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COVID-19 and (Im)mobilities in West Africa

Andras Breuer, Martin Doevenspeck, Kamal Donko and Serge Ouedraogo

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List of Figures and Tables

List of Abbreviations

BEN	Benin (ISO-3)
BFA	Burkina Faso (ISO-3)
C19	COVID-19 (Coronavirus Disease 2019)
C/P	COVID-19 cases in relation to population (1 million people)
COVAX	Covid-19 Vaccines Global Access (Initiative)
CIV	Côte d'Ivoire (ISO-3)
CPV	Cabo Verde / Cabo Verde (ISO-3)
DTM	Displacement Tracking Matrix (DTM)
ECOWAS	Economic Community of West African States
EMS	ECOWAS Member State
EU	European Union
FMP	Flow Monitoring Point (IOM DTM)
FMR	Flow Monitoring Registry (IOM DTM)
GCCMP	Google COVID-19 Community Mobility Reports
GHA	Ghana (ISO-3)
GIN	Guinea (ISO-3)
GMB	The Gambia (ISO-3)
GNB	Guinea-Bissau (ISO-3)
IOM	International Organization for Migration
LBR	Liberia (ISO-3)
MENA	Middle East and North Africa (region)
MLI	Mali (ISO-3)
NER	Niger (ISO-3)
NGA	Nigeria (ISO-3)
OxCGRT	Oxford Coronavirus Government Response Tracker
PHSM	Public Health Safety Measures / Public Health and Social Measures

QE	Quantitative easing
RPK	Revenue Passenger Kilometres (IATA)
SEN	Senegal (ISO-3)
SLE	Sierra Leone (ISO-3)
SSA	Sub-Saharan Africa (region)
T/C	COVID-19 tests performed per confirmed C19 case
T/P	COVID-19 tests performed in relation to population (1000 people)
TEU	Twenty-Foot-equivalent Units (Containerised Freight)
TGO	Togo (ISO-3)
WA	West Africa
WACAF	West and Central Africa
WAEMU	West African Economic and Monetary Union (fr.: UEMOA)
WHO	World Health Organisation (UN Agency)
WFP	World Food Programme (UN Institution)
y-o-y	Year-Over-Year

Preface

Part of the challenges that African Studies instigate are fraught, because of (a) the participation of continental Africans in slavery wars in Western, Eastern, Northern and Central Africa; (b) the Data Availability and Significance.

Researching and processing data about currently ongoing processes in Africa represents a twofold challenge: On the one hand side – despite great progress in recent years – there are still significant deficits in the comprehensive collection and homogenous comparability of data on most topics in sub-Saharan Africa. And on the other hand, COVID-19 represents an ongoing and dynamic phenomenon, which leads to the issue that the limited available data can quickly become outdated. This leads to the fact that the macro trends described here should always be understood as an interpretation of the existing data instead of a conclusive, retrospectively fathomable phenomena and forecasts made must be treated with caution.

The production of qualitative and quantitative data regarding the social realities of people during COVID-19 (C19) is significantly hindered. STATAFRIC (2020: 13), the statistical division of the African Union (AU), recently conducted a survey on the impact of C19 on the production of migration statistics in Africa. The subsequent report showed that 70% of the participating countries stated that ongoing surveys were negatively affected by the pandemic. Taken as an example case that might unveil the overall problematic situation for working with reliable data on the situation on the ground in Africa right now.

Nevertheless, the authors tried involving a vast number of different sources to provide an overview that is as reliable as possible. In addition, the global challenges created by C19 in terms of the production of statistics lead to a variety of unconventional, but from scientific perspective highly interesting sources of data, for instance, the so called "COVID-19 Community Mobility Reports" by Google (GCCMP). These reports are based on a publicly accessible database that processed the aggregated tracked location data of people using Google services on their smartphones to be able to make statements about how patterns of movement in individual states and regions have changed. But of course, also those new "innovative" forms of data must be contextualized in its informative value: There might be less people in the Global South using services such as Google Maps and the geographical categories chosen by Google such as "park visits" might not be the most suiting ones for the Sub-Saharan context. A further approach of the usability of this particular dataset will be given in chapter 5.1.3. All in all, this study is an attempt to collect and bring together the diverse but fragmented sources on the broad topic of mobility in the times of C19 in order to create a large-scale snapshot of the processes on the ground.

Due to the limitations of a desk study without verification in the field the data on policies imposed by governments is based mostly on official governmental restrictions that are published. Main sources were the respective countries' websites of the health ministries and data collections that were composed by international organizations and research institutes such as the Blavatnik School of Government (BSG). Accordingly, most of the information that is published and discussed here should not be misunderstood as reports about the actual enforcement of these restrictions on the ground and thus the reality of restricted individuals, but it is merely the evaluation of response policies. Some of the data will represent the actual manifestations better and other will be less representative: School closures for example had evident effects (WORLD BANK 2020a: 67),

Workplace closure policies should not be overstated in their informative value due to the widespread informality in the West African context. Yet especially the broadly used Oxford Coronavirus Government Response Tracker (OxCGRT) by the BSG is a systematic analysis of available data on policies that resulted in various indexes and sub-indexes that this study aims to utilize for further interpretation.

In some cases, there was no West Africa-specific data available yet, but only global data broken down in continents or cross-regions such as Sub-Saharan Africa. In these cases, the data with the broader geographic scale was presented to indicate potential developments in West Africa (WA), but it must not be understood as evident regional specific evidence. Border regimes were mostly assessed through various International Organization for Migration (IOM) data verified by secondary sources and capital mobility mostly outlined through International Monetary Fund (IMF) data from their regional economic outlook (IMF 2020e). All in all, this baseline study should be approached as a collection of available information on an ongoing phenomenon that might enable further explorations concerning pandemic-related changes in the Economic Community of West African States (ECOWAS) region, but the diverse limitations should be noted.

COVID-19 and (Im)mobilities in West Africa

Andras Breuer, Martin Doevenspeck, Kamal Donko and Serge Ouedraogo,

1 Introduction

In a globalized world of flows, each part of the world, each country and each individual is entangled in networks of movement, albeit in divergent manners. The mobility of people, goods and capital has become a backbone of the constitution of today's global political economy. Thus, the movement through time and space, on a path between people, cities, states, and continents is something to be examined in a deep and assiduous way. This is particularly true when there are observable external shocks, such as the COVID-19 (C19) pandemic, that cause sudden changes in the patterns of mobility. Movements – especially the transnational ones that are entangled in the networks of global capitalism – represent not only the major reason for the rapid speed with which the pandemic was able to spread worldwide (cf. LAWRENCE 2020: 353, MOUTON ET AL. 2020) but are also what need to be governed in order to intervene as a political force on the interplay between the imperatives of mobility resulting from global capitalist logics and the will to produce certain kinds of immobilities to fight the virus spread. Thus, C19 might be considered as the catalyst for governing institutions to potentially reshape the ways in which they are trying to impose power to produce and suppress certain mobility patterns.

Approaching a current global pandemic that affects different world regions in distinct ways, and the associated governmental and civic responses, which also vary significantly, demands research with regional foci. And it is vital to not turn a blind eye on regions of the world that seem less affected by the virus, since the global disruption of people, goods, and capital affects every place in an interdependent and entangled world. One of these regions is West Africa. At the time of an ongoing global health crisis, it is essential to maintain an overview of regional macro processes and possible related sudden changes in order to adapt research and policy making accordingly. This study aims to shed light on the bigger picture of recent developments in terms of mobility patterns and their linkages to the global health crisis in Western Africa, here conceived as the region of the Economic Community of West African States (ECOWAS) member states.

One year has passed since the spread of C19 developed into a pandemic. It seems appropriate to say that the immediate effects of the virus and the related responses have more or less already played out, so one could say that we are in a phase in which an interim evaluation seems to be appropriate. To provide such an overview, this report attempts to classify observable changes in mobility patterns into the categories of people, goods, and capital. In doing so, a special focus is on official regulations, border regimes and transport. With a situational embedding as introduction, an overview of current developments regarding the spread of the virus in West Africa is given.

The authors see their main task in this research as providing a baseline study that reveals materialised (im)mobilities in the context of the pandemic. In addition to providing a broad factual basis to enable an overview for future, more in-depth analyses, we want to explore in a first analytical step the extent to which current mobility processes can be understood by expanding the concept of (im)mobility regimes. In its basic conception, it refers primarily to the regulation of migration by ruling political institutions, which plays a particular role in the context of West Africa and the migratory movements towards Europe taking place there. If such an intervention of powerful institutions on mobility, as is demanded and practised in the case of the confluence of West Africa and Europe, is also demanded in the context of mitigating the effects of the pandemic, to what extent do similar practices and logics appear with COVID-19 to influence the mobility of the population and not only that of migrants, but also the movements of goods and capital?

2 Analytic Framework

This study aims at gathering, analysing, and interpreting information on (im)mobilities from several perspectives. In trying to do that, the authors have no intention of making a judgement on the C19 responses or proving one policy approach to be better than other ones in mitigating the spread and impact of the virus. Instead, the study attempts to compile and process mobility related data on this very new phenomenon as broadly as is feasible in order to provide an initial basis for understanding new patterns of mobility, their potential interwovenness and the regimes that shape them. To do so, the authors have adopted some basic assumptions.

Mobilities are understood as a constitutive medium within the networks of the global political economy, but their regulation – or actually the production of immobilities – is at the same time seen as a core structuring principle of political globalisation. However, this regulation frames

different mobilities unequally. There are spaces where mobility regimes work to allow goods to pass in certain directions, but not people. Accordingly, the question of directionality is a crucial one in assessing the power structures that affect mobility networks in the formations of global capitalism. This complexity also calls for a multiscale approach: when assessing dynamics in the networks of the global political economy, a focus is needed on the local realities of movements as well as situating them in the global context. Therefore, with partial limitations due to data availability, in the first place a global perspective on the different topics is always taken, in which African and then regional dynamics are placed in relation, in order to proceed from there, through case studies or contrasting data on different individual ECOWAS member states, to a contextualised but distinct narrowing down of (im)mobility dynamics.

Regarding the methodological nationalism, it should be stated that even though the authors of this study did not want to reproduce perspectives on power structures based on a naturalisation of the nation state as a determining analytic category and are additionally aware of the special constitutionality of the African and postcolonial state, and are also aware of the current exceptional presence of internationalism in coordinating pandemic responses on the African continent (cf. WITT 2020), a primarily nation-state based perspective was chosen for this study. This is firstly due to the already prevailing methodological nationalism in the global collection of data. We could not be fastidious in the choice of their sources due to the topicality of the subject and the associated challenging data availability, which thus already had a formative effect on the comparative categories presented here. Secondly, despite the aforementioned limitations, national governments in the West are one of the most important forces in the pandemic regimes[1] and are thus indispensable as a category for approaching and comparing the C19 regimes.

However, since the virus and related government-imposed policies do not translate into social reality in a one-dimensional way, we use *pandemic complex* as a term to delineate the forces that translate into changing realities in the context of C19. This term includes the virus and the disease, but also the various implications of institutions' responses to the pandemic. Through reshaping the use of power, pandemic regimes create phenomena that go beyond the actual biological consequences, thus contributing to a pandemic complex that potentially alters social realities and transforms observable mobility patterns. Thus, *pandemic regime(s)* describes the entirety of such political responses that were specifically justified by the spread of SARS-CoV-2 and have a particular spatial dimension.

The Economic Community of West African States (ECOWAS) was chosen as the overarching frame of reference for this study, both because as an institution it was itself one of the shaping forces of the responses to C19, but mainly in order to provide a geographically precise notion of *West Africa*. With regard to further statistical processing of the data used in this study concerning the lockdown policies, a first analytical step was taken by means of vector quantification in order to cluster the regime approaches, but otherwise only descriptive statistical methods were used, as the existing database on this very current topic did not allow for more.

[1] The worldwide, but much-debated, government approaches based on nationalism as a protective answer to C19 were also partially seen in West Africa, as will be shown, for instance in chapter 5.4.

As outlined above, the main task of this baseline study is the processing, visualisation and provision of broad data covering West Africa, and not its interpretation, which, due to the size of the treated datasets, only allows for a limited perspective on cross-regional patterns. Further interpretation of the visualised data is invited. Yet additionally, after each main chapter on people, goods, and capital, an interim conclusion is given, that is exploring possible perspectives on the previously presented results through an application of the concept of (im)mobility regimes. However, this approach is primarily intended to point out follow-up questions. It is therefore not intended to be a conclusive analysis, but rather a presentation of initial suggestions for a possible qualitative assessment of the baseline research. A more detailed outline of the underlying considerations is given in the following chapter.

3 New pandemic-related (Im)mobility Regimes in the ECOWAS Region?

Even before the pandemic, integration efforts in towards free movement in the ECOWAS zone were characterized by the incomplete implementation of the 1979 Protocol on Free Movement of Persons and by the increasing securitisation of internal borders in the context of an externalized fight against so-called irregular migration that gradually restricted freedom of movement of ECOWAS citizens. ECOWAS, governments of its member states, various other domestic actors of the member states and the European Union are the four political stakeholders that negotiate freedom of movement in the region. Different actor constellations and specific historical-political backgrounds produce particular drivers that shape and contest free movement in the ECOWAS region.

With COVID-19 another layer is added to this already complex (im)mobility regime: control through spatial closure and the blockage of potentially dangerous flows and movements as centuries-old methods of infection containment. Like almost everywhere on the planet, the global model to respond to the pandemic by restricting and controlling mobility to contain the spread of the virus was, and currently is, also translated locally in West Africa.

The aim of this desk study is to develop a first descriptive inventory of the measures and effects of these pandemic-related immobilisations. This inventory forms the basis for evaluating the findings in small-scale qualitative studies in a second step, since different modes of immobilisation affect the lives of individuals in highly specific ways depending not only on their social and legal status, but also on their gender, age, body, race, and sexuality. These various factors determine how pandemic-related (im)mobility regimes, and their concrete immobilization measures, are embodied differently within a given population, and consequently how effective government interventions are on the whole.

Usually, the concept of mobility regime summarizes the governance of international migration that is characterized by the sharp contrast of free movement in and from the Global North, on the one hand, and, on the other hand, sedentarist imaginations relating to a Global South where movement is controlled, sanctioned and generally undesired, especially if these movements target the North. The concept of mobility regimes explores "… the relationships between the privileged movements of some and the co-dependent but stigmatized and forbidden movement, migration and interconnection of the poor, powerless and exploited" (SCHILLER & SALAZAR 2012: 6).

For this desk study we apply the concept to the ECOWAS region and expand it by including goods and capital in the analysis in addition to the (im)mobilities of people. We understand these regimes as constituted by a specific set of actors, policies, networks of communication, institutions, technologies, practices, powers, and knowledge through which movement is contained within national borders or, more generally, through which (im)mobilities are governed. Thinking of the relations of mobility and stasis as both an outcome of and the shaping of a regime can help, in a next step, to reveal the entangled power relations at work in the respective state-society relations.

4 SARS-CoV-2: Recent Infection Trends

The following chapter gives an overview about the spread of the novel coronavirus SARS-CoV-2 and the infectious respiratory disease it causes, COVID-19, in the ECOWAS region to contextualise the new mobility patterns and (im)mobility regimes discussed in what follows. In order to provide as comprehensive a picture as possible, not only are the infection rates discussed, but also an insight into the testing practices is provided to explain the significance of the figures. In addition, a comparative perspective of the overall African and global pandemic context is given in order to be able to assess the local dynamics.

4.1 Occurrence of infections: ECOWAS Region

Since the beginning of the spread of the novel coronavirus in the end of the year 2019, COVID-19 has become a global pandemic with previously untold ramifications in all parts of the world. Mainly due to its high degree of contagiousness and China's extensive integration into global supply chains, the cluster of pneumonia-like infection that was officially discovered on 31 December 2019 in Wuhan (OSAYOMI ET AL. 2020: 1) also led to an outbreak in Africa with the first confirmation of a case in Egypt of 15 February 2020 (Fig. 1, p. 6).

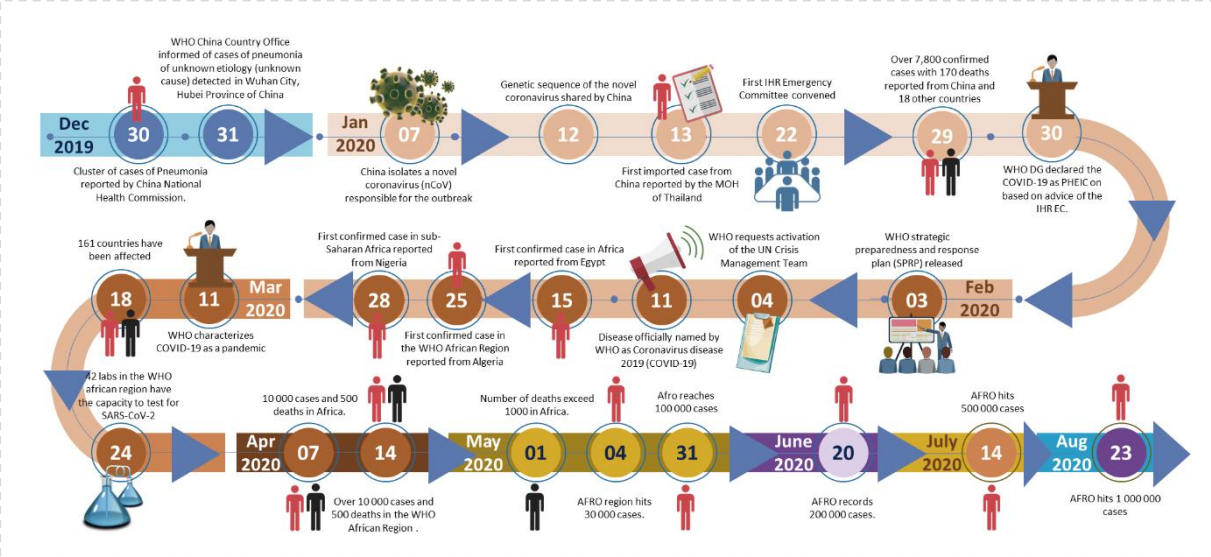


Figure 1: Timeline of COVID-19 related events regarding the African context

Source: WHO (2020a: 9).

The first case, that was confirmed in the ECOWAS region was recorded in Nigeria on 27 February, making it the third country in Africa with a verified occurrence of COVID-19 (IBID.). An overview of the spread in West Africa that took place afterwards is given in the following chapter. The data on C19 and testing mainly refers to the time until the end of the year 2020, even though for dome general figures the time until February 2021 is included to also give an overview about the developments regarding the so-called second wave in West Africa.

4.1.1 Pandemic Dynamics in West Africa

The two main conclusions that need to be made in order to understand the pandemic dynamics in West Africa are that there are large local differences within the region, and that there has been a relatively low level of pandemic activity yet compared to Africa and the rest of the world with resembling typical increase and decline patterns over time. First of all, an overview of the development of the infectious disease figures in West Africa as a whole will be given here.

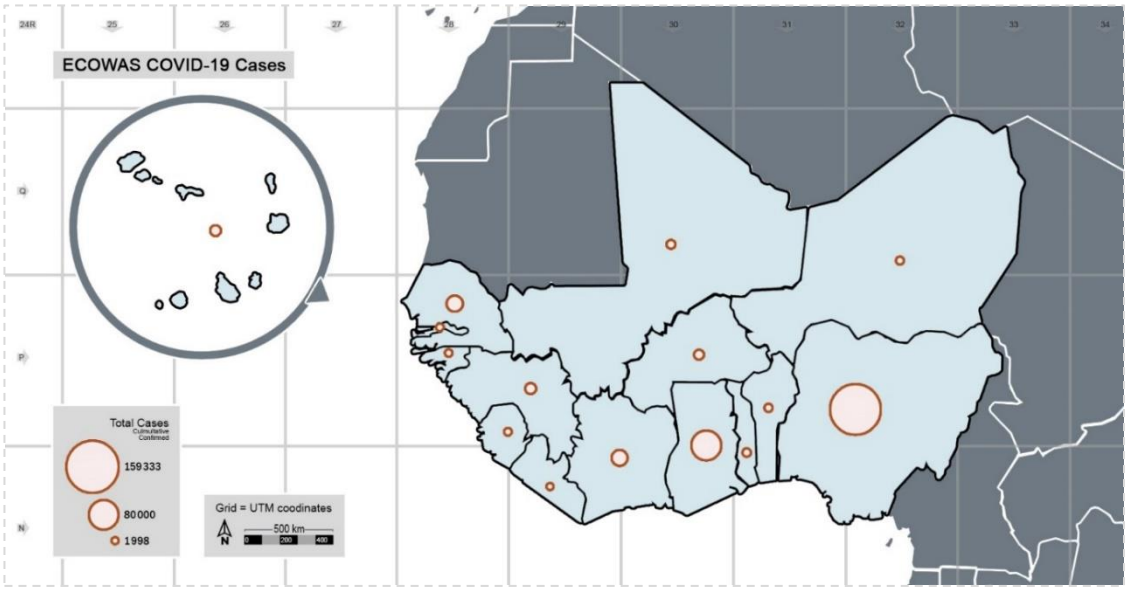


Figure 2: Total number of confirmed COVID-19 cases in individual ECOWAS member states as reported to the CDC by each national department of health. As of 24.02.2021

Source: Own figure. Data: AFRICA CDC (2021a).

As to be seen in the Fig. 2, all parts of the ECOWAS region have been hit by the pandemic so far. Yet, there is a wide gap between the various ECOWAS member states (from now on abbreviated as "EMS" for simplicity), with the worst affected state having over 50 times as many cases as the least affected one. But these figures are only about the actually proven cases in states with different population sizes and different testing policies. So, this can only be a first overview of the spatial distribution of the individual cumulative numbers, a more specific assessment of the situation in the individual states with a relation to population size and test activity will be given later.

When considering the developments of cumulated and daily new confirmed cases over time in Africa and the ECOWAS region (Fig. 3), an active pandemic's spread with temporary phases of exponential growth is evident. Looking at the African continent as a whole one can see the peak of a first infectious wave in July induced by a period of approximate exponential growth since March, followed by a low one in September and a recurring increase that represents a genesis of a second wave. This development culminated in the second wave, which peaked on 11 January with a level of 80,3% more new cases per day compared to the peak of the first wave, and then also declined at a much faster pace. This drop in new cases is so steep that towards the end of the observed period, with increasing deceleration, neither branch reached the level of the minimum between the two waves. Contrasting that with the development in the ECOWAS region one can recognize the similar pattern regarding the first wave with resembling growth and decline phases in terms of daily new confirmations. But in the case of the ECOWAS region, there was a more

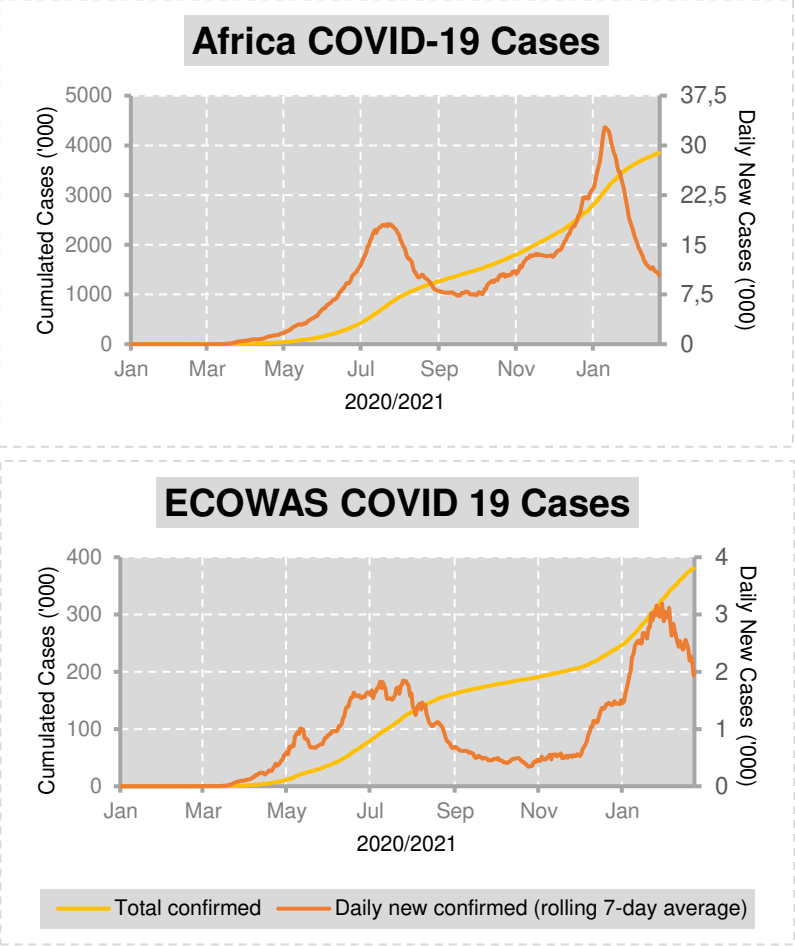


Figure 3: Total confirmed vs. daily new confirmed cases of COVID-19 in Africa (top) and in the ECOWAS region (bottom)

Source: Own figure. Data: OWID (2021).

significant and longer decline, leading to a delay of the second wave. Even though delayed, the pattern of the second wave of the pandemic in West Africa also resembles the pattern of the overall continent with a higher pace of growth and a significantly higher level of new daily cases compared to the first wave. Nevertheless, the difference in magnitude in comparison of the first and second wave is a bit less pronounced, as the peak level of new cases is 71,9% higher than the one of the first wave. Thus, based on the available data, a similar pattern of increase and decrease in the number of infections can be observed over time, with a delay in the pattern in the ECOWAS region from October 2020 onwards. In the following chapter, these developments will be put in relation both to each other and to the global situation.

4.1.2 Contextualisation

In order to be able to grasp the actual magnitude of the figures mentioned, a relation to the global scale of the pandemic is helpful. In October 2020, the African continent accounted for 4% of all cases reported globally (AFRICA CDC 2020: 1) and less than 3% of verified COVID-19-related deaths (WHO 2020a: 3) while inhabiting 18% of the world population (WORLDOMETER 2020). Until February 2021, the share of total African cases out of all reported ones globally even declined to 3.5% (AFRICA CDC 2021b: 1), due to the global numbers also having a peak in beginning of January 2021 (OWID 2021). This means that Africa is significantly underrepresented in relation to its population, hence the pandemic is – at least based on the available figures – comparatively less active here.

But for contextualisation, one has to take into account the less elaborated health infrastructure in Africa compared to most other regions of the world, as this could have an impact in terms of unobserved infections due to lower testing capacity. As to be seen in Fig. 4, an actually lower level of performed tests in countries with less economic leeway was seen during the pandemic. The countries of West Africa, which are at the bottom of the global hierarchy in terms of GDP, perform significantly less tests per capita than countries with a higher GDP, so a correlation is discernible. But as it will be shown later, developments concerning African sub-regions seem to be quite heterogenous and the narrative of Africa 'just testing less' for explaining the lower case numbers should not be overstretched as shown in chapter 4.1.4, which is examining the reliability of the figures in relation to testing magnitude. So, despite the relativisations, it can be said that Africa was one of the less affected regions of the world.

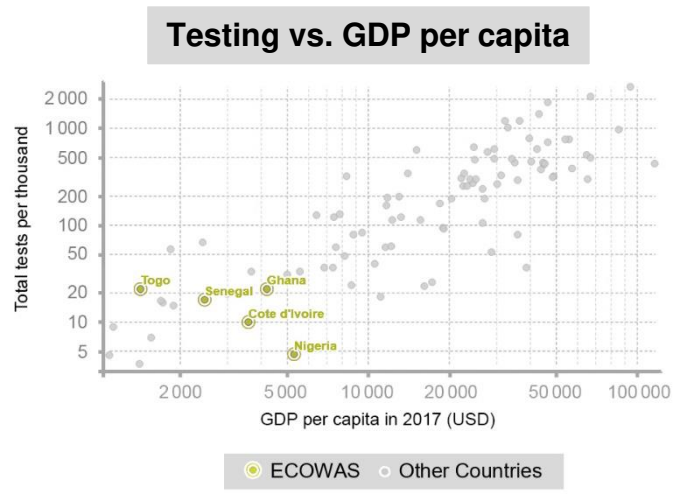


Figure 4: Total COVID-19 tests per 1000 inhabitants vs. GDP per capita. GDP per capita is adjusted for price differences between countries (it is expressed in international dollars). As of 01.01.2021

Source: Modified from HASELL ET AL. (2020).

The reasons for that are not yet finally understood, but the mainly discussed ones are:

- Africa is less integrated into the global flows of persons and goods,
- Africa is one of the world regions with the highest expertise in practically dealing with pandemics (e.g., Ebola),
- Africa has a comparably young population and younger people being less endangered by COVID-19,
- COVID-19 seems to perform worse in hotter climatic conditions and
- That there might be a part of the African population having pre-existing immunity to COVID-19 due to preexposure to other diseases (cf. GOLUBSKI 2020).

It should also be noted that recent findings suggest that the sum of several of the above phenomena results in a higher proportion of asymptomatic infections in Africa than in the rest of the world (WHO 2020b), which should be taken into account when assessing the figures discussed here and could also have a mitigating effect on infectiousness of C19 in the African context.

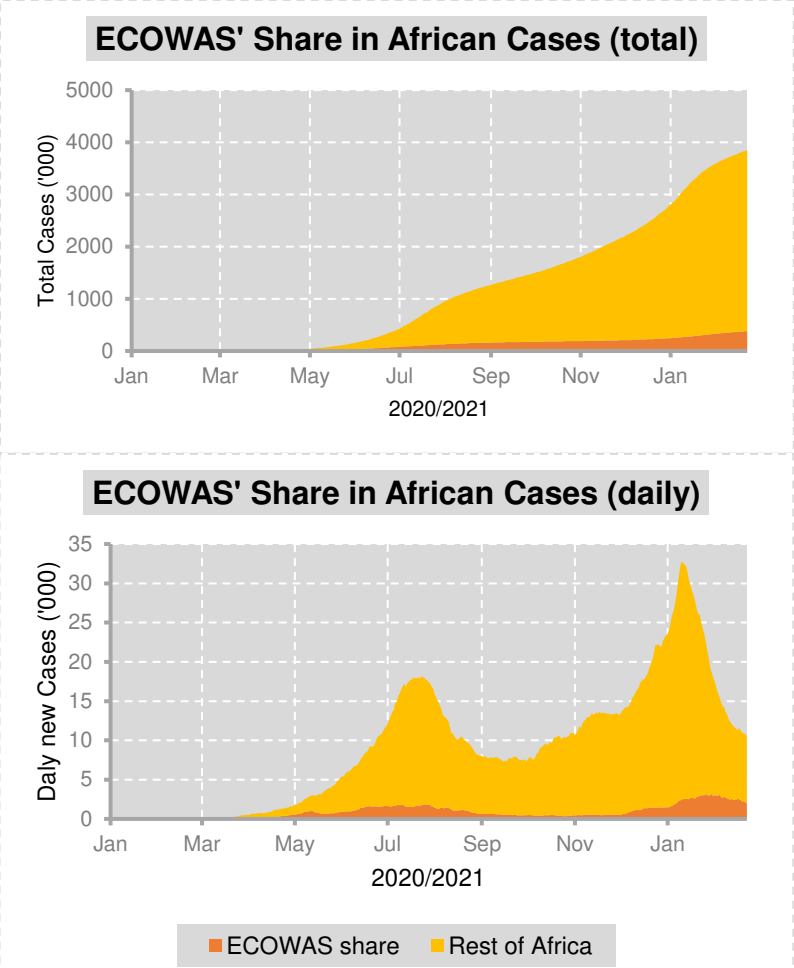


Figure 5: Total (on top) and daily new (bottom) cases (in thousands) and the corresponding ECOWAS share

Source: Own figure. Data: OWID (2021).

Looking at the total number of recent COVID-19 cases in Africa, the ECOWAS countries belong to the least hit ones. For example, in the week from 13. – 20. October 2020, Western Africa accounted just for 5% of the total African cases (AFRICA CDC 2020). Regarding the cumulative numbers, the ECOWAS region accounts for 10.9% of total African cases even though inhabiting 29.4% of the total African population (OWID 2021, WORLDOMETER 2020). In contrast, Egypt, Algeria, Morocco, and South Africa accounting for 18 percent of the continents' population represented over half of the confirmed cases (ACFSS 2020).

The comparably minor role, the overall ECOWAS region plays in terms of documented pandemic extent becomes apparent when Fig. 5 is considered. At no time during the entire period of pandemic activity did West Africa account for a proportion of infection numbers commensurate with its population and area. The only time this came close to being the case was at the very end of the observation period, but this was due to the delay in the waves. Based on the available data and the comparisons made, it can thus be stated that West Africa accounts for a comparably miniscule fraction of the total C19 cases in Africa. With Africa already being one of the least effected regions of the world, the ECOWAS region's contribution to global infection levels thus appears to be marginal, at least for the time being. In the following chapter, the scale of the observation will be reduced in order to shed light not only on the region's relation to the rest of the world, but also on developments within West Africa.

4.1.3 Occurrences of Infections: Individual Countries

Despite the previously described low levels compared to the global context, the spatial distribution of infections within the ECOWAS region presents a complex and heterogeneous picture (Fig. 6).

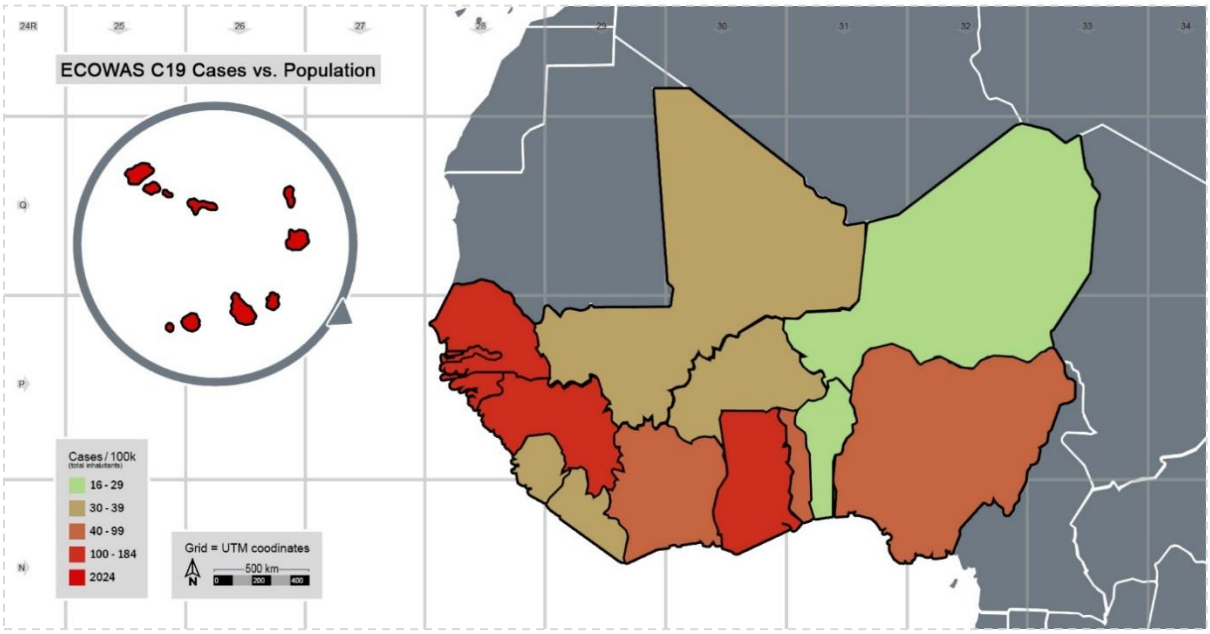


Figure 6: Proportional number of confirmed COVID-19 cases in the ECOWAS member states as reported to the CDC in relation to notional population size. As of 1st of January 2020 (Data published on the 9th)

Source: Own figure. Data: AFRICA CDC (2021a).

Until the end of the year 2020, the total number of observed SARS-CoV-2 infections in relation to the population (C/P) highlights the vast differences in severity of pandemic momentum. In the observed period, Cabo Verde has a more than 140 times higher cumulative C/P rate since the beginning of the C19 spread than the one with the lowest rates in Niger. However, the variations in the developments do not only concern the culminated retrospective, but also the activity in relation to time. Thus, the line plots in Fig. 7 (p. 12) show the temporal pattern of the assessed data since the beginning of the spread.

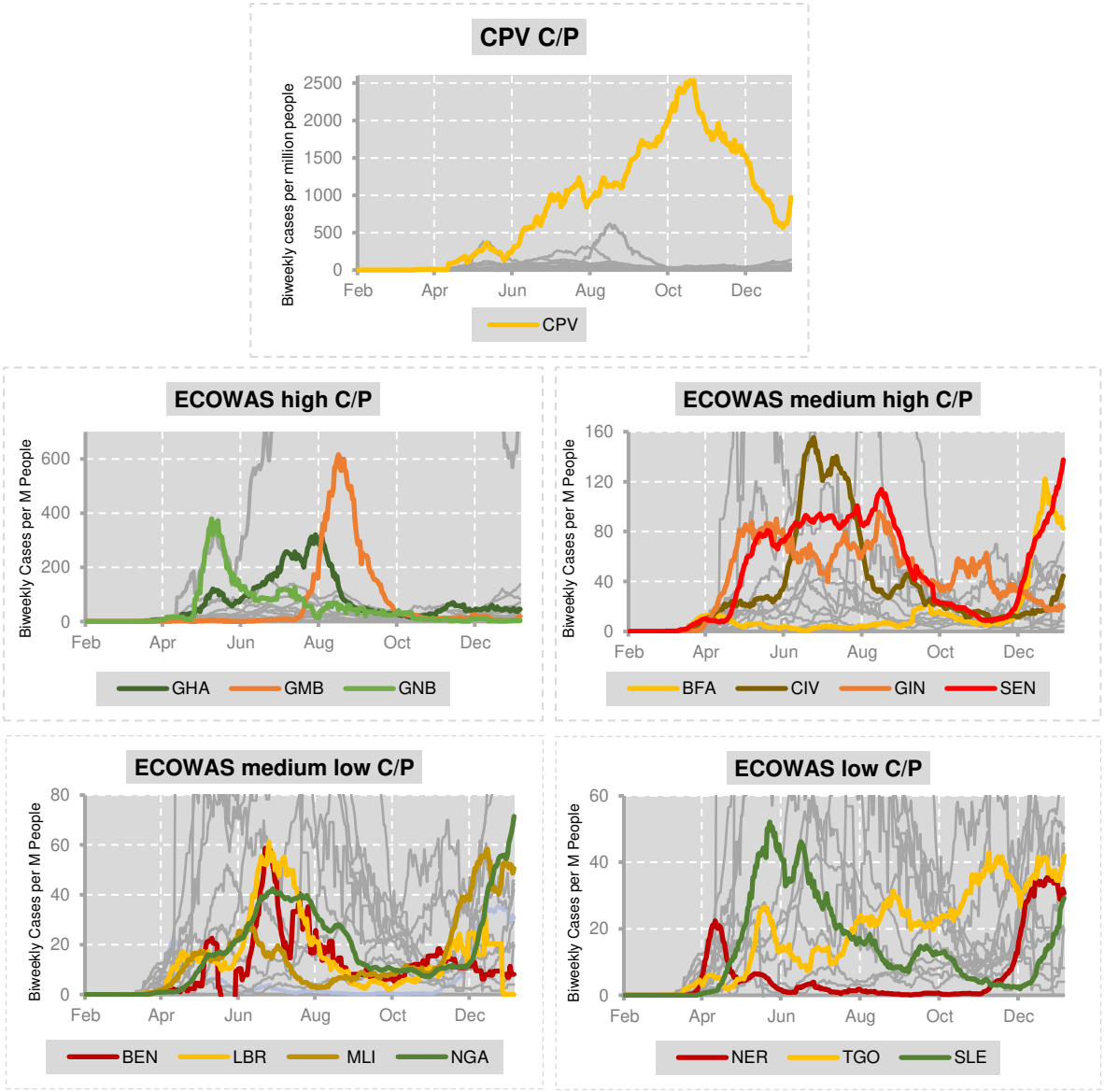


Figure 7: C19 cases in relation to population (1 M people) over time regarding each individual ECOWAS member state; separated into the group with higher and lower scores due to strongly diverging numbers. Cumulative number of cases over the previous two weeks of the respective dates.

