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Governance Issues and the Covid-19 Pandemic in West Africa: Are There Any Linkages?

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Abstract

This article contributes to a better understanding of the possible interaction between the spread of the Covid-19 pandemic in the ECOWAS countries and the state of governance. More specifically, it determines the relationship between governance and the number of Covid-19 confirmed cases by the end of September 2021, the relationship between tourist arrivals and external debt and the number of confirmed cases. The data was collected over 2020 and 2021. Correlation and multiple regression analysis were used to assess the strength of association between the variables and possible causation respectively. The study found positive and significant correlation between all the governance variables, except for political stability. There was a strong association between tourist arrivals, external debt, and infection rates. Governance did not significantly impact the infection rate, whereas the number of tourists and per capita external debt did so significantly. It is therefore recommended that more stringent actions be taken to reinforce safety measures at all entry points in the ECOWAS region and that development partners look closely at the reliability of the numbers of confirmed cases to ensure that the data collected is not manipulated simply to attract foreign resources.

Keywords: Covid-19; governance; tourism; external debt; ECOWAS

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Résumé

Cet article contribue à une meilleure compréhension de l'interaction possible entre la propagation de la pandémie de Covid-19 dans les pays de la CEDEAO et l'état de la gouvernance. Plus précisément, il détermine la relation entre la gouvernance et le nombre de cas confirmés de Covid-19 à la fin du mois de septembre 2021, le lien entre les arrivées de touristes et la dette extérieure, et le nombre de cas confirmés. Les données ont été collectées en 2020 et 2021. Une analyse de corrélation et de régression multiple a été utilisée pour évaluer la force d'association entre les variables, et de probable causalité. L'étude a trouvé une corrélation positive et significative entre toutes les variables de gouvernance, à l'exception de la de stabilité politique. Il existait une forte corrélation entre les arrivées de touristes, la dette extérieure et les taux d'infection. La gouvernance n'avait pas d'impact significatif sur le taux d'infection, contrairement au nombre de touristes ou la dette extérieure. Il est donc recommandé de recourir à des actions plus strictes pour renforcer les mesures de sécurité à tous les points d'entrée dans l'espace CEDEAO et que les partnaires au développement examinent de près la fiabilité des cas confirmés pour s'assurer que les données collectées ne sont pas manipulées dans le seul but d'attirer des ressources étrangères.

Mots-clés : Covid-19, gouvernance, tourisme, dette extérieure, CEDEAO

Introduction

In the wake of the year 2019, the world was hit with the news of a deadly novel virus named Covid-19. An infection that started in China in December 2019 as an outbreak turned into an epidemic and then spread all over the world to become a pandemic,[1] raising fear and anxiety. This pandemic ignited decisions at the highest level worldwide that had never been imagined before, except in fiction stories and movies. The world witnessed disputes between consumers over basic items like toilet paper in an Australian supermarket. This called the attention of leaders in the developed world to address what was to become a world tragedy. Indeed, faced with this deadly virus, nations took critical decisions that impacted and continue to impact on lives and ways of doing things the world over.

Despite vigorous reactions implemented by countries to halt the pandemic, it caused a global recession in 2020, annihilating countries' efforts for sustained growth and prosperity. Indeed, the World Bank's Global Economic Prospects (World Bank 2021a) indicated that the world economy contracted by 4.3 per cent in 2020. This contraction was also felt in advanced economies, where the contraction stood at 5.4 per

cent. Notwithstanding this contraction, in view of the measures taken by countries in the wake of this pandemic it is believed that prospects for the coming years will be better. Indeed, the world economy was expected to grow by 4.0 per cent in 2021 (World Bank, 2021b).

The decisive actions taken to stop the spread of the virus included but were not limited to, school closures and border closures. In addition, given the impact of Covid-19 on economic activities, countries put together different response plans which needed resources that were not always available. The ECOWAS countries did not remain actionless and drew up national response plans. Indeed, the cost of the health response plan amounted to USD 2,442.45 million by June 2020. Other interventions included support for the social sectors and the most vulnerable (ECOWAS, 2020).

To boost the available resources, countries resorted to mobilising funds from international partners as well as the financial market. The total amount mobilised through the financial markets by June 2020 stood at USD 12.67 billion. Despite these efforts, the spread of the pandemic continued, and varied from one country to the other. Indeed, in the ECOWAS region, as shown in Figure 1, the infection rate, computed as the number of confirmed cases over the population, varied from a low of 0.024 in Niger to a high of 6.687 in Cape Verde (Figure 2) by 30 September 2021, making that country the hardest hit in the ECOWAS region. Cape Verde was followed by Senegal (0.429), Ghana (0.402) and The Gambia (0.399). It is important to recall that the first confirmed cases in the region were registered in Nigeria on 27 February 2020 and Senegal on 28 February 2020 (WAHO 2020).

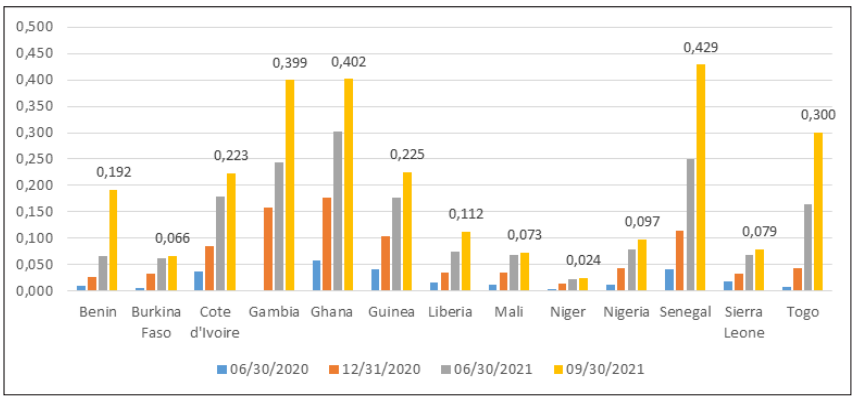

Figure 1: Infection rate, June 2020 to September 2021, excluding Guinea-Bissau

Source: Author's own, using data from University of Oxford, http://knoema.com/OXCovidGTR2020/oxford-Covid-19-government-response-tracker

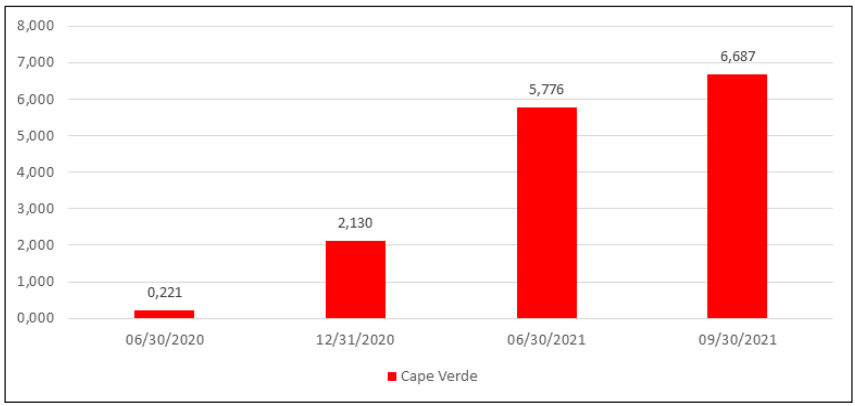

Figure 2: Infection rate, June 2020 to September 2021, in Cape Verde

Source: Author's own, using data from University of Oxford, http://knoema.com/OXCovidGTR2020/oxford-Covid-19-government-response-tracker

What could be the reason for such divergence in spread when the international community, through the development partners, mobilised resources to provide financial support to the affected countries? In the ECOWAS region, the total amount mobilised by June 2020 stood at USD 12.67 billion (Table 1 and Figure 3).

