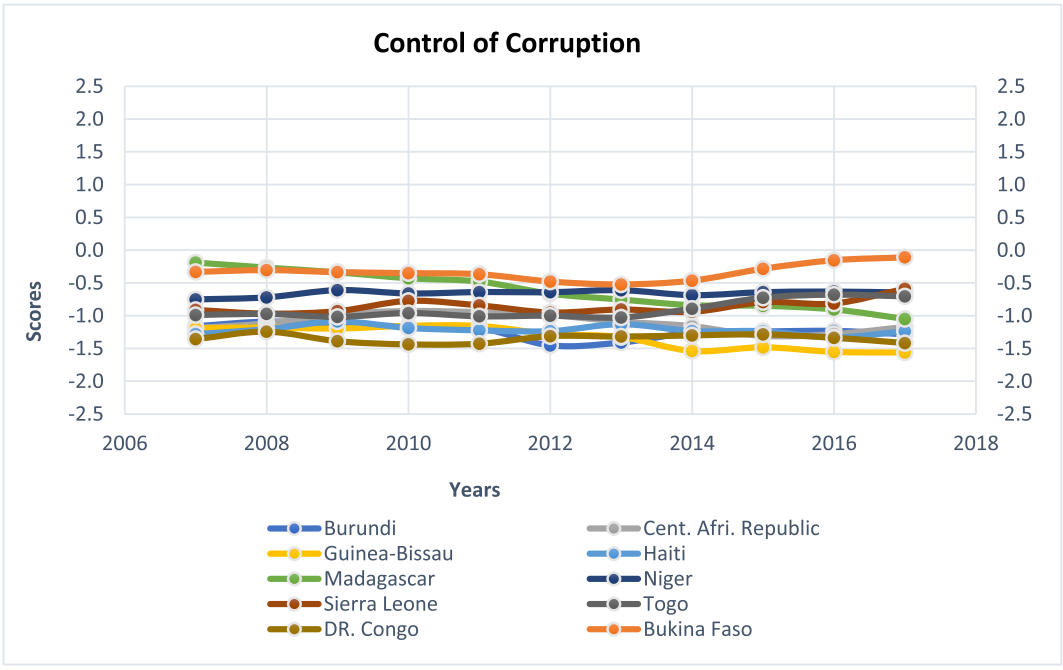


FIGURE 7 Trends in regulatory rule of law for 10 former European countries [Color figure can be viewed at wileyonlinelibrary.com]

TABLE 2 Descriptive statistics of the CPI for 10 former European colonies

	CPI						
Country	**N**	**Min**	**Max**	**Mean**	**S. Dev.**	**C. Var.**	**Skew.**
Burundi	11	18.00	25.00	20.18	2.04	10.11	1.34
Burkina Faso	11	29.00	42.00	36.09	4.46	12.36	−0.38
Central African Rep.	11	20.00	26.00	22.27	2.24	10.06	0.37
Guinea-Bissau	11	16.00	25.00	19.64	2.66	13.53	0.64
Haiti	11	14.00	22.00	18.55	2.38	12.84	−0.26
Madagascar	11	24.00	34.00	28.91	3.02	10.43	0.11
Niger	11	25.00	35.00	30.73	3.95	12.86	−0.35
Sierra Leone	11	19.00	31.00	26.55	4.46	16.79	−0.55
Togo	11	23.00	32.00	28.00	3.16	11.29	−0.42
Dem. Rep. Congo	11	17.00	22.00	20.36	1.57	7.69	−0.93

As shown in Table 9, all these 10 countries fall within the World Bank's low-income category and build up the list of the world's poorest economies. Among these 10 countries, Burundi and Niger register the lowest average of GDP per capita, with a respective amount of USD 248.34 and USD 367. We then plot the data in order to have a better visualization of the evolution of the GDP per capita for each country. Figure 9 shows that Haiti and Guinea-Bissau have made meager improvements in their GDP per capita from 2007 to 2017. However, countries like