Source: Own figure. Data: OWID (2021).

In general, the comparison of the C/P rates presents a picture of heterogeneous developments regarding magnitude and temporal patterns. The majority of EMSs remained consistently below the 100 cases per million population threshold, but individual countries temporarily achieved a multiple of this value. The phases of sharp increases and decreases in the number of cases varied considerably in time, but overall, a shared wave pattern can be identified roughly between April and October, with most of the countries recording a significant decline as early as June or July and remaining at a comparatively low level since then. The only two clear exceptions to this pattern, which are also the two countries with the highest maximum values, are Cabo Verde and The Gambia. Cabo Verde is by far the most affected country, with a maximum of 2543 cases per 1 million inhabitants as biweekly total until the end of the year. The Gambia, after a long period in which almost no cases were recorded, experienced a relatively late and intense wave with a maximum score of 616 at the end of August, followed by an equally abrupt decline. Thus, there is a large and increasing variation over time between the case numbers of the individual states, although a clear majority of the EMSs stayed at a similar low but individually highly fluctuating level. Individual states (especially Cabo Verde) shift the average significantly upwards. However, the data exhibited the highest dispersion (standard deviation peak) on the 21st of October and since then, the values have started to level off again and the average has also been declining in the last few months (Fig. 8). If one also takes into account the developments after the end of the year, then a second peak with a preceding erratic surge in the variation becomes clear, which, however, is less pronounced, and from February onwards leads again to a convergence of the deviation of the EMSs' data. However, it must be noted that due to the enormous differences in the data sets, the standard deviation is primarily shaped by the developments in Cabo Verde, since the largest deviation from the average was recorded there by far at most times due to the much higher numbers. Accordingly, the developments in most countries are characterised by rather low daily new case numbers with a few more pronounced jumps upwards. The heterogeneity in the level of infection figures is mainly shaped by a few, more severely affected countries, while most show dynamic but less intensive developments. However, due to the significantly higher overall numbers in the second wave compared to the first, it is clear that further close monitoring of the pandemic developments is necessary, as a stronger spread seems possible in the future.

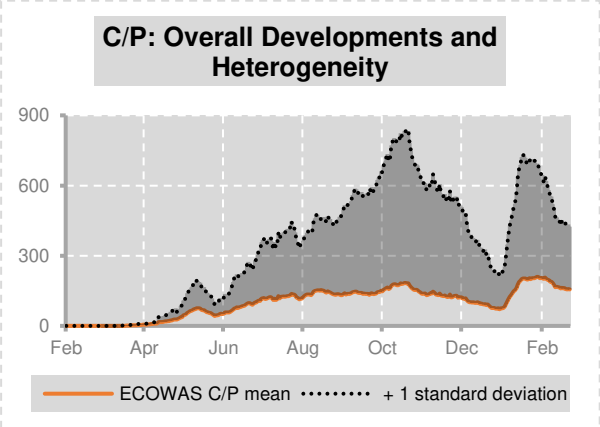


Figure 8: The averaged biweekly cases vs. population of all EMS together and the standard deviation

Source: Own figure. Data: Own calculations based on OWID (2021).

These overall low infection figures also partly resonate with public opinion in mainland West Africa. According to a survey, the majority of respondents do not feel at risk of becoming infected with COVID-19. In Côte d'Ivoire 41% and in Burkina Faso 39% of respondents feel at risk of becoming infected (L'ECONOMISTE DUFASO 2020). However, a large proportion of the respondents base their unconcern primarily on the introduction of preventive measures, which indicates

further research on risk perception and individual assessment logics regarding the extent of crises might be of interest.

4.1.4 Testing regimes

This chapter aims at looking at the dimensions of concluded testing, as it is a crucial measure for understanding the reliability of data regarding C19 and overall infectious dynamics. Yet, as mentioned before, this is not intended to be sufficient for concluding statements on the exact magnitude of infections in WA, as the data significance is academically disputed due to substantial gaps in the data base. But it should support discussing whether the data is sufficient for an assessment of the presumable overall outbreak degree. During the research for this study, reliable, gap-free data was only available on a minority of ECOWAS member states. Accordingly, it should be noted that the findings presented in this chapter should not be taken directly as an overall statement regarding the region as a whole.

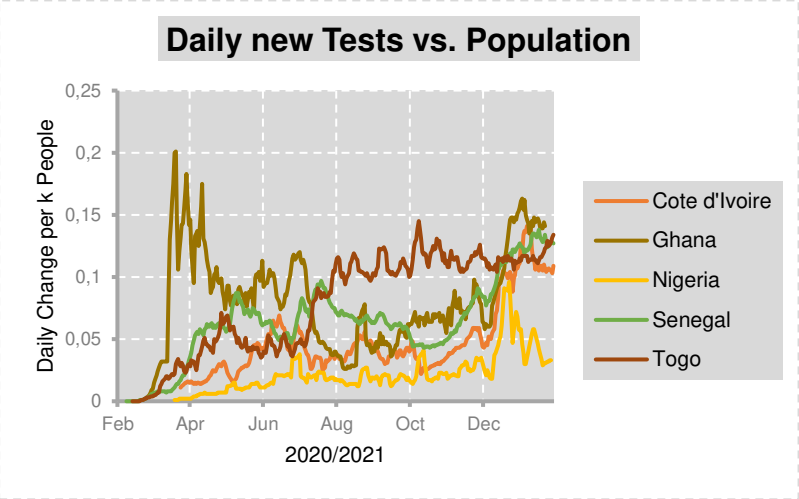


Figure 9: Number of tests performed each day for selected ECOWAS member states with sufficient data availability; relative to population size (1000 people). CPV not included due to data inconsistencies, but the country has significantly higher test rates than the countries presented here. Smoothed by 7-day rolling average

Source: Own figure. Data: HASELL ET AL. (2020).

Setting up a sufficient testing regime for comprehensive tracking of pandemic dynamics presents certain additional challenges in the West African context, e.g., due to less well-funded health infrastructure, which embodies a foundation for a broad upscaling of testing, but also even more region-specific phenomena such as the similarities of the symptoms of malaria and coronavirus disease being similar, which is further complicating diagnosis (SIGNER 2020).

To assess a comparison of the testing dimension, Fig. 9 illustrates testing relative to the size of population of selected EMSs. This shows a similar initial testing extent with the exception of Ghana, which tested a multiple amount in the first two months. Thereafter, a tendency to a closer alignment is observable due to a decline in the numbers regarding Ghana and an increase in the other countries. This leads to a period of relative stability of levels until the end of the year. However, Nigeria in that time shows almost always the lowest rates of the included EMSs. Considering that it is the country with by far the largest population of the ECOWAS states and the 7th largest population of all nations in the world, it is apparent that an extensive testing infrastructure would be required to reach comparable levels. Also, Côte d'Ivoire scores below average. After the initial substantially higher levels achieved in Ghana, Togo overtakes form July on and keeps having the highest scores until the end of the year. At the turn of the year, a strong

increase in test capacities can be observed in many of the countries shown here, which is why the order shuffles again and significantly more tests are carried out altogether. Overall, differing testing capacities in the ECOWAS region are observable with heterodox developments over time. Yet, they all perform in a similar dimension, which is at the lowest end of the scale in international comparison, as was already evident in Fig. 4 (p. 9).

However, it is not only the level of testing performed in relation to population size that is relevant. A country where infections are almost non-existent may not have to test continuously. The sharp rise of testing in the beginning of 2021 also might represent the necessity to respond to the second wave. Accordingly, the number of positive tests should be considered additionally in each country.

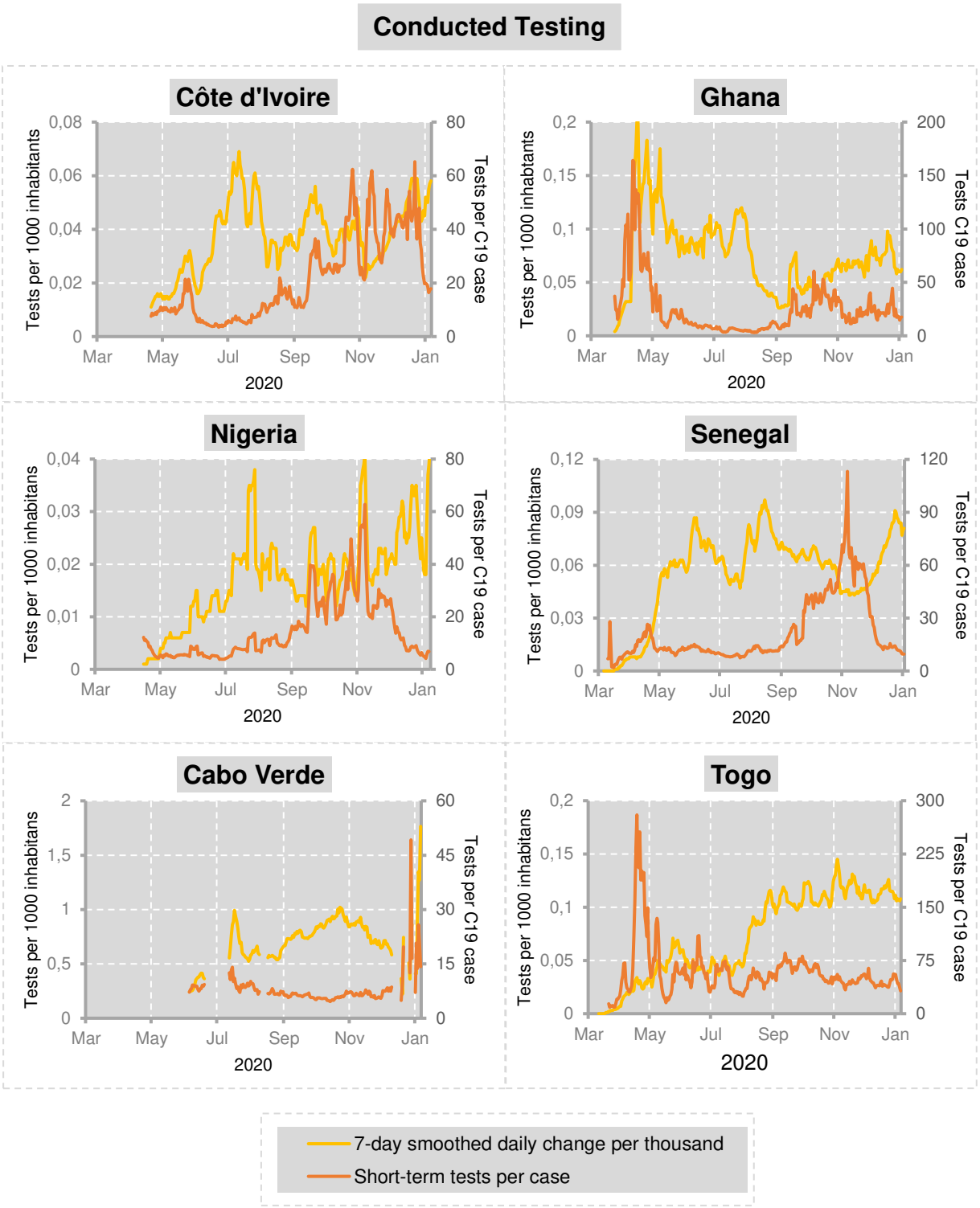


Figure 10: Development of C19 testing in selected EMSs. 01.03.2020 – 06.01.2021. Jumps in Cabo Verde data by the end of the year are primarily to be explained by data inconsistencies, which prevents data smoothing.

Source: Own figure. Data: HASELL ET AL. (2020).

Thus, Fig. 10 (p. 16) shows developments of C19 testing within selected EMSs including the number of tests per confirmed COVID-19 case. Here, clearly divergent developments between different EMSs with regard to level and temporal changes in testing and reaction to increasing numbers of cases per test become evident. The available data on Côte d'Ivoire is characterised by a comparably low level of testing. Nevertheless, the level did not significantly decrease, when case numbers went down. This implies an established extent of testing infrastructure that is continuously utilised, but not further developed yet. For Ghana, the data shows the highest level of testing in the beginning while there were fewer cases, but the test per case rate (T/C) is the lowest of all included EMSs in December, making it the country with highest fluctuations. Considering that although Ghana is one of the countries with stronger outbreak dynamics, it had a low level of infections in the last months of 2020 compared to the first wave, an inconsistency in the initial significant capacity building can be inferred.

Regarding Nigeria, the data shows a low level of T/C in the first months due to comparably high outbreak dynamics, but much higher rates since September due to relatively stable level of testing and simultaneously decreasing case numbers. Senegal is by now among the highest T/C rates of EMSs due to comparably high levels of testing and a very low outbreak dynamic during 2020. But a significant change around the end of the year is observable. A noticeable reduction of testing capacities was recorded as an answer to the initially continuously low number of new infections, which was followed by a strong increase in new cases. This was answered by an increasing testing activity, but not to an extent that was sufficient to keep the T/C rate at a constant level. Togo, through continuously increasing testing capacities, showed the second highest rate of tests per population by the end of the year. Nevertheless, the T/C rate is not above average. Cabo Verde, the EMS with the by far highest infection numbers, which was not covered in the initial comparison due to data inconsistencies, also stands out in terms of testing regime. Here, the sharp inconsistency of simultaneously scoring the highest C/P figures in comparison to the other enlisted countries and also, over the largest part of the observation period, showing the lowest number in terms of tests per C19 case. This dissimilitude can be explained by the very high infectious rates recorded in Cabo Verde – at least in relation to the other regional levels – because the testing regime in place was consolidated to react to the higher activities (leading to a higher T/P rate), but the infectious spread compensates (or partly overcompensates) this effect, which then leads again to a deterioration of the positive rate. And this is the interplay that is critical for assessing the validity

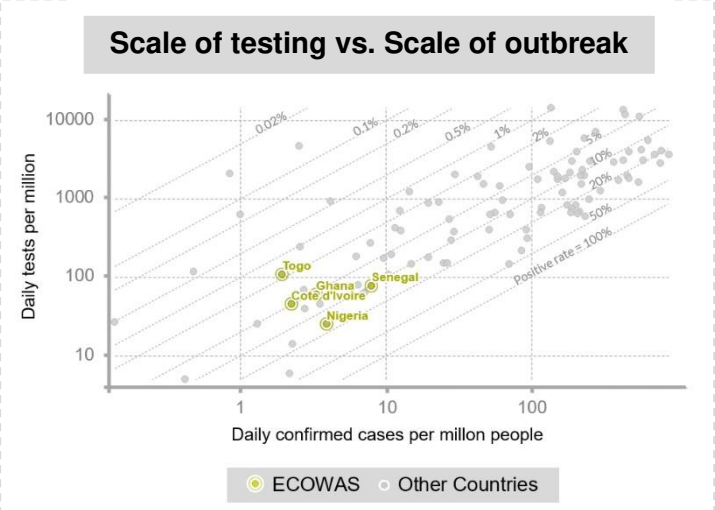


Figure 11: COVID-19: Daily tests vs. Daily new confirmed cases per million. Logarithmic scale on both axis due to significant differences (E.g., Poland tests approx. 35 times as many people per million but also has a 950 times higher case rate than Senegal). The figures are given as a rolling 7-day average. State: 1st of January 2021

Source: Modified from HASELL ET AL. (2020)

of the data. A country with few new infections does not need to test to the same extent as another country with exponential growth in the number of cases in order to provide figures that can be used to draw approximate conclusions about the overall extent of the local development of the pandemic.

According to the WHO that suggests around 10 – 30 tests per confirmed case as a general benchmark of adequate COVID-19 testing, the number of tests per confirmed case is the relevant indicator for evaluating the significance of overall results (WHO 2020c). To enable a contextualisation of the data presented, this is the global situation: For the 1st of December, the international *T/P* data ranged in between 15.51 (Luxembourg) and 0.004 (Madagascar) with a mean of 1,83 and a median of 1.21. 90 reporting countries, 97% lower than 6 and 67% lower than 2. For the same reporting day, the *T/C* data ranged in between 3552.9 (Australia) and 2.6 (Macedonia) with a mean of 89.51 and a median of 12.9. Eighty-six reporting countries with 97.7% lower than 185 and 66.3% lower than 20.

With regard to West Africa, this means, that the covered EMSs rank in terms of *T/P* among the last 20% (fewest tests per thousand inhabitants) but among the first 30% in terms of *T/C* (most tests per C19 case). The only exception to this is Cabo Verde with their deviating infectious incidence. However, in the case of Cabo Verde, it is important to consider the particular terrestrial conditions with the multi-island setting and high population density on some islands and high dependency on maritime connectivity, which have a wide variety of influences on outbreak dynamics and control possibilities. Furthermore, the number of inhabitants is less than 1 million, which as well needs to be considered when assessing numbers in relation to population size and when weighting in the consideration of overall West African developments. To conclude, the data in combination with the WHO guidelines indicate, that the extent of testing is sufficient to depict an overview of trends in actual infection patterns. All EMSs covered meet or even exceed the WHO criteria at almost all times, only Cabo Verde and Nigeria partly underscore. Although it should be mentioned again that this statement is based on a study only of a minority of the economically strongest ECOWAS member states, further hampering representativity. Yet, other available, but less elaborated databases on testing that also include the other EMSs hints at similar dynamics in the whole ECOWAS region. Looking at the cumulated number of tests in relation to population size, some countries have tested even more than the EMSs highlighted in the diagrams (cf. OECD 2020a), which further underpins the evidence. Fig. 11 (p. 17) summarizes the overall results by contrasting testing, infectious rates and the positive rate.

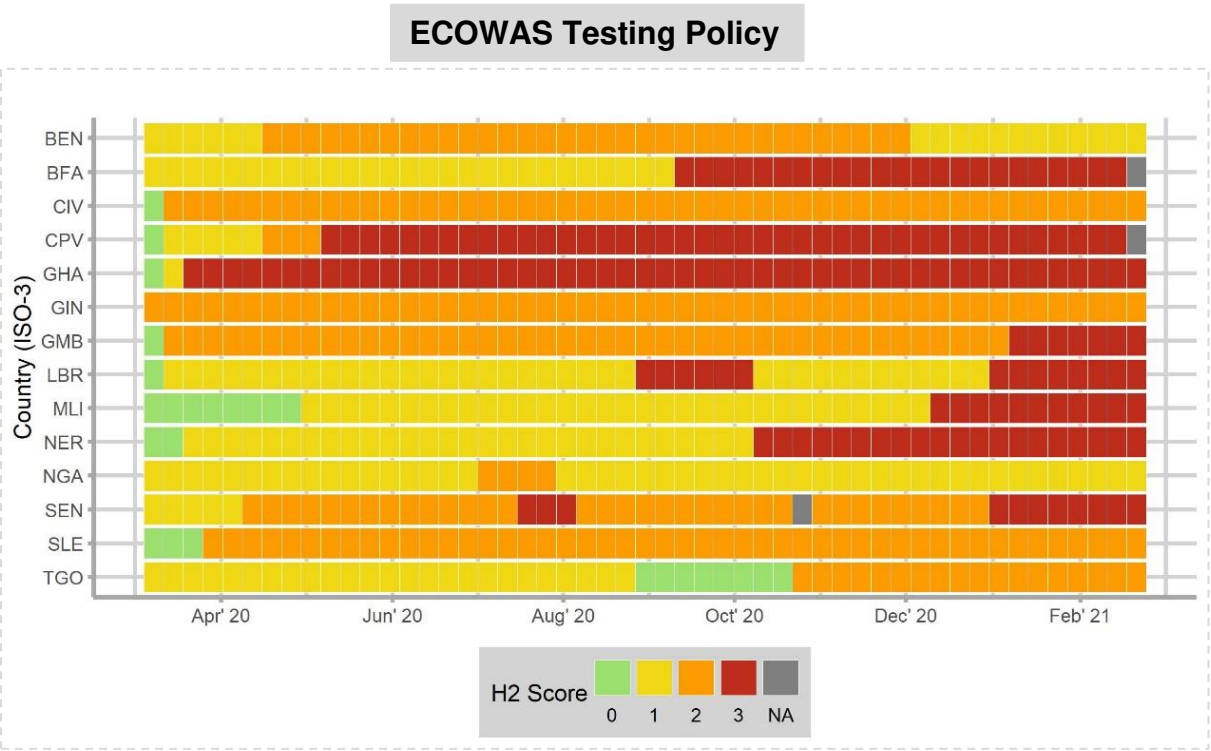


Figure 12: Tilemap of COVID-19 testing policies of the individual ECOWAS member state in relation time. One tile represents a 7-day median of the daily index scores. 11.03.2020 - 23.02.2021. Color-Coding from green (0) to red (3) according to the source: testing conducted for 1: only those who both (a) have symptoms AND (b) meet specific criteria (e.g. key workers, admitted to hospital, etc.); 2: anyone showing Covid-19 symptoms; 3: open public testing

Source: Illustration byJannis Viola. Data: OxCGRT (2021c).

If looking at the development of the testing policies in the ECOWAS region, we see in almost all cases a gradual expansion of the provisions relating to the test framework (cf. Fig. 12, p. 19). Particularly during the second wave of pandemic's spread, some EMSs expanded their testing strategies and initiated open public testing. Of course, this is only a representation of the policies and not their enforcement, but there is a shared desire to intensify the testing regimes. According to the OxCGRT database only Benin and Nigeria still had a limited approach to testing at the beginning of the year. A similar picture emerges when approaching the contact tracing policies (cf. Appendix 10.2), where all but 2 EMSs were labelled as having introduced a comprehensive tracing strategy. One of these two is Burkina Faso, which just eased their previously comprehensive (score 2) policies from February 2020 on, leaving just Niger as the only country with a long-term limitation on contact tracing. It therefore can be concluded that there is a shared approach to intensive measures in terms of policy frameworks for COVID-19 tracking and, in recent months, increasingly also in terms of testing strategies.

4.1.5 Conclusions on the status quo

Testing capacities and policy approaches were outlined in order to give a first insight into the source of the infection figures discussed. When synthesising the data presented here so far, it seems appropriate to say that, especially when comparing the situation to other parts of Africa and the world and the historical spread of other diseases in the region, the C19 pandemic represents a phenomenon of rather modest magnitude in terms of the infections so far observed. The testing numbers in the ECOWAS region support that stance through hinting that the reported case numbers are thought to be reasonably accurate to draw conclusions about the actual dimensions of the pandemic and its temporal dynamics.

Nevertheless, the case numbers should not be misunderstood as holistic representations of the C19 spread. They are still only the officially reported numbers of confirmed cases in countries with comparatively weak health and tracking infrastructure. Even though the figures treated here underpin the impression of ECOWAS being hit considerably less than other parts of Africa and especially other parts of the world so far, the factual dimension is in all probability bigger and the pandemic in West Africa should not by any means be presented as being harmless. Until 26 December 2020, there were 3143 confirmed deaths in connection with C19 in the ECOWAS region, and the second pandemic wave has already been shown to be of a bigger magnitude than the first one. This means that the status quo presented in this study must be seen as just a snapshot of an ongoing dynamic process and should therefore continue to be closely monitored in the future. This is especially true since new variants of SARS-CoV-2 have also been detected in West Africa (DJIGO 2021, WHO 2021a), but their impact will only be observable over time. In terms of the snapshot, West Africa is a region in which the manifestations of the global and local effects of the public responses concerning the pandemic are much more observable than the pandemic itself. And this provides a particular basis for this study, which, in the following chapters, will show some significant changes within the political economy and movement patterns of people in the region, which is interesting in the context of the admittedly smaller scale of infections.

So, all in all, a mixed picture in terms of infectious dynamics emerged. There are various, partly contradictory, publications on the actual number of unreported cases and the challenges regarding data availability, further complicating an assessment of the real magnitude. But, at the same time, Africa has been declared numerous times to become the next epicentre of the global pandemic. However, at least up to the time of writing, this has not proven to be true. On the contrary, the continent, and West Africa in particular, is even less affected than average. So, for the time being it should be emphasised that these figures only reflect a universalistic level of comparison, and do not encompass the societies that are severely affected by this biological threat. On a level of global hierarchy, but also within the countries under discussion, the virus itself and its effects struck more harshly societies where there is inequality (cf. LAWRENCE 2020: 351). This might be represented by the higher than global average case fatality rates many African states report (AFRICA CDC 2021b). It is clear that the pandemic regimes established by governments around the world differed. This has had implications, manifesting in different outcomes and inequalities. Accordingly, the following chapters examine these manifestations and their impacts on mobility patterns.

5 (Im)mobilities of people

In this chapter we look at the materialised effects of the pandemic complex (that have so far been identified) on the (im)mobilities of people. The majority of countries in Sub-Saharan Africa (SSA), and also most ECOWAS member states, implemented lockdown policies similar to the ones implemented, for instance, in Europe, even though these steps were accompanied by debates on whether or not such concepts were suitable for the SSA context (cf. NEPAD 2020). This was questioned, for example, with regard to prevailing socio-economic contexts marked by what ADEBANWI (2017) calls "the political economy of everyday life in Africa": To invent, experiment and innovate in the struggle of making a living by day-to-day small-scale mobility (NDLOVU-GATSHENI 2020).

The same policy measures can obviously have different effects under these distinct conditions. Nevertheless, policies introduced have primarily followed the globally prevailing paradigms of mobility restrictions. This is why we use, first and foremost, internationally-comparable categories to address the pandemic regimes. We primarily investigate policies that follow the logic of using hard power to restrict physical mobility, instead of more indirect or soft power-based ways such as information campaigns. However, such campaigns do also exist in the ECOWAS region, for example in Togo, where the Government introduced mass broadcasting of messages with prevention information via SMS, social networks and mass media (AFDB 2020: 104). For a holistic comparison of such categories of implemented pandemic-related policies, see Appendix 10.1 and 10.2. For assessing the different ways (im)mobilities of people have materialized and how they were produced, we first introduce a general overview of mobility-related lockdown policies within the individual EMSs to establish a comparative base in terms of regime stringency. This is followed by a closer look at the regulation of means of transport and an evaluation of mobility data regarding movements of individuals in West Africa. The last subchapters focus on the interstate perspective regarding transnational mobilities in terms of border regulation, migration, and aviation.

5.1 Specificities of the National Lockdowns and Mobility Regimes

All ECOWAS member states introduced a diverse range of so-called public health and social measures (PHSM) as responses to the spread of COVID-19. Most of them were initially put in place in the first weeks after the WHO declared C19 a pandemic on 11 March 2020. Since then, a complex set of measures have been introduced in West Africa. In this chapter we compare different lockdowns to outline the specifics of the individual pandemic regimes. Yet, it should be noted that the national governments were not the only forces shaping those regimes. The individual countries are part of regional and global institutions and are influenced by supranational discourses and processes as well. In this context the role of ECOWAS as a comparatively active institution in the pandemic response and, especially, the subordinate West African Health Organization (WAHO), is particularly noteworthy (cf. MEDINILLA ET AL. 2020: 8)

As the operationalization of something as abstract as the specificities of one lockdown in comparison to another one, with a simultaneously challenging situation in terms of data availability, the authors will mainly draw on the database of the "Oxford COVID-19 Government Response Tracker" (OxCGRT) regarding regulations and lockdowns. OxCGRT seems to be the most

comprehensive and extensively processed database available on this recent topic. Several hundred international researchers, led by the Blavatnik School of Government, contributed to this, making it a global data set on a wide range of measures to tackle the COVID-19 outbreak and its effects. Having said that, it is vital to highlight that the OxCGRT and the resultant aggregated policy indices do not assess the effectiveness or the practical implementation of measures. It is rather a systematic cross-national tracking of how officially mandated government policy interventions have evolved over time. This should be kept in mind when interpreting the data and indices[2]. It should furthermore be noted that Guinea-Bissau is not included in the OxCGRT database, so statements about the ECOWAS region as a whole are made on the base of just 14 of the 15 EMSs. Documenting policies of school and workplace closures gives a first overview of the general severity and similarities or differing patterns in the countries. It is vital to keep in mind that these classes and indicators are representing qualitative data translated into an ordinal scale that might not always have clearly defined boundaries, so differences should not be overinterpreted[3]. A first period of analysis was set from the beginning of the pandemic until 23 November 2020. This period is used as a reference for analysing the dynamics of what could be called the first wave of infections and response stringency, with an initial increase and a following decrease. Despite large differences in the respective policies and countries, a gradual relaxation of the initially strict measures can be seen in most cases up to November, after which, in some case, a tightening starts again. The subsequent period is also covered, but due to data availability and the topicality of the subject, it was followed until different points in time for the various countries studied. The following months were, nevertheless, included in order to provide as up to date an overview as possible.

[2] For a further elaboration on the production and application of the data, see: HALE ET AL. (2020a).
[3] For a comprehensive approach to definitions and possible interpretation see OXCGRT (2021a) and IBID. (2021b).

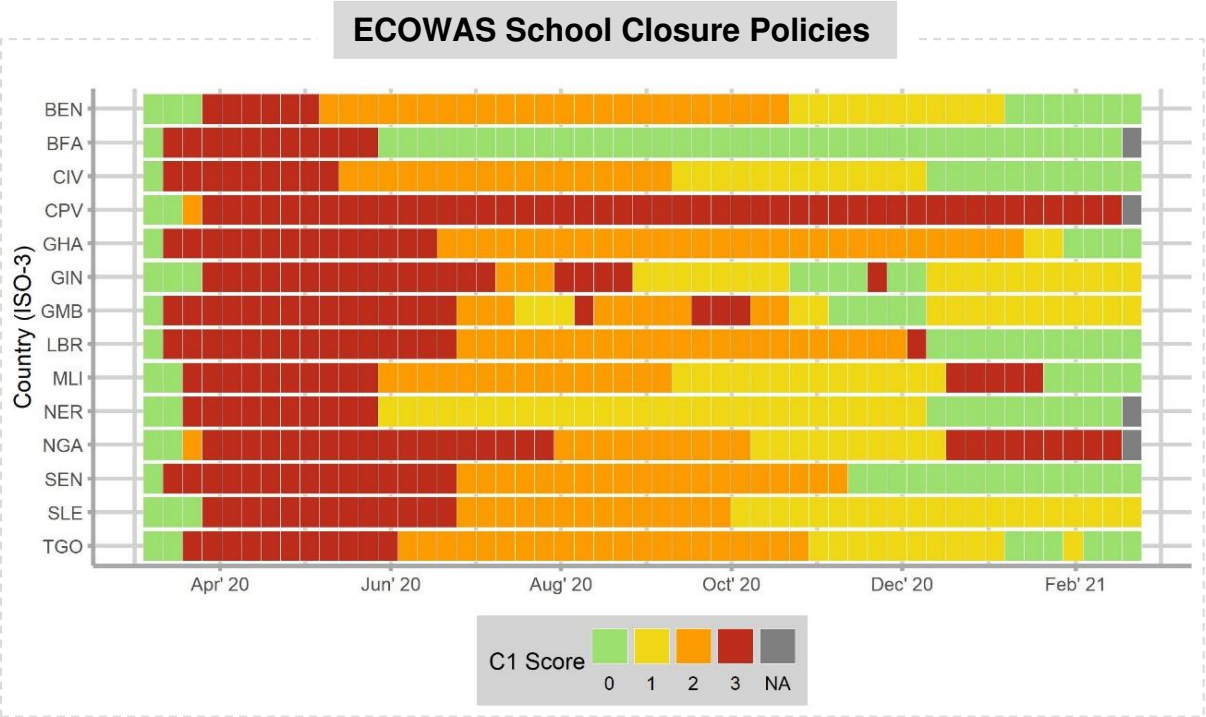


Figure 13: Tilemap of time-related changes of the stringency of closings of schools and universities. One tile represents a 7-day median of the daily index scores. 11.03.2020 (day of WHO pandemic declaration) - 03.02.2021. Color-Coding from green (0) to red (3) according to the source: 0: no measures; 1: recommend closing or all schools open with alterations resulting in significant differences compared to non-Covid-19 operations; 2: require closing (only some levels or categories, e.g. just high school, or just public schools); 3: require closing all levels; Grey: no data available

Source: Illustration by Jannis Viola. Data: OxCGRT (2021c).

To make variations and common grounds in government responses vivid and thus describe potential fragments of mobility regimes in the ECOWAS region, the first aspect examined are the West African school closing policies (Fig. 13).

EMS	Class
CPV	3
GMB	3
GHA	3
LBR	3
SEN	3
BEN	2
GIN	2
MLI	2
NGA	2
SLE	2
TGO	2
BFA	1
CIV	1
NER	1

Figure 14: School closure policy classes based on vector quantization

In the beginning of the individual ECOWAS member states' interventions concerning school and university visits, the responses resemble strongly with an instant total closure instruction in most cases. Most EMSs introduced their responses within 16 to 20 March 2020, with Sierra Leone being the last one on 30 March 2020. This translates into a shared school and university closure policy for the whole ECOWAS region from 31 March on. Hence it was an arguably homogenous and profound start regarding this subject in West Africa with a comparably fast reaction to the WHO characterizing C19 as a pandemic on 11th of March. First deviations appear in May with Benin being the first country to gradually relieve this policy. Yet, in the end of May still all but two EMSs had a universal closure policy in place, but from there on the governments' responses started to heavily differ in terms of stringency and timing. The mean stringency throughout the region declined towards the end of the year, but with a relatively constantly high level of heterogeneity (see Fig. 15, p. 24). In the

last months one can observe a tendency to level off around a comparably low plateau of stringency, but with increasing heterogeneity. Burkina Faso and Cabo Verde resembled the most extreme contradictions in terms of closure policy approaches: While Burkina Faso completely eased its policy on the 1st of June, Cabo Verde kept it on the highest C1 indicator count. When clustered with vector quantization[4] one can create the groups with resembling approaches in terms of stringency and timing enlisted in Fig. 14. (p. 23) The classes created through the individual EMS's C1 indicator on a daily base between 01.01.2020 and 23.11.2020 can be understood as grading according to severity with 3 being the strictest one in a long term view. The clustering just aims at the time before the second wave of infections to treat what we understand as the first "rounded off chapter" of action in the ECOWAS region. Towards the end of the year, in most countries a novel increase of policy stringency is observable, but during the time this study was written it was not clear yet, how the stringency level will develop and if it will follow the same pattern of quasi-continuous steps towards an opening after the first peak of policy severity.

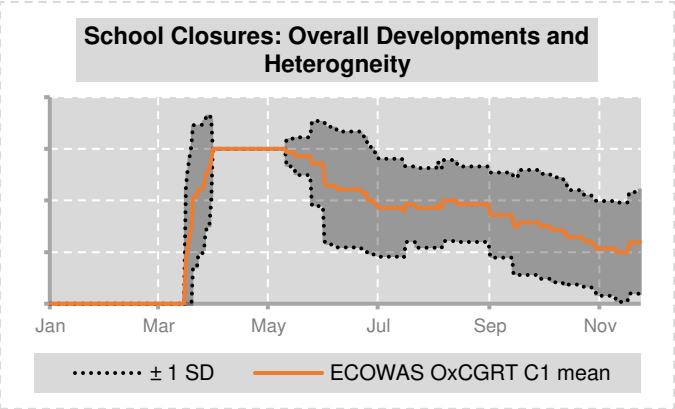


Figure 15: Mean of all examined EMS in Fig. 11 (p. 17) and standard deviation.

Source: Own Figure. Data: Own calculations based on OxCGRT (2021c).

Concluding, there was an observable uniform pattern of action at the beginning of the pandemic and increasing differentiation after a few months. Since then, the level of severity has tended to decrease, but the level of dispersion has remained relatively constant until mid-November, which is the observational period for the clustering. Afterwards, a significant increase in deviation is observable again, implying greater differences in policy stringency. This increased dispersion seems to be primarily related to the reintroduction of general school closings in Nigeria and Mali from December 2020 on, while a majority of EMSs still did not apply any restrictions on schools.

The question of whether or not schools are open is a powerful shaping force for mobility pattern of individuals. This is especially true in very young societies. A representative survey in Côte d'Ivoire (L'ECONOMISTE DUFASO 2020) concluded that during school closures, about 70% of children spent the time they would otherwise have spent at school at home. Socio-economic inequalities are a significant factor, with children from wealthier households tending to be more likely to be at home. These are probably not purely temporary changes. In Burkina Faso, only 65% of respondents said that their students would return to school permanently. This coincides with experiences from previous pandemics. For example, after the Ebola pandemic in West Africa, it was observed that 25% of children in Liberia and 13% in Sierra Leone left school permanently.

[4] K-means clustering with trace (W) and continuation of the last value in case of missing data.

Accordingly, this is furthermore likely to have a long-term impact on the mobility patterns of people (IBID.).

Furthermore, school closings do not only have relevant impacts on mobility pattern of individuals, but also significant socio-economic implications. According to the WORLD BANK (2020a: 67), "in an [sic] scenario of four months of lost schooling and no change in educational quality, the lifetime earnings of today's students across the globe will be sharply reduced, representing a loss of 12.4 percent of the world's GDP over future generations". Thus, also a future impact on economic development and flows of capital is anticipated, which will be the topic of chapter 7 of this study. Ghana e.g., had 10 months of school closing for most students so far (MENSAH 2021), which implies that there was a long period of mobility pattern changes and income losses of teachers (IBID.) directly imposed by the pandemic regime, but also that there are not yet observable long-term impacts to be expected.