Table 1: Resources Mobilised by ECOWAS Member States through the International Community by 11 June 2020

COUNTRY	DEVELOPMENT PARTNERS[2] (USD M)	COUNTRY	DEVELOPMENT PARTNERS[3] (USD M)
Benin	219.62	**Liberia**	51.73
Burkina Faso	115.3	**Mali**	348.073[4]
Cape Verde	32	**Niger**	114.49
Côte d'Ivoire	1,144.786[5]	**Nigeria**	8,100
The Gambia	81.3	**Senegal**	442.1
Ghana	1,110	**Sierra Leone**	317.47[6]
Guinea	480	**Togo**	97.1
Guinea-Bissau	16	**ECOWAS**	**12,669.97**

Source: Member states response plan, www.imf.org/en/Topics/imf-and-Covid19/Covid-Lending-Tracker

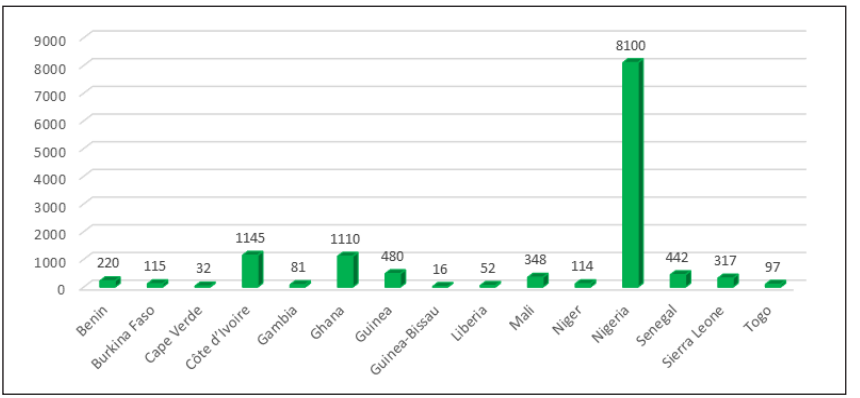

Figure 3: Resources mobilised by ECOWAS member states through development partners by 11 June 2020, in USD million

Source: Member states response plan,
www.imf.org/en/Topics/imf-and-Covid19/Covid-Lending-Tracker

In line with the above, it is of utmost importance to critically analyse the extent to which the spread of the virus was linked to the quality of governance in West African countries and some control variables, such as the number of tourists and external debt. The main objective of this paper is therefore to contribute to a better understanding of the possible link or interaction between the Covid-19 infection rate in West Africa and the state of governance in the countries of this region.

More specifically, the paper seeks to determine the relationship between:

1) governance indicators and the number of Covid-19 confirmed cases by the end of September 2021;
2) two control variables—tourist arrivals and external debt—and the number of confirmed cases.

The rest of the paper is organised as follows. The next section provides a trend analysis of governance in ECOWAS member states. It is followed by a brief analysis of the spread of the pandemic in the ECOWAS region. Selected literature on governance and the Covid-19 pandemic is then discussed, after which there is an analysis of the data and the method. The results are presented followed by the conclusion.

Governance in ECOWAS

The governance concept is analysed through six dimensions:

1. ***Voice and accountability***: Perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as the degree of freedom of expression, freedom of association and free media.
2. ***Political stability and the absence of violence***: perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism.
3. ***Government effectiveness:*** perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
4. ***Regulatory quality***: perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
5. ***Rule of law***: perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence.
6. ***Control of corruption***: perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as the 'capture' of the state by elites and private interests.

The governance indicators data are obtained from the World Bank.[7] The data on governance ranges from approximately -2.5, reflecting weak governance performance, to 2.5, which is strong governance performance.

Voice and Accountability

Figure 4 displays the evolution of the voice and accountability indicator for ECOWAS member states between 1996 and 2020. For visual clarity, four panels are used. The first panel presents the trends for Benin, Burkina Faso, Cape Verde and Côte d'Ivoire. Let's recall that the indicator ranges from -2.5 (weak) to 2.5 (strong). Over the period of analysis, Benin and Cape Verde were the two countries with acceptable voice accountability, since the indicator is above zero. In Benin, for instance, this indicator has been oscillating between zero and 0.5. Although it is not very strong, at least it is not weak. In Cape Verde, this indicator has been above 0.5 and remained constantly around 1 from 2008 till 2020. This is a clear indication of the importance of people's voices in this country. Burkina Faso and Cote d'Ivoire have weak voices and accountability. This is an indication

that decisions are made without concerns for the people's voice. In Côte d'Ivoire, although there was some improvement—since the indicator has an upward sloping trend from 2005, going from -1.29 to -0.25—voice and accountability remain a concern.

The second panel presents the trends for The Gambia, Ghana, Guinea and Guinea-Bissau. With the exception of Ghana, where the indicator is above zero and around 0.5, the remaining three countries have weak voice and accountability. Thus, voice and accountability are stronger in Ghana.

The third panel has to do with Liberia, Mali, Niger and Nigeria. Although Liberia, Niger and Nigeria registered some improvements in this indicator over the period of analysis, voice and accountability are very weak in these countries, remaining below zero. Contrarily, Mali had a positive indicator, although below 0.5 from 2001 to 2011. However, the situation deteriorated in 2012 and worsened till 2020, when the indicator stood at -0.73.