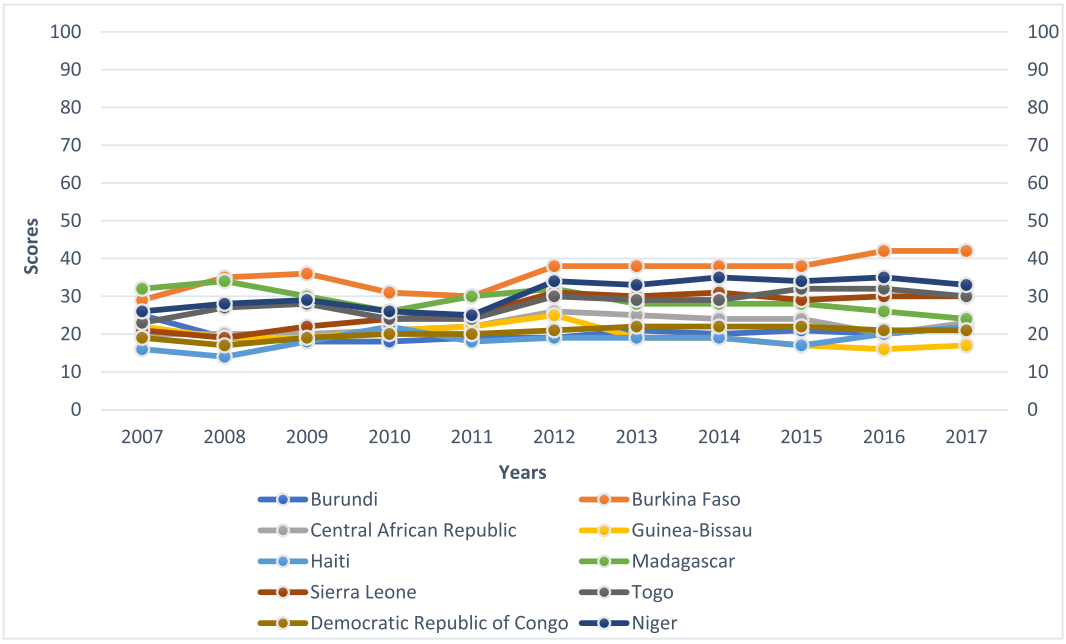


FIGURE 8 CPI among former European colonies [Color figure can be viewed at wileyonlinelibrary.com]

Sierra Leone (C. Var. = 24.58) and the Democratic Republic Congo (C. Var. = 19.73) have known significant variations in their GDP per capita during the period of this study (see Figure 9). The poor economic performance of these countries is in synch with the high prevalence of corruption, which is supported by many empirical findings depicting the negative impact of corruption on economic development (Avnimelech et al., 2014; Barassi & Zhou, 2012; Blackburn et al., 2006; Ngunjiri, 2010; Palifka & Bonnie, 2006; Wei, 1999). The persistence of the poor economic performance of these former European colonies put the UN sustainable economic development agenda beyond reach. Therefore, it is absurd to expect these countries to reach the UN SDGs with this underperformance trend in their GDP per capita (Table 3).

As indicated in Table 4, none of these 10 countries has a satisfactory average HDI score during the 16 years of this study. This result shows that Niger (0.312) and the Central African Republic (average HDI = 0.34) have the lowest average HDI scores. The low HDI also provides evidence that these former European colonies are unlikely to achieve the SDGs as scheduled. The low economic performance of these countries largely explains their low HDI performance. As economic growth and HDI are essentially interconnected and mutually reinforce each other (Chiappero-Martinetti et al., 2015; Gopalakrishna & Rao, 2012; Ranis, 2004; Ranis & Stewart, 2000), the slow evolution of the HDI (see Figure 10) for these 10 former European colonies further put UN SDGs beyond reach.

3.2 | Panel data regression analysis results

Tables 5, 6, and 7 indicate the results of the pooled model, fixed-effects model, and random-effects model to estimate the log CPI, log GDP per capita, or HDI, respectively. Hausman-test

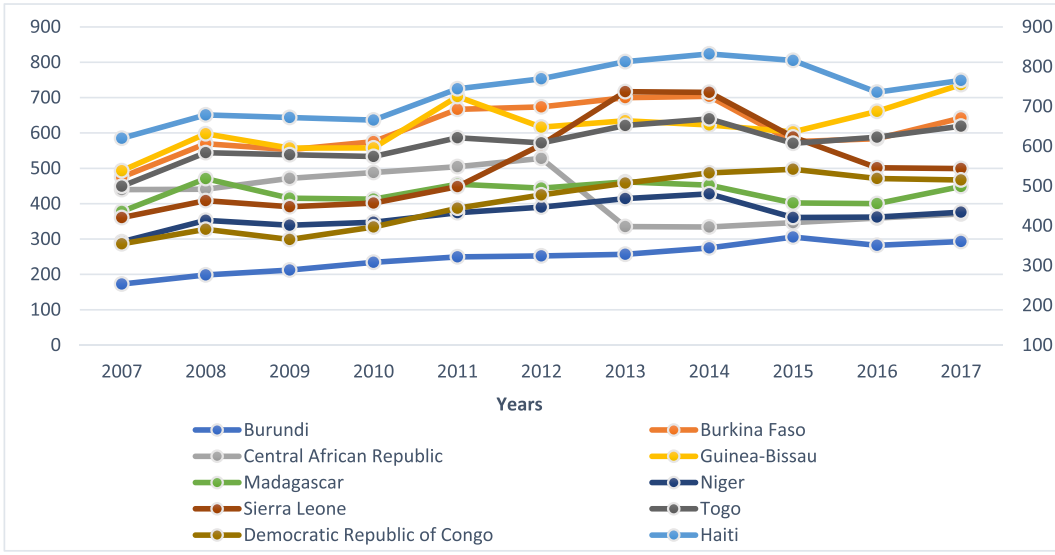


FIGURE 9 Trends of the GDP per capital in USD for 10 former European colonies [Color figure can be viewed at wileyonlinelibrary.com]