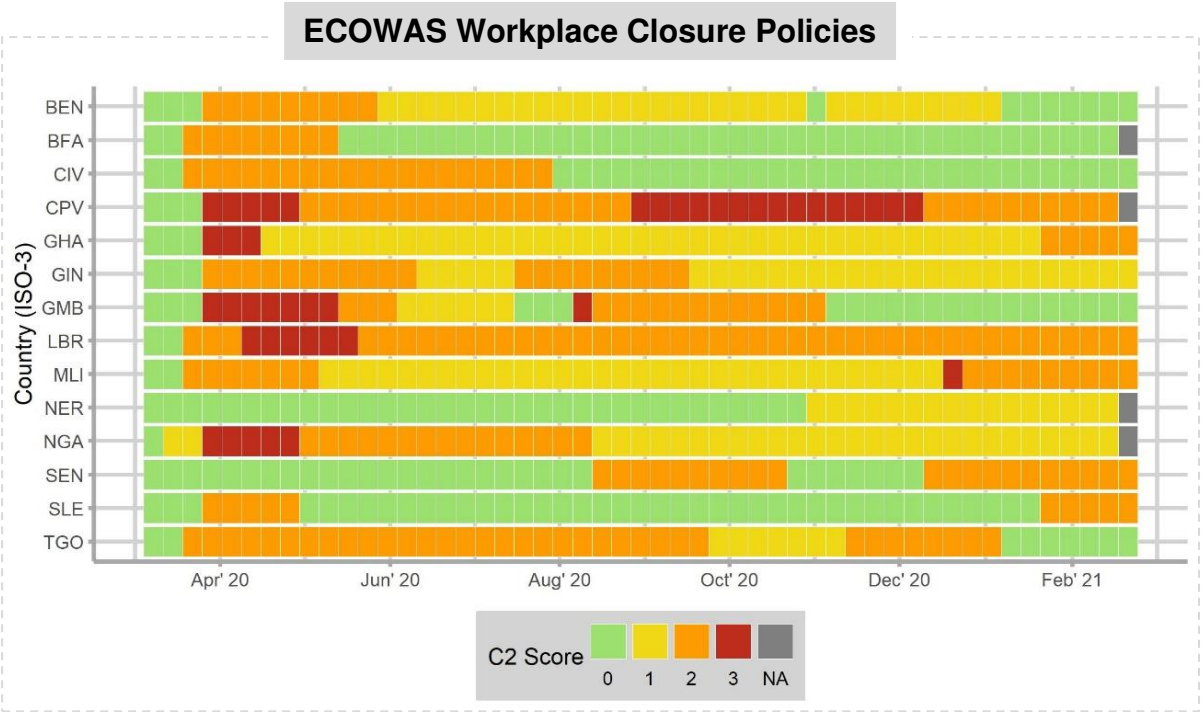


Figure 16: Tilemap of time-related changes of the stringency of mandated closings of workplaces. One tile represents a 7-day median of the daily index scores. 11.03.2020 - 03.02.2021. Color-Coding from brightest (0) to darkest shade (3): 0: no measures; 1: recommend closing (or recommend work from home); 2: require closing (or work from home) for some sectors or categories of workers; 3: require closing (or work from home) for all-but-essential workplaces (e.g. grocery stores, doctors); Grey: no data available.

Source: Illustration by Jannis Viola. Data: OxCGRT (2021c).

The heterogeneity of policy stringency and temporal changes is significant when assessing the ECOWAS workplace closure regime (Fig. 16, p. 25). Yet, the vast majority (12 out of the 14 examined EMSs) put some kind of workplace restrictions or at least closure recommendations in place within the first weeks after the WHO declared C19 a pandemic (Range: 18.03. - 30.03.2020). Apart from Senegal and Niger all EMSs had at least a partial closure of workplaces ordered for April. In terms of descriptive statistics this translates into a short-term plateau of the mean of all EMSs' OxCGRT C2 scores around the value 2 (most countries have a level-2-rated policy in place, and the ones with a stricter and the ones with a less strict approach approximately even out in terms of the average: cf. Fig. 14, p. 22). However, it should be kept in mind that this is a calculated average of ordinal data, so it is only a representation of differentiation trends.

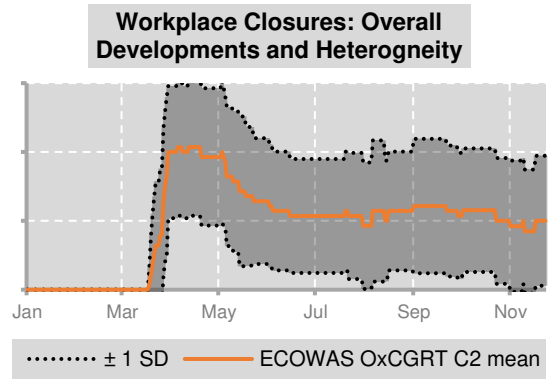


Figure 17: Mean of all examined EMS in Fig. 14 (p. 23) and standard deviation

Source: Own Figure. Data: Own calculations based on OxCGRT (2021c).

From there on, policies started to vary more with an overall tendency of avoiding broad closings, bringing the average (Fig. 17) down to a relatively constant low plateau which resembles, that most countries had not measures in place or just recommendations or limited restrictions instead of required closings. Nevertheless, the variation remains on a high level. Despite the overall impression of a rather homogenous and uncoordinated approach that emerges when looking at the individual governments responses in terms of working place policies, ascertainable pattern of similar governmental behaviour exists. If clustered with vector quantization[5] one can create the groups with resembling approaches in terms of stringency and timing that are enlisted in Fig. 18. The classes created through the individual EMS's C2 indicator on a daily base between in the same observational period as in the case of the school closure policies can be understood as grading according to severity with 3 being the strictest one in long term view.

EMS	Class
CPV	3
GMB	3
TGO	3
LBR	3
GIN	3
BEN	2
CIV	2
GHA	2
MLI	2
NGA	2
BFA	1
NER	1
SEN	1
SLE	1

Figure 18: Workplace closure policy classes based on vector quantization of ordinal OxCGRT C2 indicator score

All in all, no uniform approaches where observable but instead significant disparities between individual governments approaches and mostly fluctuating trends within individual responses over time. Workplace closures do have obvious impacts on peoples (im)mobilities and the socio-economic realities, yet the social structuring of the governable embeddedness of work is very different in West Africa from that in Europe for example, where severe restrictions on formal employment would have an enormous impact on the daily patterns of individual movement . Given the low proportion of formal jobs, the overall

[5] Same approach regarding quantization technique as with school closures.

impact of such policies on the broader mobility patterns apart from specific socio-economic classes must be critically discussed. However, the formal employment in West Africa is important as it is interwoven with the informal sphere. Impacts on value and supply chains, for example, are to be expected. Either way, the overall pandemic complex has had a major impact on social realities in the ECOWAS region, according to the available evidence. According to the IPA survey that was conducted in June 2020 and also cited in the context of the school closures (L'ECONOMISTE DUFASO 2020), there was a distinct impact of the pandemic complex on employment and working conditions. The majority of respondents are unemployed, especially in Côte d'Ivoire. Almost half of the sample in Côte d'Ivoire have lost their jobs since February, mainly in the informal sector. While 67% were working in February, 20% reported that their business had closed. In companies with more than one employee, 65% of respondents are earning less, and 35% of companies with more than one employee have reduced their working hours. There is a similar trend in Burkina Faso, although the decrease is smaller: 40% of respondents were working in the week before reporting, down from 60% in February, with 61% of those still working earning less and 57% working fewer hours.

According to BISSON & HAMBLETON (2020: 9) in the formal sector in Niger, "nearly 70% of people have been placed on technical unemployment. At the level of Niger's employers, it is claimed that overall, 50% of private sector employees have temporarily stopped working." In terms of protection measures, only few approaches have been reported from West Africa. "The most comprehensive effort is from Senegal, where the president issued an ordinance to prohibit layoffs and guarantee income to workers laid off during the COVID-19 pandemic (70 percent of the wages of employees laid off during this period). The new decree prohibits the use of dismissal other than that motivated by gross misconduct (termination for cause)" (IBID.). Yet, governmental support programms or tax reduction policies, as those introduced in Senegal to make the described approach realizable for the companies, are just indirectly influencing (im)mobilities of people and will be thus examinend in a later part of this study. The last policy field that will be assesed in this chapter to give an overview about the (im)mobility regime stringency will be the public event regulations.

As to be seen in the tile map (Fig. 19, p. 28), the approach of the EMSs' governments regarding the question of whether events should be cancelled was again more uniformly handled compared to the workplace closures. In the first weeks, the data shows a similarly uniform and stringent pattern as in school closings. This is represented through a common score of 2, which means that all governments required a cancelling on public events between 27.03. and 12.5. yet. Afterwards, Niger suspended that policy and later also Burkina Faso eased their restrictions, yet in the beginning of July still 12 of the 14 examined EMSs do have a cancelling policy in place.

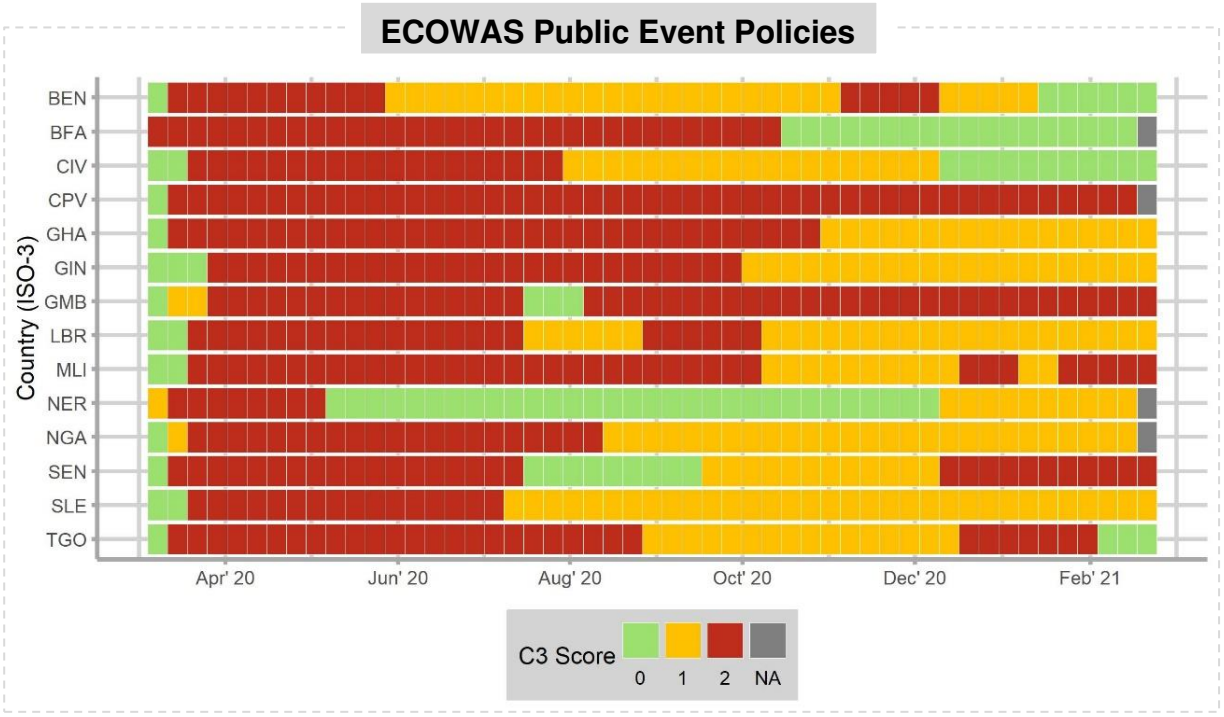


Figure 19: Tilemap of time-related changes of the stringency of policies regarding the cancellation of public events. One tile represents a 7-day median of the daily index scores. 11.03.2020 - 03.02.2021. Color-Coding from green (0) to red (2): 0: no measures; 1: recommend cancelling; 2: require cancelling; Grey: no data available

Source: Illustration byJannis Viola. Data: OxCGRT (2021c).

Afterwards, a bigger variety of approaches emerged, with most ECOWAS member states switching to merely a recommendation instead of a requirement at some point. Subsequently, towards the end of the year, a re-intensification became visible here as well, which, however, remained subject to a greater diversification of stringency levels. If also clustered with vector quantization[6], the classes created through the individual EMS's C3 indicator in the same time period used in the two thematic fields before (first "wave" of governmental responses until mid-November) can be understood as grading according to severity with 4 being the strictest one in long term view (Fig. 21, p. 29). Class 1 (Niger) and 2 (Burkina Faso) hereby represent the only EMSs that, according to the database, stopped imposing conditions regarding public events and did not reconfigure until the end of

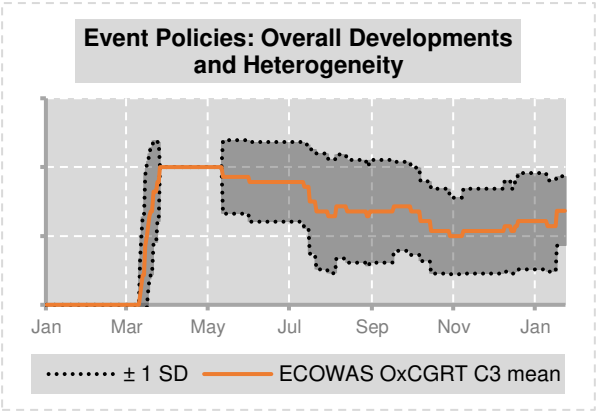


Figure 20: Mean of all examined EMS in Fig. 17 (p. 26) and standard deviation.

Source: Own Figure. Data: Own calculations based on OxCGRT (2021c).

[6] Same approach regarding quantization technique as with school closures.

EMS	Class
CPV	4
GMB	4
GHA	4
GIN	4
LBR	4
MLI	4
BEN	3
CIV	3
NGA	3
SEN	3
SLE	3
TGO	3
BFA	2
NER	1

Figure 21: Public event policy closure classes based on vector quantization of ordinal OxCGRT C3 indicator score.

the classification period. The other class allocations are also mainly driven by the moment of easing the restrictions, and the hierarchy resembles the one of the school closing stringency in large parts.

Concluding on public event policies, the data shows the same pattern of uniformity of action at the beginning of the pandemic and increasing differentiation after a few months. Despite the commonalities mentioned above, over time there has been a greater divergence between the states in comparison to the school closures, but also an overall longer persistence with a restrictive approach and also an earlier reintroduction of restrictions. However, it should be noted that in the heatmap regarding school closures (Fig. 13, p. 23) not only level 3 (red) but also level 2 (orange) includes at least a partial closure. As for the public event policies, towards November 2020 most EMSs settled for recommendations of closures instead of bans. Fig. 20 (p. 28) supports this analysis of a downward trend in the stringency of workplace regulations until the end of the first interpretative period (mid-November) and a slow increase from then on when assessing all individual policies together.

When all results of the individual policy fields discussed above are consolidated, a distinct continuity in class assignment can be observed (Fig. 22). Even though the respective classes must not represent an equivalent level of comparison because each sub-index was clustered individually and due to the source database being an ordinal scale, still an ongoing pattern is observable when putting the three policy fields in relation. There is a broad continuity in class allocation throughout the topics and all class levels, with e.g., Niger and Burkina Faso always being in the lowest (less strict) and Cabo Verde, The Gambia and Liberia always being in the highest (most strict). When putting these results in the context of the infectious dynamics in the individual EMSs, one can see some correlation between stringency and C/P with for instance Cabo Verde and The Gambia also having had the highest numbers in terms of cases in the respective observation period. It seems remarkable how different the approaches were in the last months before December even though the C19 cases seem to be comparable low in almost all EMS in that particular period while they were relatively similar first.

Cluster Comparison

EMS	School	Work	Event
CPV	3	3	4
GMB	3	3	4
LBR	3	3	4
GHA	3	2	4
GIN	2	3	4
TGO	2	3	3
MLI	2	2	4
BEN	2	2	3
NGA	2	2	3
SEN	3	1	3
CIV	1	2	3
SLE	2	1	3
BFA	1	1	2
NER	1	1	1

Figure 22: Merging of the results of clustering with vector quantification for comparison of class assignment to determine cross-topical similarities

Since the data is solely a representation of policies and not of their impacts, the results should not be read as factual mobility patterns. The manifestation of the governments' regulations in terms of (im)mobilities relies on different political and socio-cultural factors. When looking at school closing policies for example, the ECOWAS member states' executive assertiveness and monitoring capacities play an apparently significant role. Furthermore, the basis for the regarding policies to have an impact on mobility is a considerable diverging one. The mean years of schooling as recorded by the UNDP range in between 1.6 (Burkina Faso) and 7.2 years (Ghana) for 2019 (ECOWAS ET AL. 2020: 22) and the expected duration of schooling varies from 6.5 (Niger) to 12.6 years (Togo and Benin). And in terms of rural pre-primary education attendance, the numbers range from 2% (Burkina Faso) and 98% (Ghana). The data basis and timeliness of these statistics vary significantly and may no longer reflect current conditions, but the point is to show how different the bases of school systems and attendance among individual ECOWAS member states are. Accordingly, when examining the influence of policies on actual mobility patterns of groups of individuals, one must also take into account the potentially degenerating spatial context and socio-political embeddedness, e.g., actual pre-Covid school attendance of certain groups or the enforcement of targeted prevention of attendance. Nevertheless, the results show a certain tendency of how the diverging mobility regimes influenced human mobility pattern. This is only an exemplary contextualisation of the OxCGRT data and can also be applied to the other sub-areas of the pandemic regimes examined here. Despite the considerable level of abstraction and the sole consideration of policy implications, the data can be used to approach the shape of the C19 regime, including commonalities and differences based on the different political spaces they are aimed at. Complementary, the manifested changes of human mobility will be discussed in chapter 5.3.

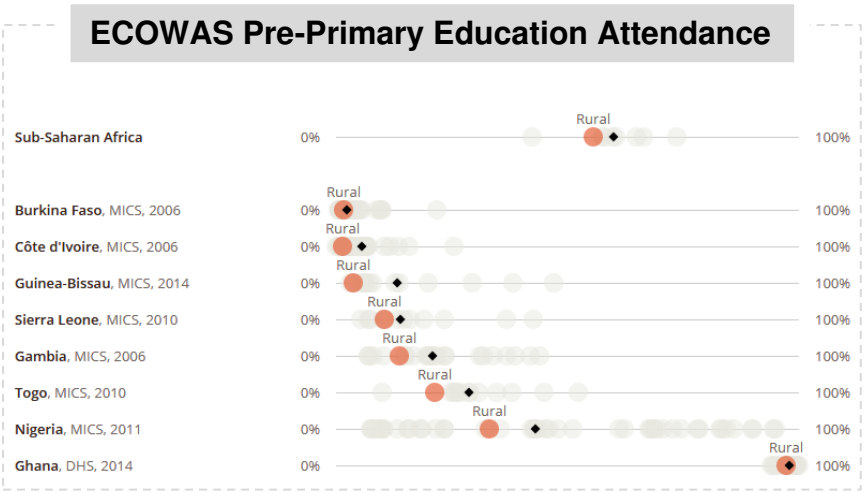


Figure 23: EMS rural pre-primary education attendance. Broken up in range of most privileged (right side) to most deprived (left side) group as defined by the UNESCO

Source: UNESCO (2021).

When dealing with government approaches in terms of policy severity, the significant differentiation within the ECOWAS region leads to a further need of structural comparison. The OxCGRT did not only publish the indicators analysed above, but also created a set of indices, some of which were partly, and some were totally generated on the base of the OxCGRT indicators. One of those is the Response Stringency Index, which represents a systematic approach to the discussion on policy severity.

5.1.1 Overall Response Stringency

The OxCGRT Response Stringency Index is composed of the following sub-indices: C1 (School closing), C2 (Workplace closing), C3 (Cancel public events), C4 (Restrictions on gatherings), C5 (Close public transport), C6 (Stay at home requirements), C7 (Restrictions on internal movement), C8 (International travel controls) and H1 (Public information campaigns). The data has been rescaled to a value from 0 to 100 (100 = strictest). Thus, the index represents a more comprehensive approach than the specific one chosen in the chapter before, which enables highlighting general developments. This perspective on individual EMS' Stringency Index rating over time enables to set the general lockdown severity in relation within the ECOWAS region.

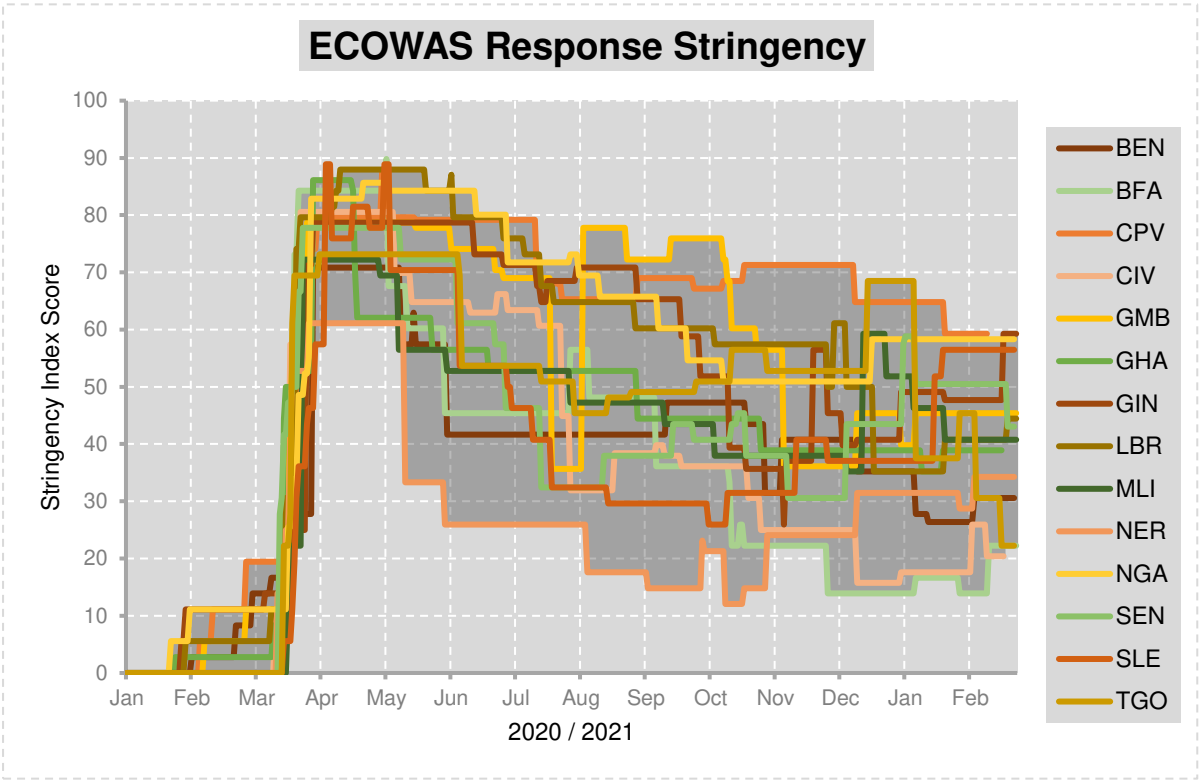


Figure 24: The development of the 'Stringency Index' over time. Guinea-Bissau not included in database. 01.01.2020 – 01.03.2021.

Source: Own figure. Data: OxCGRT (2021c).

In general, the impressions discussed above are emphasised. Until the end of March, there are diverging but just moderate measures, followed by a pattern of a sharp rise in policy stringency in April, leading to an average score around 80. With 100 being the highest achievable score within the framework of this index, this represents a comparably robust response before a significant differentiation begins. An overall tendency of slow easing over time is seen, which shows as an approximately 50% decline in mean ECOWAS Stringency Index score from April to November and results in a mean around 40 in November (Fig. 24, p. 31). Yet, this just represents the biggest cluster representing the many EMSs with a score around the mark of 40. But at the same time, compared to the uniform approach in the first months there are also a lot of other EMSs with a significantly more or less severe response, which translates to a considerable scattering in

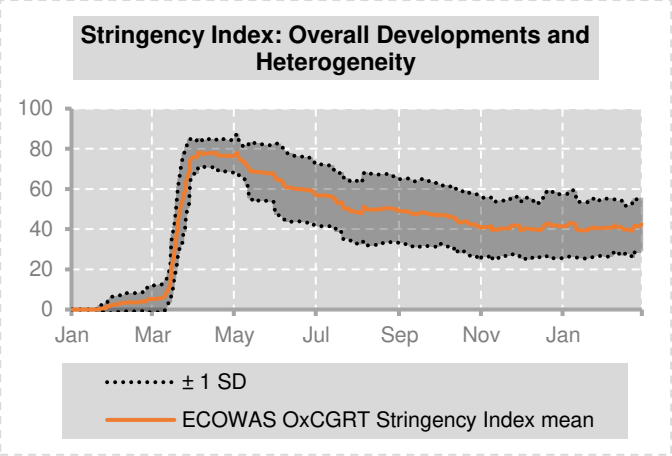


Figure 25: Mean of all examined EMS in Fig. 24 and standard deviation.

Source: Own Figure. Data: Own calculations based on OxCGRT (2021c).

between 22.2 (Burkina Faso) and 71.3 (Cabo Verde) at the end of the observation period (Fig. 26, p. 32). If one looks at which countries have made the greatest dispersion in severity, that is, developments that would show up as strong fluctuations in the graph in Fig. 25 (p. 32), the EMS that stand out between June and November are of interest, hence after the period of great uniformity. These are Côte d'Ivoire, the Gambia and Guinea in particular (standard deviation of 14.6, 14.4 and 14.6 if measured in the time scale of Fig. 23, p. 30).

All in all, it should therefore be noted that the a complex landscape of response regimes have developed. Despite the complexity, and although the scale is ordinal and the averages shown here are only useful for understanding patterns and dispersion, a trend can be discerned. After the initial severe response, there has been a continuous consolidation that, despite the continued complex deviations, shows a levelling off around the value of 40 on average (Fig. 25, p. 32) even until early March 2020.

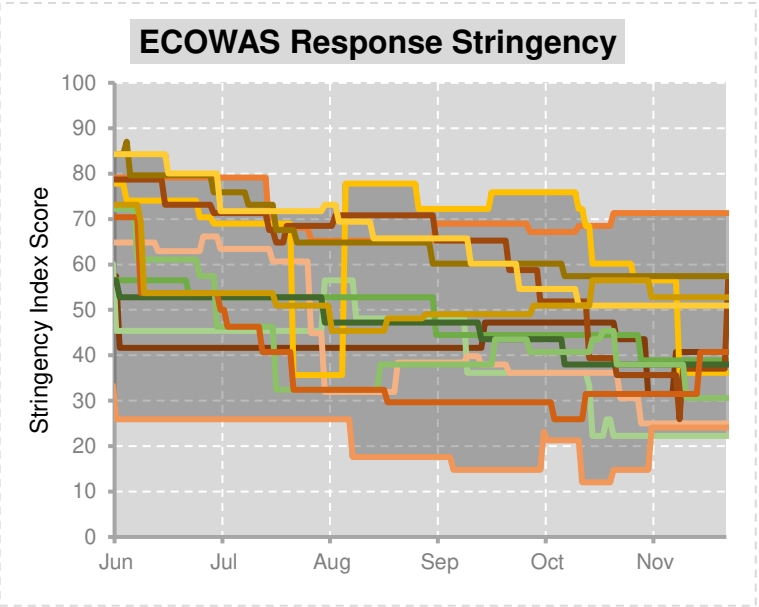


Figure 26: OxCGRT Stringency Index Score vs. time. 01.06.2020 - 23.11.2020. Same colour allocation as in Fig. 24 (p. 31).

Source: Own figure. Data: OxCGRT (2021c).

This perspective aimed at the complex developments over time, but when summarizing the average score since the beginning of the pandemic, the following picture emerges:

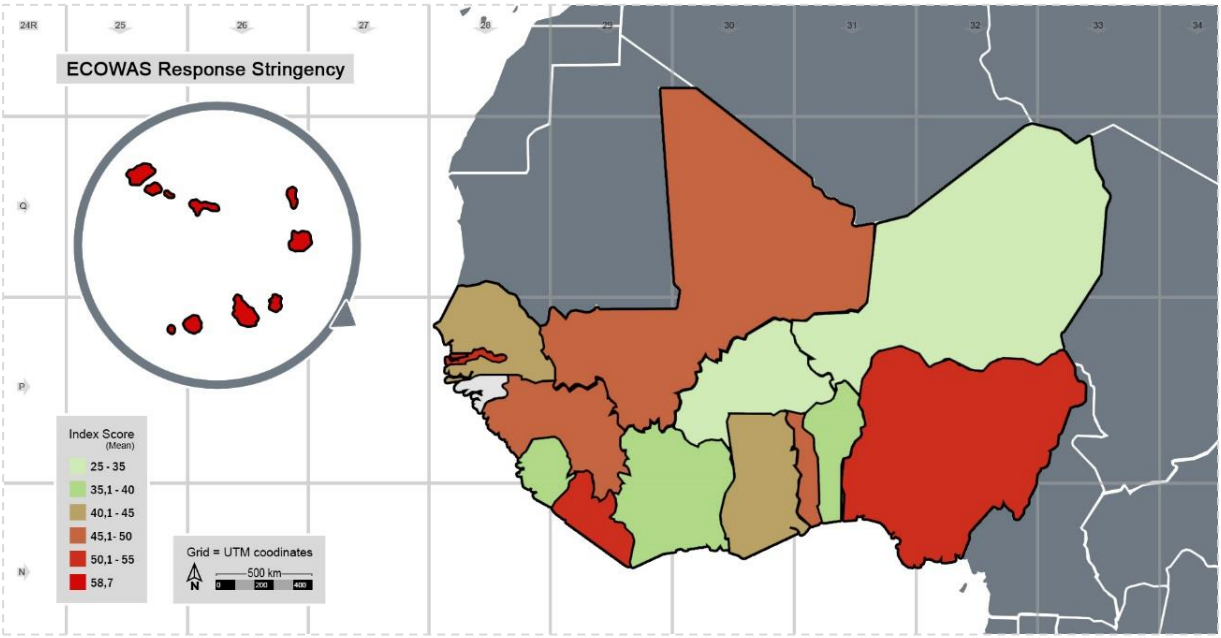


Figure 27: Map of the spatial distribution of pandemic regime stringency based on the OxCGRT index as mean from 01.01.2020 – 01.03.2020. White colouring = no data

Source: Own figure. Data: OxCGRT (2021c).

Spatial patterns of stringency show an uncertain patchwork without clearly locatable clusters in the sense of sub-regions acting in the same way or a division between francophone versus anglophone states. The only loose division, with the exception of Mali, which was always part of the lower half of the ECOWAS-compared stringency spectrum, is between inland and coastal states. The other two landlocked countries Niger and Burkina Faso make up the lowest class in terms of stringency. Overall, the differences in severity are enormous, resulting in distinct demarcations from adjacent pandemic regimes. Yet, it is important to note that this is still representing policies put in place only. It does not need to be per se that crossing a border from a state marked here as above-average stringent to one with very low stringency translates into a perceivable difference in actual exercise of PHSM. There is no clear correlation between GDP and the stringency level shown in the map[7] (Fig. 27, p. 33), nor a simple one between total C19 cases and totalled stringency over time[8]. Nevertheless, in the extremes, there are similarities, as Cabo

[7] Pearson's r: 0,38 with the data used for the map and GDP (PPP) per capita 2020 estimates (IMF 2021).
[8] Pearson's r: 0,45 with the data used for the map and the numerical ranking of the cumulated C19 cases in relation to million inhabitants as of 01.03.2020 (OWID 2021).

Verde has both the highest average stringency index score (58.7) and the highest number of infections[9], and Niger has both of the lowest scores[10] of all ECOWAS member states.

The point of view taken with the Government Response Stringency Index is insightful yet lacking the contextualization needed for an embedded comparison because of it not including the individual country's situation concerning the C19 case developments with its fluctuations over time. For instance, it was shown that the policy stance of Cabo Verde is a significantly more severe one than the one of Côte d'Ivoire on 23 November. Yet, when merging this information with the data on recent trends in infections, it seems to be appropriate that Côte d'Ivoire has a more "open" C19 regime because of them having a far lower C19 infection rate[11] at that time. For a systematic approach to this perspective, the upcoming chapter will discuss the 'Risk of Openness Index' followed by a merging of the two sets of data to contextualise severity with pandemic risk.

5.1.2 Risk of Openness

The Risk of Openness Index was designed to calculate a measure of risk to which a country would be exposed by easing their current level of C19 related policy stringency. The index draws itself from data on C19 testing and cases as well as the already mentioned OxCGRT indicators, which means it overall includes the current governments stance on physical distancing measures as well as the developments regarding the infectious dynamics concerning one point in time to compile a risk of easing lockdowns[12]. It is based on the categories developed by the WHO regarding governmental measures that need to be in place for pandemic risk reduction (cf. WHO 2020d).

Fig. 28 (p. 35) maps the risk index scores over time, which relates the previously discussed response stringency to the individual EMSs' COVID-19 situation including level of control of the spread of infections, the testing and trace regimes, the management of transnational export and import of cases and the populations' level of understanding and behaviour changes, which is operationalised though governmental public information campaigns and mobility data from the GCCMP dataset. It can thus be noted that this index already provides a much more complex picture that is more situated in the world and not just one based purely on policies. However, the limitations of the poor quality of data included here, especially in the West African context, should also be taken into account.

[9] 27756 C/P as of 01.03.2020 (OWID 2021).
[10] 25,0 mean Stringency Index score and 195,8 C/P (OWID 2021).
[11] In terms of confirmed C/P for that day: CPV 1588,2 and CIV 11,9 (OWID 2021).
[12] For a comprehensive description of the included data and the methodology, see HALE ET AL. (2020b).

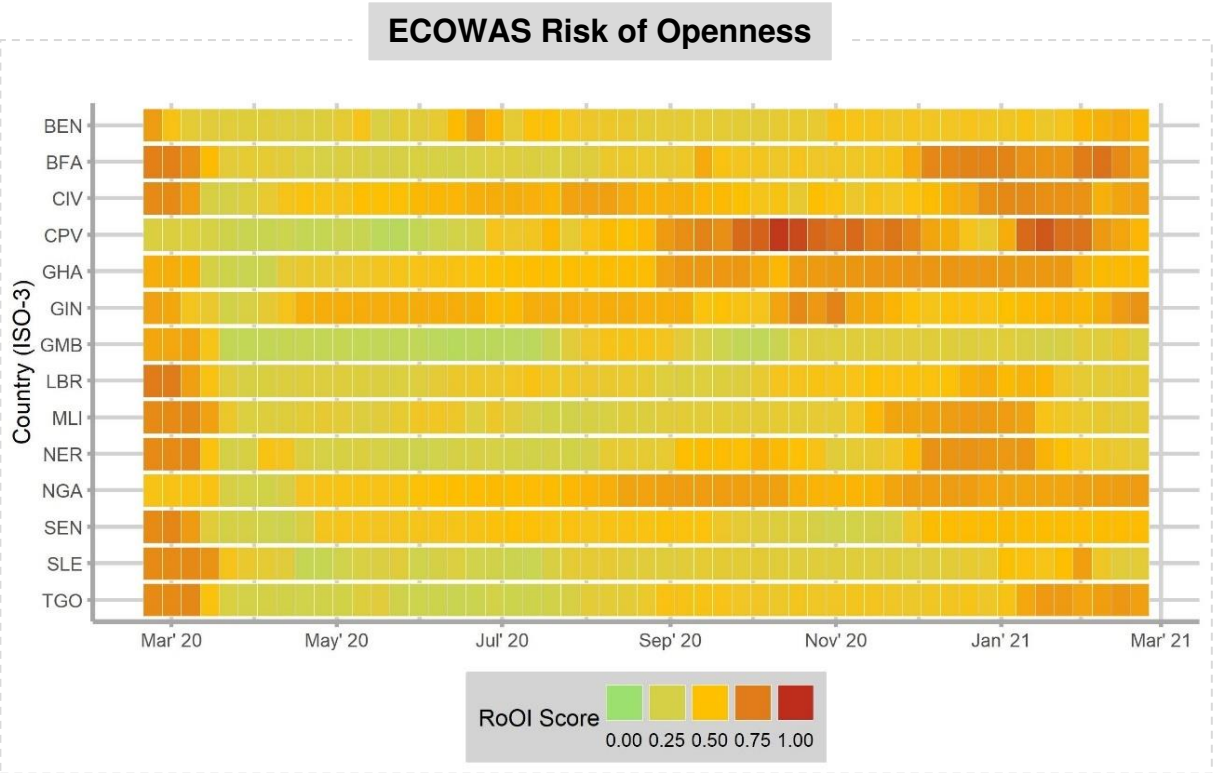


Figure 28: Heatmap of Risk Index indices of individual ECOWAS member states over time. 28.02.2020 (date of first conformation of an C19 case in the ECOWAS region) until 23.02.2021

Source: Illustration by Jannis Viola. Data: HALE ET AL. (2021).

The relatively high values for almost all EMSs in the first weeks of the observation period are due to the way the index is calculated. It certifies a high risk for all countries at the very beginning of the pandemic's spread, even if there were only a few cases globally, as long as they had not yet taken any measures, since a case could have been imported at any time by chance. To be able to approach the country-specific risk development, the period analysed here is primarily from the beginning of April, when C19 cases appeared and all countries in West Africa had already introduced PHSM. The most noticeable aspect of the data is, that the predominant part of the plot's area shows low or medium risk. The mean daily score, when assessing the data since 1 April 2020 which is a point of time where all EMS introduced initial PHSM, is between 0.25 in The Gambia with a comparably strict C19 regime and relatively low case numbers apart from one pronounced spike, and 0.55 in Nigeria with continual discovery of new clusters of infection, which did not necessarily produce above-average levels in relation to population size but posed a persistent threat of major waves of spread. Such particular causes for higher or lower risk can be seen in a consideration of the development of the individual RoOI sub-indexes over time (Appendix 10.3). For example, in the case of the low values for The Gambia, a very low value in the category "move" is also evident, which indicates a high level of travel disruptions, but also that the category "info" does not contain any data, as no reliable information on public information campaigns or movement data of the population was available. This limits to a certain degree the comparability of the overall RoOI score of the two countries and suggests a closer look at the small-scale dynamics in the states as expressed through individual RoOI sub-indexes. However, an in-depth

textual description of all the dynamics shown is beyond the scope of this study. Nevertheless, it is recommended to examine the appendix to gain an in-depth impression of the various aspects.

Overall, the slow opening in most ECOWAS states seems to have been adapted to the infectious situation (HALE ET AL. 2020b), if the data is compared with the situation in European countries, where values approaching 1 have dominated in almost all countries since October 2020 (cf. IBID. 2021). Yet, the question of whether and how the regime stringency was adapted to the respective contemporaneous infectious risk will be analysed in more detail in the following chapter. Exceptions that have also shown a significantly increased risk in the ECOWAS region in recent months are first of all Cabo Verde as the only temporary exceptional case that had almost reached the maximum score[13] of 1, due to its high number of cases. Additionally, Burkina Faso, Côte d'Ivoire, and Guinea followed reaching a higher score than 0.7 in the period. On the whole, an increase in the risk factor can be seen in almost all countries during the second wave around the turn of the year. It decreased again from February onwards in many of the observed countries and never exceeded a value of 0.78 except for Cabo Verde, i.e., never rose to the level of countries like in Europe with a strong spread due to the continued comparatively low total C/P.

5.1.3 Stringency vs. Risk: Adaption of Responses to Infections

In this chapter, we aim to contrast the previously elaborated findings regarding governments' responses to C19 and the observed contemporary risks. Fig. 29 (p. 37) shows a line plot for each EMS with the Risk of Openness Index and the OxCGRT Stringency Index compared over time to yield information on the responsiveness of the policy severity to the actual pandemic threat.

Overall, one could define 3 broad phases of risk and stringency pattern over time that resemble the analytic period established in chapter 5.1. The first one is ending around the end of March with the shared implementation of severe measurement and the second one is ending roughly around November with a second wave of differentiation that is linked to further developments concerning the shape of regimes and pandemic's spread.

In the first phase, regarding the Risk of Openness, the general score of 0 before the 22nd of January as well as the overall high level of risk afterwards on is explained by the methodology of the indices. This is due to some sub-indices of the RoOI just begin on that date, which means that there is no calculation done before, and afterwards the shared high level is attributable to the fact that countries did not have any C19-related measures in place while the pandemic's spread began, which is expressed by a high level of risk despite the low levels of transmission in the index.