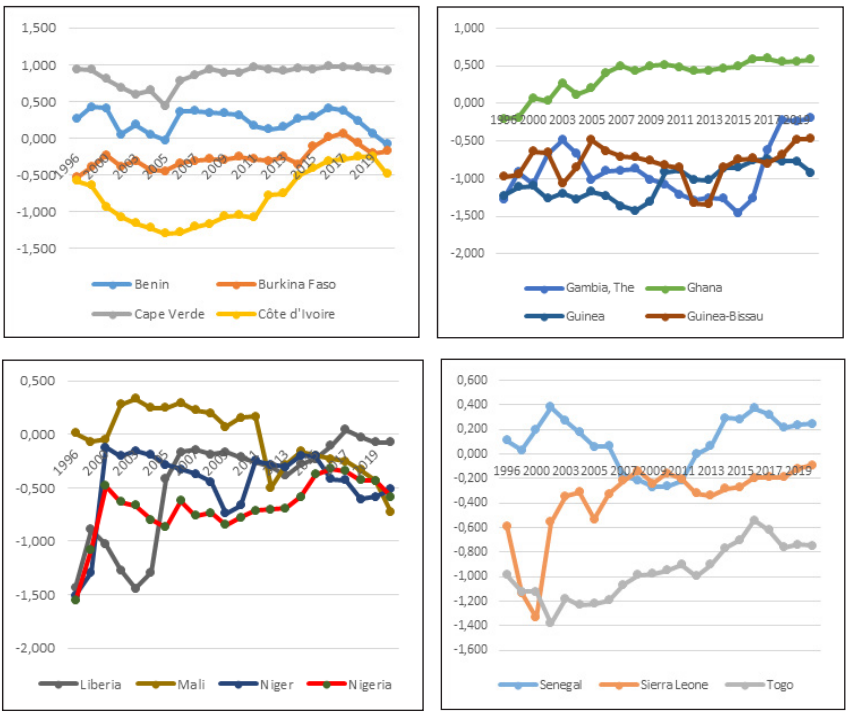

Figure 4: Trend of the voice and accountability indicator from 1996 to 2019 in selected ECOWAS member states

Source: Worldwide Governance Indicators - knoema.com

The fourth panel focuses on Senegal, Sierra Leone and Togo. Sierra Leone and Togo have an upward sloping trend of this indicator ranging from -1.33 in 2000 to -0.09 in 2020 for Sierra Leone and from -1.38 in 2002 to -0.74 in 2020 for Togo. Despite these improvements, this indicator remained below zero. Thus, voice and accountability remained weak in these countries. In contrast, Senegal showed an initial improvement of this indicator, going from 0.029 in 1998 to 0.38 in 2002. However, this indicator deteriorated thereafter to reach its lowest level in 2009, at -0.269. An improvement was registered in 2010 and continued in the following years and took this indicator into a positive sphere, although it remained below 0.4.

Overall, Benin, Cape Verde, Ghana and Senegal are therefore the countries in the ECOWAS region where people's voice matters to some extent.

Political Stability and Absence of Violence

The four panels in Figure 5 indicate the evolution of the political stability and absence of violence indicator for ECOWAS member states. The first panel presents the trends for Benin, Burkina Faso, Cape Verde and Côte d'Ivoire. Let's recall again that the indicator ranges from -2.5 (weak) to 2.5 (strong). Over the period of analysis, Benin's political environment deteriorated and became more violent. Indeed, the indicator dropped from 1 in 1996 to -0.5 in 2019. In Burkina Faso, the drop in this indicator started in 2007 and has been worsening since. It stood at -1.5 in 2019. Unlike Benin and Burkina Faso, Cape Verde has a stable political environment. Côte d'Ivoire experienced political instability throughout the period of analysis. The indicator remained consistently below -0.5.

The second panel presents the trends for The Gambia, Ghana, Guinea and Guinea-Bissau. This indicator started a downward trend in 2002 and continued till 2017 when the trend started sloping upwards. It remained overall above zero with the exception of the year 2017. Ghana enjoyed political stability and an absence of violence over most of the period of analysis especially early 2005, when the indicator was above zero. Guinea and Guinea-Bissau constantly had a politically unstable environment with violence. Indeed, the indicator for these two countries remained consistently below zero throughout the period of analysis.

The third panel presents the trends for Liberia, Mali, Niger and Nigeria. Liberia's political environment has not been stable despite the improvement registered. Indeed, the indicator remained consistently below zero although it is upward sloping. The situation in Mali started worsening in 2009 when the

indicator dropped below zero and continued plummeting until 2020, when it stood at -2.14. Niger experienced a deteriorating political environment from 1996 and its political stability and absence of violence indicator stood at -1.74 in 2020. Nigeria, too, experienced political instability throughout the period of analysis. The indicator remained consistently below -0.5 and stood at -1.86 in 2020.

The fourth panel presents the trends for Senegal, Sierra Leone and Togo. Despite improvements observed for these countries, the indicator remained consistently below zero, clearly indicating a lack of political stability and absence of violence.

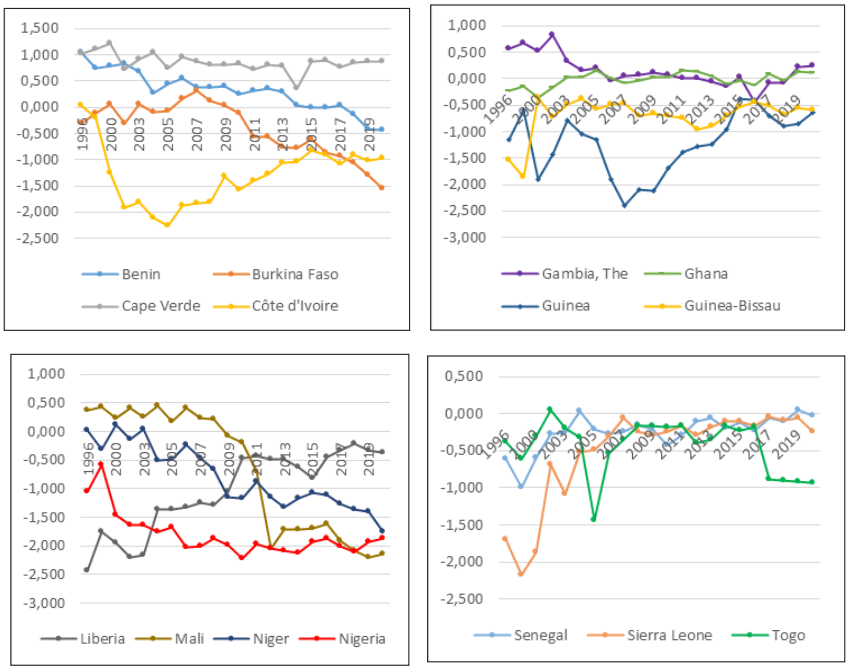

Figure 5: Trend of the political stability indicator from 1996 to 2019 in selected ECOWAS member states

Source: Worldwide Governance Indicators - knoema.com

Government Effectiveness

Figure 6 shows the evolution of the government effectiveness indicator for ECOWAS member States, also represented in four panels. Except for Cape Verde, for which the indicator is above zero, and Ghana, for a short period, the remaining countries are below zero, a clear indication of government ineffectiveness.