TABLE 3 Descriptive statistics of the GDP per capita for 10 former European colonies from 2007 to 2017

	GDP per capita						
Country	**N**	**Min**	**Max**	**Mean**	**S. Dev.**	**C. Var.**	**Skew.**
Burundi	11	172.50	305.55	248.34	41.19	16.59	−0.48
Burkina Faso	11	475.11	703.82	610.77	71.67	11.73	−0.30
Central African Rep.	11	334.11	528.13	419.87	72.88	17.36	0.12
Guinea-Bissau	11	493.07	736.73	616.59	68.55	11.12	0.06
Haiti	11	619.81	831.96	737.45	70.22	9.52	−0.24
Madagascar	11	377.85	470.73	430.96	30.36	7.04	−0.39
Niger	11	292.22	427.74	367.00	36.91	10.06	−0.26
Sierra Leone	11	360.37	716.84	508.83	125.09	24.58	0.69
Togo	11	449.14	640.08	569.30	53.04	9.32	−0.98
Dem. Rep. Congo	11	286.33	497.32	403.52	79.61	19.73	−0.34

tests whether random-effects estimation would be almost as good. The Hausman test rejects the null hypothesis random-effects versus fixed-effects. In two out of three cases, the fixed-effects estimations were most appropriate (Chi square-statistics: 36.962504 (0.0000) and 17.957119 (0.0000) for two models with log CPI and HDI as dependent variables, respectively), while the second case with log GDP per capita as a dependent, the random-effects model was not significant (F-statistics −1.591571 [0.052225]). Wald test (*F*-statistics) tests whether the pooled model would be almost as good. The Wald test rejects the null hypothesis pooled OLS model versus the fixed-effects model. In these three cases, fixed-effects models were most appropriate (F-statistics: 4.332455 (0.0000); 31.21825 (0.0000); 65.26011 (0.0000) for three models with log CPI, log GDP per capita, and HDI as dependent variables, respectively).

TABLE 4 Descriptive statistics of the HDI for 10 former European colonies

	HDI						
Country	**N**	**Min**	**Max**	**Mean**	**S. Dev.**	**C. Var.**	**Skew.**
Burundi	11	0.36	0.42	0.40	0.02	5.06	−1.02
Burkina Faso	11	0.34	0.42	0.39	0.03	6.73	−0.39
Central African Rep.	11	0.33	0.37	0.35	0.01	3.33	−0.30
Guinea-Bissau	11	0.41	0.46	0.44	0.02	3.56	−0.37
Haiti	11	0.46	0.50	0.48	0.01	2.64	−0.07
Madagascar	11	0.49	0.52	0.51	0.01	1.60	−0.43
Niger	11	0.29	0.35	0.33	0.02	6.33	−0.48
Sierra Leone	11	0.36	0.42	0.40	0.02	5.24	−0.48
Togo	11	0.44	0.50	0.47	0.02	4.85	0.23
Dem. Rep. Congo	11	0.38	0.46	0.42	0.03	6.10	−0.10

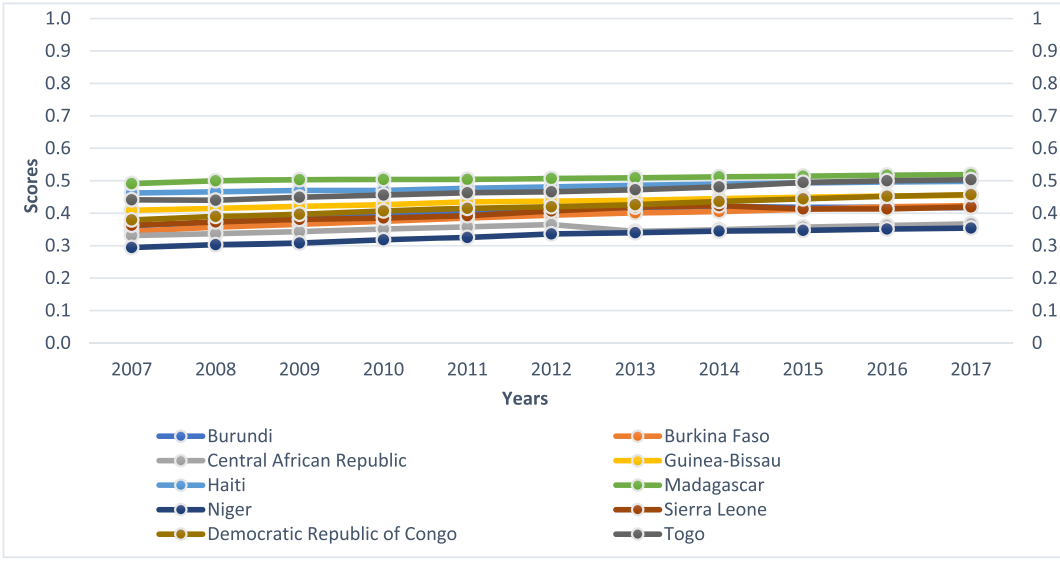


FIGURE 10 Trends of the HDI for 10 former European colonies [Color figure can be viewed at wileyonlinelibrary.com]