[13] The maximum index score reached in October 2020 was 0,99.

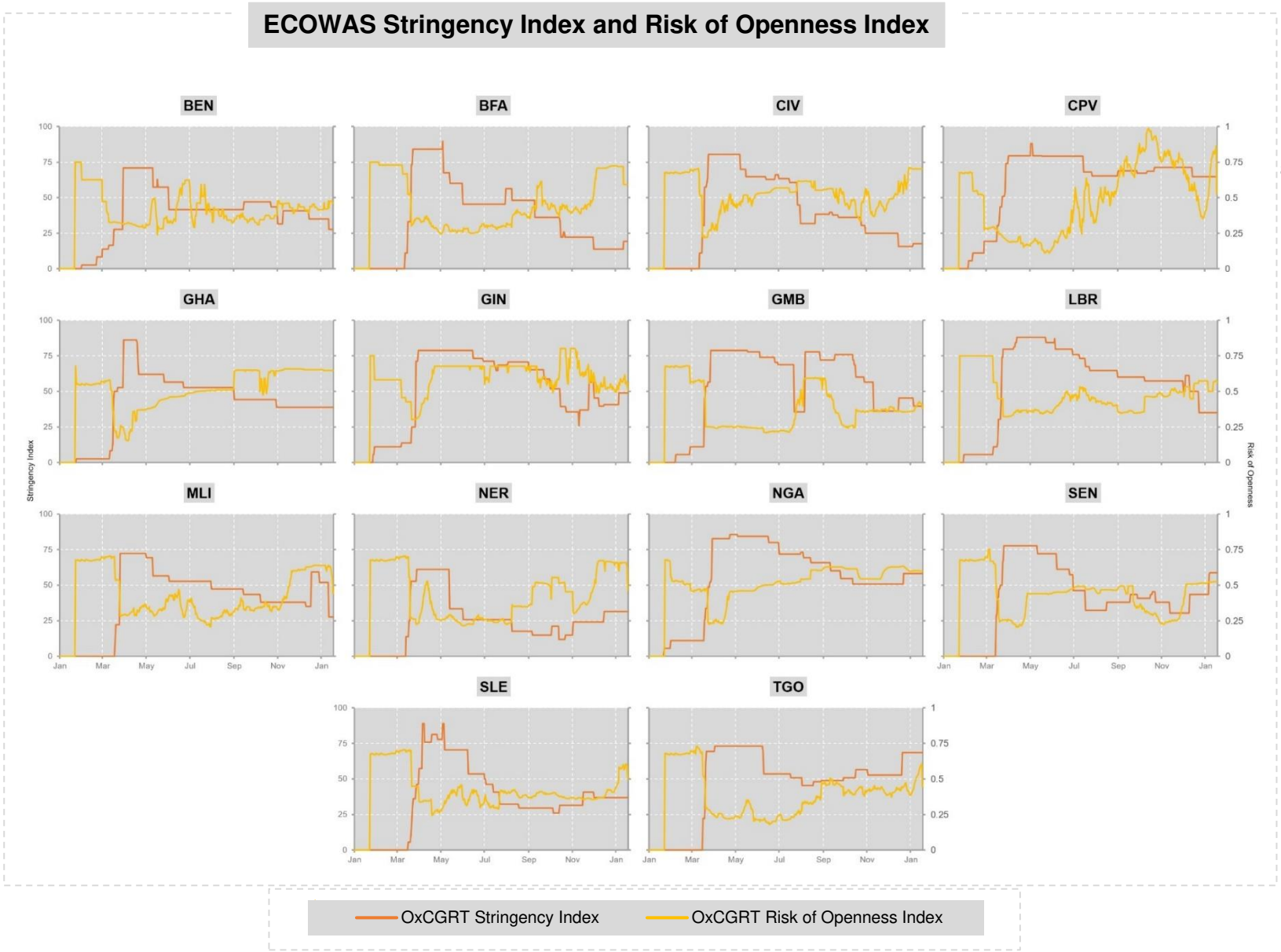


Figure 29: Line plots of Stringency Index and RoOI vs. time. 1st Jan 2020 – 17th Jan 2021. Some Sub-indices of the RoOI begin on the 22. Jan 2020 (First day of WHO IHR Emergency Committee for C19), this explains the RoOI line behaviour in the beginning of January

Source: Own Figure. Data: OxCGRT (2021c).

The more substantial part of this comparison starts with the actual introduction of governmental responses, which is reflected by the initial rise of the stringency score and can be understood as the second phase. A clear reaction of the risk value to the initial measures can be seen, which can be attributed to the low pandemic activity in West Africa and the simultaneous introduction of the regimes. The RoOI value is reduced to about a quarter of the total index scale for all EMSs examined. This is followed by a differentiation, which can be attributed to the already discussed differences in the characteristics of the pandemic regimes and in the local pandemic's spread. Groups of countries can be identified where the adjustment of the severity of the measures - both in the form of tightening and loosening - has tended to stabilise the risk level as expressed through the RoOI. In the phase up to November 2020, the initial introduction of a relatively strict regime until June and the subsequent significant gradual opening up in Liberia, Mali, Sierra Leone, and Togo have led to a stable risk level that ranges between 25 and 50 most of the time. In addition, the data sets for Benin, Burkina Faso, the Gambia and Niger behave similarly, but with higher inconsistency including stronger temporary fluctuations over a RoOI value above the 50 mark. The last group, apart from Cabo Verde, includes Côte d'Ivoire, Ghana, Guinea and Nigeria, where a relatively continuous, gradual relaxation of stringency is followed by a clear increase in risk, which is accompanied by a stabilisation above 50 towards the end of the phase. The only exception is Guinea, where the risk value is constantly above 50 instead of following the pattern described. Cabo Verde is the only state to reach a risk of almost 100 for a short period of time, despite permanently above-average stringency.

The third phase towards the end of 2020 and the beginning of the new year is characterised by a continuity of the developments described in phase two in some countries, but in many other countries an increase from the level of the second phase can also be seen. There is also a part of the EMS which, in this latest phase, for the first time is tightening the measures again instead of the previous continuous easing. Countries that tend to remain constant in terms of risk compared to the middle of the year include Benin, Gambia, Ghana, Guinea, Nigeria and Senegal, albeit at different levels. For the other countries, there is often a relatively sudden increase in the risk level.

However, the extent to which an increase in the RoOI score can be attributed to rising pandemic risks or declining stringency varies considerably even within the groups formed. Particularly in the two countries that have had the highest levels of new infections to date, there is an obvious commonality between trends in RoOI and trends in the number of cases during highly infectious periods (e.g., August to October in The Gambia and July until the end in Cabo Verde). This can be attributed to the "endemic factor" indicator in the index, as it is intended to reflect the increasing danger to society as a whole with generally high case numbers and the resulting need for greater stringency from a pandemic restriction perspective. In other cases, reactions of the risk value to pandemic developments are also visible, but here the general level of risk is also more clearly influenced by the level of stringency, since even with low infection numbers, significant relaxations increase the potential risk that further openings would cause. When it comes to forming groups where, irrespective of the general level of the two indices, it is a question of whether a reduction in the severity of the measures has responded to the actual pandemic hazard development, and thus the RoOI does not increase as a result of the opening, a different picture emerges. The strictness of the regime in the case of Senegal, for example, can be described as reactive on the basis of this data, since the risk value was kept stable with the distinct opening from May to June, from then on, the risk was further reduced by slight tightening, and towards the

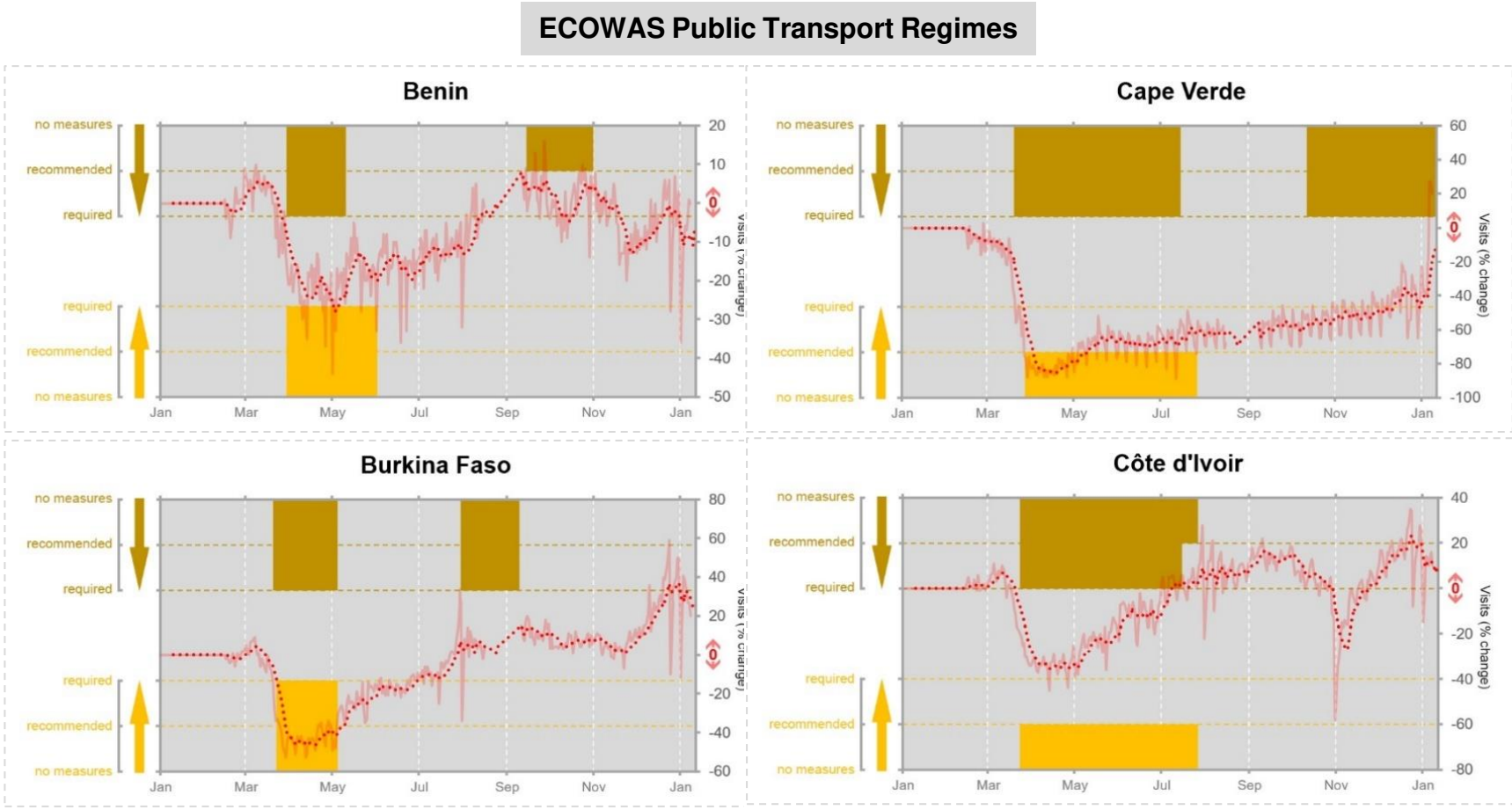
end, with the renewed increase in risk due to the new number of cases, the reaction was again to increase the strictness. Benin also stands out as showing a unique pattern of stabilisation of the risk score within the ECOWAS region, albeit in the middle of the scale. The data set for Liberia also implies an adjustment of the easing to the actual development of the risk, as the clear opening has not been accompanied by a significant increase in the RoOI value. Counterexamples include Burkina Faso, Côte d'Ivoire, and Ghana, where further easing of overall stringency is most evident during periods of rising risk levels. Another example is The Gambia, where, despite a comparatively high level of stringency during most of the period, a significant drop in stringency is evident during the greatest increase in risk.

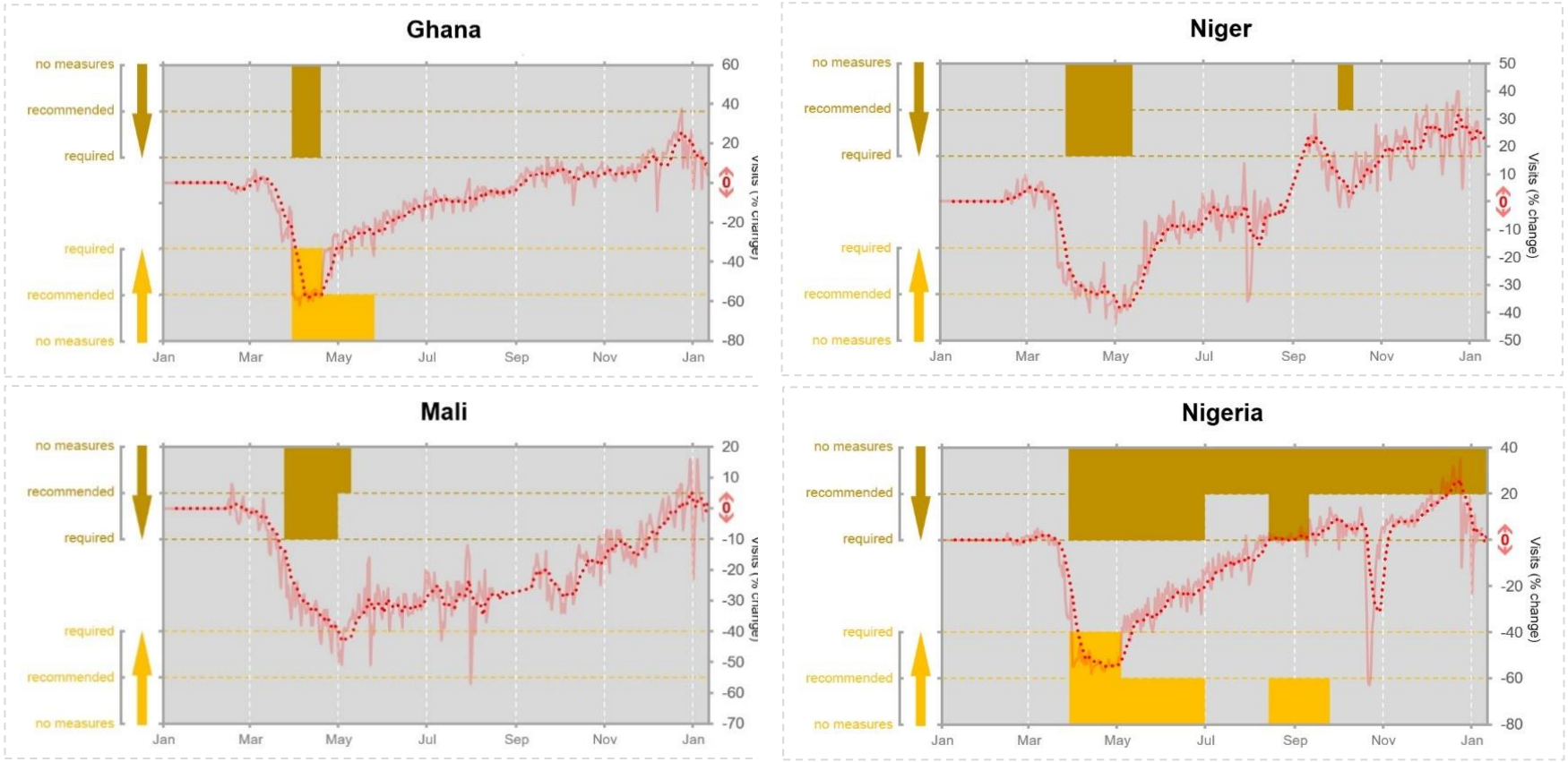
Regarding opportunities and limitations of this type of data processing and data basis, one can state that the juxtaposition of the two indexes as graphs should neither imply that both are based on a uniform nominal unit of measurement, nor that there is an ideal way of interaction of the two data sets that is worth striving for as a government - for example that a regime only ever must keep the Stringency Index score above the Risk of Opening Index score. Moreover, there is no universally better way to deal with pandemic threats, since any kind of measure can always have undesirable side effects. Moreover, the data basis for the indexes still needs to be critically assessed, as despite the relatively solid sources, comparability is hampered by, for example, different levels of COVID testing and the varying political contexts from which differently formulated policies originate. After all, this is still a one-dimensional view of stringency in the common global categories, which can unfold differently in local contexts. It is for example discussed whether lockdown measures also had contrary effects in the sense of an increase in infections in dense informal settlements that can be widely found in urban West Africa. “In Accra, for example, about 53% of households live in a single room, while an even larger proportion relies on public toilets, where PD and home confinement cannot be practically observed.” (HAIDER ET AL. 2020: 8). Forced immobility could have intensified these housing conditions, in which the barriers to infection have potentially been lowered. However, most parts of the current state of research supports the assumed negative correlation between the tightening of mobility restrictions and the spread of the virus (cf. KRAEMER ET AL. 2020), but the previous example should just exemplify the diversity of possible social and pandemic manifestations when applying the same executive categories in divergent contexts. Hence, this study is not about an evaluation of infection control strategies, but about the influences on mobility patterns and the shapes of governance that are (re)produced in this context. Moreover, it should also be emphasized here that the stringency is the *de jure* perspective on the regimes, and the dataset does not address manifest implementation, as already outlined in the previous chapters. However, despite these limitations, the datasets, and the amalgamation of the two made here are considered useful by both the originators of the indexes (cf. HALE ET AL. 2020b: 9) and the authors of this study, as statements can still be made about the reactivity of regimes and tendential risk implications.

As the studied region is too large and the local contexts too diverse it is not possible to give a representative impression of the actual implementation and the population's response at this point. The following chapter aims at bringing together the perspective on the legal framework and available data on materialized immobilities.

5.2 Public Transport Regimes

This chapter analyses restrictions on public transport as key for small and large-scale movements. Data used here is a combination of the C5 and C7 indicators of the OxCGRT database and the 'transit stations' indicator of the Google COVID-19 Community Mobility Report (GCCMP). The Google data shows how visits of and length of stay at bus and train stations change compared to a baseline composed of 5 weeks around January 2020 (during the 5-week period 3 Jan. – 6 Feb. 2020). Yet, the OxCGRT database is missing data on Guinea-Bissau and the GCCMR on The Gambia, Guinea, Liberia, and Sierra Leone, so only the ECOWAS member states covered in both sets will be treated.


ECOWAS Public Transport Regimes
Benin
Cape Verde
Burkina Faso
Côte d'Ivoir
no measures
recommended
required
Visits (% change)
Jan
Mar
May
Jul
Sep
Nov


Ghana
no measures
recommended
required
required
recommended
no measures
60
40
20
0
-20
-40
-60
-80
Jan
Mar
May
Jul
Sep
Nov
Jan
Niger
no measures
recommended
required
required
recommended
no measures
50
40
30
20
10
0
-10
-20
-30
-40
-50
Visits (% change)
Jan
Mar
May
Jul
Sep
Nov
Jan
Mali
no measures
recommended
required
required
recommended
no measures
20
10
0
-10
-20
-30
-40
-50
-60
-70
Jan
Mar
May
Jul
Sep
Nov
Jan
Nigeria
no measures
recommended
required
required
recommended
no measures
40
20
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-20
-40
-60
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Visits (% change)
Jan
Mar
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Nov
Jan

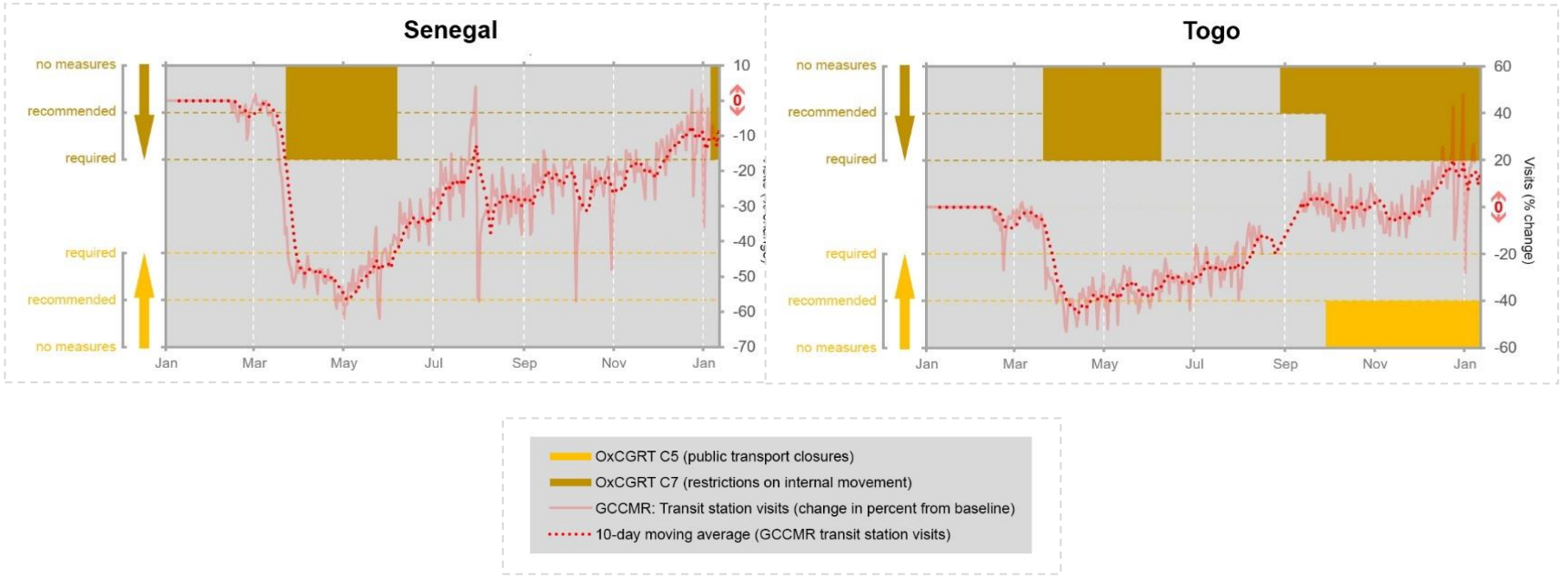


Figure 30: Public Transport Closures, Restrictions on internal movement and change of transit station visits. 1st Jan 2020- 8th Jan 2021. GCCMR data indicates changes in number of total daily visitors in transit hubs. Proportional trends of mobility data should not be compared between different nations or regions due to potentially differing quality of data collection and processing by Google Maps. But the graph is aimed at illustrating general tendencies in mobility, broad trends such as increases, and decreases can therefore also be compared between different countries. Regarding the OxCGRT data represented by the orange and yellow bars, the label 'recommended' stands for: C5 – database score 2: recommend closing (or significantly reduce volume/route/means of transport available); C7 – database score 2: recommend not to travel between regions/cities. And the 'required' label indicates: C5 – database score 1: require closing (or prohibit most citizens from using it); C7 – database score 1: internal movement restrictions in place. "no measures" represents a score of 0 in the database. Cited according to Oxford Policy Tracker Codebook (OxCGRT 2021a)

Source: Own figure. Data: OxCGRT (2021c) and Google (2021).

Changes in the mobility data could be also due to factors other than policy changes. However, the recent state of research implies that governmental restrictions are the most influential factor, significantly succeeding public information (cf. MENDOLIA ET AL. 2020). Thus, the C5 and C7 sub-indices were chosen, as public transport closures and restrictions on internal movement represent the most impactful policy fields within the OxCGRT categories concerning specifically the use of public transport within certain states or regions.

Fig. 30 (pp. 41-43) might represent this very approach of assessing the individual EMS' regimes on public transport and their potential manifestations through mapping the policies on public transport and internal movement as well as presenting the change of transit station visits. It is evident that all observed EMS put in place some kind of mobility restriction in the first phase of responses, with the majority restricting public transport as well as internal movement and all of them putting in place an internal movement policy that was rated level 2 in the database, which translates to actual instructions being in place, not only recommendations. In terms of this indicator this may for instance refer to road closures, prohibiting or banning travel from certain regions, requirement of negative test result or such. At times Cabo Verde and Guinea required a negative result of a PCR test that was not older than 72h(cf. IATA 2020b). Especially with regard to the limited testing infrastructure, applicability, and enforceability of such a policy could be questioned. Nevertheless, there was an ECOWAS-wide policy approach with strict limitations on domestic mobility and public transport. However, this only applies to the first weeks after the initial wave of government responses. After that, we see a certain fragmentation. The stringency of the first weeks also seems to have manifested itself in an overarching response of public transport mobility patterns, at least as far as such a statement is possible on the basis of the cross-national data available so far. The Google mobility data shows a significant decline in all countries in visits to locations that are understood by the company's map material as public transport hubs. This response shows as a heavy decline that usually begins shortly before the introduction of the mobility-related policies discussed here. This behaviour of already significant decline during the period of initial restrictions before general lockdown impositions is also seen in other mobility data that was published (VODAFONE ET AL. 2020: 4). Although it is significant everywhere, the level of decline in visits during the first intense restriction period varies. For example, there are EMSs such as Benin, where despite short-lived spikes, a 10-day moving average of visits never drops by more than 30 percent compared to the January baseline, and other states such as Cabo Verde where a drop of more than 80 percent in the 10-day moving average has been observed. It should be noted, however, that Google states that its data should not be used for cross-country or cross-regional comparisons, as the basis for data collection may differ in divergent contexts. Therefore, the focus shall be on the general patterns, and these show a similar appearance in the form of the abovementioned decline. The data also reveals a relatively uniform pattern in terms of a rather continuous but slow increase of visits after the initial drop, resulting in a level that even surpasses the baseline in many cases towards the end of the year. When visually evaluating the google data in relation to the OxCGRT restrictions, there seems to be some correlation in the form of a response of the mobility data to the mobility constraints. Thus, the interpretation of the present data suggests a powerful effect of the regime on the actual movements and flows of individuals. Nevertheless, erratic developments in mobility data that are not obviously related to the two sub-indexes presented here point to equally effective external influencing factors. A clear example of this is the behaviour of the graph of public transport hub visits from Nigeria, where the hard cut

at the end of October has to be explained with the curfews following the violent escalation of a police operation at the End-SARS protests[14]. The C19 regimes are constantly embedded in the socio-political space, meaning that they always just coexist with the variety of other regimes shaping mobility patterns. And in that context, while comparing the manifestations of powerful institutions on such human behaviour in different socio-spatial contexts one should also consider the effect of the diverging physio-geographical determining factors on the way, policy may translate into reality. Cabo Verde, with its multi-insular setting, provides an obvious example of this, as flows of travellers between islands can be managed differently than on the mainland. But also dependencies on certain types of mobility differ regarding an island. A combination with the above-average stringency of the public transport regime might explain the bigger extent and slower recovery regarding the presented immobilities. Another finding is that the correlation of the C5 and C7 sub-index restrictions and the google mobility data seems to weaken or disappear over time, because the observable reactions of the mobility data regarding countries that fully eased C5 and C7 polices after their first introduction and then after some months imposed new restrictions is much less evident. Even though there are countries such as Benin and Niger where a correlation is observable, however significantly weaker than in the first wave of restrictions. There are also countries like Togo and Burkina Faso, where no clear relevant decline is visible concerning the second wave, but at least an interruption of the public transport growth in the form of a temporary plateau. In Cabo Verde, the google mobility data even shows a continuing increase of activity even though a second wave of restrictions on internal movement was introduced. This overall tendency of a weaker correlation regarding second waves of policies might hint at either a lower level of acceptance or compliance in this later phase of pandemic response. Additionally, or instead, it might mean that the more pronounced interaction during the first phase is due to the sum of the C5 and C7 restrictions with other simultaneously introduced restrictions connected to the initial exuberant response and possibly also greater caution within the population due to the novelty of the pandemic scenario.

There are varying reports on the implementation and feasibility of the public transport measures. Regarding Senegal, there are hints on scooter taxis (called Jakarta) being regularly used to circumvent restrictions on inter-city travel (NDEYE 2020). There are also reports on minibus taxis bypassing gendarmerie roadblocks to move between regions despite the state of emergency, with a temporary curfew from 8pm to 6am in Senegal, which has led to the suspension of interurban transport and the closure of bus stations as PHSM (DIENG 2020). For instance, it is not only the dependence of many individuals on interregional mobility due to trans-local work structures that is decisive, but also the lucrativeness of continuing mobility offers despite restrictions (cf. MBAYE ET AL. 2020). These bypasses of regulations of intraurban mobility were reported for several EMS, but an at least temporary significant decrease of mobility through public transport still seems to be evident, as shown in Fig. 30 (pp. 41-43). It seems that policies with approaches of adjustments with certain provisions worked more efficiently compared to general prohibitions within the tension between informally dominated public transport, individuals' dependencies of mobility, limited state enforcement capacity, and governmental approaches to mobility regulation (cf. IBID). There is also information from The Gambia that the mobility of poorer communities and regions,

[14] The so-called "2020 Lekki Shooting", 20 October 2020.

which were generally more affected by the lockdowns anyway, decreased more during the period of restrictions than in regions with lower poverty rates (KNIPPENBERG & MEYER 2020), indicating further complexity of materialized immobilities in the inequality of socio-economic relations.

5.3 Individual Immobilisation and Residential Dynamics

In this chapter we take the approach of the previous one further in not only presenting policy stringency, as this is a vital source for outlining mobility regimes but not for mobility itself. Instead, we draw on the GCCMR data to assess everyday mobility patterns of individuals in the ECOWAS region.

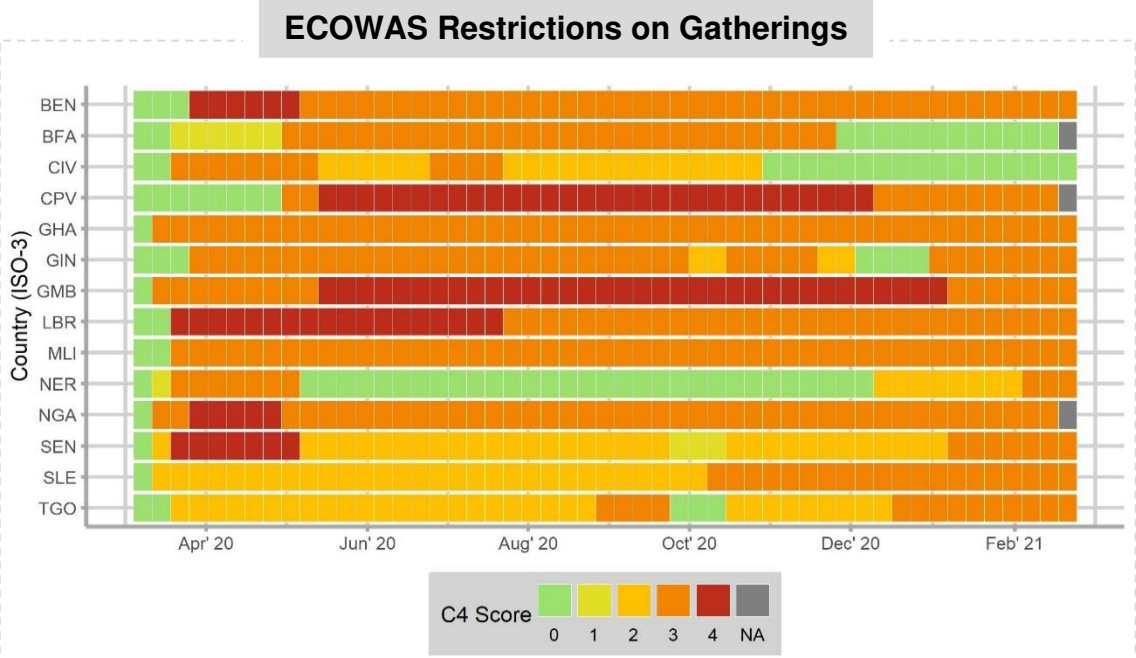


Figure 31: Tilemap of time-related changes of the stringency of stay-at-home restrictions. One tile represents a 7-day median of the daily index scores. 11.03.2020 (day of WHO pandemic declaration) - 03.02.2021. Color-Coding from green (0) to red (4) according to the source: 0: no measures; 1: restrictions on very large gatherings (the limit is above 1000 people); 2: restrictions on gatherings between 101-1000 people; 3: restrictions on gatherings between 11-100 people; 4: restrictions on gatherings of 10 people or less; Grey: no data available.

Source: Illustration by Jannis Viola. Data: OxCGRT (2021c).

As to be seen in Fig. 31, all EMSs but Niger introduced a restriction on gatherings concerning the number of maximum attendees in the main observational period until November at most or all times. A majority of these restrictions were in the range of 10 or less to 100 as maximum number of participants, which means a ban on any larger events such as music festivals and large sport events in the sense of the policy. Although it highlights wide variations in the stringency and timing of these policies shown, and there is an uncertainty about the implementation of these

policies[15], conclusions can be drawn. In combination with the restrictions outlined in previous chapters, an attempt by the C19 regimes to influence the residency behaviour of individuals in terms of increasing the amount of time spent immobile in places of residence is exposed.

On the other hand, Fig. 32 shows the strongest form of policy-based immobilisation of individuals: state orders not to leave one's place of residence. Probably due to the scope of such an order, the limited means of enforcement and the potential inadequacy of such an order for people who, for example, reside informally or earn their living on a daily mobility basis. Such an order has either not been introduced in most EMS at all, or only in a weakened form. Senegal was the only ECOWAS member state to impose such a measure rigidly.

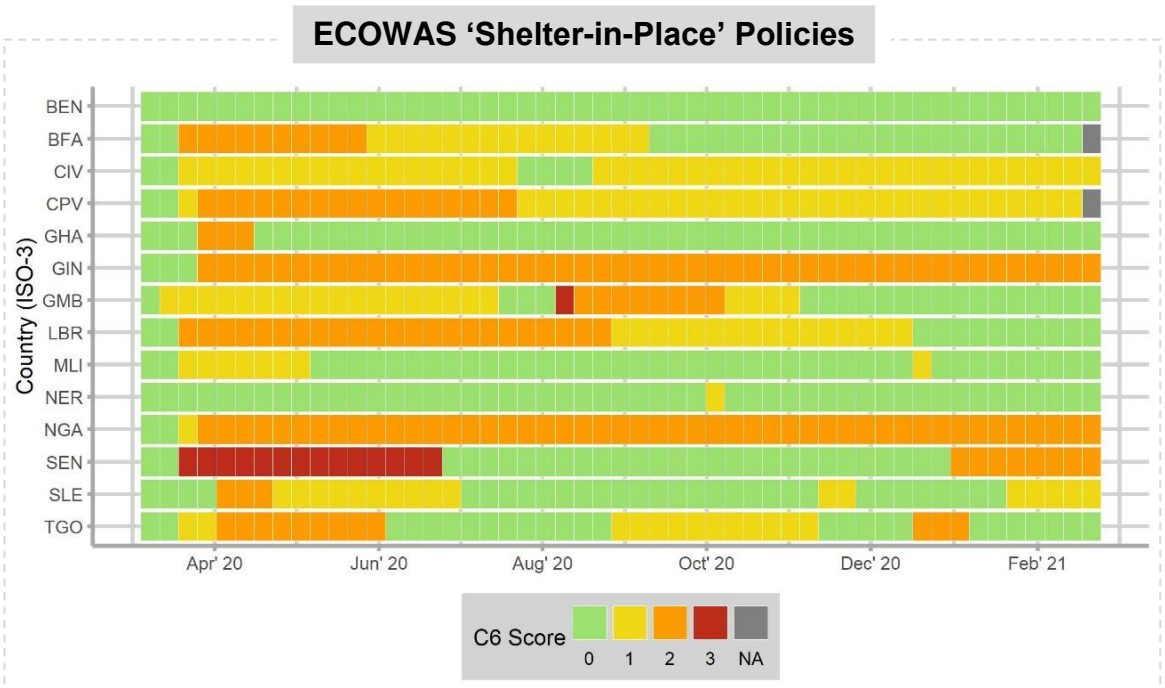


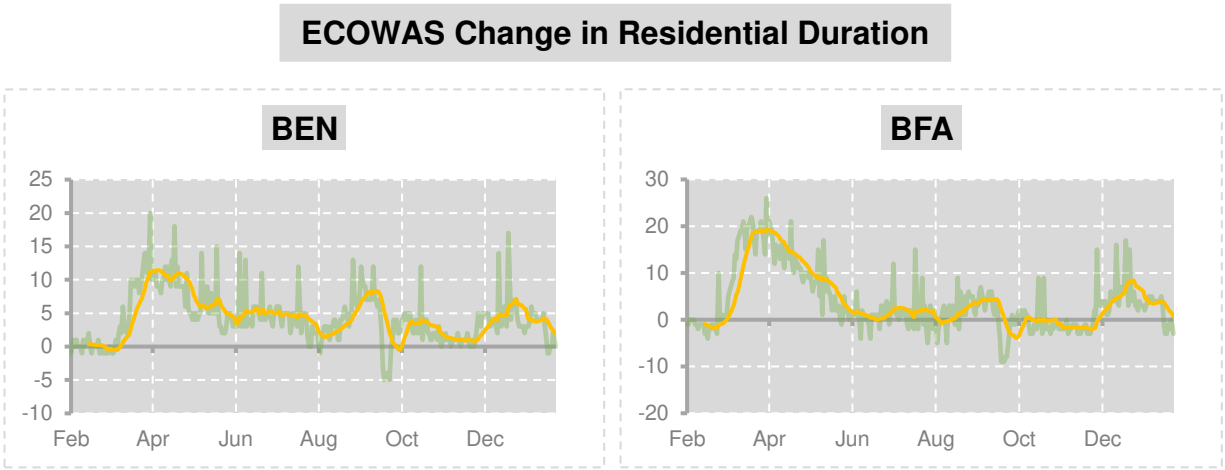
Figure 32: Tilemap of time-related changes of the stringency of restrictions on gatherings. One tile represents a 7-day median of the daily index scores. 11.03.2020 (day of WHO pandemic declaration) - 03.02.2021. Color-Coding from green (0) to red (4) according to the source: 0: no measures; 1: recommend not leaving house; 2: require not leaving house with exceptions for daily exercise, grocery shopping, and 'essential' trips; 3: require not leaving house with minimal exceptions (eg allowed to leave once a week, or only one person can leave at a time, etc); Grey: no data available

Source: Illustration by Jannis Viola. Data: OxCGRT (2021c).

[15] However, compared to other policy fields, there are little reports of violations concerning the restriction of gatherings.

In general, the Senegalese policy response to COVID-19 was widely discussed in international media and was several times rated as one of the best in the world[16]. Whether this reception was accompanied in all cases by a profound understanding of the situation in West Africa may be doubted on the basis of the arguments chosen, but it is nevertheless not unreasonable to conclude that there are certain peculiarities in the Senegalese C19 regime that can also be identified in an intra-West African comparison. While the national response to C19 does not have above-average rigour when all potential policy fields are taken together, as seen in chapter 5.1.1, some specific measures with particular force, such as the stay-at-home order described here, have been introduced, accompanied by a well-received publicity campaign that included official and civil-society actors. This impression is also supported by the fact that Senegal is the EMS with the best average score over time for the RoOI sub-index "community", which focuses on the public information campaign and the increase in mobility of the population. In order to approach such reductions in public mobility systematically, the following section will use the Google data to examine the everyday mobility patterns.

Within the GCCMR database, we have chosen the category “residential” to analyse the overall genesis of immobilities in West Africa as it is the most representative in these terms (cf. LAPATINAS 2020: 7). It shows a change in duration regarding time spend by people in places of residence on a day-to-day basis (cf. GOOGLE 2021).