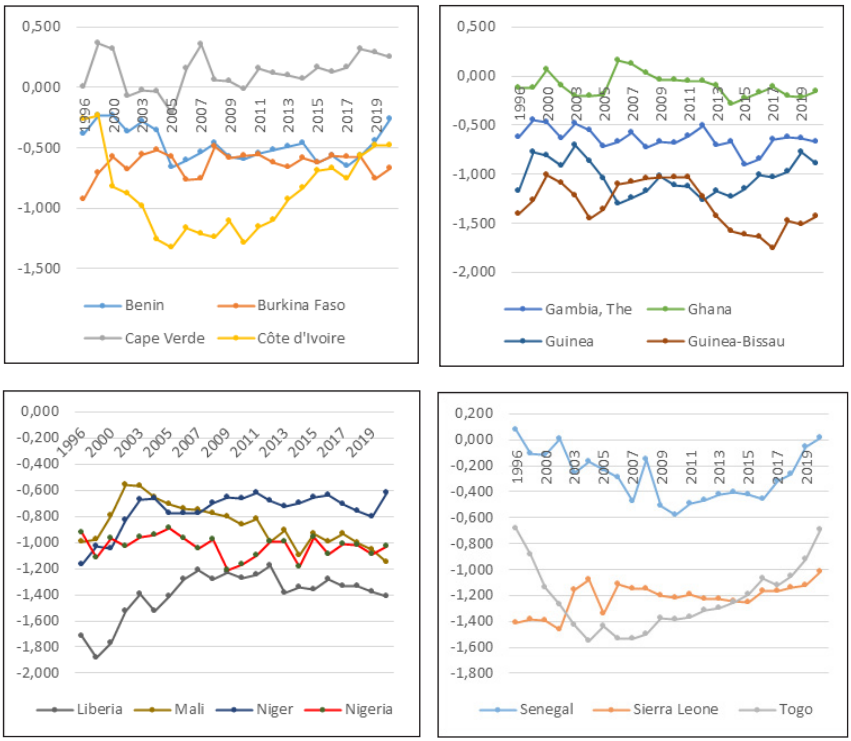

Figure 6: Trend of the government effectiveness indicator from 1996 to 2019 in selected ECOWAS member states

Source: Worldwide Governance Indicators - knoema.com

Regulatory Quality

Figure 7 depicts the evolution of the regulatory quality indicator for ECOWAS member states in four panels. Overall, this indicator is below zero except for Cape Verde and Ghana for some given years. This is a clear indication of poor regulatory quality in the ECOWAS member states over the period of analysis.

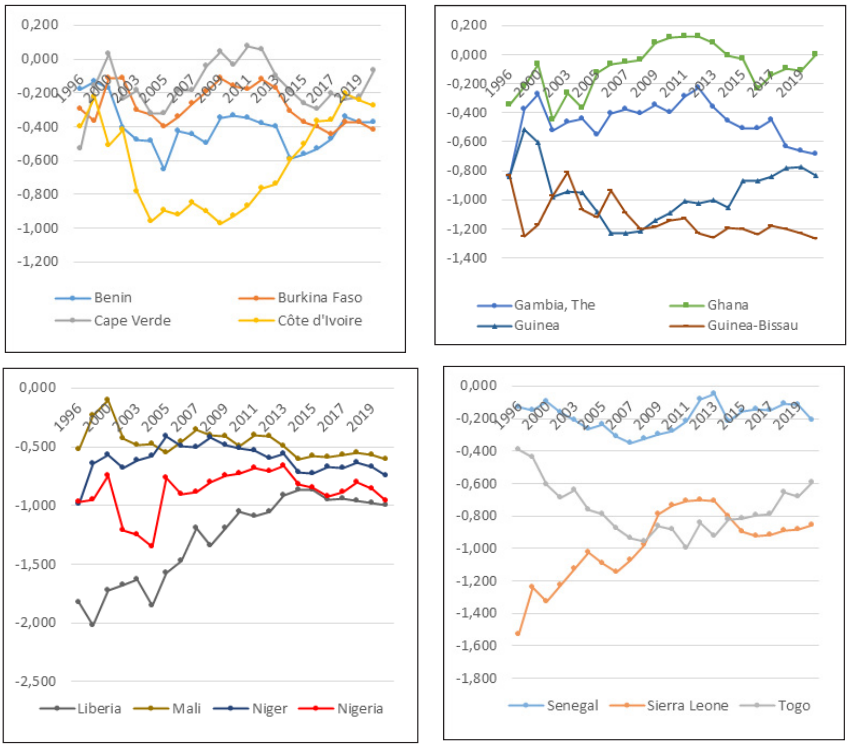

Figure 7: Trend of the regulatory quality indicator from 1996 to 2019 in selected ECOWAS member states

Source: Worldwide Governance Indicators - knoema.com

Rule of Law

Figure 8 illustrates the evolution of the rule of law indicator for ECOWAS member states. Except for Cape Verde and Ghana, all the remaining ECOWAS member states are characterised by weak rule of law since the indicator remained consistently below zero.

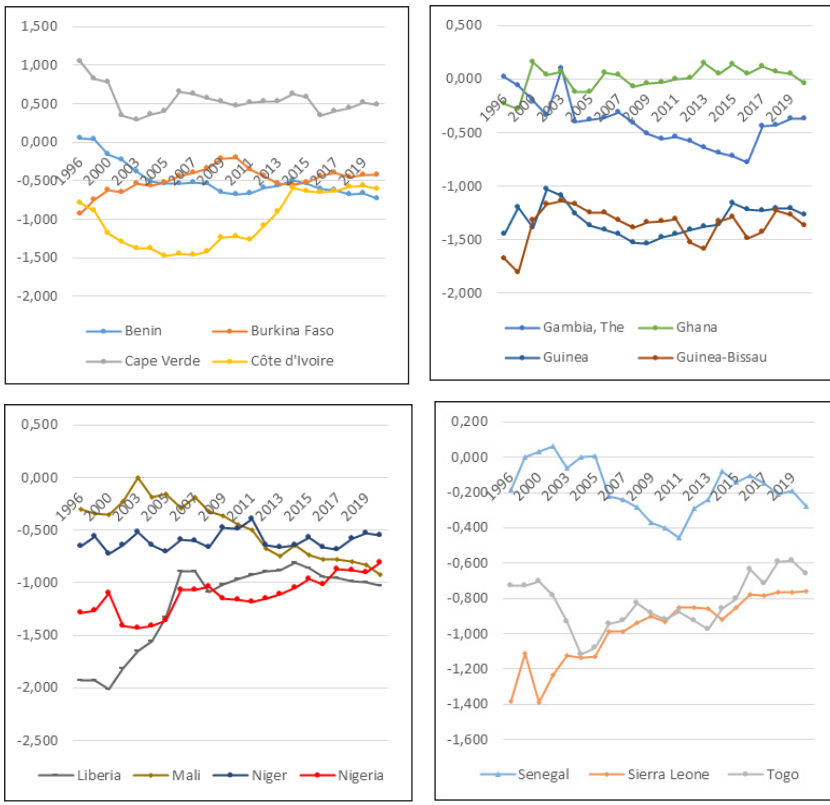

Figure 8: Trend of the rule of law indicator from 1996 to 2019 in selected ECOWAS member states

Source: Worldwide Governance Indicators - knoema.com

Control of Corruption

The control of corruption indicator for ECOWAS member states for the period of analysis is shown in Figure 9. Except for Cape Verde, all the ECOWAS member states are characterised by weak control to rampant corruption since the indicator remained consistently below zero.