The results of three-panel regression models: pooled OLS, fixed effects, and random effects models with log CPI as the dependent variable are presented in Table 5. The general performance of the most appropriate model (the fixed-effects model) is very satisfactory. The explanatory power of log CPI regression is very high ($R^2 = 0.809967$). Table 5 shows that some of the variables have the expected signs and levels of significance. A series of t-test at 1%, 5%, and 10% significant levels have been applied on each independent variable against the dependent variable. From the panel regression model equation for *log CPI*, only control of corruption (*CON-CUR)* is significant at a 1% level. The positive sign of the coefficients *CON-CUR* indicates a

TABLE 5 Results of the panels regression models with log CPI as the dependent variable

	Pooled OLS	Fixed effect model	Random effect model
Constant	3.772484*** (0.041524)	3.188494*** (0.150440)	3.772484*** (0.036543)
GOV-EFE	0.006062 (0.064812)	−0.112235 (0.103842)	0.006062 (0.057038)
REG-QUA	−0.105188 (0.088418)	−0.041105 (0.113644)	−0.105188 (0.077812)
RUL-LAW	0.205658** (0.093523)	0.018205 (0.125895)	0.205658** (0.082305)
CON-CUR	0.549444*** (0.078509)	0.399647*** (0.118623)	0.549444*** (0.069091)
POL-STA	−0.000681 (0.028569)	−0.075495 (0.051512)	−0.000681 (0.025142)
VOI-ACO	−0.102415* (0.056788)	−0.034103 (0.081028)	−0.102415** (0.049976)
Burkina Faso (Dummy - 2)		0.415467*** (0.129186)	
Cent. Afric. Rep. (Dummy - 3)		−0.037029 (0.078791)	
Guinea-Bissau (Dummy - 4)		0.060020 (0.080860)	
Haiti (Dummy - 5)		−0.092092 (0.091179)	
Madagascar (Dummy - 6)		0.236662** (0.105077)	
Sierra Leone (Dummy - 7)		0.311628*** (0.084841)	
Niger (Dummy - 8)		0.244530** (0.110059)	
Togo (Dummy - 9)		0.282689*** (0.089432)	
Demo. Rep. of Congo (Dummy - 10)		−0.061004 (0.072905)	
F-statistic	46.68310***	26.71009***	46.68310***
R^2	0.731140	0.809967	-
Adjusted R^2	0.715478	0.779643	-
N	110	110	110
No. of cross-sections	10	10	10
Time series length	11	11	11
Hausman test		**Wald test**	
Test statistic	Degrees of freedom	Test statistic	Degrees of freedom
36.962504***	6	4.332455***	9, 94

Note. Standard errors are in parenthesis.
*<0.10.
**<0.05.
***<0.01.

positive effect on *log CPI*, suggesting that an improvement in this indicator will increase the mean of the corruption perception index.

The results of three-panel regression models: pooled OLS, fixed effects, and random effects models with *log GDP* per capita as the depent variable are presented in Table 6. The general performance of the most appropriate model (fixed-effects model) is very satisfactory with a very high explanatory power of *log GDP* per capita regression ($R^2 = 0.848809$). According to these results, most of the variables have the expected signs and levels of significance. A series of *t* test at 1%, 5%, and 10% significant levels have been applied to each independent variable against the dependent variable. From the panel model equation for *log GDP* per capita, *REG-QUA*, *RUL-LAW*, and *POL-STA* are significant at a 5% level. However, the other three indicator variables: *GOV-EFE*, *CON-CUR*, and VOI-ACO are not significant. The positive sign of the coefficients for *REG-QUA* and *RUL-LAW* indicates that these two indicators determine *log GDP* per capita, suggesting that an increase in these two indicators will increase the mean value of *log GDP* per capita. However, *POL-STA* has a negative coefficient, which implies that this indicator is less important when compared with the *REG-QUA* and *RUL-LAW* for determining *log GDP* per capita.

The results of the three-panel regression models: pooled OLS, fixed effects, and random effects models with HDI as the dependent variable are presented in Table 7. The general performance of the most appropriate model (fixed-effects model) is very satisfactory. This result indicates that the explanatory power of HDI regression is very high ($R^2 = 0.911965$). As indicated in Table 7, some of the variables have the expected signs and levels of significance. A series of *t* test at 1%, 5%, and 10% significant levels have been applied on each independent variable against the dependent variable. From the panel model equation for *HDI*, only *Political Stability* (*POL-STA*), and *Government Effectiveness* (*GOV-EFE*) are significant, respectively, at a 1% level and 5% level. This suggests that an improvement in these two indicators may result in an increase in the HDI and also an increase in the likelihood of achieving sustainable development for the selected countries.