[16] Cf. PARTIDGE-HICKS (2020), WOODS (2021), FOREIGN POLICY (2020), DE SAM LAZARO (2020) and SPINNEY (2020).

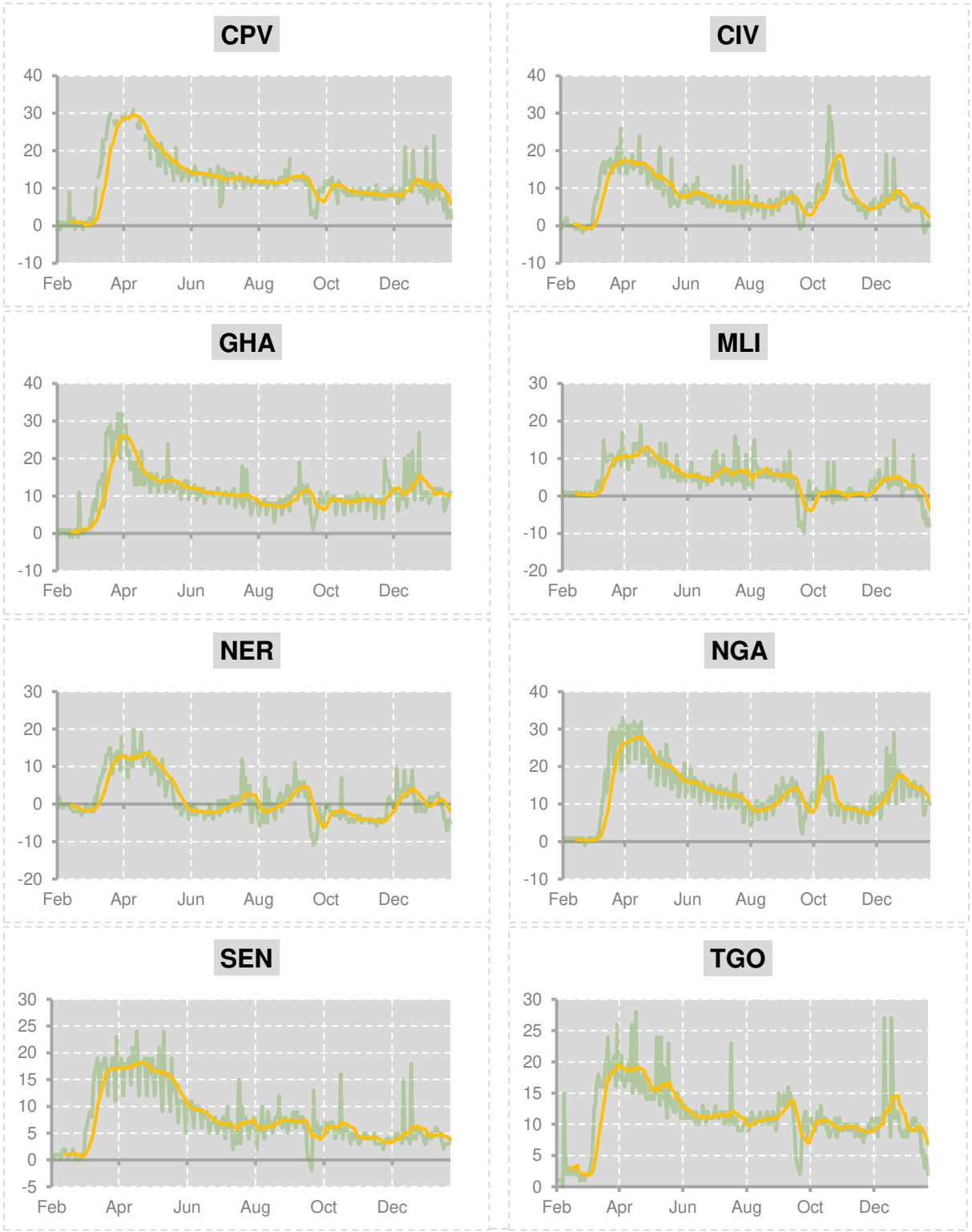


Figure 33: Individual EMS' GCCMR 'residential' score vs. time. Data representing changes (%) in the daily time (duration in hours) people spend in places of residence. 15.02.2020 – 05.02.2021

Source: Own Figure. Data: Google (2021).

The line plots (Fig. 33, p. 48-49) indicate a percentage change of the total duration, individuals stayed at what the underlying Google geospatial metadata infrastructure understood as places of residence. Thus, if the average person included in this dataset in Senegal stayed at home for 12 hours in the pre-C19 baseline timeframe in January and then afterwards stayed at home for 18 hours, that would show in a score of 50% growth in the respective line plot. Due to the potentially different user base of google services and possibly varying information density and accuracy in the recording of residence sites, the percentage scores showed here should not be put into direct relation between different countries. Yet the data can provide insights into the manifest implications of ECOWAS lockdown policies on the small-scale mobility behaviour of people. And beyond that, comparisons can still be made between states, albeit in terms of broad patterns rather than exact proportions. Despite the limitations of interpretability described in more detail in the following chapter, the available data prove an evident influence of the C19 complex on individual mobility patterns. In conjunction with the findings on the most influential factors on personal C19 responses (cf. MENDOLIA ET AL. 2020), it is very likely that this is primarily the influence of the C19 regime. The effect shows a similar pattern across all EMSs: an initial large reactivity that shows up as a strong increase in the time people spend at home, which is also the highest increase compared to baseline in most cases. This is followed by a much slower decline in excess time spent at home compared to the steepness initial increase. This is followed by a certain diversification, as some countries (Cabo Verde, Côte d'Ivoire, Ghana, Nigeria, Senegal, Togo) never fall below the initial level (i.e. a reduction in time at home compared to the baseline) to any relevant extent during the observation period. The other group (Benin, Burkina Faso, Mali, Niger) reach the baseline or sometimes fall significantly below it, which indicates higher mobility. In general, the countries also differ more in the behaviour of the data in the second half of the period under consideration, although this generally happens closer to the baseline than in the first half. In general, the countries also show a larger diversification in the second half of the period under consideration, although the range of fluctuation is closer to the baseline than in the first half. However, this fluctuation is less clearly linked to the influence of the C19 regime. There are also other factors influencing individual mobility and the patterns are less pronounced and the pandemic regime stringency is lower in most cases. Despite this more ambiguous nature of the corelation, a simultaneity of the smaller observable highs around the turn of the year and the re-introduction of mobility restrictions associated with the second wave of infection can be observed, which hints at the pandemic complex being a partial reason.

All in all, findings of this chapter include the general evidence of the correlation of the GCCMR data and the lockdown policies, especially in the first months, which is supporting the hypothesis of new shapes of mobility-related governance and (im)mobilities themselves linked to the pandemic. The prominent similarity of these mobility data within the entire ECOWAS region is why we can speak of interlinked macro developments in terms of pandemic-related changes in mobility patterns.

5.3.1 Mobility Data Limitations

In recent months, there has been a proliferation of publications using the Google dataset[17] or similar databases. This is reasonable given that this is a specific type of comprehensive mobility data that was not publicly accessible in pre-C19 times, as it requires both a significant degree of surveillance and an external incentive for companies to publish this commoditised data. Although potentially valuable and otherwise unproducible insights could be gained, it is important critically evaluate these datasets.

As indicated earlier, Google LLC is not the only multinational technology company that has released such databases during the COVID-19 pandemic. Also, Facebook Inc. (FACEBOOK 2021) and Apple Inc. (APPLE 2021) published similar data sets based on tracked mobility data of individuals that were using their services and aggregated to indicate population movement trends. For these both alternatives, a usage for this very study was not possible as Facebook's and Apple's data sets do not include West African countries, implying a first limitations of data availability in the sub-Saharan context. In addition, as for Ghana (VODAFONE ET AL. 2020), Nigeria (WORLD BANK 2020B), and The Gambia (KNIPPENBERG & MEYER 2020) surveys of mobile phone providers have also been published. This illustrates that in the context of the pandemic, there has been a sudden availability of such data, which is usually not publicly accessible, and an interpretation in terms of changing mobility patterns of people seems evident. Nevertheless, when assessing data quality, certain limitations occur. Some are related to peculiarities of the socio-technological embeddedness of this type of production of data in specific spaces such as Western Africa, others also reflect the inherent nature of the underlying logic of these datasets in general.

A general limitation regarding the databases published by companies such as Google LLC is exclusive reliance on a specific kind of smartphone users, which might overrepresent certain age and gender groups and especially certain wealth classes. The varying technological habits and socioeconomic composition of societies thus limits comparability. This is due to the technical implementation of the data collection, since, for example, in order to be mapped by the Google dataset, you must have a smartphone with a specific app (Google Maps), a specific setting enabled in it, and then be travelling or staying in areas that are recognised by the company as one of the categories of places mapped in the database (cf. GOOGLE 2021). Additionally, during this tracking, you need a connection to the provider's server. This clearly shows a strong bias regarding the layers of population surveyed. The specific national datasets based on mobile phone surveys partly circumvent the limitations on the incomprehensibility of the significance through covering a broader and probably more diverse group of tracked people. However, a comparability between countries was no longer given for these individual studies, as the methodologies and study samples sometimes differed significantly.

The explanation of the requirements for being mapped by the Google dataset reveals a second potential weakness: the quality of the first stage of metadata interpretation when the data are processed by the supplier before publication. As the focus of Apple and Facebook datasets on the coverage of the Global North shows, there continues to be a quality gradient in location-specific

[17] Cf. OLIVIERA ET AL. (2021), WEN ET AL. (2021), and LAPATINAS (2020). For 08.03.2020, Google Scholar lists 343 publications mentioning the GCCMR at least once since 2020.

digital services along general global power hierarchies, at least when examining the large multinational providers. Thus, companies such as Facebook are less likely to address countries in the Global South in their e.g. “Facebook Data for Good” when it comes to map- and user data-based analysis as there is more uncertainty about the information density and reliability of digital maps and digital usage behaviour. This discrepancy in quality follows the market logic of global capitalism, as the production of higher quality maps is more easily economically exploited in countries with more economic leverage, leading in this case to a possible poorer data reliability of the GCCMR data for countries in West Africa. Although the quality of digital maps in major cities in West Africa has improved in recent years, partly due to the wider use of digital taxi formats, mapping of rural areas is still inadequate. It is precisely this map information on which the processing of google movement data is based in order to assign it to certain categories, for example whether a geolocated point is in a place of residence or in a park. The categorisation itself is another limiting level. "Parks" or fixed workplaces are categories that cannot be directly translated in West African settings.

Overall, however, the biggest constraining factor is the unverifiable level of impact of the limitations described above. The authors of the Google data publication state, that country-specific datasets were not published if the data or respective the underlying digital geoinformational infrastructure is not reliable (cf. GOOGLE 2021). This implies that all published information might be used to yield interpretational results. But there is no individual opportunity for researchers to verify that as no information on the size of the sample or other indications which allow conclusions to be drawn as to the reliability of the data are published. Without information on what the published mobility trends exactly refer to in terms of number and spatial distribution of tracked individuals, precise statements based on these trends are difficult to make.

However, it must be said that all the problems mentioned are only limitations and not exclusion criteria for the general use of such data. After all, it still seems to be a valuable data set with which new insights into mobility patterns and group-specific movement behaviour can be generated. It should also be emphasised that not all EMSs are covered by the GCCMR, which hints at a pre-evaluation of reliability of the individual country-related samples by the publishers and the extent of the global distribution of google services indicates a sufficient sample size. Even if it would be more appropriate to verify this on an individual basis, there is evidence to suggest that the data can also be used in relation to the ECOWAS region if findings are always framed according to the limitations mentioned. The focus should always be on identifying broad patterns rather than on specific comparisons of proportions.

5.4 Border Regimes

After the previous introduction to mobility-related developments within countries, the focus will now be placed on inter- and supranational trends that were observable in the context of pandemic responses whose impact on global border regimes is still evident. According to the IOM (2021a: 5), in November 2020 19 percent of points of entry examined in their global survey infrastructure were fully closed and 26 just partially operational. Thus, globally almost half of all border crossing points were still at least limited. When the border closures are broken down by type of crossing

point, it is shown that globally 23 percent of the assessed land border crossing points were fully closed, as well as 14% of airports and 11% of maritime border crossing points.

However, there was a significant differentiation regarding the overall situations in varying regions of the world. The regions with the highest share of fully closed Points of Entry according to IOM's analytic framework were West and Central Africa with a total closure rate of 48 percent, followed by South America with a significantly lower 28%. ECOWAS member states show the by far most restrictive pandemic-related border regimes in the world, underpinning the need for closer study.

This is particularly relevant as the ECOWAS is an organisation of regional integration in which the free movement of people is key. It is already practised or facilitated to an above-average extent compared to comparable African regional organisations (cf. Fig. 34). According to ZANKER ET AL. (2020: 5), "the protocols reflect the region's culture of mobility". While "the free movement protocols are widely praised for their technical setup and comprehensive policy framework for regional mobility, especially in comparison with other regional mobility frameworks in Africa" (IBID.: 5), not only the pre-C19 implementation but also the figures regarding current border closures compared to other regions of the world paint a different picture.

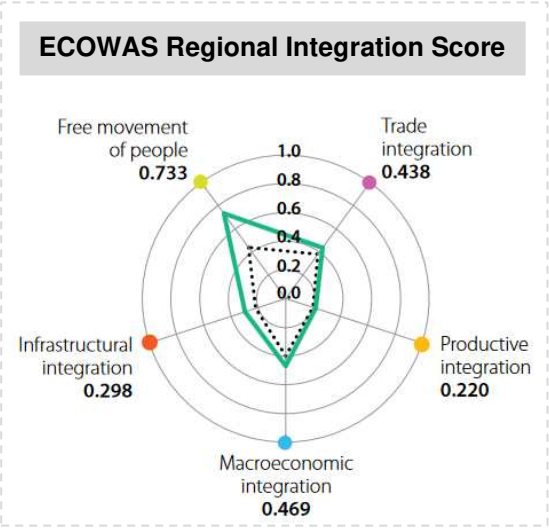


Figure 34: ECOWAS's Scores on the Five Dimensions of Regional Integration. Dotted line represents Africa's overall scores

Source: AFRICAN UNION ET AL. (2020).

West Africa states have introduced border closures and travel restrictions since mid-March. Initially, the restrictions were limited to a national level, later getting a transnational and multilateral dimension, with continental and regional organisations, such as the African Union, the ECOWAS, and the European Union, as well as international and UN agencies, including the IOM being involved (SCHÖFBERGER & RANGO 2020: xxviii).

All EMSs but Benin initially implemented severe national measures (cf. Fig. 34, p. 53). However, in the following months, multilateral regional measures were approved resulting in an ECOWAS statement from June 2020, which includes an agreement of the member states to gradually reopen borders by the end of July and to resume the free movement of goods and people. This would involve facilitating internal transport within member states as a first step, then opening land and air borders between them, and opening borders with countries with low and controlled COVID-19 contamination as the last one (ECOWAS 2020).

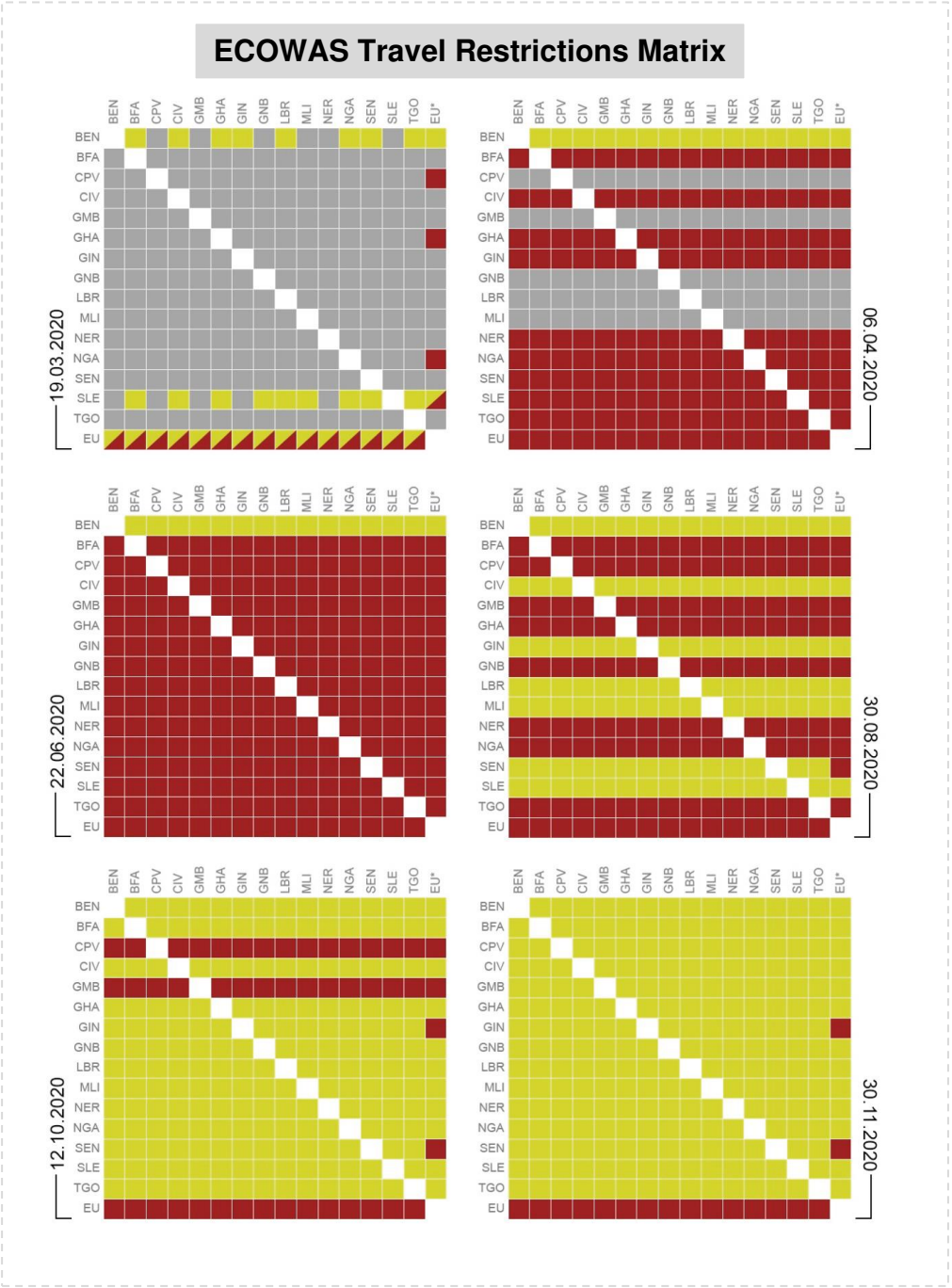


Figure 35: Rows represent the country/territory/area that are imposing the restrictions and Columns are the countries/territories/areas to which restrictions are imposed upon. Colour coding: Red -Total restriction - country/territory/area has imposed a total entry restriction for nationals and/or passengers coming from restricted country/territory/area, irrespective of the period of restriction; Yellow - Partial restriction - country/territory/area has imposed some restrictions to nationals and/or passenger coming from restricted country/territory/area. Those partial restrictions could be also related to visa changes, medical measures, among others; Grey - No official restriction reported to IOM. *EU is marked with a colour if the respective country did impose restrictions concerning several member states of the European Union, not necessarily all. No linear time interval, points in time chosen due to notable policy changes.

Source: Own Figure. Data: IOM (2021b).

The heatmap (Fig. 35, p. 54) indicates ECOWAS travel restrictions regarding certain points in time, thus allowing a retrospective analysis. Eight days after the WHO declared C19 a pandemic, the majority of EMSs did not introduce transnational mobility restrictions yet, but some introduced total bans for travellers from the EU. Sierra Leone and Benin were the exceptions, having already introduced partial restrictions regarding a majority of other West African states. 17 days later, most of EMS (ten out of 15) already imposed *total restrictions* regarding all other member states and the EU. Benin is the only EMS that never reported a total restriction to the IOM, with all other West African States having implemented such a policy by the end of April. This situation continued until the beginning of June with Liberia being the first other country, whose ECOWAS-related travel regime was being categorised as *partial* by the IOM. Usually, a partial restriction in the ECOWAS region means medical measures such as a PCR test upon entry, but in some cases, it also means mandatory quarantine (cf. IATA 2020b). From then on, the situation diversified between total and partial restrictions, so that by the end of August slightly less than half of the EMS had relaxed their requirements. Only a part of the entire bilateral travel and border policies is shown here, whereby most of the EMS in this period, if they are only shown as red in the figure, also denied entry to the citizens of all other states in the world with individual exceptions. This trend continued, and by mid-October only 2 countries were still reported as *total*. These two states (The Gambia and Cabo Verde) are also the ones with above-average C19 outbreaks. By the end of November, there were no more total restrictions between the EMS, only the total entry ban imposed by the EU, which was only reciprocated by Senegal and Guinea. The situation has since stabilised, and the part of the figure portraying the travel matrix for the 30.11.2020 is still the same as of 01.03.2020.

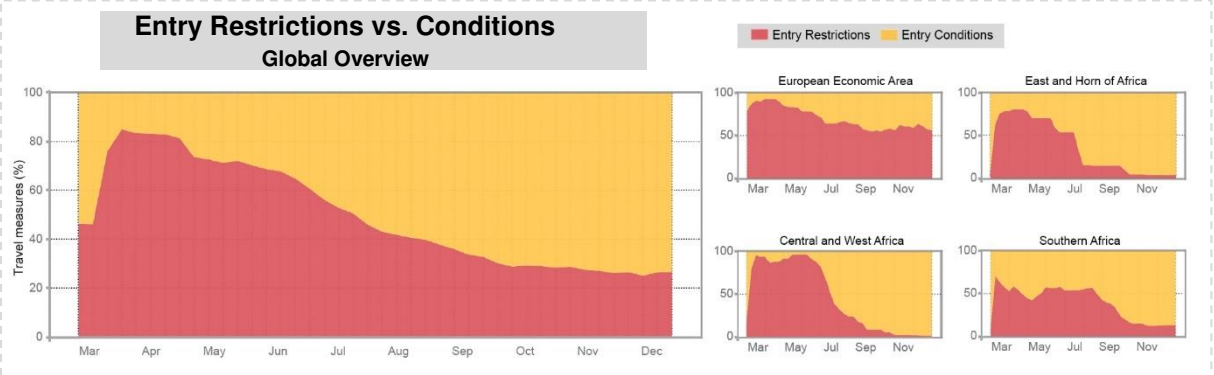


Figure 36: Share of entry restrictions vs. share of entry conditions; global and regional

Source: Modified from IOM (2020a).

The plots (Fig. 36) illustrate the share of entry restrictions vs. share of entry conditions; global and regional to contextualize the dynamics treated above. A decline of hard restrictions (red) after a peak of approximately 80 percent share in total reported travel regulations is observable. This indicates that the developments in the ECOWAS region regarding an initial sharp increase in border regime stringency and afterward a gradual relaxation represent a global phenomenon – the West African dynamics seem to be no exception. Yet, the peak of hard restrictions with almost 100% share in Central and West Africa and the speed of the decline are exceptional. When looking

at the region-specific developments, the special characteristics of the ECOWAS border regime dynamics (represented here by the IOM spatial category "Central and West Africa") become apparent: the EU is still characterised by a high level of hard restrictions and the other SSA regions never even reached such a high level of hard restrictions but do also show a significantly slower reduction of regime severity.

It is important to note that non-reported are not included. The figure represents the share of hard restrictions versus less severe ones concerning all reported kind of border crossing measures but does not take openness in account. Still, the data represents a vast majority of entries in the database: the proportion of global CTAs (Country/Territory/Area) that are tagged as "no reported restrictions" accounts since March 2020 to September for a stable share of approximately 15%, the number of confirmed "no restrictions" has increased from 0% in March to 3% by the end of September (IOM 2021c). Thus, representativeness can be concluded and the overall developments of the West African C19 border regimes can be outlined in relation to the rest of the world.

However, this perspective just assesses the region's dynamics as a whole, so an examination of specific implementations within West Africa is also needed. Fig. 37 underlines the impression of a robust closure as the initial reaction of almost all ECOWAS member states, which was then replaced by a rapid opening around August.

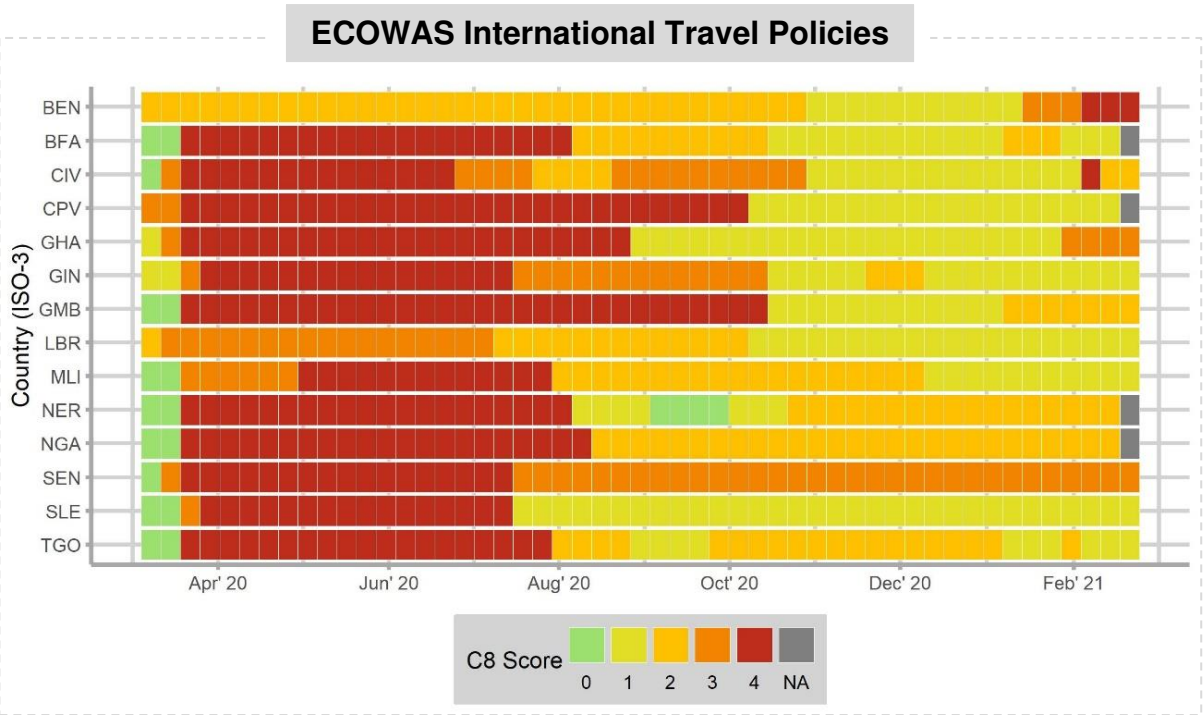


Figure 37: Tilemap of time-related changes of the stringency of international travel control policies. One tile represents a 7-day median of the daily index scores. 11.03.2020 (day of WHO pandemic declaration) - 03.02.2021. Color-Coding from green (0) to red (4) according to the source: 0: no restrictions; 1: screening arrivals; 2: quarantine arrivals from some or all regions; 3: ban arrivals from some regions; 4: ban on all regions or total border closure; Grey: no data available

Source: Illustration by Jannis Viola. Data: OxCGRT (2021c).

The period of greatest deregulation to date was between November 2020 and January 2021, with the majority of EMS calling only for C19 screening on arrival and others demanding a mandatory quarantine, at least for travellers from certain regions. The only country at the time that made an exception was Senegal, where entry of citizens from the EU was still prohibited[18]. There are contradictory reports on the handling in Guinea, and the latest tilemap entries for Benin seem to be erroneous. Nevertheless, these sets of data serve as a general overview of policy approaches, but do not consider the situation at specific border posts.

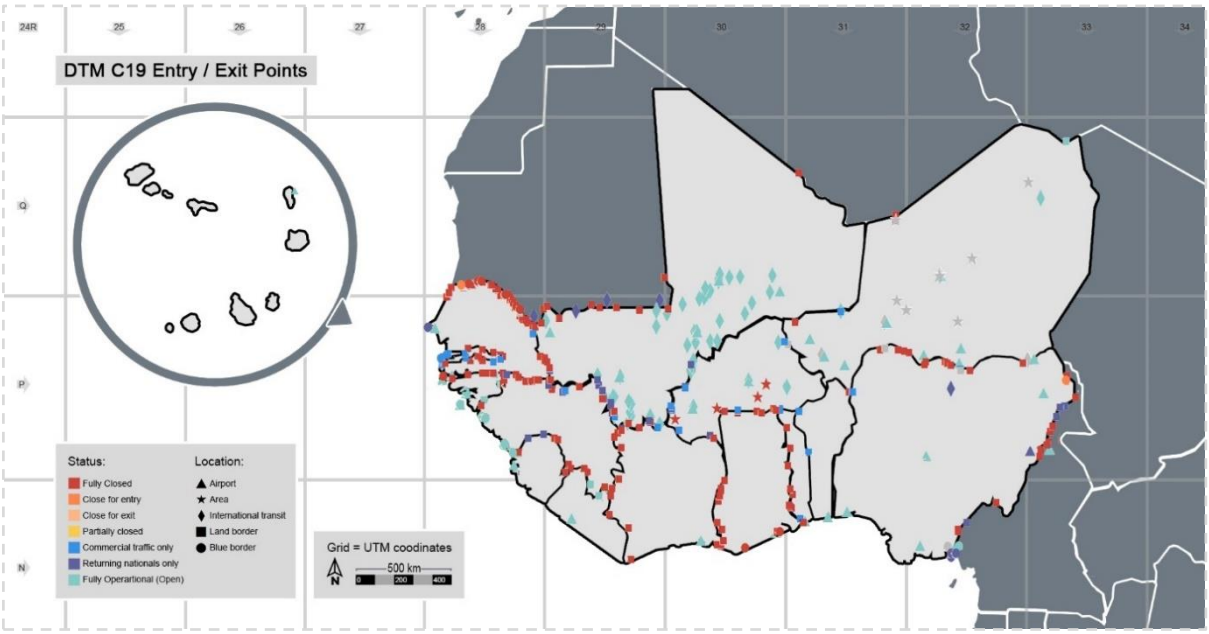


Figure 38: Status of entry and exit points by EMS. Grey colouring = unknown. As of 10.12.2020.

Source: Own figure. Data: IOM (2020b).

Fig. 38 illustrates the status of entry and exit points in the ECOWAS region as of 10.12.2020 to give an overview of the dynamics. An easing of the entry restrictions within the ECOWAS region does not inevitably mean that the borders are open. Despite closed borders, people from Togo for example were allowed to enter Ghana in December when complying with the medical measures (IOM 2021b). The map underlines that the ECOWAS region shows highly regulated border mobility with distinct local differences in terms of stringency.

Yet, closed land border posts do not necessarily mean that cross-border mobility came to a standstill. IOM reports indicate that closed borders within the ECOWAS region continue to be crossed undocumented (cf. e.g., IOM 2020c). There is also a sharp difference between the handling of airports and land border points. Most airports listed are presented as fully operational or open. By the end of 2020, all airports (IOM 2021d) in the ECOWAS region were operational with all but

[18] However, inconsistencies between the OxCGRT database and that of the IOM become apparent, as the latter, for example, continues to record a travel ban for European countries for Guinea around the turn of the year, but has no information on the sudden strong regulation of Benin noted here (cf. IOM 2021b).

one being totally open. That does not mean that the number of incoming flights is back on the pre-C19 level. In terms of maritime border points, a majority is reported as being fully operational again, but the division is less sharp: three of the 18 examined crossings are labelled as partially operational and three as "fully closed". Restrictions here have been predominantly eased but there are still noticeable restraints. The situation regarding land border crossings heavily differs from the two other types with a slight majority of border points still being fully closed. Just 9% of are reported to be totally open. For mid-March 2021, the regarding numbers almost did not change at all (cf. IBID.). Still, there are no fully closed airports, 16% fully closed blue border crossings, but 55% closed land border points.

It is noteworthy that the extent of monitored border crossing points for individual EMS database does not correlate with country size. Senegal for example is represented by 67 points in this particular database, and Nigeria just with three. The proportional data mentioned above should therefore not be understood as absolutely accurate, but they are useful for identifying general patterns. When set in a global context, Western Africa was in January 2021 among the regions with the highest share of fully operational airports (cf. IOM 2021a: 8). With maritime border points the ECOWAS region is placed in the middle of all regions surveyed (cf. IBID.: 10) and remains by far the region with the highest reported share of land border closures (cf. IBID.: 11). Thus, there is a clear tendency of the overarching ECOWAS C19 border regime to give clear preference to the connectivity to international air transport over intra-regional border openings, thus contradicting the strategy called for in the communication of the ECOWAS Ministerial Coordination Committee on Transport, Logistics and Trade mentioned at the beginning of this chapter (ECOWAS 2020).

In terms of enforcement of border regulation policies during the first weeks of lockdown, in Ghana for instance, ECOWAS citizens, who usually would be allowed to cross ECOWAS borders due to the free movement protocol were arrested (NATIONAL IDENTIFICATION AUTHORITY 2020). Within ECOWAS, there is a distinct variation in the individual governmental interests in a reinforcement of border control or instead a strengthening of free movement of people independent from the pandemic, which adds a further dimension to the complexity of C19-related border regimes. The governments of Niger, Nigeria, Senegal, Ghana, and the Gambia have been reported to have a partial individual interest in strengthening border controls (ZANKER ET AL. 2020: 7). Thus, an intricate picture of competing incentives is produced by these particular interests in combination with the initial concept of free movement represented by the protocols, demands for so called migration management, well established informal border mobility and trade, pastoralism, and the topical efforts to mitigate imports and exports of SARS-CoV-2 fomites. Informality is key for contextualising these border regimes in the West African situation where official regulations impact socioeconomic realities in a rather dialectic way. If they were actually enforced, they would have a primarily negative impact on the informal sphere, if only because official regulations always follow the logics of the *form*, omitting the *residue* in the sense of HART (2015). At the same time, the informal in itself draws its scope of agency from acting in extraformal spaces. Thus, creating a formal framework aimed at limiting cross-border flows of people and goods might as well produce the opposite. States with an entrepôt role such as Benin or The Gambia see the volume of their informal trade with their neighbours (Senegal and Nigeria) increase significantly whenever the latter tighten trade restrictions on certain products to protect them. For example, Nigeria's long history of restricting exports of subsidized oil products to Benin and recurrent border closures by the Nigerian side due to various (trade) political disputes (GOLUB & MBAYE

2019) have played a major role in the genesis of a parallel economy concerning the trade in these products, which employs as many people in Benin as the country's civil service. (MBAYE & DIAGNE 2020).

Therefore, one has to not only study specific border regimes but also the context of heterogeneous spatial distribution of cross-border interdependences within the ECOWAS region. Impacts of border closing and related mobility restrictions vary due to different levels of integration in transnational flows of people and goods. Thus, the 16-month closure of Nigerian border points towards Benin took place before the pandemic, was not based on economic and security-related issues and had an extensive influence in other nations of the ECOWAS region (and beyond) due to Nigeria's position in trade and transport regimes and regional distribution logics. The impacts and the partial reopening on 16.12.2020 (NDA-ISSIAH ET AL. 2020) will be further discussed in latter parts of the study. In general, this impactful case of border closures illustrates the scope of such measures within the ECOWAS region but also the political embeddedness of these that goes beyond questions of pandemic mitigation.

5.4.1 Cross-Broder Migration

In this chapter we outline C19-related changes in cross-border mobility patterns. Due to the complexity of the topic, the focus is on key developments with regard to migration. Overall, the pandemic complex "has dramatically changed the global migration and mobility landscape and added a layer of complexity to migration in West and North Africa and across the Mediterranean" (SCHÖFBERGER & RANGO 2020: xx). Studying changes concerning migration as one of the most formative intersectional phenomena in West Africa, is essential when trying to outline mobility patterns in the region. Key figures will be given to outline major trends followed by a case study of relevant points of migratory movements in Mali, which represents an important but volatile transit point for migrants in the region.

Following the introduction of mobility restrictions in March 2020, overall migration flows in West and North Africa and from these regions to Europe have decreased by 40% between March and April. Due to the dominant directionality towards the north in transnational long-distance migration, West and North Africa form a migratory system and are partly considered together in this chapter. We rely primarily on the IOM's global data collection infrastructure for registering cross-border movements (Displacement Tracking Matrix), as there is a lack of alternatives with similar translocal comparability and data density and continuation during C19 restrictions.

Between March and May 2020, the decrease of flows through transit points in West and Central Africa recorded by the Flow Monitoring Registry (FMR) of IOM's Displacement Tracking Matrix (DTM) lessened by more than a third. Yet towards May, a significant increase followed already (IBID.: xxii). Within this overall pattern, internal flows have increased more rapidly than cross-border movements.

These key trends of migratory movements, especially in the Sub-Saharan context needs to be understood as entangled with local and transnational socio-economic developments in diverse manners. It is not only the case that sudden, significantly shrinking emigration movements have implications for the socio-economic situation in the country of origin (e.g., less remittances), but also that external socio-economic changes have a direct impact on migration, as a certain level of prosperity is the basis for transnational migration. Accordingly, for example, a pandemic related economic crisis in the West African countries could lead to a longer-term decline of migration movements (cf. CLEMENS 2020 and BUETTNER & MUENZ 2020).

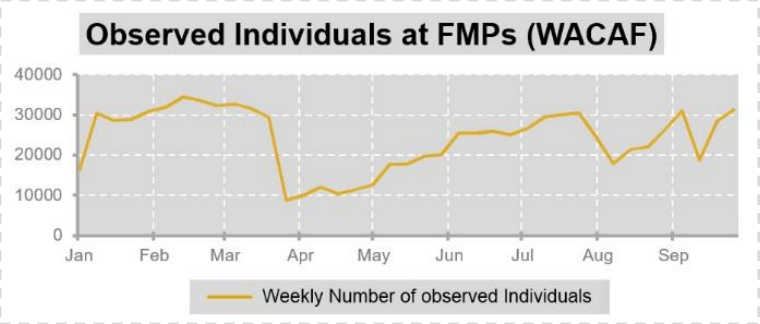


Figure 40: Weekly recorded movements in FMPs in the region West and Central Africa (WACAF)

Source: Modified from IOM (2020d).

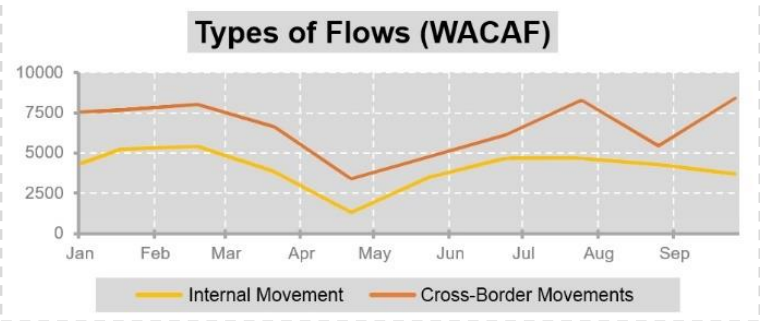


Figure 39: Comparison of cross-border flows and internal flows as recorded by the WACAF FMR

Source: Modified from IOM (2020d).