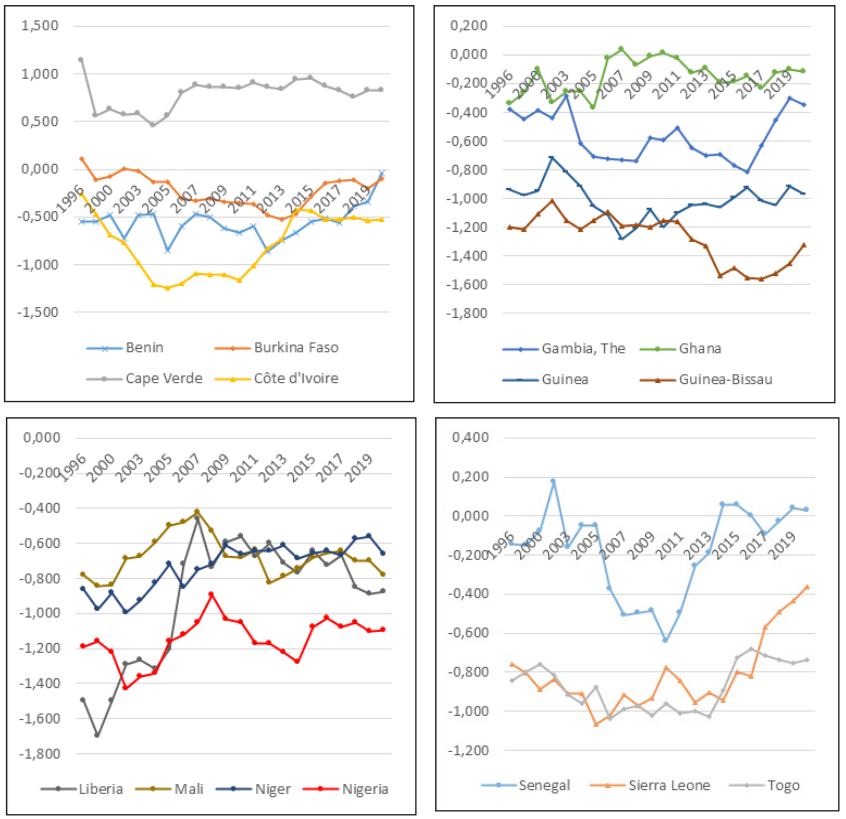

Figure 9: Trend of the control of corruption indicator from 1996 to 2019 in selected ECOWAS member states

Source: Worldwide Governance Indicators - knoema.com

Covid-19 in the ECOWAS Region: The Speed of Spread

Initially, the spread of Covid-19 was not fast in the ECOWAS region. After the first case was confirmed on 27 February 2020, the daily confirmed cases were below ten. However, on 15 March 2020 eighteen cases were confirmed, representing a 500 per cent jump from the day before. The following two days the number of new cases declined a bit before increasing on 18 March 2020. Figure 10 indicates that the number of confirmed cases in West Africa reached three peaks: 20 June 2020 to 15 August 2020; 28 December 2020 to 20 February 2021; 28 August 2021 to 24 September 2021.

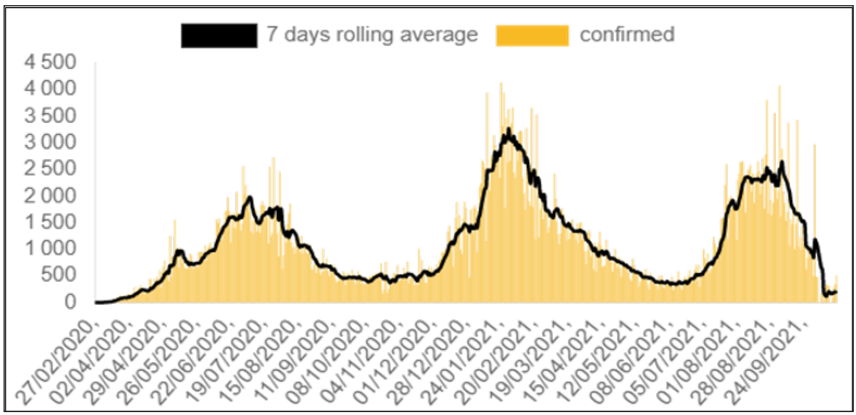

Figure 10: Trend of daily confirmed cases of Covid-19 in ECOWAS countries
Source: https://data.wahooas.org/outbreaks/#/

What could have been the reasons for these ups and downs? One could have been the laxity observed in the implementation of protective measures, i.e. wearing face masks, observing social distancing, washing hands with soap or using hand-sanitiser, among others. Indeed, the Government Response Stringency Index[8] (measuring the variation in government responses to Covid-19) calculated by the University of Oxford shows that most countries relaxed the implementation of these measures. It can be seen in Figure 11 that, except for Niger—with a steady increase of the Stringency Index from 30 June 2020 to 2 September 2021—this index dropped sharply for most of the countries during the period from 30 June 2020 to 31 December 2020. These countries include Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Liberia, Nigeria, and Sierra Leone, all of which decided to loosen the implementation of the safety measures, with immediate consequences. Figure 10 reveals that the first peak of confirmed cases occurred during that period when the safety measures were loosened.

Following the increase in the number of confirmed cases, some countries decided to pay more attention to safety measures. These countries included Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Liberia and Sierra Leone. The result was the decline of the number of confirmed cases, as shown in Figure 11. Overall, although some countries decided to tighten safety measures, others did not. These countries included Cape Verde, Ghana, Guinea, Liberia, and Sierra Leone. This lack of consistency in the implementation of the safety measures throughout the ECOWAS region clearly affected the number of confirmed cases, which has been and continues to be on the rise as depicted in Figure 12.