Based on the results of this study, we draw the theoretical framework presented in Figure 11. This framework shows that only an improvement in indicator "control of corruption" positively influences CPI. Also, the only improvement in "regulatory quality" can positively influence GDP. However, the framework shows that an improvement in *political stability* and *government effectiveness* factors can result in an improvement in HDI.

4 | GENERAL DISCUSSION

While the results of the panels regression model (fixed effect model) seem to be interesting, the trends in the institutional conditions of these 10 countries selected for this paper show that they are will not be able to achieve the SDGs by 2030 and beyond unless there is a strong political will to curb the legacy of corruption and other social artifacts that impede their development. Consistent with our statement, van Zanten and van Tulder (2020) contend that "the world is not on track to achieve the 17 SDGs by 2030." Taking globally, the legacy of corruption is a symptom of instability that influences decision-making processes (Marchini et al., 2019) thus presenting a barrier to sustainability.

Rather than servicing their citizens, public institutions of the world's poorest economies are designed to satisfy solely the self-serving and vested interests of government politicians, the economic elites, and those with good political connections (Mombeuil, 2020). As Peter Eigen (2005),

TABLE 6 Results of the panels regression models with log GDP per capita as the dependent variable

	Pooled OLS	Fixed Effects Model	Random Effects Model
Constant	6.050427***	5.568986***	6.308091***
	(0.085223)	(0.183883)	(0.165707)
GOV-EFE	−0.485536***	−0.088478	−0.128849 (0.123146)
	(0.133019)	(0.126925)	
REG-QUA	0.439920**	0.305845**	0.326520**
	(0.181468)	(0.138907)	(0.133234)
RUL-LAW	−0.591989***	0.366574**	0.291407*
	(0.191946)	(0.153881)	(0.150788)
CON-CUR	0.373006**	−0.151267	−0.103969
	(0.161129)	(0.144992)	(0.140449)
POL-STA	0.260860***	−0.155558**	−0.117930*
	(0.058635)	(0.062932)	(0.060858)
VOI-ACO	0.146173	−0.111214	−0.082529
	(0.116550)	(0.99040)	(0.096355)
Burkina Faso		0.866938***	
(Dummy - 2)		(0.157903)	
Cent. Afric. Rep.		0.674095***	
(Dummy - 3)		(0.096306)	
Guinea-Bissau		1.202134***	
(Dummy - 4)		(0.098835)	
Haiti		1.249510***	
(Dummy - 5)		(0.111448)	
Madagascar		0.618461***	
(Dummy - 6)		(0.128434)	
Sierra Leone		0.362116***	
(Dummy - 7)		(0.103700)	
Nigeria		0.927868***	
(Dummy - 8)		(0.134524)	
Togo		0.958091***	
(Dummy - 9)		(0.109312)	
Demo. Rep. of Congo		0.588937***	
(Dummy - 10)		(0.089111)	
F-statistic	11.29751***	35.18207***	1.591571
R^2	0.396903	0.848809	-
Adjusted R^2	0.361771	0.824683	-
N	110	110	110
No. of cross-sections	10	10	10
Time series length	11	11	11

(Continues)

TABLE 6 (Continued)

	Pooled OLS	Fixed Effects Model	Random Effects Model
Hausman test		**Wald Test**	
Test statistic	Degrees of freedom	Test statistic	Degrees of freedom
Random-effects model is not significant		31.21825***	9, 94

Note. Standard errors are in parenthesis.
*<0.10.
**<0.05.
***0.01.

the former Chair of Transparency International, stated: "Corruption is a major cause of poverty as well as a barrier to overcoming it." Moreover, "Corrupt political elites in the developing world, working hand-in-hand with greedy business people and unscrupulous investors, are putting private gain before the welfare of citizens and the economic development of their countries"(Eigen, 2002). Goal 16 of SDGs focuses on peace, justice, and strong institution, suggesting the need for substantial changes in the organizational features of the national institutions of the world's poorest and ill-governed nations. However, changes to institutional features of national institutions of these countries might take decades if not centuries (Lange & Rueschemeyer, 2005), a fact that is not taking into account by the SDGs. Moreover, the lack of leadership of government politicians in outlining the vision for sustainability represents a substantial barrier to sustainability initiatives (Chkanikova & Mont, 2015). And also, the steady trends in the indicators show that businesses are conducted as usual in most developing countries. As Spaiser et al. (2017) pointed out, the SDG agenda will fail if we continue with the mindset of business as usual.

The extent to which business leaders will support the SDGs depends on the existence of powerful institutional stakeholders (Campbell, 2007; Mombeuil, 2020; Mombeuil et al., 2019) and also the extent to which institutional and ecological forces may shape organizational leaders (Jeong et al., 2021) to do so. On the contrary, institutional stakeholders like NGOs and member organizations in a civil society operating in the world's poorest nations are most of the time untrustworthy, unaccountable, and corrupt (see Holloway, 1997; Klitgaard, 2010; Ramachandran & Walz, 2012; Schuller, 2007; Trivunovic, 2011; Zanotti, 2010) and ineffective (Ramachandran & Walz, 2015). Worst of all, these important institutional stakeholders (NGOs) are structured at times to meet the self-serving financial interests of their founders or to fulfill hidden objectives of some political parties, corporations (Holloway, 1997), and imperial powers (Tembo, 2003) while remaining consistent in developing dubious and white elephant projects as a means to keep the statute quo of poverty.