According to the IOM (2020c), migrants have to use informal ways of border crossing on the main south-north routes, due to the official checkpoints being closed because of C19 regulations in mid-2020. People on the move must either cross at official but closed checkpoints or at nonofficial points of the border when severe regulations were put in place. Thus, the border regimes do not directly translate into the immobilisation of migrants and furthermore, the established demands for disease screening and health precautions are also not given in the context of such forms of migratory flows (cf. IBID.).

The initial decline of flows through transit points identified and monitored by the IOM in West and Central Africa in March was 40 percent and for the following month 39 percent. Yet towards May, a significant increase of 65% was already monitored again (SCHÖFBERGER & RANGO 2020: xxii). If visualised as the weekly number of recorded movements of Flow Monitoring Points in Chad, Mali, Niger, and Nigeria (Fig. 39, p. 60), which represent the only countries that had permanently active IOM flow monitoring points in the WACAF region during the pandemic, the pandemic impact becomes evident. Between week 11 and 12 (second half of March), the slump accounts for a decrease of 60% of recorded individuals. Yet, the initial drop is followed by a consistent rise, leading to the observed individuals count already approaching the level of March in July again. The succeeding fluctuation indicates a return to regular mobility in the region according to the IOM (2020d: 1). In terms of observed movements, cross-border flows as well as internal

movements were both impacted by the pandemic complex (Fig. 40, p. 60). Thereby, the extent of the initial impact reflected by the data is similar both in terms of decline and subsequent recovery. However, from June onwards, a differentiation emerges in which cross-border movements continue to increase, but the observed internal flows decrease again. The aforementioned growth in cross-border movements was primarily due to surges in Arlit (Niger) in July and Kano (Nigeria) in September. The substantial increases regarding people on the move after the downward trend following the first introduction of border closings ultimately overtook the figures of the previous year, resulting in an overall growth of 4% on year-to-year basis (IOM 2021f: 1). It can thus be noted that intraregional migration in West Africa was initially severely affected by the policy responses to the pandemic, which resulted in a massive decline in observed mobile migrants. Towards July 2020, however, the overall figures rebounded.

In the field, these disruptions materialised in the form of "several dozen thousand migrants being stranded while attempting to cross borders from one country to another or being quarantined after entering a country" (IOM 2020d: 2). For April 2020, the IOM (2020k: 3) already estimated these cases of forced immobility to over 21,000. Several programs aiming at supporting people on the move halted due to the pandemic complex, especially in the first months of the spread (MMC 2020: 9). The disruptions of migratory movement possibilities led to chartered flights in the ECOWAS region organized by the IOM to bring people home.

Despite already mentioned subversion of border restrictions, the comparably harsh approach towards border closures in Western Africa still seems to have had an impact, but when putting the main migratory routes towards Europe (2020 versus 2019) into relation, a more complex picture emerges. The Western Mediterranean Route[19] was recorded to have significant declines (-29%) while the previously less frequented central one[20] even grew substantially (+185%). But the Eastern Mediterranean Route[21] was the one with the biggest decline of -47 percent (SCHÖFBERGER & RANGO 2020: xxiv). But within the Western Mediterranean Route, which despite the decreases still represents the most frequented one, there were significant shifts observable, and an accelerating growth towards the end of the year. As a result, the Western Mediterranean Route via the Canary Islands became the main route to Europe with a total share of 61% in Q4 2020. Due to the strong growth towards the end of the year, more than twice as many people arrived in Europe[22] via this route in Q4 2020 than in Q4 2019 (IOM 2021e). Recent dynamics on the route to the Canary Islands play an important role in these shifts of migration patterns. Compared to 2019, in 2020 there was a multiplication in numbers of migrants that were moving from Senegal to the Canary Islands. For the year 2020, the figures already showed an increase of more than 1100% compared to the 2019 counts (IOM 2021e: 3). This drastic change in routes calls for further research, but current information hints at the reasons being a combination of impediments to freedom of movement regarding the other potential migration routes, more long-

[19] WMR towards Spain and Canary Islands (also called "The Western Mediterranean and the Western African Atlantic routes").
[20] CMR towards Italy and Malta.
[21] EMR towards Bulgaria and Greece.
[22] Note that the IOM classification of regions is based on the UN DESA approach that relies on national borders, which means that the Canary Islands are in that sense understood as part of Europe.

term socio-economic vulnerabilities but also economic impacts of the pandemic. The revival of this route, that was not heavily frequented in the years before, already began after interventions of the EU immobility regime in 2018 along Morocco's northern coast, which led migrants to seek for alternative routes (SHRYOCK 2020). Nevertheless, the drastic increase took place during the pandemic, which implies certain causal links amplified for instance by fisheries shortages in Senegal and a drought in Morocco. The impacts of the pandemic did not only increase disruptive forces on cross-border movement possibilities and seemingly enforce certain causes for emigration but did also increase pressure on the migratory management infrastructure on the Canary Islands themselves, because due to C19 both transfers to the Spanish mainland as well as deportation flights were halted (MMC 2020). Surveys suggest the high incidence of COVID-19 was even used as a narrative to drive further interest in immigration towards Europe from Senegal (cf. SHRYOCK 2020). But in addition to Senegal as the main starting point of flows towards the island from the ECOWAS region, boat movements were also observed from Guinea-Bissau, The Gambia and Guinea (IOM 2020e).

In surveys conducted between July and September 2020, 77% of respondents stated that "COVID-19 was not a factor in their decision to leave or that they had left before the pandemic began" (MMC 2020: 11). Nevertheless, 76% reported an increased difficulty of crossing borders and 34% disruptions of movements within countries in West Africa. Additionally, 24% of questioned migrants stated that they were "too afraid to continue on due to the virus" (IBID.: 13). The pandemic heavily impacts movements but is not a mayor driver for departures yet. Nevertheless, in another survey carried out in the same period (IOM 2020f), 26 percent of respondents indicated that they had experienced difficulties in continuing their economic activities since the beginning of the pandemic. Accordingly, only a few months after the emergence of West African C19 regimes, the pandemic was already profoundly influencing socio-economic structures. According to the first survey, migrants in Burkina Faso were the one stating the most that C19 increased the difficulty of crossing borders and also were the ones with the highest negative impact in terms of monetary resources for a continuation of the journey, but the respondents in Niger represented the majority of migrants indicating difficulties of movements within a country (MMC 2020: 12).

Regarding fluctuations of such movements within EMS and on border-crossings, a significant variation between different points of examination is evident (cf. IOM 2020g: 3). Thus, a more detailed perspective is needed, which shall be given through examining a case study of border-crossings in Mali. Four exemplary points in the country, that constitutes an important location in south-north migration routes, were chosen to represent developments regarding mobility pattern of transnational migration (Fig. 41, p. 63). These four spots are high-traffic flow monitoring points (FMPs)[23] in the inner part of the country and on the borders with Algeria, Niger, and Burkina Faso.

[23] *FMP Timbuktu*: Located in a migration-relevant place in the city, most migrants passing by here travel to / from southern Mali and northern Algeria, some of whom want to continue to other parts of North Africa and Europe, *FMP Gao-Wabaria*: Located in a migration-relevant place in the city, same main direction of flows as above, different route; *FMP Heremakono*: Border post between Mali and Burkina Faso in Sikassa region, mainly flows from southern and central Burkina Faso to southern Mali; *FMP Menaka*: City close to Niger, mostly flows towards Algeria.

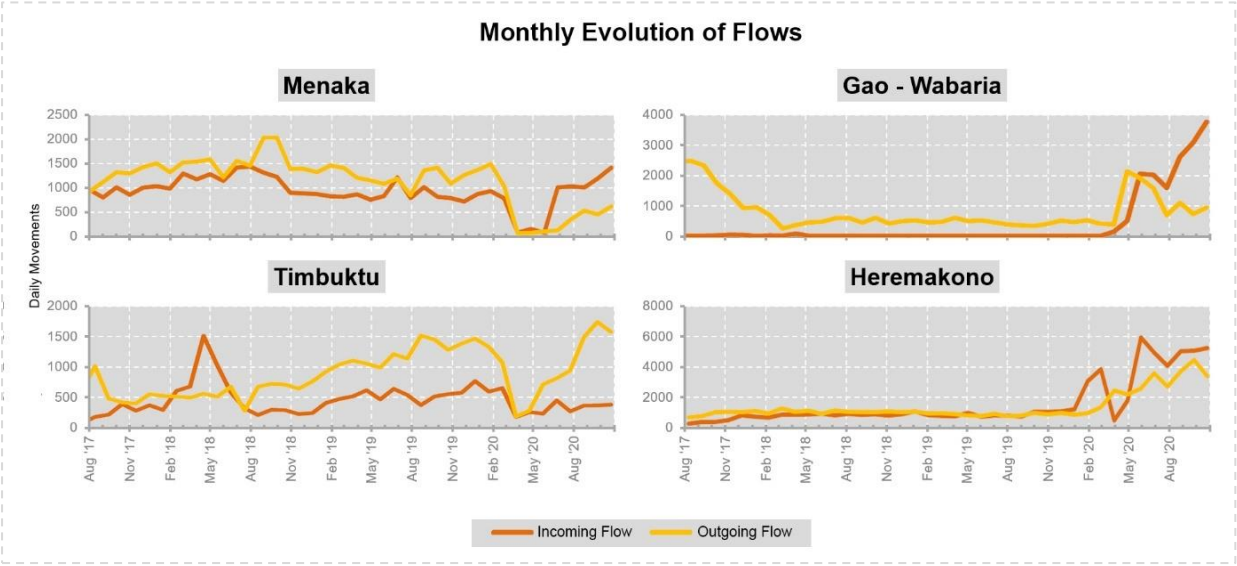


Figure 41: Daily Movements of migrants recorded by four exemplary IOM DTM Flow Monitoring points in Mali, 1 August 2017 – 31 October 2020.

Source: Modified from IOM (2020d).

When examining overall pattern concerning the IOM DTM FMP in Mali, one can see significant changes of mobility patterns, especially in the first months of the pandemic. Yet, the governmental restrictions did not just generally lead to reduced migrant flows in all places. The example of Mali rather suggests a shift of routes than a universal spread of immobility. Nevertheless, there was a significant reduction in total numbers at the same time. The two FMPs of the selection covered here that mainly track flows to and from Algeria are the one in Timbuktu and the one in Gao-Wabaria. In Timbuktu, one can observe a significant slump in daily movements, whereby the extent of outgoing flow drops more severely than the ingoing one. But all in all, a temporarily massive reduction in all movements in observable compared to the previous years covered here. At the same time in Gao-Wabaria one can see a significant increase in in- and outgoing flows. This hints at shifting migratory routes related to the simultaneously acting mobility regimes. The substantial declines observed in Timbuktu, an important but more inland point on the main routes, underline the assumptions of a temporary significant decline in the absolute numbers of mobile migrants and also the parallel shift in routes, as at the same time a massive yet unsteady increase in numbers is observed at the border with Burkina Faso in Heremakono. However, if one looks more closely at the origin and direction of the flows, the phenomenon is not a just a simple shift in the paths chosen by migrants. This can be seen, for example, in the case study of the Gao-Wabaria FMP (Fig. 42, p. 64) which is generally an important transit point for migration between North and West Africa (cf. IOM 2020h: 5). As mentioned above, it has seen a great increase in flows during the period of mobility restrictions. However, the information provided by the individuals migrating regarding their final destination has changed radically. Whereas in the months before

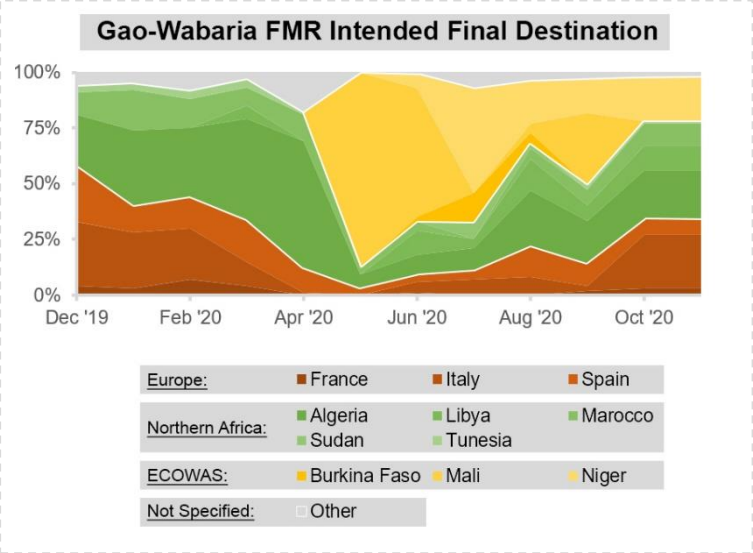


Figure 42: Proportional main intended final destination of migrants vs. time as recorded by the IOM FMP in Gao-Wabaria

Sources: Own figure. Data: IOM (2020i).

the pandemic around half of the respondents still indicated a European country as their desired destination (in December 2019, for example, 29% alone said they wanted to go to Italy), this changed completely from March and April onwards. At first, the majority still wanted to go to Algeria, but no longer to Europe. In May and June, Mali itself was predominantly mentioned as the final destination. If we look at the countries of origin of the interviewees there was a massive increase in the number of people coming from Burkina Faso. Before the restrictions, it was mainly people from Mali, with Burkina and Mauritania also accounting for a significantly smaller but still relevant proportion. It can therefore be concluded that the changes are not purely quantitative and directional, but also qualitative. Other monitoring points show comparable developments. There was an almost complete cessation of West African domestic transcontinental migration movements towards Europe, and instead an increase in primarily regional and transnational labour migration[24]. In terms of regional mobility patterns, two further dimensions are relevant. On the one hand, a larger scaling of the consideration of migration routes does not show a general complete stop of movements towards Europe, but a larger-scale shift from West African routes to the waterway to the Canary Islands. On the other hand, there was an increase in forced movements due to the armed conflicts in the central Sahel. Accordingly, despite the clear temporal correlation of the described changes and the pandemic-related mobility restrictions, the overall West African C19 regime cannot be held solely responsible, but other influencing factors such as migration control and internal displacement must be taken into account.

There are also disruptions in the global dimension of West African migration. "While some are stranded in some destination countries, especially in the Middle East, anecdotal evidence suggests that many of the popular destination countries have reduced the number of visas issued to West Africans, as only essential travel is allowed in some cases. At the same time, many of the migration schemes through which West Africans are recruited for job placement in some of the emerging destination regions, such as the Gulf countries, have been suspended as a result of the pandemic" (TEYE 2020).

[24] A vast majority of the cross-border migration discussed here is primarily caused by the search for employment (cf. IOM 2020f: 6). According to IOM, the here discussed rise of people on the move from BFA is mainly due to job possibilities (often connected to gold mining and panning) (cf. IOM 2020h: 6).

The data discussed in this chapter focused on types of cross border migration and mobility that is primarily caused by the search for employment (cf. IOM 2020f: 6). But beyond this, other forms such as transboundary flows due to internal displacement in violent conflicts need to be considered. In the case of the ECOWAS region, this primarily concerns the multidimensional conflicts in the Central Sahel region, where displacement is currently concentrated in the Liptako Gourma region of Mali and Burkina Faso. Around this region alone for example, there were 173,139 cross-border refugee movements between January and November 2020 (IOM 2020j). How mobility patterns related to the situation in this region and IDPs in the ECOWAS region in general have been influenced by the local COVID-19 regimes requires future specific study. Nevertheless, there are already reports on several ways in which a pandemic might drive displacement (cf. UNSDG 2020: 21). Furthermore, an increase in undocumented migration and trafficking in West Africa was reported (TEYE 2020). However, this increase in informal and potentially exploitative practices should also be recognised as a fragmentary constituent of the wider phenomenon of changing patterns of mobility in West Africa.

To conclude: COVID-19 should not be presented as a direct, monocausal driver of migration in the ECOWAS region as undocumented migration is becoming increasingly complex, elaborate and mosaic. Nevertheless, from what could be observed so far, the pandemic impacted migration systems in several, distinct ways reinforcing a reshaping of mobility pattern in the region.

5.5 Aviation

Western Africa is entangled in networks of different types of transnational aviation-based mobility (cf. GABRIELLI ET AL. 2019: 18). Air travel represented the major medium for COVID-19 to spread globally (cf. MOUTON et al. 2020a) and the annual growth of passenger traffic (in RPK) is estimated to shrink by 66.3% for 2020 after averaging +6.9% in the 5 years before (cf. ICAO 2020: 70). This translates to a yet unseen phenomenon in the development of worldwide carried passengers (Fig. 43, p. 66). International passenger air traffic was hit harder with an overall reduction of 66% of seats offered by airlines, domestic traffic saw a seat reduction of 38% for 2020 on a year-on-year basis (ICAO 2021a: 4).

In relation to other regions of the world, it is evident that Africa was the most affected region in terms of total seat capacity in the first months following the initial wave of regime stringency (IBID.: 7). Also, when comparing the monthly number of international passenger flights by region for June 2019 and 2020, Africa is the region of origin with the strongest losses (-91.33%), although all other regions were also severely affected, with a drop of more than 80% in all cases (UN CSSA 2020: 68). However, this was followed by a slightly steeper rebound than the average for the industry as a whole (IATA 2020: 1). In terms of capacity, the African continent was also the one with the biggest decline in domestic travel, that was almost as big as the international one from Africa (AFDB & ALG 2020: 5). Therefore, it is noteworthy, that in Africa, international travel is estimated to recover significantly slower compared to the domestic one (ICAO 2020: 74).

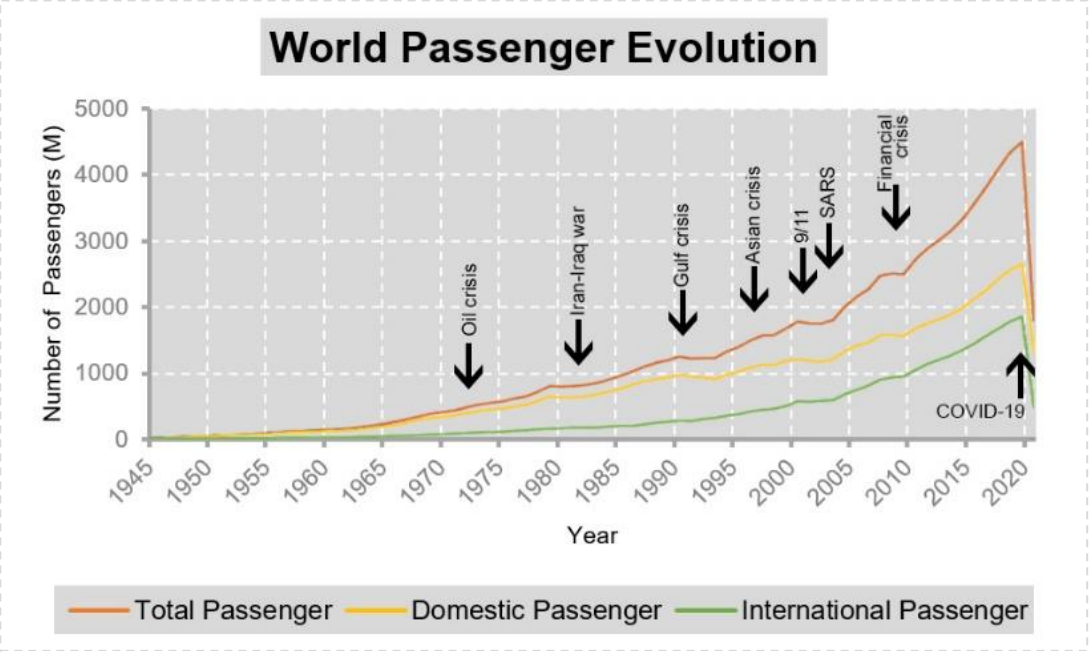


Figure 43: Number of passengers carried worldwide in millions, 1945-2020

Source: Modified from ICAO (2021a).

Even though states in Western Africa were reported not to be among those with the highest risk of importing C19 cases through air travel (GRISSOM ET AL. 2020), the majority of the traceable imports of cases that have led to internal spread in EMSs are due to air movements. Various restrictions on air traffic have been introduced as well as influences of the recent global disruptions have been noticeable. Accordingly, the ECOWAS also experienced, at least temporarily, a significant decline in air travel. When observing all scales of passenger travel (inter-continental, inter-regional, regional, domestic) together in terms of seating supply, Western and Central Africa (WACAF) as a region is less hit than Eastern and Southern Africa. Yet, the decreases are compared to the figures of the respecive months of the year 2019 still substantial with -70% for May 2020 and -46% for October 2020. In Southern Africa these numbers were -90% and respectively -69%. Northern Africa shows similar but slightly more severe numbers then WACAF (AFDB & ALG 2020: 8). When assessing route offers from the different regions, a slightly different picture emerges, because WACAF is one of the two regions with the biggest decrease for May 2020 (-64%) in the intracontinental comparison. But WACAF at the same time is the region with the by far fastest recovery in this category (-24% y-o-y for October). In terms of just inter-regional and regional traffic, an overall similar impression appears when applying the same categories (seating supply and route offer), with West and Central Africa being the African region with the fastest recovery (IBID.: 9).

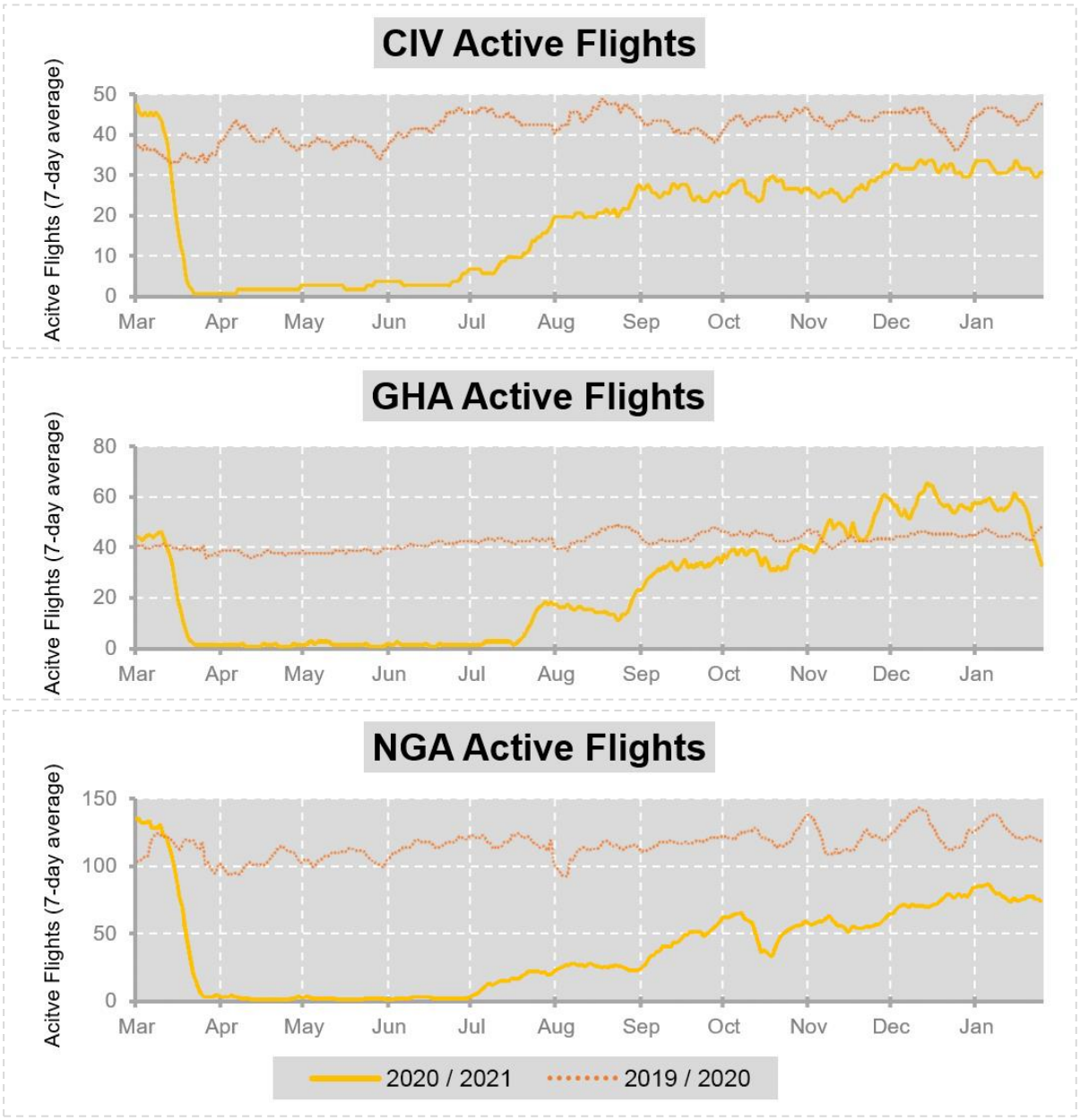


Figure 44: Active commercial, scheduled Flights as published by Airportia. 09.03. – 02.02 of the regarding years.

Source: Own figure. Data: AIRPORTIA (2021).

When breaking down the before mentioned regional dynamics on the country level in terms of flights per country on a pre-COVID versus pandemic time frame (Fig. 44), a more diversified picture emerges. In all of the three observed EMSs, that represent the ECOWAS member states with the three busiest airports[25], the same initial pattern is observable: steep drop in observed

[25] Measured as by scheduled departures of passenger flights daily regarding countries biggest airport as of 04.02.2021 (cf. CTRAVEL 2021).

flights in the second half of March, approaching zero towards the end of March. Afterwards until the beginning of July almost no active flights were recorded in all three cases. From then on, gradual increase of flight activity with sporadic irregularities. Recovery of approximately half of 2019's average activity level in October in the case of Nigeria, making it the slowest increase. Côte d'Ivoire and Ghana reached that level in August already, with Côte d'Ivoire having a slower recovery afterwards resulting in a level of active flights that is still less in January 2021 compared to the previous year, whereas the steeper increase in the case of Ghana even leading to a surpassing of the previous year's value in November.

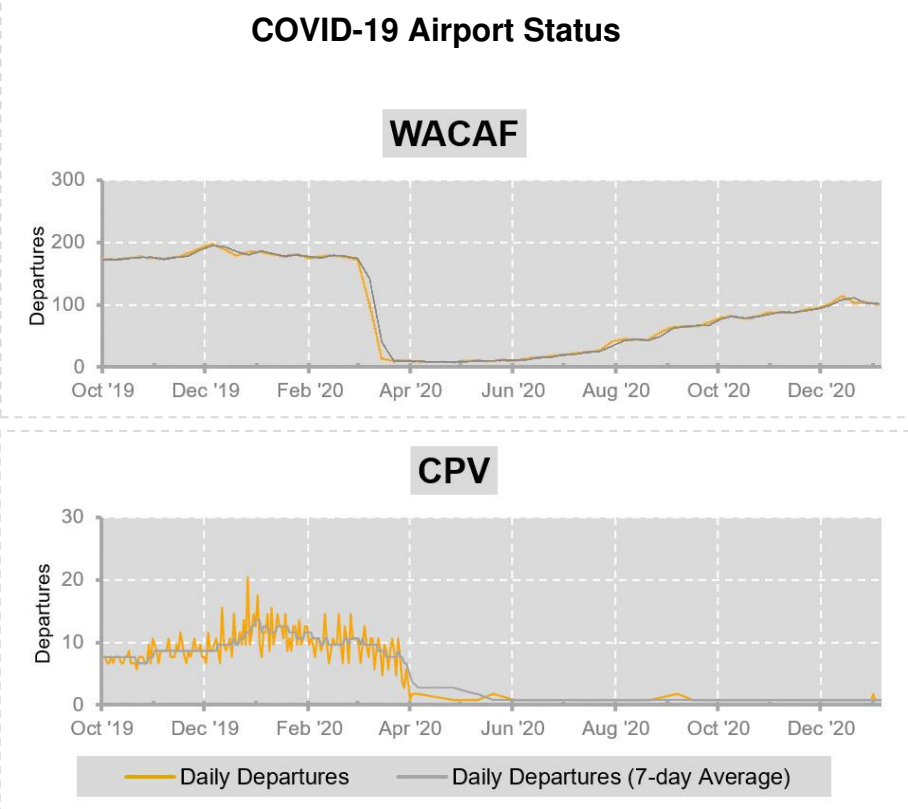


Figure 45: Daily number of total departures from all international airports of in Western and Central Africa as an overall region and Cabo Verde as a case example. ADS-B data published by ICAO. 13.10.2019 – 19.01.2021

Source: Modified from ICAO (2021b).

Year-on-year data is only available for Côte d'Ivoire, Ghana, and Nigeria. For the other states, however, a similar pattern appears to be generally evident based on daily departures from the biggest international airport of each individual EMS in 2020, that was published[26] by the ICAO

[26]In this database, it should be noted that for all countries and regions, the lowest number of daily flights ever shown is 1, so there has never been a case of 0 flights per day. The authors of this study assume with a high certainty, on the basis of other available data, that there is an error in the database, in which complete settings of air traffic are also shown as 1 flight per day. Until the publication of this study, however, the ICAO had not commented on this issue.

(2021b). Only the data on Ghana draws another impression, because in terms of daily departures from Kotoka International Airport (DGAA), the daily figures on departures just reached half of the level of the months prior of the pandemic impact. Most countries show a similar pattern of severe collapse - usually a complete shutdown of air traffic - followed by a slower phase of recovery, which is also represented by the overall figures for the whole WACAF region (cf. Fig. 45, p. 68). However, it should be noted that there is also an ECOWAS member state, Cabo Verde, that has not yet entered a recovery phase by the end of the observation period, as to be seen in the line plot. Different patterns can be distinguished in the available data. Most of EMSs follow the pattern of a clear collapse, followed by a short-lived recovery that so far only levelled off at about half the daily numbers recorded in the months before C19. These include Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, and Niger. As mentioned, Cabo Verde is still in a complete shutdown and The Gambia and Guinea-Bissau still just show marginal departure activity. Then there are some EMSs, that showed an increase that even rose to more than 50% of pre-C19 level towards end of the year 2020 in the available database but showed a decline again in 2021. This group includes Guinea, Nigeria, and Sierra Leone. The data on Liberia is almost back on pre-C19 standard and Togo is the only EMS covered in the database (all but Senegal) that has reached a higher level of daily departures from its main airport then in the months before the pandemic.

Overall, the data presented here outlines a phenomenon of enormous magnitude. The ECOWAS region as a whole has experienced a phase of recovery after the severe drop, although on average it is still well below the level of the previous year. Looking at the individual EMSs, there is also a clear diversification, ranging from a continued complete suspension of the air service to even an increase compared to 2019.

5.6 Initial Outline: Pandemic (Im)mobility Regimes and People

The broad overview of new immobilisations and the regimes that shaped them reveals similarities and differences but also historical continuities. Taking a structural perspective, the responses and their constituting regimes inherently follow a similar logic as the "conventional" (im)mobility regimes, that are conceptualized around migratory movements and the complex ways powerful institutions try to regulate these. There are various reports that the policies described here are not always directly translated into practice. When considering that the lockdown policies were often not adapted to the local socio-economic and cultural conditions, the occasionally observed violations by the population against the provisions made by the mobility regimes become comprehensible. However, the mobility data indicates a comprehensive immobilisation of people in the ECOWAS region shaped by specific pandemic-related regimes. The extent of the immobilisation is in stark contrast not only to the still relatively low level of documented SARS-CoV-2 infections but also to the prevailing Western framing of West African post-colonial states as institutionally weak. In this context, a perspective worth exploring further would be the framing of local C19 regimes as an extension of migration-focussed immobility regimes in WA, driven by European concerns in recent years. Powerful notions of wanted and unwanted migration and their entanglement with and (re)production of asymmetrical power structures have produced knowledge, institutions, and technologies for migration control in West Africa. In the pandemic, the set of immobilising strategies and practices are potentially applied to the

population as a whole, rather than exclusively to migrants, resulting in a broad immobilisation of the population.

Scholars should further explore what *dangerous* mobility, as a western narrative, means in this new context in which everybody is a potential fomite. This universalistic notion of the danger to be stopped through immobilisation should only be understood as a formative conceptual foundation of the regimes but should not be overstated in its translation into materialized practice. Regimes are embedded in the power structures and politico-economic dependencies at all levels. This partly explains why Europeans, for instance, were allowed to re-enter the ECOWAS area earlier than were people from West Africa to Europe. There are specific practices of subversion and exceptions, which implies that further research is needed on area-specific imagination of *systemically importance* of certain movements and certain people. The production of immobility is situated in a field of tension and differing economic logics, that translate into a situation whereby movements of certain people are considered more desired than those of others. This might explain contradictions in the simultaneities of policies that have been introduced, such as a multi-layered effort in Burkina Faso to restrict people's movements, while at the same time trying to make hotel visits and holidays more attractive through proposed price reductions (cf. AfDB & ALG 2020: 24).

Hence the question of directionality becomes apparent again in the sense that the regimes, with their nation state-based approach, determine which spatial orientation of mobile flows is desired and which is not. If, in general, globalization might be understood as a mobility regime, and the mobility regime itself as constitution of "a conceptual blueprint for the organization of global risk-management strategies" fighting realities, and individuals constructed as suspicious (SHAMIR 2005: 197), then the response to C19 can be understood as an extension of mistrust to a larger group of individuals or even to all people. It is no longer about perceived fears around concepts such as immigration and terrorism, but about the human body as threatening through its ability to be a virus carrier and spreader. However, it is also an extension of mistrust to the global, as the globalisation of mobility is now read as a source of harm and the local as shelter. Regarding the question of directionality and origins of movements, an unusual perspective of reversing the structures of actual migration-related immobility regimes emerges as a fragmentary observation. In the context of an uneven global spread of the virus, there is an imagination of the North as being what needs to be immobilised, due to the significantly higher infection figures in, for instance, Europe. When images of public health crises in Europe, based on the invisible contagious potential of each individual, dominated the media in the South in April 2020, one could speak of at least a temporary shift in perception. However, the fact that this narrative shift is not as powerful as the global (im)mobility regimes is shown by the earlier opening of the borders in West Africa to Europeans than to neighbouring countries.

By focusing on West Africa as a whole, multiple local asynchronies and uneven developments should not be ignored. Even the physio-geographical conditions between tropical coastal states and landlocked Sahelian countries (re)produce different starting points. In addition, there are divergent social contexts that the pandemic encounters and, therefore, also power imbalances in the regional interdependencies. This is particularly true for the context of the Sahel region with it multi-layered complex of conflicts leading to another key impact on mobility patterns. Due to the lack of data on the concrete implementation of lockdown policies, this study can only be an initial

step in outlining and distinguishing the different materializations. Nevertheless, solely based on policy response stringency as conceived by the OxCGRT, a complex spatial distribution of varying regime severity was shown. As the example of the C19 response of the government of Senegal shows, the response stringency discussed here also represents only the sum of various levels that can be perceived to very different degrees in everyday life by individuals, so that policy response stringency should not be confused with imposed regime stringency in the sense of materialized power over the movement of individuals.

The application of the PHSM in the West African context bears features of securitisation, which is reflected not only in the usual vocabulary of warfare, but in militarised enforcement of policies with various reports of police brutality that primarily affects the poor (DWAMENA-ABOAGYE 2020). This underlines the initial argument since, in this practice, logics of the violent imposition of immobilities in the context of migration control can be recognised. All countries but Ghana[27] and Senegal are reported to have introduced C19-mitgation measures that violate human rights due to being assessed as either disproportionate, unnecessary, or indefinite. These include reports on bans of demonstrations (Côte d'Ivoire, Guinea), excessive force in applying lockdown measures (Liberia), imprisonment or targeting of people leaking C19-related information (Benin, Niger, Nigeria), blanket authorizations for the president (Togo) and the use of the C19-related state of emergency for authoritarian power consolidation in Guinea (IDEA 2021). It should therefore be acknowledged that the C19 (im)mobility regimes that are developing in the ECOWAS region are also taking place in the context of consolidating violent state power, and thus, despite the low numbers of infections, are affecting the lives and mobility behaviour of individuals and the political-institutional structure in different, temporally dynamic, and multi-faceted ways.

What has been presented in this chapter should be read as a set of initial thoughts and recommendations of fields for further investigation and not as a comprehensive summary of previously observed phenomena. The density of information contained in the various datasets and digressions exceeds the scope of a conclusion, but it is precisely this that provides the basis for a future, deeper interpretation of these dynamics.

[27] But even in Ghana, a debate on violations of the constitution in the context of C19 mitigation measures and the development of totalitarian government tendencies arose (cf. APPIAGYEI-ATUA 2020).

6 (Im)mobilities of goods

Movements of goods are entangled in complex networks of various mobilities, making them sensitive to the restrictive pandemic responses described above. However, as the mechanisms involved differ, a closer look at recent mobility patterns in West Africa is needed since the region is comparatively less in focus when it comes to global flows of goods. Due to data limitations the overall focus is on formal trade and the circulation of goods.

6.1 Structural Impacts of restricted Cross-Border Mobility

The worldwide implemented PHSM-related mobility barriers heavily impacted the flows of goods on various scales (cf. WTO 2020a: 6f). Border closures or controls, mandatory quarantines and travel restrictions had especially disruptive effects. In the African context, this materialized in an abrupt and significant slowdown with substantial delays in cross-border trade "often characterised by disputes between neighbouring countries, long lines of trucks awaiting clearance and the divergence of trade to less safe unofficial routes" (BANGA ET AL. 2020: 11).

These reductions were well noted in West Africa, despite various exceptions being made to enable the trade of goods. While such exceptions typically affect only formal trade, this has led to severe implications for informal cross-border trade too. Large trucks were allowed to pass while smaller ones and individual traders were stopped, which reveals the particular vulnerability of small-scale and informal cross-border trade (ROSS 2020). Particularly in the first months of policy, an unquantifiable, but seemingly severe immobilisation of small-scale informal trading systems was experienced. On top of that, a failure of coordination during the first wave of severe lockdown measures seems to have been an aggravating factor, leading to the different area-specific lockdowns "compounding their economic impacts." (BOUËT & LABORDE 2020). Imposed curfews in general contain grave implications for cross-border immobilities of goods. "For example, in West Africa, because of daytime heat, fresh produce, meat, and other perishable products are usually transported at night. Yet curfews make this practice impossible" (IBID.).

The disruptions have also resulted in greater possibilities and incentives for non-policy-based tax enforcement and bribery to allow a bypassing of C19-related border regulations. According to a study by the *Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel* (CILSS), the collection of illegal taxes increased by almost 50% in West Africa in the midst of the genesis of the initial robust C19 border regime (ROSS 2020). At the same time, bribe collection at set up checkpoints along the central trade corridors increased by 30% per truck in March 2020 (BOUËT & LABORDE 2020). This shows that the influences on mobility patterns of goods are multi-layered and that the production of immobility can also in some cases adopt indirect characteristics and might materialise on a competitive level, in which the question is, 'Which actors still have enough influence or money to maintain mobility in conflict with the C19 regime?'. A general conflict is that between pastoralism and the nation state-based pandemic mitigation logics. A pastoral monitoring system developed by *Action Contre la Faim* and *Réseau Bilital Maroobé* (ACF & RBM 2021) showed a severe impact on pastoral mobility conditions that peaked towards the end of May 2020 and has slowly normalized since then. 63% of examined relays in West Africa reported a reduction of movements and 26% reported tensions at water points. By March 2021, these numbers went down to 36 and 11% respectively. There were several reports of herds not

returning home due to C19 restrictions. Several herds, stuck in northern Togo, could not move to their Sahelian pastures, for instance (CILSS 2020: 5). According to a survey in May 2020, economic activities for 42% of West African herders were at a standstill (ROSS 2020). But overall, the situation in the ECOWAS region started to stabilize again after most EMSs ended their states of emergency in August 2020.