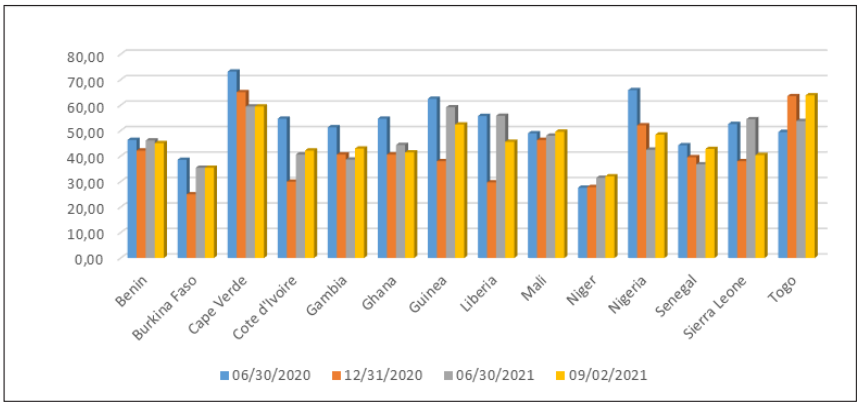

Figure 11: Index of ECOWAS government responses to Covid-19, June 2020–September 2021, excluding Guinea-Bissau
Source: University of Oxford

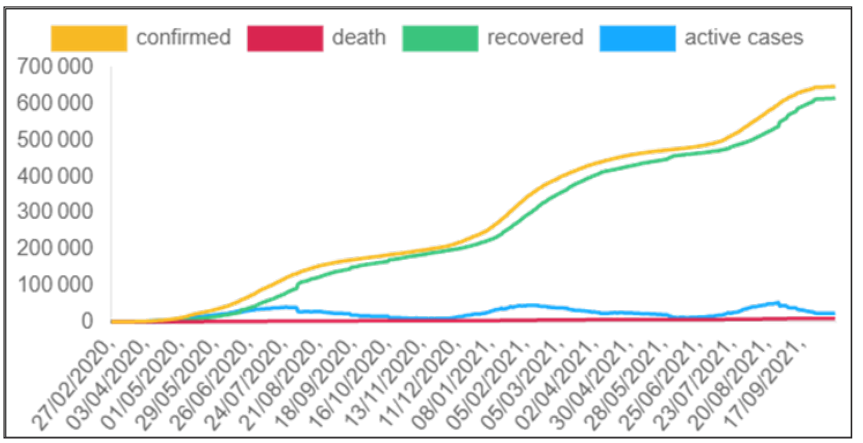

Figure 12: Trend of confirmed cases of Covid-19 in ECOWAS countries
Source: https://data.wahooas.org/outbreaks/#/

Literature Review

Research on issues related to Covid-19 is understandably quite recent and as such has not included many socioeconomic studies. Most of the studies on Covid-19 are health-related and do not focus specifically on its relationship with governance issues and economic performance. However, several studies have been undertaken recently to address some governance issues in line with the Covid-19 pandemic and non-governance factors such as tourism travel and external resources. These include Steingrüber *et al.* (2020), Teremetskyi *et al.* (2021), IMF (2021a), Farzanegan (2021), Farzanegan *et al.* (2021) and Gössling *et al.* (2020), just to cite a few.

Covid-19 Infection Rate and Governance Indicator

The World Governance Indicators have six dimensions, as described above. Among them two have been subject to analysis in respect of Covid-19. Indeed, Teremetskyi *et al.* (2021) in their study on corruption in the time of Covid-19 made the point that to contain the spread of the virus and reduce the infection rate there must be a strict practice of regulatory procedures. This clearly indicates that countries' performance in terms of regulatory quality should be strong. Hence, there should be a negative relationship between the level of regulatory quality and infection rate.

Farzanegan (2021) studied the effect of public corruption on Covid-19 fatality rates, using cross-section data, including sixty-four countries, and multiple regression techniques. The author found that the level of corruption is positively and significantly associated with Covid-19 fatality rate.

Covid-19 Infection Rate and Tourism

Gössling *et al.* (2020) conducted a rapid assessment of Covid-19 and tourism. They found that the fear of the number of confirmed cases increasing with the arrival of tourists led many countries to implement international travel bans. This led to a decline of 20 per cent to 30 per cent in tourist arrivals in 2019. Farzanegan *et al.* (2021) examined the relationship between international tourism and Covid-19 cases and associated deaths in more than ninety nations. They used a cross-country regression analysis and found a positive correlation between international tourism and the cumulated level of Covid-19 confirmed cases and death. Their results show that countries exposed to high flows of international tourism were more prone to cases and deaths caused by the Covid-19 outbreak.

Covid-19 and External Debt

The Covid-19 pandemic seriously affected the resource base of many countries, especially low-income developing countries. It exacerbated the economic hardship these countries were already confronting before the outbreak. Without assistance from the donor community, it would have been hard for them to ensure that their economies stayed afloat. Among the conditions to be eligible to benefit from the handouts from development partners (especially the IMF) was the human toll of Covid-19. This was indeed one of the conditions for eligibility to the Catastrophe Containment Relief Trust, or CCRT (IMF 2021a).

Method of Analysis and Data

In view of the spread of the Covid-19 in West Africa, it is hypothesised that governance issues could help to give a better understanding of what is happening. That is, the levels of governance indicators can explain the infection rates in the ECOWAS countries. To test this hypothesis, we follow the approach used by Farzanegan (2021) and specify the model to be estimated as follows:

$$IR_i = f(GI_i, X_i) + \varepsilon_i \quad (1)$$

where IR_i is the Covid-19 infection rate for country I, GI_i represents governance indicators for country i and X_i are control variables.

The dependent variable is the infection rate. It is calculated as the ratio of total Covid-19 confirmed cases to the total population of the country. It is based on the cumulative number of confirmed cases on 30 September 2021. The source of data is the University of Oxford Covid-19 Government Response Tracker.[9]

The independent variables include governance indicators and control variables. The governance indicators are taken from the Worldwide Governance indicators (WGI) project of the World Bank.[10] As indicated earlier, the governance indicators are made up of six dimensions of governance. As coded, these are voice and accountability ($Voice\_acc_i$), political stability and absence of violence (Pol_stab_i), government effectiveness (Gov_eff_i), regulatory quality (Reg_qual_i), rule of law ($Rule\_law_i$) and control of corruption ($Corrup_i$). These indicators range from -2.5 (weak performance) to +2.5 (strong performance).

In addition to the governance variables and to reduce the risk of omitted variable bias, we controlled for a set of drivers of the Covid-19 infection rate. The source for the control variables is the World Bank (2021). Given that the sample size is quite small, we are limited in terms of the number of control variables to consider. We therefore focused our attention on two critical ones: tourism arrivals ($tourism\_arr1_i$) and external debt (ext_debt1_i).

The first control variable (tourism arrivals) is justified by the fact that it was global connection and mobility that enabled the spread of the virus from China to the rest of the world. More importantly, in West Africa, the first confirmed case was linked to a forty-four-year-old Italian tourist who arrived who arrived in Lagos (Nigeria) on 27 February 2020. The second confirmed case was linked to a French citizen who arrived in Senegal on 26 February 2020 and was diagnosed on 28 February 2020. These two cases started the spread of the Covid-19 virus in West Africa via people's travels (WAHO 2020).

The second control variable considered is the volume of external debt. Indeed, with the spread of the virus, especially developing countries were in a tight corner due to insufficient or lack of financial resources to face the challenges brought about by Covid-19. Although all the countries resorted to developing response plans, they did not have the necessary resources to implement those plans. They therefore had to rely on external resources, which were not freely available. They needed to show that the threat of Covid-19 was serious, and that urgent action had to be taken to avoid a situation of chaos.