Government ineffectiveness and poor regulatory quality are instances of state failure depicting the reality of most developing countries not only makes respect for the rule of law and the fight against corruption impossible but also hinders their capability to achieve the UN SDGs. Moreover, "the absence of adequate institutional and political capacity in developing countries to assist and accelerate a dynamic transformation" (Khan, 2002, p. 1) are serious obstacles to the achievement of the UN SDGs. Thereby, these obstacles reduce the capacity of governments of developing countries to be efficient in providing basic social good and services, implementing policies to correct market imperfections, and promoting sound business practices (Khan, 2002; Rotbert, 2003) as well as limiting the environmental damages caused by multinational corporations that impede sustainable development (Akiwumi, 2014; Wilson, 2015).

TABLE 7 Results of the panels regression models with HDI as the dependent variable

	Pooled OLS	Fixed Effect Model	Random Effect Model
Constant	0.375895***	0.370741***	0.396708***
	(0.014867)	(0.023796)	(0.020691)
GOV-EFE	−0.089051***	−0.039789**	−0.044249***
	(0.023205)	(0.016425)	(0.015872)
REG-QUA	0.068712**	0.018941	0.022530
	(0.031656)	(0.017976)	(0.017155)
RUL-LAW	0.014987	0.011876	0.005834
	(0.033484)	(0.019914)	(0.019458)
CON-CUR	−0.042564	0.010126	0.014429
	(0.028108)	(0.018764)	(0.018101)
POL-STA	0.044066***	−0.031227***	−0.024509***
	(0.010229)	(0.008148)	(0.007839)
VOI-ACO	−0.020079**	0.020986	0.021545*
	(0.020332)	(0.012817)	(0.012426)
Burkina Faso		−0.001222	
(Dummy - 2)		(0.020434)	
Cent. Afric. Rep.		−0.065275***	
(Dummy - 3)		(0.012463)	
Guinea-Bissau		0.061709***	
(Dummy - 4)		(0.012790)	
Haiti		0.076101***	
(Dummy - 5)		(0.014423)	
Madagascar		0.118339***	
(Dummy - 6)		(0.016621)	
Sierra Leone		−0.067812***	
(Dummy - 7)		(0.013420)	
Niger		0.014970	
(Dummy - 8)		(0.017409)	
Togo		0.091907***	
(Dummy - 9)		(0.014146)	
Demo. Rep. of Congo		0.005423	
(Dummy - 10)		(0.011532)	
F-statistic	9.736010***	64.91740***	2.396118**
R^2	0.361897	0.911965	-
Adjusted R^2	0.324726	0.897917	-
N	110	110	110
No. of cross-sections	10	10	10
Time series length	11	11	11

(Continues)

TABLE 7 (Continued)

	Pooled OLS	Fixed Effect Model	Random Effect Model
Hausman test		**Wald test**	
Test statistic	Degrees of freedom	Test statistic	Degrees of freedom
17.957119***	6	65.26011***	9, 94

Note. Standard errors are in parenthesis.
*<0.10.
**0.05.
***0.01.

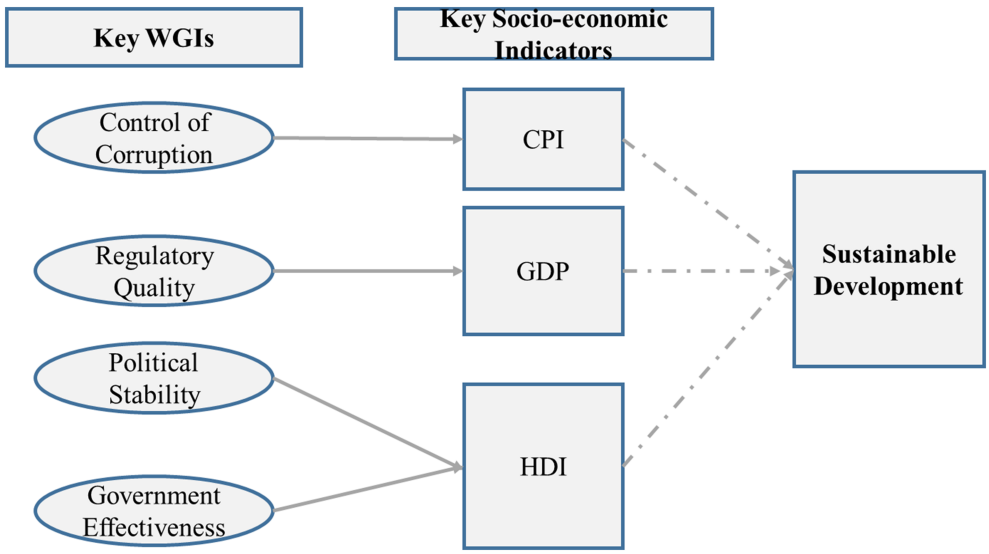


FIGURE 11 Theoretical framework (path) to sustainable development [Color figure can be viewed at wileyonlinelibrary.com]

Under such circumstances, it is unrealistic to think that the poorly governed nations will be able to achieve SDGs within the next decades, say onwards 2030.