However, it is crucial to emphasise that not all recent disruptions to the mobility of goods at borders in the ECOWAS region can be attributed to pandemic responses. In particular, the unilateral closure of the Nigerian border with Benin has had a significant impact on the mobility of goods in West Africa. As already stated above (chapter 5.4.1), these regulations were already introduced towards the end of 2019, and were primarily justified as a means of combating smuggling. Despite that, there were public debates about the regulations rather going back to fulfilling the interests of major national entrepreneurial actors or being more of a geopolitical strategy then actually an approach to mitigate illegal practices (cf. DUHEM 2020). This closure had severe impacts on regional informal and formal supply chains, for example altering mobilities of food and petrol (MILLECAMPS 2021). Towards the end of the year 2020, the Nigerian regulations were partly eased. This example illustrates that government-led immobilisations impact hard on complex small-scale cross-border mobility systems for goods in the ECOWAS region.

A case example here is the disrupted flows of cashew nuts for which West Africa is the world's largest producer (TRIDGE 2021). According to official figures, more than 80% of the population in Guinea-Bissau directly depends on the cultivation of cashews for subsistence (BISSON & HAMBLETON: 6). The initial mobility restrictions and border closures had an evident impact on the mobility of cashew nuts. In Benin, for example, 80% of nuts are usually exported unprocessed. Due to the closure of markets and the restrictions of the internal mobility of middlemen and sellers the flows were heavily disrupted. At the same time, foreign buyers could not enter to organize exports. In Guinea-Bissau the restrictions in the two main countries of destination for cashews, India and Vietnam, led to a market shutdown (UNDP 2020: 9). Overall, the disruptions led to a temporary collapse in prices. In Benin, for example, the price fell to $0.17/kg, even though the government had decided on a farm-gate floor price of $0.55/kg (BISSON & HAMBLETON: 7).

On the Aflao-Kodjoviakope border point between Togo and Ghana, large trucks carrying bulky goods are allowed to pass outside the curfew times (20:00-6:00.), but informal cross-border trade conducted on foot has abruptly ceased. Since the erection of the C19-related border regimes, there has been an increasing trend of petty traders banding together, pooling their wares, and paying truckers fees for clearance and transportation. Because of this, prices for key staples such as tomatoes, rice and peppers have temporarily increased by about 50% in Ghana's border towns (BANGA ET AL. 2020: 12).

In summary, there was a clear trend towards immobilisation of goods through border restrictions, but the main phase of broad impact seems to have been between April and June 2020. Nevertheless, as indicated in chapter 5.4, there were still various constraints and border closures within the ECOWAS region afterwards, implying further disruptions of mobility patterns.

6.2 Production of Goods

Production is a starting point for assessing potential mobility trends of the mobilities of goods. In this chapter we give a broad overview on recent developments of production in the ECOWAS region. The focus is on selected important branches where the pandemic complex has so far been reported to have a discernible impact.

For agriculture mobility restrictions for people can have considerable impacts. Reliable and comparable data on agricultural output in the EMSs during the pandemic is rare, yet some reports have been published. According to a survey in Nigeria in May 2020, 88 percent of farmers stated that they cannot access their farms (SAA 2020a). In Mali, smallholder farmers stressed that the pandemic has disrupted the provision of agriculture-related services, such as extension and advisory, leaving farmers with limited access to training and capacity building opportunities, and also necessary technologies (SSA 2020b: 4). In both cases, a significant majority of farmers reported that they have witnessed sharp declines in agricultural production and/or are expecting a particularly poor harvest (cf. SSA 2020a). In Senegal, where the C19 responses hit at a moment of peak agricultural production, the marketing of cold-season harvest was heavily curtailed (SALL 2020). In Nigeria too, significant reduction of agricultural output and spoilage of ready-to-harvest farm products were observed (ILESANMI ET AL. 2021: 2). Farmers were reported to not have been able to go to their land for three months during the initial mobility restrictions (PUNCH 2020). Nevertheless, recent WORLD BANK (2021c) data suggests that the number of households involved in agriculture increased after the outbreak.

In Nigeria, the crude oil production decreased significantly from march onwards with the low point being reached in December 2020 with 1174 BBL/D/1K[28] from 1799 in March 2020. Despite this substantial drop, the output has almost reached but not underscored the previous lowest point for the last three decades in 2016, (TRADINGECONOMICS 2021a). Estimates are that Nigeria will be the African country with the highest revenue losses in crude oil (BOURAIMA & ZONON: 4). Due to the oil revenues accounting for about half of the governmental income, the government proposed to shrink the 2020 health budget by 43% in the beginning of June 2020 despite the pandemic (UNCTAD 2020c).

Despite the negative impacts of the pandemic complex on different factors for manufacturing production, the growth of the industrial output volume stays on a comparably stable level (Fig. 46, p. 75). This phenomenon is particularly protruding when compared to the IIP of China, Germany, and the USA, which all showed a pronounced impact during the first phase of the pandemic.

[28] Thousands of standard barrels per day.

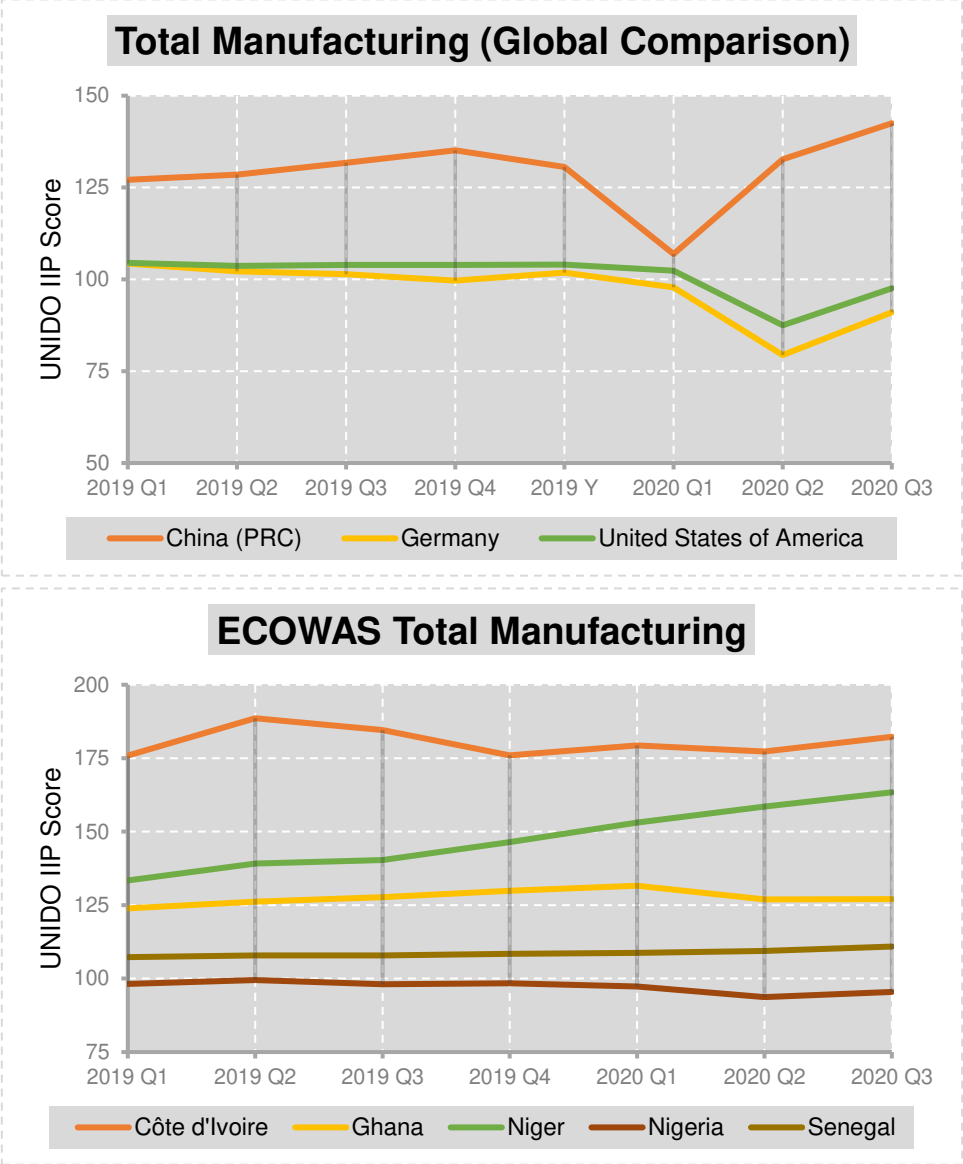


Figure 46: Development of ECOWAS Index of Industrial Production and global comparison over time. The UNIDO IIP measures growth in volume of industrial production in real terms, free from price fluctuations

Source: Own figure. Data: UNIDO (2021).

Manufacturing export in the total ECOWAS region represents only 15.5% of all merchandise exports on average[29]. Despite Togo with 52% in 2019 being the only country exceeding 25%, most EMSs do not rely on such exports. This shows a resilience in production pattern that is salient from global developments. Even though they are much less pronounced, slight negative

[29] Country wise data published by the WORLD BANK (cf. 2021b), ranging from 2016-2019. Excluding Liberia and Guinea-Bissau due to data gaps.

influences, which correlate temporally with C19, can also be seen in the ECOWAS region, especially in Ghana and Nigeria. In Nigeria significant disruptions where observable in processes of the manufacturing industry, even though they were not overly reflected in the eventual production. These disruptions were mainly caused by the restrictions of cross-border trade, especially due to the high dependency from Chinese imports for manufacturing supply chains (BOURAIMA & ZONON 2020: 4).

As already mentioned in the previous chapter, there were significant obstacles in the field of pastoralism and the related production of biomass. In all EMSs with substantial pastoral activity, a significant reduction in production and trade was observed within the first months of initial mobility restrictions. Towards August 2020, this situation normalized in most states, but pastoral biomass production was still distinctly limited in Cabo Verde, Sierra Leone and some areas of The Gambia, Senegal (Saint Louis) and Nigeria (especially Kaduna, Yobe and East Sokoto) (CILSS 2020: 5). However, it can be presumed that despite border restrictions that have made transnational transhumance difficult or at times impossible, within the states, at least in the Sahel region and Nigeria, it seems that the multidimensional conflicts in the Central Sahel region and the Lake Chad Basin region have had a greater influence on pastoralism than the C19 restrictions (ibid.: 6).

Overall, the data on goods production is still poor, but so far, the overall picture is one of major difficulties in work processes through emerging immobilities, but no excessive production shortfalls.

6.3 Trade

In a next step, we outline major trends in the movements of products, aiming at outlining already observable key trends in (im)mobilities of goods and their value chains. In this concern Africa in general is "primarily involved upstream, providing intermediate products and services to a wide range of global supply chains" (BANGA ET AL. 2020: 7). Africa's initial condition in relation to an external shock to global commodity-related mobility patterns is a vulnerable one, as it relies heavily on few products for export and at the same time has a significantly limited number of main export markets, namely India, the US, South Africa, and the European Union (WFP et al. 2020: 3). These trading partners are upon the states with the highest recorded numbers of observed SARS-CoV-2 infections to date (OWID 2021) which is further implicating a challenging situation for exports from West Africa. In order to provide a comprehensive picture of the dynamics that have occurred, cross-border trade will be examined on different scales before discussing mobility-related developments within the EMSs.

Globally, the initial abrupt contradiction of overall trade was deeper than the one observed during the financial crisis of 2008-2009 (UNCTAD 2020a: 12). This is resembled by a sharp drop in trade growth in Q2 2020. Yet, when looking at the whole year's figures, because of the better-than-expected numbers in the second half of the year, the predicted overall magnitude is even slightly smaller than the one recorded during the financial crisis (WTO 2020b, COMUNALE ET AL. 2021). Since the global C19-altered GDP contraction is expected to be more than three-times as big as the one caused by the financial crisis, and the geographical and temporal variations in the novel phenomenon are a lot more significant the C19-related economic crisis dynamics are particularly different than the ones observed from 2008 on (IBID.).

	Q1 2020		Q2 2020		Q3 2020	
	Imports	Exports	Imports	Exports	Imports	Exports
World	-6		-21		-5	
Sub-Saharan Africa	8	1	-28	-24	-5	-13
East Asia	-8	-1	-6	-12	4	-4
"Developed countries"	-5	-6	-24	-22	-9	-8
W. Asia & N. Africa	-9	-2	-42	-25	-25	-15
South Asia	-16	-10	-40	-48	-12	-24

Figure 47: UNCTAD calculations according to on national statistics. Changes are year-over-year. Categorisation of the regions according to the source. Data excludes intra-European Union trade. Q3 figures are preliminary.

Source: UNCTAD (2021d: 2).

When situating Sub-Saharan Africa (cf. Fig. 47), the negative impact that emerged delayed with SSA being the only region globally that still had positive growth numbers in imports and exports in the first quarter of 2020. For Q2, also SSA experienced a pronounced decline with comparable numbers to the one recorded as a mean of all countries labelled as "developed" by UNCTAD criteria. This magnitude of contraction for Q2 is considerably stronger than the one in East Asia but the import numbers for the MENA region and import as well as export figures for Southern Asia looked even substantially worse. Thus, from a global perspective, an abrupt, yet spatially diverse impact hit the overall trade dynamics. But this cannot be directly translated in an impact on the pattern of transnational flows of goods as services are also included. Additionally, at least for the year 2020, the recovery seems to have been faster than for instance during the financial crisis, which represents a v-shaped increase and reduction of the immobilisation of trade flows.

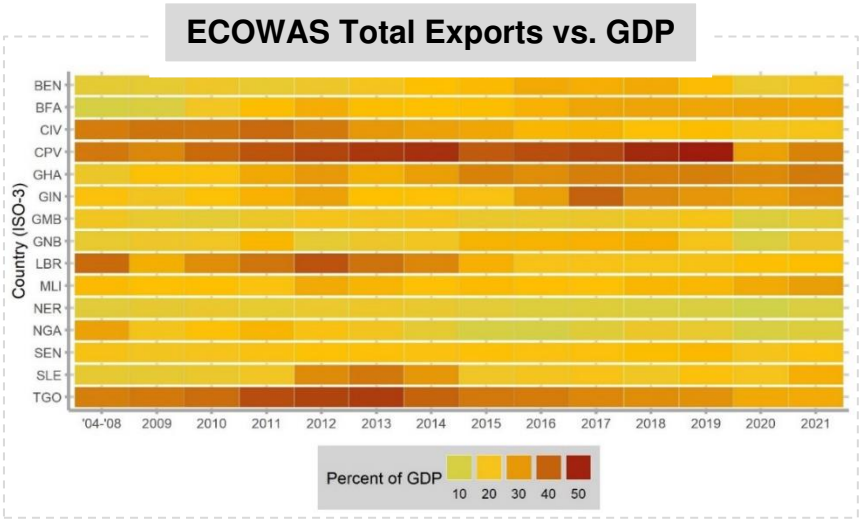


Figure 48: Heatmap of annual exports of goods and services for each ECOWAS member state as percentage of the GDP. 2020 and 2021 figures are estimates from Q3 2020.

Source: Illustration by Jannis Viola. Data: IMF (2020d).

When assessing the total export dynamics (including goods and services) of the individual ECOWAS member states (Fig. 48, p. 77), both a sharp overall difference between 2019 and 2020 and a significant level of differentiation are visible. The by far biggest decreases compared to the 2019 export share in GDP were estimated for small EMSs with rather stringent C19 governmental responses (Cabo Verde 2020 y-o-y: -79.2%; Guinea-Bissau: -77.9%; The Gambia: -70.6%). The 2020 ECOWAS total is estimated to be at -24.8% compared to 2019 level with only Burkina Faso, Liberia, and Mali showing positive growth rates.

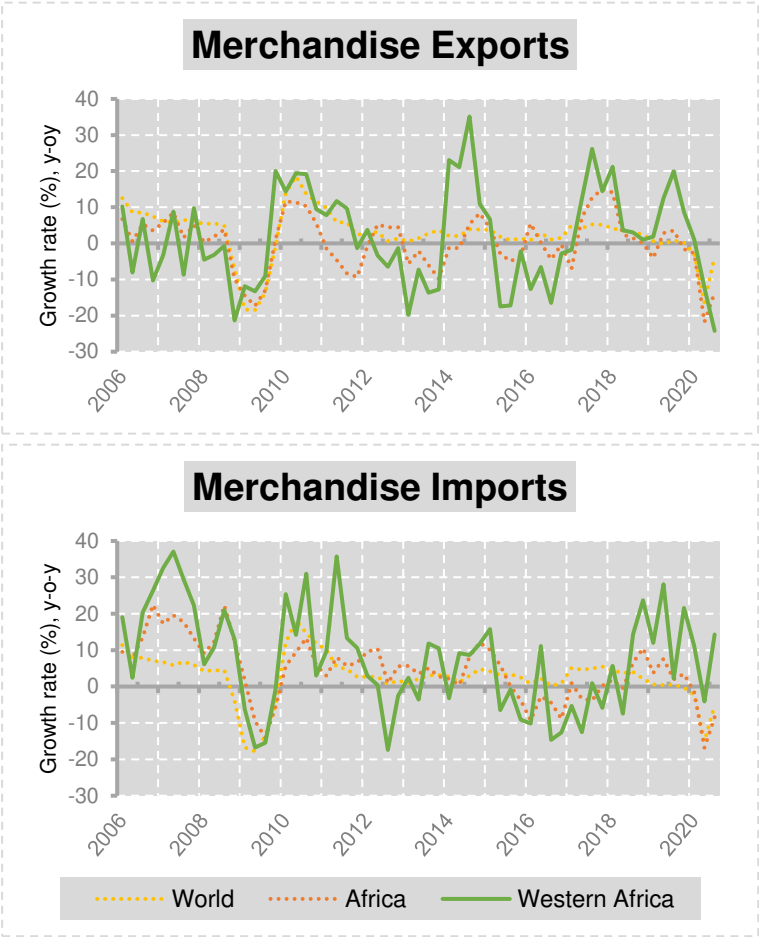


Figure 49: World quarterly merchandise exports (on top) and imports (bottom) growth Years

Source: Own figure. Data: UNCTAD (2021e).

For an ECOWAS-related examination of (im)mobilities of goods, a breaking down of trade segments is needed. Thus, Fig. 49 shows only the merchandise export and import growth dynamics for Western Africa[30]. West African commodity inflows and outflows are generally more volatile due to the low diversification of trade products, i.e. mainly export of certain commodities with dynamic world market prices and more unstable socio-economic conditions mostly due to the dependent integration into the world market and the higher incidence of external influences such as armed conflicts. Therefore, in the case of imports, a significant drop can be seen in Q2 2020 (-4.1% from +11.1% Q1'20 and +21.6% Q4'19), but similarly strong fluctuations in the quarters and years before. To some extent this sets West Africa's goods mobility dynamics apart from the overall and global dynamics, where the C19-related decline is more pronounced. This should be emphasised because the developments for the three scales of observation were still very similar during the financial crisis in 2008. On the basis of the available data, it is therefore not possible to see any behaviour that deviates from the usual region-specific standard deviation. However, the developments are also subject to strong intra-regional

[30] Which as a geographical composition in the sense of UNCTAD is representative for the ECOWAS region because only Mauretania and Saint Helena are additionally included (UNCTAD 2021f: 2).

differences. For example, in Sierra Leone, due to C19-related emergency imports of medical equipment, there was a massive increase in imports in April[31], while Nigeria experienced a significant decline (NGA NTL BUREAU OF STATISTICS 2020) because of the disruptions of border regimes (IMF 2020a: 4; FAO 2020: 6).

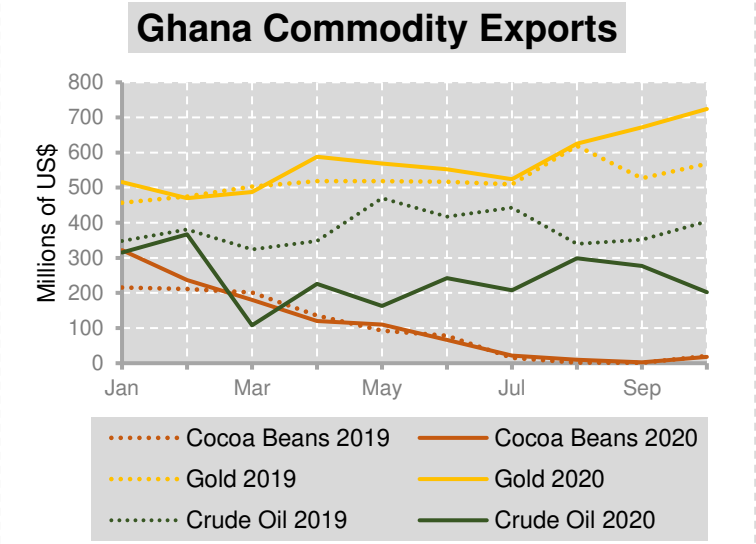


Figure 50: Ghana main commodity exports 2020 versus 2019

Source: Own figure. Data: BANK OF GHANA (2019 & 2020).

In the case of exports, however, the situation differs, although the C19-related contraction is initially smaller than in the comparative scales (Q2 WA -12.3%, Africa -21.8%, World -16.4%) and represents a delayed pace of the collapse. While the extent of the negative growth figures in Africa and the world as a whole is already decreasing again in Q3, Western Africa reaches an even more severe decline at the end of the observation period with an annualised negative growth rate of -24.2 percent.

In Ghana, where non-oil merchandise imports, similar to Nigeria, took a hit in February but stabilized afterwards (cf. BANK OF GHANA 2020: 19), the overall West African export dynamics are also represented (Fig. 50, p. 79). Compared to the 2019 baseline, but even especially to the stronger start in January 2020, a distinct decline and a low-level fluctuation until June can be observed. The contraction for March 2020 in relation to March 2019 is -24% and compared to the level of January 2020 even -32%. This reveals a materialised decline in flows of goods on the cross-border networks of global marketization from the perspective of Ghana as the nucleus.

However, a more complex mobility landscape emerges with regard to the breakdown of these export figures. In terms of the whole observational period, but especially during the first months of global C19 responses, a massive impact in oil exports is visible (cf. Fig. 51, p. 80). Yet, the impact in cacao flows is less significant. Simultaneously to a rise in global gold prices due to the uncertainties caused by the pandemic gold exports show even a minor increase. This issue will be discussed more in detail in chapter 7.6. Cocoa bean exports seem very similar to 2019, but when

[31] The increase was from an average and relatively stable level of US$ 118.6 million in the previous 10 months to US$ 908.6 million in April 2020 (TRADINGECONOMICS 2021b).

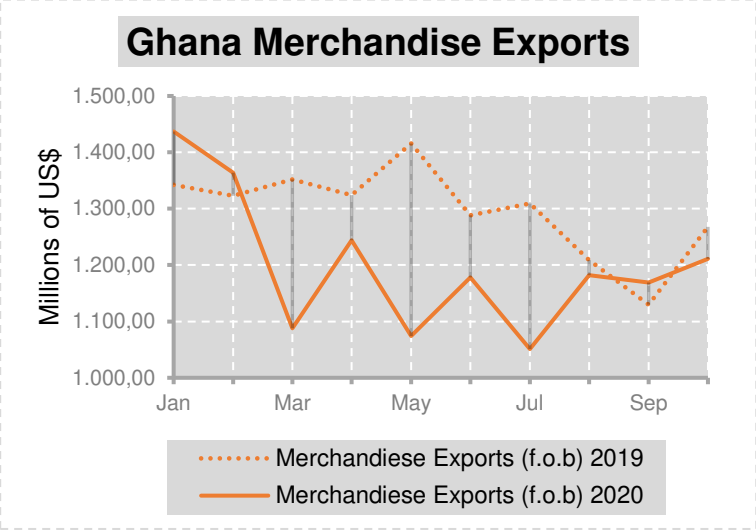


Figure 51: Ghanaian merchandise trade flows in millions of US Dollars

Source: Own figure. Data: BANK OF GHANA (2019; 2020).

assessing the stronger start in January 2020, an impact becomes visible. Nevertheless, the decline of crude oil exports from February on in a context of dropping prices due to lower demand for global motorized mobility, is the most pronounced phenomenon. Despite signs of recovery, the export level did not rebound entirely yet. Overall, a visible impact of global C19-related economic dynamics on export patterns were noted, yet with major differences in magnitude between varying commodities.

This significant negative growth observed in export figures represents a bigger decline than the one that occurred following the global financial crisis and produces a potentially long-term momentum towards a reduced production and mobility of goods in the region. GUARA ET AL. (2020) outline this phenomenon with the term "scarring", since long-term effects by short-term external shocks impacting the economic conditions have been observed before. In Sierra Leone for instance the multidimensional socioeconomic impact of the 2013 Ebola pandemic led indirectly to a permanent loss of productive capacity, that made a recovery to the pre-pandemic growth path impossible. Scarring is driven by the broadness of the influence of such a public health crisis on a society, because of pandemic-related mortality, reduction in average health conditions, capital-import reductions and debt overhangs are just examples for the multiple factors potentially impacting productive capacity. Nevertheless, at least for the year 2020, the impact of COVID-19 on West African public health was limited, and certain signs of socioeconomic resilience to the external shock were to observe, making further research necessary to allow short-term fluctuations in flows to be distinguished from long-term trends towards immobilisations.

However, in addition to the cross-border mobility of goods to and from West Africa, the smaller-scale flows of goods within the states or the redistributing hubs for goods are also relevant for a multiscale approach to dynamics in the political-economic networks. Most of the EMSs ordered the closure of marketplaces as these would generally not function in accordance with the assembly bans (cf. chapter 5.3). Overall, no ECOWAS member state closed more than 50 per cent of all markets, but in some regions between 60 and 100 per cent were temporarily closed (Guinea, Nigeria, Burkina Faso, Senegal). In Ouagadougou, all 40 major markets were closed in March, but some reopened towards the end of April after violent clashes between police forces and traders (BISSON & HAMBLETON 2020: 2). In Guinea, all livestock markets were forced to close in April. Measures like this cause substantial immobilisation of goods (in this case interruptions in the flows of livestock) as well as people (in this case traders and buyers). By October 2020, the situation in West Africa had largely returned to normal, although The Gambia showed still the

highest proportion of livestock markets with reported disruptions due to COVID-19 (22%) (CILSS 2020: 4). In a survey in Sierra Leone in June 2020, travel restrictions where the second most given answer to the question "If you could not access markets in the last 14 days, what was the main reason?" followed by lack of money, fears of infection and market closures (FAO 2020: 14).

A low overall impact on import volumes was observable, yet the impact on export volumes as well as on local trade and its structures has been more substantial. Thus, market and area-specific shifts were observed for the mobility patterns of goods. However, the specific integration of the region into the world market must be emphasised once again, as not only do local mobility regimes have an influence on the discussed dynamics of goods, but in particular East Asia with regard to imports and Europe with regard to exports have a great influence on developments in the ECOWAS region with their respective pandemic regimes. Due to more than 60% of overall African value added in global exports being embedded in European production (BANGA ET AL 2020: 7), a global supply chain perspective emphasizes the worldwide entanglements of local regimes.

6.4 Maritime Freight Mobility

Container freight moved by vessels represents the dominating transport setting for goods from and to Western Africa. Analysing the still comparatively scarce West Africa-specific data available and reports on ports reveals an ambiguous picture This chapter is intended to provide a rough overview. When no specific data was available for the ECOWAS region. developments in sub-Saharan Africa as a whole are presented.

6.4.1 Situating conditions in Africa in global and regional contexts

In 2018 ports in Africa represented 4% of global containerized trade volume, which represents its low integration in world trade networks and thus in global mobility pattern of goods (UNCTAD 2018). At the same time, Africa heavily relies on shipping, with African ports playing a major role for the many countries primarily focussed on commodity exports. According to the most recent published data, Western Africa accounts for 27% of Africa's and 42% of SSA's maritime trade (UNCTAD 2020b) making it the most important region in sub-Saharan Africa for maritime trade. This is confirmed by over 20,000 port calls in 2019. In terms of liner shipping connectivity, Western Africa hosts two of the three highest ranking ports in SSA (Tema and Lomé) only surpassed by Durban.

6.4.2 Container Vessel Calls (SSA)

In terms of container vessel calls, one could observe a global COVID-19 related decline in 2020 with an overall reduction of 3.6% compared to the 2019 level over the first 30 weeks and a maximum fall of 15.5% in mid-February due to the outbreak in China (NOTTEBOOM ET AL. 2021: 20). Worldwide, the strongest impact yet was observed in Q2 2020 with a decline of 6.1% compared to the 2019 base, followed by a trend of recovery. Worldwide in the beginning of April 2020, 41% of ports reported a decline of container and other cargo vessels in a comprehensive survey. These numbers peaked in mid-May with 51% for container vessels and 51% for other cargo ships. Since then, the situation recovered slowly with still over 30% of ports reporting such declines by the end of the year. The majority of ports that reported a decline put it at between 5 and 25% (NOTTEBOOM & PALLIS 2020b: 3). However, a strong regional variance was observed in

these large-scale developments, which is different from, for example, the intentional financial and economic crisis of 2008 (NOTTEBOOM ET AL. 2021: 20). Sub-Saharan Africa (-11.3% calls) was together with Australasia and Oceania one of the world regions most affected in the initial observation period, while the negative effects in Europe and North America only became apparent in the second quarter, when their values were below those of Sub-Saharan Africa. SSA was the region with the highest weekly declines in the first quarter, down almost 50% in the initial week of mid-February and over 25% in the first week of April. A similar pattern can be seen in the data for general ship calls, with Sub-Saharan Africa among the biggest losers (-13.4%) after Australasia & Oceania (-14.3%), but in the second quarter both regions were at the other end of the scale, with SSA showing the biggest decline of all regions (-5.2%). At the same time, Europe and North America also recorded their largest declines (-25% and -21.1%) (UNCTAD 2020a: 17). In a global comparison of the super-regions, it is therefore possible to report a similarity in the data for Asia and SSA and a differentiation from the developments in the western countries.

Within the described C19-related developments in sub-Saharan Africa there is a significant variance observable concerning ship type. Container ship calls for example decreased more than wet bulk carriers calls – which even showed growth in Q2. And LNG ship calls decreased significantly with -16.8% in the first and the second quarter of 2020, which is the sharpest decline of all world regions. Opposed to that, LPG ship calls even grew significantly during the observation periods (IBID.: 23ff). Despite that, it must be added that there is also a global trend towards ever larger container ships, which has continued during the pandemic. Accordingly, a smaller share of the reduced port calls will not only be due to the effects of the pandemic, but also to a general rationalization in the sector by means of a reduction of the fleet through the possibility of transporting the same amount of containers with fewer but larger vessels (IBID.: 48). It is also noteworthy that increasing port calls in certain countries cannot always be understood directly as growth in imports for consumption and manufacturing or shipping of products on the export trade. In the case of ECOWAS, strong import figures at the beginning of the pandemic in some EMSs were also often related to the delivery of medical equipment for C19 mitigation and food supplies due to virus-related shortages.

6.4.3 Container Volumes

As country-specific data are not yet available, the most recent supra-regional figures will be considered with regard to container volumes. For 2020, worldwide container volumes from, to and within Sub-Saharan Africa declined by 2% (10.4 mill. TEU). Imports contracted by 2.7% (7.2 mill. TEU), exports reduced by 0.7% (2.9 mill. TEU) and the comparably marginal intra-regional trade even rose by 2.1% (318 k. TEU) (DYNAMAR 2021c: 4). It should be noted, however, that these figures are still preliminary and could potentially be subject to change. Regarding the exports, the two most important destination regions showed different dynamics: Exports to the Far East (2020 share 45%) grew by 1.7%, to Europe (2020 share 28%) they contracted by -0.8%, and to the Middle East/ISC (2020 share 21%) the decline was more severe at -5.8 percent. For imports, the picture is another one with import volumes from the Middle East/ISC growing slightly by 0.8%, but the even more important trading regions in terms of volume, Far East and Europe, both contract by -2.7% and respectively -5.6% (IBID.).

6.4.4 Global container mobility

One of the main drivers of the changing maritime trade patterns are disruptions of the container mobility itself. Due to disturbances of the global freight logistics and restrictions on the discharge and storage of containers in ports connected to pandemic regulations, inferences of for instance the orderly return transport of empty containers occurred. The combination of this lack of container capacity at the point of need, the conflict of many vessels initially idled by shipping companies due to the early spread of the virus, the subsequent rapid ramp-up of Chinese production capacity and the changing consume patterns led to acute pressure and breakdowns in the global maritime supply chains (cf. LYNCH 2021). Although some of the initial logistical issues were resolved during 2020, the continuing "confluence of disruptive forces" (KULISCH 2021), which also led to massive congestion in port and hinterland storage capacity, combined with large order volumes, led to unprecedented price increases towards the end of the year. Further pressure on capacity and prices, including from exceptional adjustments in product levels (cf. IBID.), is expected to continue in 2021, affecting West Africa as the sub-region of SSA most entangled in global maritime trade dynamics.

6.4.5 Developments of costs and spot rates

As mentioned in the previous section, the developments of costs and spot rates represent an important factor influencing dynamics of freight mobility. The years before the pandemic were characterised by price wars between the major carriers, which led to relatively low costs and a large global coverage of routes. Major carriers were then able to use the pandemic to simultaneously reduce routes and massively increase prices despite falling demand. This has had a direct impact on the maritime integration of West Africa, where record prices for certain routes were recorded towards the end of the year. The "Shanghai Containerized Freight Index", which reflects the overall development of average US$ spot rates on the world's most important shipping routes from Shanghai, including to West Africa, has slowly picked up speed since the beginning of the pandemic and then accelerated significantly towards the end of the year, culminating in a level of over 2800 points at the beginning of 2021 (SSE 2021). In the years before, the index had never exceeded a score of 1000. In terms of the FBX index, which has a more universal approach in terms of routes, this implies an 80% increase in container shipping prices across the world between November 2020 and February 2021 (FREIGHTOS 2021). This massive increase at the end of 2020 can also be seen in the cost of freight on individual routes, with the Shanghai - Lagos route already reaching an unprecedented cost of US$ 3,293 per TEU in October of the previous year (NOTTEBOOM ET AL. 2021: 12) and kept on rising. If specifically broken down to the routes to West and East Africa, there is an increase in the LSCI of 125% on average from January 2021 to the average score in January 2020 (6462 average index score for January 2021 versus 2866 for January 2020) (DYNAMAR 2021a). These drastic developments, that are also partly connected to C19-related shifting consumption pattern in the Global North – through orders of products for the home partly replacing needs that were pre-pandemically met in public consumption spaces (cf. LYNCH 2021) – represent a phenomenon which has never been observed in such a magnitude regarding the ECOWAS region. The impact of these cost developments on the mobility of goods in West Africa cannot yet be quantified but should be further investigated in the coming months and years. Current data imply a substantial asymmetry of developments with regard to the directionality of

flows: The prices for imports to the so-called Far East from sub-Saharan Africa have even shrunk in parallel to the multiplication of export prices (DYNAMAR 2021b: 7) and prices from and to Europe have been almost perfectly stable.

6.4.6 Liner Shipping Connectivity

Despite the described disruptions of the global maritime supply chains, the current data on the development of liner shipping connectivity does not seem to show any major impact of the pandemic complex on the situation in the ECOWAS region. When using the LSCI (cf. Fig. 52) and its sub-indexes to examine disruptions in the global liner shipping[32] logistics that are temporally correlating with the pandemic's spread, major variations between different world regions are observable. While Asia and Oceania just showed moderate early impact, the situation in Northern America and especially Europa was more severe. The drops of the LSCI's components were observed later compared to the slight ones in China, but they were substantial (UNCTAD 2020a: 48). In contrast, African ports have performed well and showed more signs or resilience regarding liner service (NOTTEBOOM ET AL. 2021: 28).

LSCI Components

- ➔ Number of scheduled **ship calls** per week in the country
- ➔ Total **deployed** annual **capacity** in TEU
- ➔ Number of regular **liner shipping services** from and to the country
- ➔ Number of liner shipping **companies** that provide services from and to the country
- ➔ Average **size** in TEU (Twenty-Foot-equivalent Units) of the ships deployed by the scheduled service with the largest average vessel size
- ➔ Number of other **countries** that are connected to the country through direct liner shipping services

Figure 52: List of the individual components of the Liner Shipping Connectivity Index

Source: UNCTAD (2021a).

[32] Scheduled freight service wih fixed port rotation.

In terms of the developments within individual ECOWAS member states, the impression of a resilient reaction of liner shipping involving the countries' biggest ports hardens (cf. Fig. 53). However, differences can also be seen, as the larger ports with a higher LSCI (over 15) have performed better and have mostly grown even during the pandemic. In contrast, the majority of smaller ports have seen their scores shrink. This also reflects a globally recognisable trend, as everywhere larger ports tended to manage better than smaller ones during the pandemic in terms of liner shipping (NOTTEBOOM ET AL. 2021: 28). One can also observe that Cabo Verde as the country that was hardest hit by the pandemic and that shows the highest response stringency towards the end of the year 2020 (cf. chapter 5.1.1) is the EMS with the clearest C19 impact, considering its comparably stable pre-COVID development and the significant drop in the first quarter of 2020. Yet all in all, the enhancing and the restraining impacts of C19 embedded in general developments of global trade seem to have sort of balanced out in terms of LSCI. The most prominent development that can be observed in the LSCI data shown is the almost doubling of the score of Ghana within the observation period. Due to the increase in Q4 2019, growth cannot be attributed to the pandemic but is most likely connected to an extensive development project in the port of Tema (DREDGINGTODAY 2019). So, if the increase in Ghana is not a statistical error, it is likely to be due to the expansion, although the port activity figures released by the Bank of Ghana (2021: 15) do not indicate a jump in growth in Tema. Yet, the LSCI also includes, for example, the establishment of additional liner routes (cf. Fig. 52, p. 84). Overall, one should also take into account that the data presented here merely shows the largest port of the respective EMS; in the case of Ghana, for example, the country's second largest port in Takoradi experienced significant C19-related declines in parallel to the large growth in Tema (GHANAWEB 2021).