It is our belief that this situation led many developing countries to manipulate the number of infections so as to benefit from external resources. Recall the case of the 2018 Nobel Peace Prize Winner, Dr Mukwege, who resigned as head of a Covid-19 taskforce in the DRC. The official reason put forth was organisational problems, outpaced strategy and slow testing.[11] That was the politically correct reason in order to avoid sanctions from donors who had been assisting him in his professional work. However, Dr Mukwege's statement said clearly:

> I cannot in any case dirty my Nobel Peace Prize for money, we had been ordered to declare any illness to be coronavirus [sic] and any death. In addition, the thing that displeased me is that, after more than 100 samples none came out positive. I have a career to protect, and I am Congolese by blood. Getting rich by lying is a sin before God, I quit.[12]

Although this statement was tagged as fake, it is not a secret that in many instances the number of Covid-19 infections and fatalities were manipulated,[13] and we believe that this was more so for developing countries in order to attract external resources. It is in line with this thought that external debt variable is used as a control variable.

The infection rate variable and the control variables were subjected to logarithmic transformation. To avoid missing data points for a single year, we used the average over four years, i.e. 2017 to 2020, for tourist arrivals and external debt variables. The empirical model to be estimated is therefore as follows:

$$IR_i=\beta_0+\beta_1 Z_i+\beta_2 \text{tourism\_arr1}_i+\beta_3 \text{ext\_debt1}_i+\varepsilon_i \quad (2)$$

The above equation is estimated using ordinary least squares method with robust standard errors to correct for possible heteroskedasticity.

Empirical Results and Discussion

Descriptive Statistics

The descriptive statistics are presented in Table 2. With the exception of Liberia, where data on tourism arrivals was not available, the average number of tourist arrivals stood at 783,864 in 2020. The minimum number of tourists registered in the region stood at 52,300 for Guinea-Bissau and a maximum of 3.9 million for Nigeria. On average, external debt per capita stood at USD 536. The minimum per capita external debt stood at USD 143.259 for Niger and the maximum was USD 3,278.879 for Cape Verde.

By 30 September 2021, the cumulative number of confirmed Covid-19 cases stood on average at 43,219. The lowest number of confirmed cases was in Liberia (5,799) whereas the highest number of confirmed cases was in Nigeria (205,779).

On the governance indicators, the countries performed weakly on average in all six dimensions. Indeed, the mean value for these indicators are all negative. However, there were individual differences. On the corruption variable, the worst performer was Guinea-Bissau (-1.463) whereas the best performer was Cape Verde (0.811). On regulatory quality, the performance of all fifteen countries was poor. The worst performance (-1.219) was registered by Guinea-Bissau, whereas the best performance, which was also negative (-0.086), was registered by Ghana.

Table 2: Descriptive statistics of the variables of interest

VARIABLE	OBS	MEAN	STD. DEV.	MIN	MAX
tourism_arr	14	783,864.500	1,070,869.000	52,300.000	3,988,824.000
ext_debt1	15	536.021	785.699	143.259	3,278.879
corrup	15	-0.509	0.532	-1.463	0.811
rule_law	15	-0.601	0.463	-1.321	0.463
reg_qual	15	-0.585	0.335	-1.219	-0.086
gov_eff	15	-0.740	0.478	-1.545	0.256
pol_stab	15	-0.643	0.811	-2.086	0.844
voice_acc	15	-0.169	0.487	-0.801	0.948
conf_c_ sep21	15	43,219.670	55,988.460	5,799.000	205,779.000

Source: Author's estimations

Pairwise Correlation

The correlation coefficient between two variables is a measure of the degree to which the movement of these two variables is associated. In other words, it measures how strong the relationship is between two different variables. Although it does not provide any indication of causation it does at least provide some kind of insight as to the strength of the relationship between two variables. Table 3 shows pairwise correlation coefficients for the variables of interest and their level of significance. Thus, it is observed that the correlation coefficient between the number of confirmed cases of Covid-19 and the governance indicators, with the exception of the political stability variable (0.731), are all positive and significant (with the exception of the regulatory quality variable) but below 0.6, indicating that the relationship is not that strong. However, the correl!ation coefficients between the number of confirmed cases of Covid-19 and the control variables are above 0.7 and significant, indicating a strong relationship.

Table 3: Pairwise correlation between the variables of interest

	ln-confi_sep21	corrup	rule_law	reg_qual	gov_eff	pol_stab	voice_Acc	lntourism_arr1	lnext_debt1
ln-confi_sep21	1.000								
corrupt	0.561*[a]	1.000							
	(0.030)								
rule_law	0.584*	0.930*	1.000						
	(0.022)	(0.000)							
reg_qual	0.418	0.818*	0.836*	1.000					
	(0.121)	(0.000)	(0.00)0						
gov_eff	0.595*	0.899*	0.914*	0.921*	1.000				
	(0.019)	(0.000)	(0.000)	(0.000)					
pol_stab	0.731*	0.589*	0.533*	0.330	0.505	1.000			
	(0.002)	(0.021)	(0.041)	(0.230)	(0.055)				
voice_acc	0.598*	0.849*	0.824*	0.684*	0.759*	0.684*	1.000		
	(0.019)	(0.000)	(0.000)	(0.005)	(0.001)	(0.005)			
ln-tourism_arr1	0.871*	0.553*	0.623*	0.405	0.581*	0.628*	0.508	1.000	
	(0.000)	(0.040)	(0.017)	(0.151)	(0.030)	(0.016)	(0.064)		
lnext_debt1	0.879*	0.717*	0.758*	0.633*	0.744*	0.648*	0.796*	0.793*	1.000
	(0.000)	(0.003)	(0.001)	(0.011)	(0.002)	(0.009)	(0.000)	(0.001)	

Source: Author's estimations

Note: Asterisks indicate significance at 5% probability level

Regression Results

The results presented in Table 4 indicate that our assumption that governance issues could explain the number of confirmed cases in ECOWAS member states is not tenable given the data available. This result does not support the argument put forth by Farzanegan (2021), who found a strong relationship between corruption and Covid-19 fatality rate.