Moreover, the consistency of the low score in the Human development index (HDI) and the low GDP per capita are indicators that also support the unrealistic stance of the UN SDGs to many developing countries. More importantly, the world's most impoverished nations lack all the important resources (human capital, knowledge capital, public institutional capital, infrastructure, and business capital) to reach UN SDGs (Mombeuil, 2020). And it is unrealistic to expect these nations to acquire all the fundamental resources by 2030.

If the achievement of the UN SDGs necessitates partnerships and collaboration among nations, the legacy of exploitation and dependence in the relationship between the world's powers and developing nations (Laabes et al., 2011) ultimately makes truthful partnerships for sustainable development an absolute utopia. Moreover, foreign policies and the dominance of powerful nations towards the weak ones further reduce the likelihood that these poor countries might reach the level of sustainable development over the next five decades let alone for one. Eventually, regulations regarding international trades, the business conducts, and international financial systems bear the footprint of the most powerful nations. The fact that the relationships

between the world's most powerful nations and the weakest ones are based on exploitation (Frankema, 2015), also puts the UN SDGs beyond reach as a whole. Moreover, the self-interested trade policies of the world's superpowers, especially the former European colonial empires, not only contribute to poverty and inadequate development in many African countries (Kohnert, 2008) but also hinder their capacity to reach the SDGs. Additionally, no countries can expect to reach sustainable socioeconomic development when they lose control over their monetary policy and the choice of their political leaders in due and fair elections, which violate the international law of self-determination of peoples. This is particularly the case of a country like France that dominates and controls the destiny of CFA franc zone countries even after their so-called independence (see, for example, Kohnert, 2008; Zhao & Kim, 2009).

To a large extent, rivalry for more geopolitical and economic dominance as well as the rivalry for more stake of global resources among the world's most powerful nations provide further evidence that UN SDGs remain a utopia, at least for the world's poorest nations. Moreover, the UN SDGs fail to address all the big business and economic and political interests behind most of the political instabilities, wars, and social injustice in our societies. The irony behind the SDGs is that we quote "the 17 Goals are all interconnected in order to leave no one behind; we must achieve them by 2030." Should we reasonably expect that no citizen of the world's fragile states like Yemen, Somalia, South Sudan, Syria, Haiti, and the Democratic Republic of Congo will not leave behind in the sustainable development discourse? As UN sustainable development goals encompass limited responsibilities to governments and businesses (Spangenberg, 2017), we remain skeptical regarding the goodwill of the world's most powerful nations to make these goals a successful story.

5 | CONCLUSION AND PERSPECTIVES

Besides all their flaws, the SDGs remain an important document that could help improve the socioeconomic and environmental conditions of our world through consent efforts and best interactions among businesses and other members of our societies be it at local, regional, and international levels. We are not trying to play the pessimist game, but it is clear that most countries, not to say all, will not reach the level of sustainable development by 2030 and beyond the next 20 decades. To move a bit close to SDGs, all these obstacles should be fully addressed by each state. First and foremost, the fight against corruption in the world's most impoverished nations, particularly those considered in this study, must move from mere rhetoric to a more pragmatic stance and must be fully supported by national institutional stakeholders, international agencies, and the world's powerful nations. In this regard, the world's most developed countries may help curb corruption by applying sanctions on corrupt politicians and investors who pose to undermine an improvement in good governance as well as the improvement in socioeconomic and environmental conditions in the world's poorest nations. While developed nations remain important actors in safeguarding global peace, they must refrain from coercing weaker nations to implement policies that only satisfy their economic and political interests so that the weaker nations can fully enjoy their self-determination in line with sustainable development goals.

To ensure sustainable development in developing countries, there must be a conscious and collective effort to take the challenge of overcoming the obstacles to socioeconomic development. Also, members of these societies need to be conscious that their intestinal quarrels are leading them to a stage of socioeconomic chaos. Therefore, a trustworthy social contract is needed. This social contract needs to focus on good governance and building the capacity of the

national institutions through means of effective reforms and the full commitment of elites of the developing nations. However, the institutional reforms must be the own making of the leadership of developing nations and must consider their development priorities. These reforms must encompass investment priorities in infrastructure and technologies to ensure regular monitoring and audit of government assets and spending. To this end, the government of developing countries may consider opting for a policy mix design as a means to foster sustainability transitions and influence stakeholders for the maintenance of political support over time (Edmondson et al., 2019).

Also, a strong and independent judicial system is needed in order to punish the perpetrators regardless of their connections and social status. Often time, institutional reforms have to cope with different obstacles (e.g., lack of political commitment) and other complex social and political contexts such as patronage, clientelism, and informal norms (Joshi & Carter, 2015). To overcome these obstacles, leaders of the developing nations must fully understand them and must also understand how these obstacles are interrelated. More importantly, the state, via their institutions, must be willing to and capable of playing at the same time the roles of a facilitator, an enabler of societal engagement; a promoter, a gatekeeper, and a moderator; an initiator and opportunist, and a guarantor and watchdog (Borrás & Edler, 2020) in order to facilitate institutional reforms, strident control of corruption, and sustainable development in the world's poorest economies.

Quality education remains vital for the success of the UN SDGs (Cicmil et al., 2017; Faham et al., 2017; Gatti et al., 2019). Through means of quality education, several studies show a positive relationship between HDI and the possibility of achieving sustainable development (Maccari, 2014; Neumayer, 2012). Consequently, developing nations have to consent to much investment in education if they commit to achieving sustainable economic development. Furthermore, institutional reforms must be supportive of the development of institutional stakeholders like NGOs, education, community-based organizations, and legalized groups and media outlets as they stand security for social cohesion and development. These groups of institutional stakeholders must, however, be willing to play the role of watchdogs that monitor the level of government effectiveness and the extent to which businesses meet social, ethnic, and environmental expectations.

As part of their civic engagement and commitment, institutional stakeholders, as well as citizens of developing countries must be willing to play the role of whistleblowers that report any forms of abuse that may hurt the well-being of their fellow citizens and the environment. Also, institutional stakeholders of the developing nations must be willing to enforce shared governance, shared commitment, and shared accountability into their managerial practice. It is important to note that the SDGs must be tailored based on the priority and capacity of each nation. That is, SDGs should be seen as a set of vision that is needed to be transformed into clear goals that are in sync with the SMART criteria, meaning that goals must be specific, measurable, achievable, realistic, and time-bound in order to monitor their progress and their level success. However, commitment and accountability in achieving the goals must be clearly understood by all the actors.

5.1 | Limitations and implication

It is important to acknowledge that this study suffers from several weaknesses. First, it does not get into the details of the SDGs. Second, the variables use in this study are very

complex and their complexity, of course, varies from one cultural context to another. Therefore, the interpretation of results was subject to the authors' judgment and seemed to be somehow speculative besides the strengths of the arguments that were provided. Besides the merits of the SDGs, it is important to understand that the "one-size-fits-all" tailored targets are unrealistic and do not make sense given the complexity of these goals, the magnitude of the obstacles not to mention the divergence in the socio-economic, political, and institutional realities in each country. Consequently, the SDGs must be tailored based on the context of each country and future studies must consider the capacity of each country to achieve the proposed goals. Each element of the SDGs provides enormous opportunities to conduct a range of studies that could help fill the gaps in the lack of studies that focus on developing countries. In this regard, case studies, empirical studies, and constructive opinions on SDGs that focus on developing countries are also needed in the literature. Future studies investigating the link between sustainable development policy and State capacity in the context of developing countries are needed. The development of new indicators to assess the progress in meeting SDGs is also needed. Additionally, the literature needs studies that assess the link between human capital, knowledge capital, public institutional capital, infrastructure, and business capital in meeting the SDGs using different methodological approaches.

It is important to note that "No statistical model can act as a substitute for intelligent research design and forethought regarding the substantive meaning of parameters" (Bell & Jones, 2015, p. 17). On this basis, another limitation of this study can be found in the econometric models, especially the conclusion drawn on the fixed-effect model as the best model considering the context of this study. In this regard, one needs to be cautious regarding the use of the fixed-effect models as these models are unlikely to provide causal estimates of the effect of the variables of interest and the biases that eliminated while conducting this test (Collischon & Eberl, 2020). More importantly, Type II errors, imprecise standard errors, biased coefficients are among theoretical concerns inherent to the application of the fixed-effect models (Hill et al., 2020), which thus highlights the limitation of our conclusion of the best statistical model. Furthermore, the conclusion we have drawn on the fixed-effect model suffers an important limitation regarding the reverse causality (Leszczensky & Wolbring, 2019). It should be noted that the random-effect-within-between model (REWB) is a more general econometric analysis comparing to the fixed-effect model and random-effect model (Bell et al., 2019), which further support the need for future studies to consider other econometric analyses (e.g., REWB and other relevant statistics) to examine the best model for the effect of the world governance indicators on CPI, HDI, and GDP and how these indicators relate to sustainable development for the developing countries. All these aforementioned limitations supporting the need for other studies to use different statistical analyses to examine the relationships among variables of interest used in this study. In place of a conclusion, we believe the limited knowledge of the authors of this study in econometrics also affects the conclusion drawn on the Pooled OLS, fixed effect model, random effect model, prompting the need for more econometrics expertise to examine the relationships among variables to meet the objectives of this study. For more discussion of the Pooled OLS see (Podestà, 2002), and insights on Fixed Effect and Random Effect Models can be found in (Lüdecke, 2019) and (Bell et al., 2018).

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