Table 4: Parameter estimate of equation 2. Dependent variable = rate of Covid-19 infection (ratio of no. of confirmed cases over total population), 30 September 2021

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
corrup	-0.329					
	(0.385)[a]					
rule_law	-	-0.671				
	-	(0.228)				
reg_qual	-	-	-0.763*[b]			
	-	-	(0.085)			
gov_eff	-	-	-	-0.432		
	-	-	-	(0.281)		
pol_stab	-	-	-	-	0.366*	
	-	-	-	-	(0.066)	
voice_acc	-	-	-	-	-	-0.294
	-	-	-	-	-	(0.695)
lntourism_arr1	0.398***	0.414***	0.358***	0.394***	0.349***	0.366***
	(0.001)	(0.002)	(0.007)	(0.002)	(0.013)	(0.031)
lnext_debt1	0.953***	1.064***	1.051***	0.989***	0.623***	0.991
	(0.004)	(0.007)	(0.000)	(0.003)	(0.006)	(0.106)
_cons	-10.500***	-11.318***	-11.47***3	-10.861***	-8.324***	-10.720***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.017)
R-squared	0.862	0.878	0.874	0.863	0.882	0.857
Adj. R-squared	0.821	0.841	0.837	0.822	0.847	0.814
F-stat$_{(3,10)}$	23.660***	29.460	38.880***	30.000***	44.520***	25.900***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Source: Author's estimations

Notes: Numbers in parentheses are p-values; asterisks are indication of significance level. Thus, * and *** represent 10% and 1% significance levels

It was also found that, regardless of the model considered, the number of tourists arriving impacted significantly on the number of confirmed cases of Covid-19 in the ECOWAS member states. The empirical results show that an increase in the number of tourists arriving by 1% is associated in model 1 with a 0.39 per cent increase in the number of confirmed cases of Covid-19 in the ECOWAS countries. This effect is statistically significant. This result is in line with that of Farzanegan *et al.* (2021). This supports the idea that the Covid-19 infection was imported into the ECOWAS region. Thus, with the new wave of Covid-19 infection in Europe and North America, actions should be taken to reinforce safety measures at all entry points in the ECOWAS region. This includes but is not limited to systematic PCR tests, hand sanitisation, social distancing and body temperature checks, among others.

When the second control variable (external debt) is considered, an increase of per capita external debt by 1 per cent is associated in model 1 with a 0.95 per cent increase in the number of confirmed cases of Covid-19 infection in the ECOWAS countries. This effect is statistically significant. It is observed that, with the exception of model 6, in all the remaining five models per capita external debt has a positive and significant impact on the number of confirmed cases of Covid-19 infection.

To dig further into this, reverse regression was estimated (with per capita external debt as the dependent variable and Covid-19 infection as the explanatory variable). The results are presented in Table 5. As expected, it was observed that, with the exception of model 5, in all the remaining five models the number of confirmed cases of Covid-19 infection had a positive and significant impact on per capita external debt. For instance, model 1 reveals that a 1 per cent increase in the number of confirmed cases of Covid-19 infection is associated with a 0.43 per cent increase in per capita external debt. This result supports our assumption that countries could possibly manipulate the number of confirmed- cases of Covid-19 infection to harness resources from development partners.

Another result that is worth indicating is the positive and significant relationship between per capita external debt and governance indicators. This clearly supports the idea that development partners pay attention to governance issues in the ECOWAS countries before approving financial support. Thus, improvement in these indicators is associated with increased per capita external debt.

Table 5: Parameter estimates of the reverse regression. Dependent variable = external debt (average over the period 2017–2020

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
lnconfi_sep21	0.433**	0.451**	0.461	0.409**	0.483	0.291**
	(0.028)	(0.017)	(0.007)	(0.035)	(0.103)	(0.016)
corrup	0.494**					
	(0.027)					
reg_qual		0.840***				
		(0.008)				
rule_law			0.698***			
			(0.005)			
gov_eff				0.657***		
				(0.008)		
pol_stab					0.017	
					(0.923)	
voice_acc						0.726***
						(0.000)
lntourism_arr1	0.011	0.022	-0.046	0.009	0.064	0.091
	(0.955)	(0.892)	(0.785)	(0.958)	(0.784)	(0.469)
_cons	8.785	9.159	8.923	8.856	9.049	8.085
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.845	0.866	0.869	0.859	0.774	0.896
Adj. R-squared	0.799	0.826	0.829	0.817	0.706	0.864

Source: Author's estimations

Notes: Numbers in parentheses are p-values; asterisks indicate significance level. Thus, * and *** represent 10% and 1% significance levels

Conclusion

The main objective of this paper was to determine the possible link or interaction between the spread of the Covid-19 pandemic in the ECOWAS region, as proxied by the number of confirmed cases of Covid-19 infection, and the state of governance in the ECOWAS countries. More specifically, the paper sought to determine two relationships: between governance indicators and the number of Covid-19 confirmed cases by the end of September 2021; and between the two control variables of tourism arrival and external debt and the number of confirmed cases of Covid-19. The data used was collected for the fifteen members of the ECOWAS community over 2020 and 2021. Correlation and multiple regression analysis were used to assess the strength of association between the variables and possible causation respectively.

We found a positive and significant correlation between all the governance variables, with the exception of the regulatory quality variable. However, the strength of association is not high given that the coefficients are all below 0.6 (with the exception of the political stability variable with a coefficient of 0.731). When we considered the control variables (tourism arrival and external debt), the correlation coefficients are above 0.7 and significant, indicating a strong association.

With the multiple regression analysis, we found that the governance indicators did not significantly impact on the number of confirmed cases of Covid-19 infection in the ECOWAS region. However, the number of tourists arriving did significantly impact on the rate of Covid-19 infection in the ECOWAS member states. Indeed, the empirical results indicate that an increase in the number of tourists arriving by 1 per cent is associated in model 1 with a 0.39 per cent increase in the Covid-19 infection rate in the ECOWAS countries. This supports the idea that Covid-19 infection was imported into the ECOWAS region. Thus, it is recommended that more stringent actions be taken to reinforce safety measures at all entry points in the ECOWAS region.

Finally, it was also found that per capita external debt is significantly related to the number of confirmed cases of Covid-19 infection in the ECOWAS region. An increase of per capita external debt by 1 per cent is associated in model 1 with a 0.95 per cent increase in the number of confirmed cases. Thus, the higher the number of confirmed cases of Covid-19 infection, the higher the level of external resource mobilisation. It is therefore recommended that development partners pay close attention to the reliability of the Covid-19 confirmed cases to ensure that data collected is not manipulated or tempered with just to attract foreign resources.

Notes

1. https://daily.jstor.org/whats-the-difference-between-pandemic-epidemic-and-outbreak/
2. Loans and grants.
3. Loans and grants.
4. *348,073 million de dollars confirmés à ce jour. Les appuis en cours de préparation sont de l'ordre de 272,86 millions de dollars.*
5. *669,7 milliards de FCFA (FMI: 536 milliards; BM: 118,7 milliards et BOAD: 15,0 milliards) au taux de change USD 1 = CFA 585.*
6. European Union (28.28 m); World Bank (100 m); AfDB (24.4 m); IMF-RCF programme (143 m) and IMF-ECF programme (21.8 m).
7. Worldwide Governance Indicators - knoema.com
8. This is a composite measure. It is a simple additive score of seven indicators measured on an ordinal scale, rescaled to vary from 0 to 100 (Hale and Webster 2020).
9. http://knoema.com/OXCOVIDGTR2020/oxford-covid-19-government-response-tracker
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11. https://www.france24.com/en/20200610-nobel-laureate-mukwege-quits-dr-congo-covid-19-team-blasts-govt-response.
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