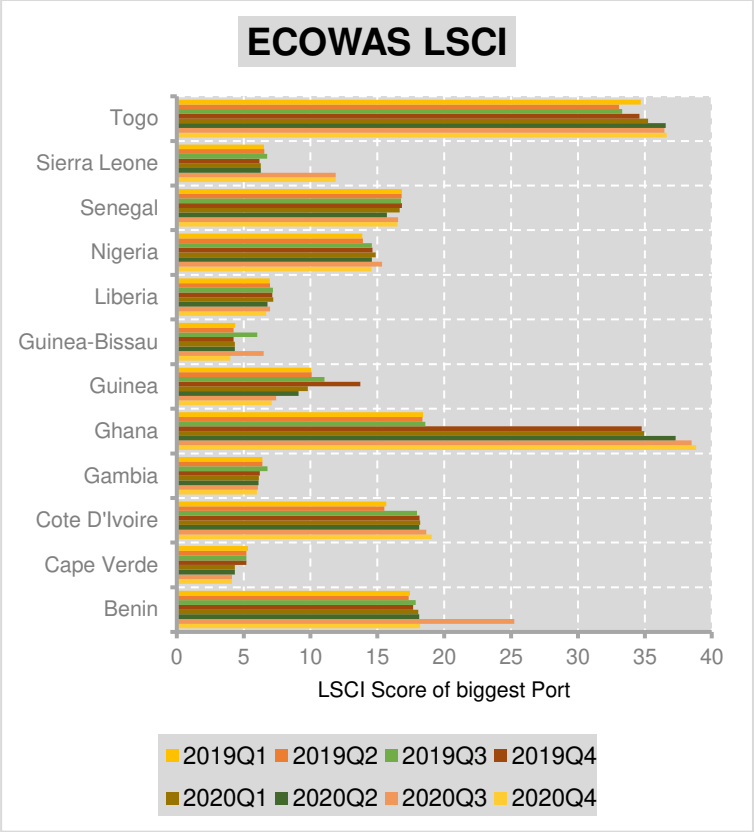


Figure 53: Individual EMS LSCI based on the country's biggest port (For NGA mean of Apapa, Lagos and Tin Can Harbour)

Source: Own Figure. Data: Provided by MDS Transmodal on request. URL: mdst.co.uk

6.4.7 Port Regimes

While the previous paragraph showed that liner shipping in the biggest ports was not heavily affected by the pandemic, this does not mean that procedures within the ports were unaffected. Regarding the important route from Europe to West Africa, a market analysis summarises: "Space into West Africa is tight and several ports are congested with long waiting times for berthing and unloading, caused by high season, operational issues and COVID-19-related restrictions. Carriers are calling for PSS and Emergency Congestion Surcharge" (DHL 2020: 14) and adds in a more recent edition that PSS and emergency congestion surcharges and equipment imbalance surcharges were implemented and all services regarding WA were highly utilized (DHL 2021: 15). A closer look at the situation in the individual ports reveals differences and similarities between the international ports of the ECOWAS region (Fig. 55). By the beginning of the year 2021 all EMSs but Cabo Verde with its more severe blue border restrictions facilitated unobstructed crew changes to enhance seamless cargo operations. Yet in other operational aspect, there were more obstacles observable, such as a requirement of performing PCR tests with the whole crew for docking in Togo and Liberia or the necessity of having been 14-days in row sailing in advance for being allowed to moor in Nigeria. According to the source, one had to expect port closures in almost all coastal ECOWAS-member states and delays in a majority. However, as can be seen in Fig. 54, the postulated operational delays have not yet materialised in all of the major ports in the form of universal increases in anchorage time. And with the exception of Nigeria, where the delay is largely due to structural factors other than the pandemic, the increase in median waiting time has not been extreme in ports where an upward trend has been observed. However, for the largest ports, on average, there was still a 5% increase in the median time in port for the first half of 2020 compared to the second half of 2019 and as much as 11% compared to the first half of 2019. It must be assumed that the more severe changes associated with the pandemic will not become apparent until the second half of 2020 or the first half of 2021, for which no figures are currently available. It is also noteworthy, however, that if the smaller ports in West Africa are included, the average for S2 2019 to S1 2020 has fallen by 18% (cf. Appendix 10.4), meaning that the delays primarily affected larger ports, especially in the first few months of the pandemic. But this might partly be due to the bigger ports even growing during the pandemic and smaller ones often

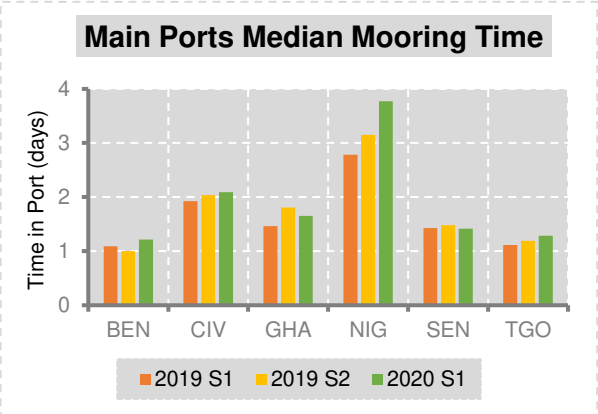


Figure 54: Semi-annual median time of all ship types combined in the major ports in the ECOWAS region (The ports that reached a LSCI score of 15 at least once in Fig. 53, p. 85)

Source: Own figure. Data: UNCTAD (2021b).

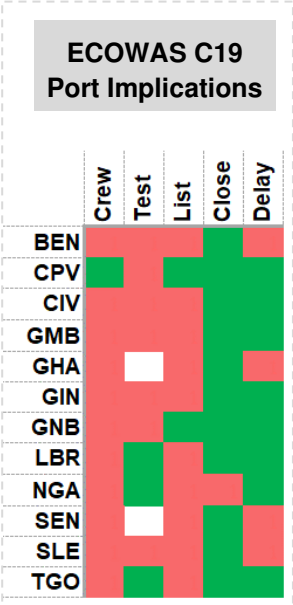


Figure 55: Coronavirus port country implications as of January 2021. red = yes, green = no, white = no data. Crew = Crew change restrictions in place? Test = Testing or minimum of 14 days prior sailing required? List = List of previous port calls necessary? Close = Port closures to be expected? Delay = Delays to be expected? Source: ISS (2021).

showed reduced LSCI scores in the first months of the pandemic, and the level of port utilization has an impact on possibilities of faster or slower cargo handling. Another factor to be included is the impact of the pandemic regimes on the mobility and thus availability of port-related workers. Globally, the proportion of ports reporting shortages of dock workers peaked with 22 percent by the end of April (NOTTEBOOM & PALLIS 2020a: 3). Afterwards, the situation normalized again despite a re-increase to 18% towards the end of the year, which is probably related to the reintroduction of lockdown measure in a second wave of infections in many parts of the world. Reported shortages in port authority workers were even slightly higher (26% by 27.04.2020).

Despite greater resilience of the major ports, there has nevertheless been an impact on the process structures and the speed of mobility in maritime freight logistics in West Africa and in addition to an emerging gap between developments in bigger versus smaller ports. As NOTTEBOOM ET AL. (2021: 30) put it: "The large diversity in traffic patterns and connectivity levels among ports means that the vulnerability of ports is largely dependent on the cargo mix, the port call choices of carriers, and the position of the port in the global shipping network and in its hinterland".

6.4.8 Nigeria: Case Study

One case of current developments in ports in the ECOWAS region is Nigeria and the Lagos port complex which also includes the Tin Can Island Port and Apapa Port. Until 2018, Nigeria was the EMS with the highest container port throughput (cf. Appendix 10.410.4), with Togo and potentially also Ghana recently taking over. But still, it represents one of the major freight hubs in WA. In contrast to the other two locations mentioned, however, there has been no significant growth in the volume of containers handled and the LSCI for years, but rather erratic stagnation. Accordingly, the situation in Lagos, which is currently still the most important port complex in the country, will be discussed in more detail at this point in order to determine how much of the current developments can be seen as pandemic-related and what can be situated and explained differently.

Already reaching back to pre-COVID developments, "the port has become infamous for its congestion" (MUMMERY 2020), which is related to a number of long-term structural issues such as road conditions, container clearing management, inconsistencies in infrastructure development in the hinterland, and a stagnation of ever-announced expansions of technology and port capacities resulting in disruptions of container clearing management (MUNSHI 2020). Nevertheless, the situation regarding the Lagos port is more complex than that. UNCTAD (2020a: 43f) considers the Lagos "mainly […] a gateway port for Western Africa" and reports that all the LSCI components improved over the first half of 2020. The port showed by far the biggest growth of weekly port calls, shipping operators, maximum TEU, and direct calls in the second quarter of 2020 compared to the major ports of Northern and Southern Africa. The deployed capacity even grew by 113%. UNCTAD itself calls for further analysis to understand this since the substantial growth takes place while at the same time the previously described problems occur and have rather intensified because of the pandemic.

Towards the end of the year 2020 it sometimes took up to three weeks for the return of empty containers due to the high level of congestion, which also led to various surcharges and diversion to other ports (MUMMERY 2020). At the same time, the prices for hinterland transportation,

especially for the first step right out of the port, multiplied, which further fuelled the disruptions. The chapter on hinterland transport (5.6) will further elaborate on this topic. By the end of the year, more than 40 ships calling at the Tin Can Island Port were idling in the sea due to a lack in the capacity of discharging incoming cargo (NDA-ISAIAH ET AL. 2020). Subsequently, hundreds of trucks were stuck in traffic, waiting to exit or enter the port (MUNSHI 2020). These substantial delays, growing costs and extortions lead to a major unrest in the Nigerian maritime transport industry (SEUN 2020) and a public discourse on port failure (cf. THE NATION 2021). As already stated, the sum of the described disturbances also has a cause in the political and economic management of the port complex. However, the influence of pandemic circumstances also seems to be influential. For example, the lockdowns and curfews have prevented dock workers from working as usual (MUNSHI 2020), which has massive implications for a port's internal logistics, and the overloading of storage capacity outside the port and hinterland transport are also partly due to residual recessions related to COVID-19. The growing number of stranded vessels at sea in front of Nigerian ports might be partly caused by the governmental directive, that all ships must have been at sea for at least two weeks before being allowed to enter ports (cf. ISS 2021). It seems reasonable to assume that the massive growth of shipments towards the port is also related to the pandemic-related shifts in the maritime supply chain, but this will have to be evaluated later when more data is available. All in all, in terms of port developments in Nigeria until the beginning of the year 2020, the COVID-19 pandemic seems to have been a catalyst for overarching structural dynamic rooted in pre-pandemic times.

6.4.9 Conclusion

On the basis of the data reviewed, no strong effects in the form of highly unusual levels of transport volumes can be determined, but at the same time one can observe massive global price increases that are also affecting WA, shifting ship types, new and sometimes disruptive practices in ports and major changes in hinterland transport and storage. The global market reactions to the pandemic so far, which have a direct impact on West African conditions on the ground, are mainly the initial dramatic drop in oil demand, which affects the oil ports of Nigeria and Ghana in particular, the crisis-related drop regarding interest in certain commodities and increased interest in others, which affects the operations in West African bulk terminals. And furthermore, the disruptions of logistical workflows in terms of the handling of full and empty containers and route dynamics put diverse kind of pressures on the global and local dynamics. Still, the direct health-related vulnerability regarding infections in operational processes in ports is limited because the handling of containers has been depersonalised to such a significant extent, even in the West African context where port infrastructure and digitalisation has not yet reached the level seen in other parts of the world.

Yet, one should certainly not conclude that all changes observed since March 2020 are mainly due to the pandemic complex – even though it being the dominating force of economic change in 2020 – but there are other very topical, impactful developments. The West African coast and the Gulf or Guinea in particular just recently became the coastal strip with the highest pirate activity in the

world[33], accounting for 90% of global maritime kidnappings in 2020 (ICS 2021). The development even intensified towards the end of the year (B&M 2020a) and simultaneously container ships are increasingly the target of attacks (MUMMERY 2020). This led the biggest global shipping line to publish a distinct call for action in the beginning of 2021 (CLOWES 2021). And also, other (geo)political conflicts that are in diverging ways related to the pandemic complex currently shape the realities in the ECOWAS, such as the diplomatic tensions between the governments of the PR China and Australia after Australia's demands of further investigation of the Chinese government's responsibilities for the spread of the pandemic that led the Chinese authorities to replace Australian commodity imports. This recently led to a substantial growth of iron ore exports in Sierra Leone (DAYE 2021). Further statements about the structural, and also potentially lasting effects of C19 require future research. For initial developments until mid-2020, the marine intelligence company DYNAMAR (2020) concludes in terms of conducted trade: "container shipping to and from this part of the world had not really appeared to be impacted by the Covid-19 pandemic".

6.5 Air Cargo Mobility

The data on air transport specifically in the ECOWAS region is so far even more limited than for maritime transport. Air cargo is also significantly less important in terms of total freight volumes. Nevertheless, some developments that point to certain shifts within the hierarchy of global transport structures can already be identified. When approaching COVID-19-related global developments, a similarly inconclusive picture emerges compared to the previously discussed maritime trade. Because of the limited data availability, this chapter will draw mainly on data regarding the entire continent of Africa. In contrast to maritime transport, West Africa plays a less important position for Air Cargo compared to other sub-regions of SSA (cf. WORLD BANK 2021a). In 2016, only Lagos airport (LOS) was in the top 5 largest cargo airports in Africa and only Accra (ACC) (9th) and Abidjan (ABJ) (15th) were also in the top 15 (ICAO 2017: 9). Accordingly, the developments discussed here should not be directly understood as having taken place in EMSs as well, but at present there are overarching dynamics that suggest they have also taken place in WA.

[33] Although, of course, possible links to, for example, C19-related socio-economic crisis as a trigger for increased attractiveness of the practice of piracy must also be discussed, and the C19 regime restrictions also indirectly affect this field (Cf. e.g., SAFETY4SEA 2020).

As observable in Fig. 56, the pandemic complex impacted air cargo capacity as well as demand in a significant way. This applies to both the overall global dynamic and the specific one in Africa, which, however, stands out from most other regions in terms of demand. The overall developments in capacity in relation to demand indicates a significant pressure on the sector. Worldwide, and even with higher pace in the African context, demand recovered from the initial drop caused by the implications of the pandemic's spread. Air transport demand in Africa already grew on a year-on-year basis in September 2020 again and the global air trade was almost back on pre-pandemic level with just 2% year-on-year loss (ACCENTURE 2021). This comparably fast increase of customers who ask for transportation of goods by air after the initial drop seems to be due to mainly three reasons: changing consumption patterns discussed in chapter 5.4, disruptions of maritime transport networks, leading to an attempted switch to air freight of certain orders (KULISCH 2021) and beyond that, this type of transport continues to play a special role during the pandemic, since large quantities of medical equipment had to be transported at relatively short notice to partly remote locations. The transport of substantial amounts of C19 vaccines, which has begun in West Africa in 2021, can in part also only take place by air freight due to their special storage requirements (cf. NAIR 2020a). This indicates further shifts in short-term mobility pattern, because the COVAX intervention regarding vaccine delivery "will require what is likely to be the largest cold chain air bridge to Africa ever seen". (IBID.: 6).

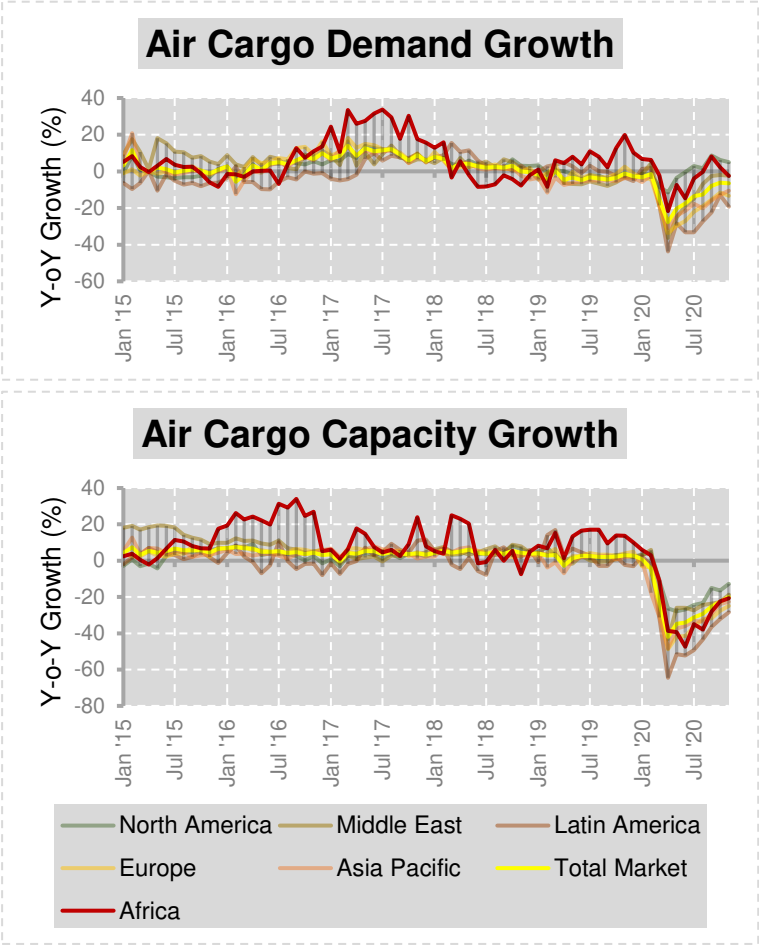


Figure 56: IATA monthly year-on-year air cargo capacity and demand growth as measured in freight tonne kilometres by region

Source: Own figure. Data: AIRCARGONEWS (2021a).

However, the situation on the supply side is very tight, albeit with some inconsistencies. There are still harsh capacity restraints, as in September 2020 just 22.6% of global airfreight belly cargo was still in operation due to mobility restrictions (GLOBAL INDUSTRY ANALYSTS 2020). The throughput of Ghana's most important ground handling institutions for example was well below expectations for the first quarter of 2020 but did not collapse (Nair 2020b: 19). Yet, the massive collapse of the available capacities, that at all times significantly underscored the demand (cf. Fig. 56), has been

tempered by some other phenomena that need to be further studied to see the extent to which they are already reflected in the available data. The severe restrictions on passenger mobility in the airspace have led to a temporary standstill of a large part of the global passenger aircraft fleet. This allowed airlines to use passenger aircraft to transport cargo instead. As a result, the total number of cargo flights increased significantly compared to passenger flights and was 35% above the previous year's level in April 2020 (ICAO 2020: 153). The fact that air cargo is doing significantly better in terms of mobility and economic resilience than passenger transport, lead to it accounting for a much larger part of airline revenue and becoming a determining factor for making it possible to "sustain their skeleton international networks" (EZZE 2021: 18). Estimates suggest that this share will have increased from 12% of revenue in 2019 to 36% in 2020 (IBID.).

This high pressure on the industry combined with the increased power of the freight companies in terms of pricing led to an unprecedented increase in freight prices. The Baltic Exchange Airfreight Index (BAI) showed a first massive price increase from February to April 2020, which roughly represented a short-term doubling of prices per transported kilogram on the most important routes. After a short consolidation phase, prices rose again towards the end of the year (AirCargoNews 2021b). And this trend is predicted to intensify further in the short to medium term (KULISCH 2021) and seems to have also affected Western Africa in a particular manner. For example, there are reports of offers for the air transport of goods from the USA to Sierra Leone for over US$ 100 per kilogram, whereas a usual price is US$ 4-6 (NEBEHAY 2020). These extensive cost increases are predicted to negatively influence opportunities for the distribution of C19-related medical equipment and vaccines (IBID.).

How exactly all these developments will materialise as mobility patterns remains to be seen. But one can already identify some responses to the dynamics in the ECOWAS region, such as the establishment of an extraordinary weekly air cargo service between West Africa and Europe by Bollore Logistics in June 2020 (NAIR 2020b: 19). What can be noted so far as macro developments on the African continent, is that the African share in global air cargo has remained stable at 2% in both 2019 and 2020. And that in terms of cargo volume, Africa has seen one of the smallest declines of any region in the world, but this is primarily due to investments from China, while former key routes such as to and from the Middle East and Europe have continued to shrink significantly (Ezze 2021: 18). Thus, in terms of air transport mobility patterns, shifts were to be monitored, and even though EMS-specific data is still lacking, at least temporary significant disruptions in all parts of West Africa seem likely based on the recorded overall African demand and capacity dynamics and the enormous impacts on the strongly with air cargo interwoven air passenger transport and on conditions in worldwide airports.

6.6 Hinterland Transport

After assessing border-related restrictions and maritime as well as air transport we outline recent dynamics in hinterland transport touching again upon border issues as key for hinterland transport in a region in which few seaports and airports receive the bulk imports for distribution to far less integrated hinterlands. Several African countries experienced major disruptions in hinterland logistics following the C19 outbreak. The major disrupting factor seems to have been border regulations and differing approaches of neighbouring countries, followed by intranational regime-related immobilisations.

WA-specific data is rare, but all in all worldwide, ports reported hinterland transport delays in the context of the pandemic. Regarding delays with cross-border road transport, the proportion of all surveyed ports peaked in the beginning of April with almost half of them reporting delays (cf. Fig. 57). Yet, the internal impacts of mobility regimes were also almost as strong in this regard, with just 6% less ports stating, that they are witnessing delays with trucks arriving and leaving the ports. Globally, rail services were impacted less but still substantially, and in the inland barge services about as strong as road transport in April. The developments towards the end regarding all means of transport also indicate, that even though an adaption to C19 measures happened over time, the focus of main impacts should solely be on the first months, but a second wave of impact towards be beginning of 2021 is taking shape. Especially towards the end of April, almost a quarter of globally surveyed ports reported shortages of truck drivers due to the C19 restrictions, implying also impacts of intranational regimes immobilising people as potential workforce (NOTTEBOOM & PALLIS 2021: 3).

Week	15 ('20)	19 ('20)	25 ('20)	41 ('20)	50 ('20)	6 ('21)
Trucks (cross-border)	43%	38%	28%	0%	15%	20%
Trucks (in/out port)	37%	16%	11%	6%	13%	13%
Rail services	28%	22%	13%	5%	11%	19%
Inland barge services	41%	19%	18%	4%	3%	30%

Figure 57: Proportion of surveyed ports facing hinterland transport delays concerning the last week of operation compared to normal conditions. Participating ports form the Americas, Africa, Europe, and Asia.

Source: NOTTEBOOM & PALLIS (2021: 3).

In several countries a heavily congestion of hinterland connections was observed (UNCTAD 2020a: 44). Measures such as 14-days quarantine for truck drivers had an especially amplified influence in West Africa, where mayor trade corridors run along the coastline, and in contradistinction, the country's borders in West Africa tend to extend away from the shore and have only a narrower border on the coastal side. Accordingly, trucks for large-scale transnational transports often have to cross various countries for relatively short distances, which leads to a multiplication of the different regimes of bordering states. Subsequently, several African ports also reported administrative problems in the coordination of hinterland traffic (IBID.: 44). Overall, delays in the freight mobility and disruptions in hinterland warehouse logistics were observed. Overall, the goods transport revenue is expected to shrink by 11% in Sub-Saharan Africa in 2020,

which is slightly less than in all other regions. In comparison, the MENA region is expected to be hardest hit with 22 percent decrease (IRU 2020: 5).

Regarding recent disruptions in hinterland transport in and from Nigeria, the pandemic is not the causal factor, but seems to have been a catalyst to amplify magnitude and pace of occurring pricing- and mobility-related phenomena. The most noticeable dynamic in Nigerian hinterland transport is an extreme rise in costs. In December 2020, the price for a 20km transport of a standard container into the Nigerian mainland was sometimes more than US$ 4,000, which is about as much as shipping a 40ft container from Shanghai to Lagos in 2020 (MUNSHI 2020). Also, the small-scale inter-port road transport within Lagos between Tin Can and Apapa costed about 1.5 million Naira (approx. US$ 4,000) by the end of the year (MEGBOLU 2020). This is due to complications related to the pandemic, but also more long-term issues such as stagnation in expansion of port capacities and technology, the recent unrests in Nigeria, costs of road access and bribes, and inconsistencies in hinterland infrastructure development (cf. B&M 2020b, B&M 2020c) and container clearing management. In a setting, where about 80% of cargo is moved by road (YUSUF 2019) and the described structural obstructions influences logistics processes, a complex mobility regime that is immobilising people and decelerates operations comes with significant implications for the flows of goods through a bottleneck such as Lagos. but this is not a phenomenon that has occurred exclusively in Lagos, which provides a direct link to the C19 restrictions: NWOKEDI ET AL. (2021) studied the implications of the pandemic-related movement restriction policies on hinterland transport form Onne seaport on last mile corridors towards several hinterland markets and found a significant increase of TEU transportation costs in that regard (IBID.: 8). This in combination with the border regulation disputed with Benin, where despite the partial reopening in December, heavy-goods vehicles are still not making cross-border trips[34] (MILLECAMPS 2021), creates an impression of a significantly disrupted logistical network in Nigeria.

Thus, on the one hand, a strong but rather short-term influence on freight-related hinterland mobility patterns can be noted, but above all also a clear amplifying effect of the pandemic complex on pre-existing transport practices and infrastructural phenomena, where either disruptions or already changing behaviours were catalysed by the influence of the mobility regimes.

[34] According to the cited report (MILLECAMPS 2021) seemingly, trucks belonging to the Dangote Group are the exception and are allowed to pass, which, regardless of whether the information is actually valid, once again directs the focus to the embedding of immobilising regimes in the respective political context. Regimes not only exercise power, they also operate in framing power relations, and the materialised application of immobilisation depends on the power position of the mobile actor.

6.7 Initial Outline: Pandemic (Im)mobility Regimes and Goods

The powers that impact on entangled commodity mobility in West Africa operate in a situation of conflict of interest, between restricting people's (cross border) mobility and the simultaneous dependency on goods moving in global capitalist networks, despite progressive depersonalisation in cargo handling. Accordingly, tensions arise, for example, due to the mobility restrictions of dock workers, which lead to disruptions in West African ports that currently compete with each other. This could lead to an extension of the concept of immobility regime, as it seeks to explore the relationship between privileged and co-dependent, but forbidden, movements. Where the regime has broadened the categorisation of unwanted mobilities of people to include biohazards, as outlined in chapter 5.6, it seeks an approach whereby people's movements in general are to be suppressed but the movement of goods is to be enabled. Thus, it might be understood by the general population - with some power-hierarchy related exceptions - that in this regard goods take up the role of the privileged. Global capitalism without circulating commodities seems unimaginable. Movements of people involved in logistical processes necessary for moving goods is perceived as an unpleasant side-phenomenon.

The complex local and transnational logistical interdependencies in ECOWAS adds to the previously outlined contradictions. As shown in the case of Nigerian border closures, a complex multitude of factors shape border-related (im)mobility regimes and complex, but yet direct interactions between the regulation of human mobility and that of commodities in the pandemic context. At the same time, European and Asian mobility regimes may have a greater influence on the mobility of goods to and from West Africa than local ones. Mobility regimes in West African coastal states that are strongly integrated into global logistical flows have a greater influence on the mobility of goods in their hinterlands than those of landlocked countries themselves. A set of actors, policies, networks of communication, institutions, technologies, practices, powers, and knowledge all shape local mobilities.

7 (Im)mobilities of capital

In what follows, we focus on the location and flows of money. Drawing on the conceptualization applied to the immobilities of people and goods, immobility should not be understood as a tying up but as the absence of movement. The bigger picture of global flows of money is an ambivalent one. On the one hand, the world must deal with an imminent economic crisis induced by the pandemic and the severe regulations adopted as responses. Even if most recent estimates from 2021 toned down the previously even stronger expected contraction, global growth is still predicted to shrink by -3.5% (IMF 2021) or -3.4% (OECD 2021) in 2020 and the recovery is projected to be a very gradual one[35] (IMF 2020b). On the other hand, governments all over the globe developed fiscal and monetary policy responses to mitigate the negative economic impacts of lockdowns. These often came in the shape of stimulus packages and, in many cases, they represented the biggest stimuli ever in the respective states, representing an enormous extent of mobilized capital.

IMF (2020c) estimates state that the global economy will lose US$ 12 trillion due to the pandemic, but at the same time the expected total of already implemented governmental emergency programmes add up to US$ 18 trillion (GATES & GATES 2020). This leads to the unforeseen situation of increased, instead of decreased, amounts of circulating money during an economic crisis. At the same time, there is a sharp decrease in terms of supply and demand in the real economy, and stimulus capital is primarily leading to massive growth in the global financial sector but, potentially, also to over-accumulation crises (ROBINSON 2020).

What do these recent developments in the global economy mean for the ECOWAS region? Especially when considering that, on the one hand, the vast majority of these stimuli packages, and thus the enhanced capital availability, originated from states in the Global North, and, even relative to their GDP, African states spend considerably smaller amounts (MADDEN 2020). On the other hand, in contrast, the GDP in Sub-Saharan Africa decreased (-2.6%, IMF 2021: 4). In the following section we approach this question based on the perspectives of mobility patterns and (im)mobility regimes.

[35] Nevertheless, publications described the rebound from the pandemic as "faster than expected" (OECD 2021: 4). However, just a 0.4 percent drop in global economic growth amounts to almost 3.5 trillion U.S. dollars in lost economic output (STATISTA 2021). And if the goal is to reach the economic output level of 2019 again, percentage GDP growth would need to rise even more to compensate. Additionally, the unexpected faster recovery came with a stronger than expected variation in individual Q3 and Q4 developments (OECD 2021: 7), which means an unequal dynamic is taking place.

7.1 Broad Money

For a quantification of the circulating money, we use IMF data on broad money to include narrow money as well as liquid financial instruments (cf. IMF 2017: 180ff). ECOWAS shows significant differences for broad money growth (2020 estimates for Ghana: +22.8%, Côte d'Ivoire: -5.9%), also in comparison to the level of 2019 (y-o-y difference Côte d'Ivoire: -27.9%, Burkina Faso: +5.5%). Nevertheless, it can be seen that the broad money base and growth is highly volatile when the previous years are included (cf. IMF 2020d: 18) and when contrasting the broad money base with the GDP, no exceptionally pronounced increases or decrease show for 2020. This is to be seen when assessing the ECOWAS region as a whole (Fig. 58, p. 96) as well as the individual EMSs (cf. IMF 2020d: 17).

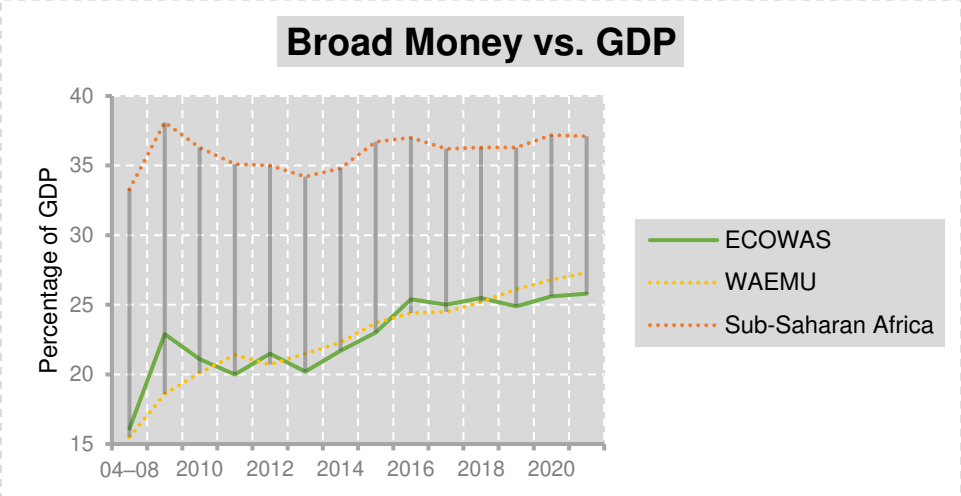


Figure 58: Broad Money as proportion of gross domestic product

Source: Own figure. Data: IMF (2020d).

The key finding is the absence of significant changes in the pandemic timeframe. Neither major increases nor decreases simply reflect lower economic leverage of African countries and the globally uneven shifts of capital movements. In Europe, for instance, the economic and policy reactions to the pandemic led to significantly higher growth in broad money (cf. MARMEFELT 2020: 20), and in the US growth reached the highest ever recorded rate (GOODHART 2020).

Nevertheless, the perspective on broad money only highlights total money availability, not its mobility or distribution. When assessing monetary flows towards households in Nigeria for May 2020, 79% stated, that income decreased in comparison to pre-C19 levels (WORLD BANK 2020d: 1). That ratio diminished to 38% in the period from August 2020 to January 2021 (WORLD BANK 2021d: 1). Compared to a pre-pandemic baseline, even though the situation is tending to normalize, capital movements towards individual households are still inhibited. In addition, this is presumably causing also less outflows and is thus changing the map of capital movements when focussing on individual households.

7.2 Investments

After outlining local broad money bases, investments represent a key factor for mapping mobility patterns of capital in West Africa and its situatedness in the world. The most recent Regional Economic Outlook for SSA of IMF (2020e: 2) puts the area-specific megatrend related to C19 as: "Globally, the key components of capital flows to the region, including foreign direct investment (FDI) and other investment flows, are at historical lows, and these may take longer to recover than portfolio flows." Thus, when assessing supraregional capital movements from an ECOWAS-related mobility perspective, a significant shift in directionality and/or velocity can be assumed.

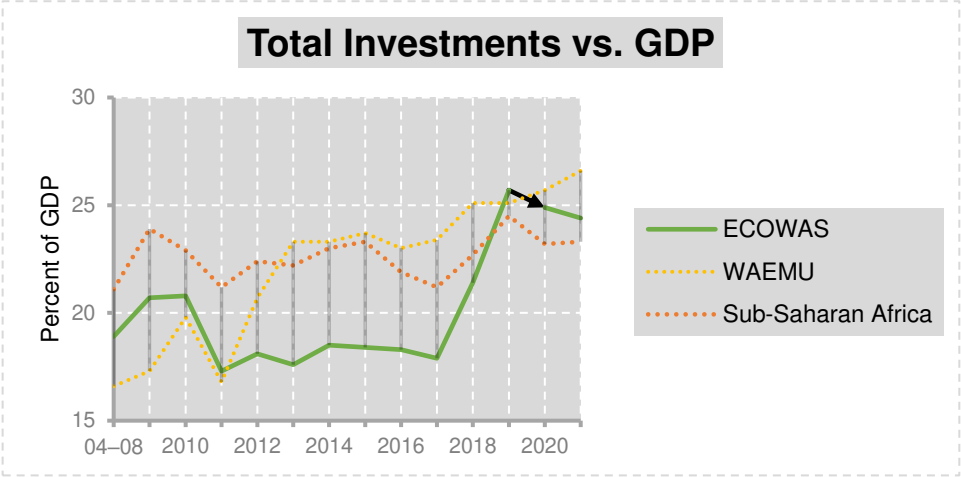


Figure 59: Development of Investments as proportion of GDP, years of 2004 until 2008 averaged for first data point

Source: Own figure. Data: IMF (2020d).

When approaching total investment dynamics in the sense of flows resulting in new gross capital formation, an overall drop (-3.2%) in total investments in the ECOWAS region can be observed. After two years of fast increase this is a clear trend reversal. Yet, in the previous years, even more extreme decreases where observed, for instance -20% in 2011 and compared with the entire Sub-Saharan region (-5.6%), the decline in the ECOWAS region is less pronounced. Notably, the WAEMU states altogether experienced the C19-related impact and the fast increase in the years before with less intensity. There, a growth rate of 2.3% could be observed from 2019 to 2020 (cf. Fig. 59, p. 97). Yet, when examining the developments of the individual states, there is no evident relation of geographical location or membership in an economic subgroup. Instead, a significant scattering emerges when comparing neighbouring countries. The overall negative score of the ECOWAS is related to the significant decrease of investments in Ghana (-21.7%) and the slight overall increase of the WAEMU states is mainly driven by the 31.3% increase in Togo (y-o-y). But within both groups – WAEMU and non-WAEMU states – one can find countries with increasing and decreasing estimations in varying extents (Fig. 60, p. 98). The two mentioned countries represent the most extreme changes, with the majority (8/14) of covered EMSs are in positive growth range compared to the previous year and overall half of the countries being in a less extreme change level between -4 to +7 percent.

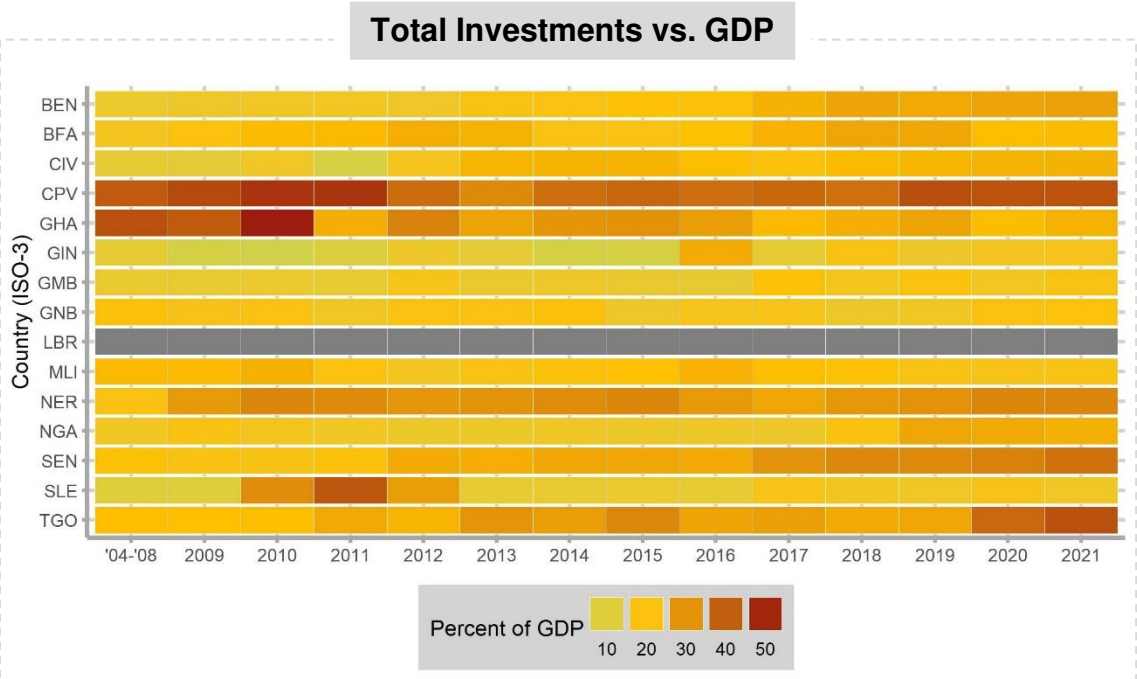


Figure 60: Heatmap of total investments for each ECOWAS member state as percentage of the GDP. 2020 and 2021 figures are estimates from Q3 2020. Source does not include data on Liberia

Source: Illustration by Jannis Viola. Data: IMF (2020d).

For this heterogeneous situation, on balance, a contraction of capital mobility as investment for the entire ECOWAS is to be expected. The contraction is nevertheless less drastic than for instance the one estimated regarding Europe (cf. EUROPEAN INVESTMENT BANK 2021: 57).

7.2.1 FDI

UNCTAD (2020d) initially estimated the foreign direct investment in African countries to drop by 25 to 40 percent in 2020, after a precedent fall by 10 percent in 2019. The dynamics observed in the first months of the pandemic give the impression of a drastic development regarding the capital mobility patterns in the Global South with international investors pulling back US$ 80 billion from emerging market economies (VASUDEVAN 2020: 26). Nevertheless, more recent reports state, that FDI flows to so-called developing economies decreased by a total of 12 %, and in Africa by 18 % (UNCATD 2021g). This underlines reports from Q4 2020 on faster recoveries than estimated, but also a significant difference between the Global South and the North. Total global FDI collapsed in 2020 by 42%, representing a drastic change in global transnational capital mobility pattern with flows reduced from US$ 1.5 trillion (2019) to US$ 859 billion in 2020 (IBID.). However, the lack of capital movements to countries in the so-called developed world accounted for the bulk of this, with a 69% y-o-y reduction.

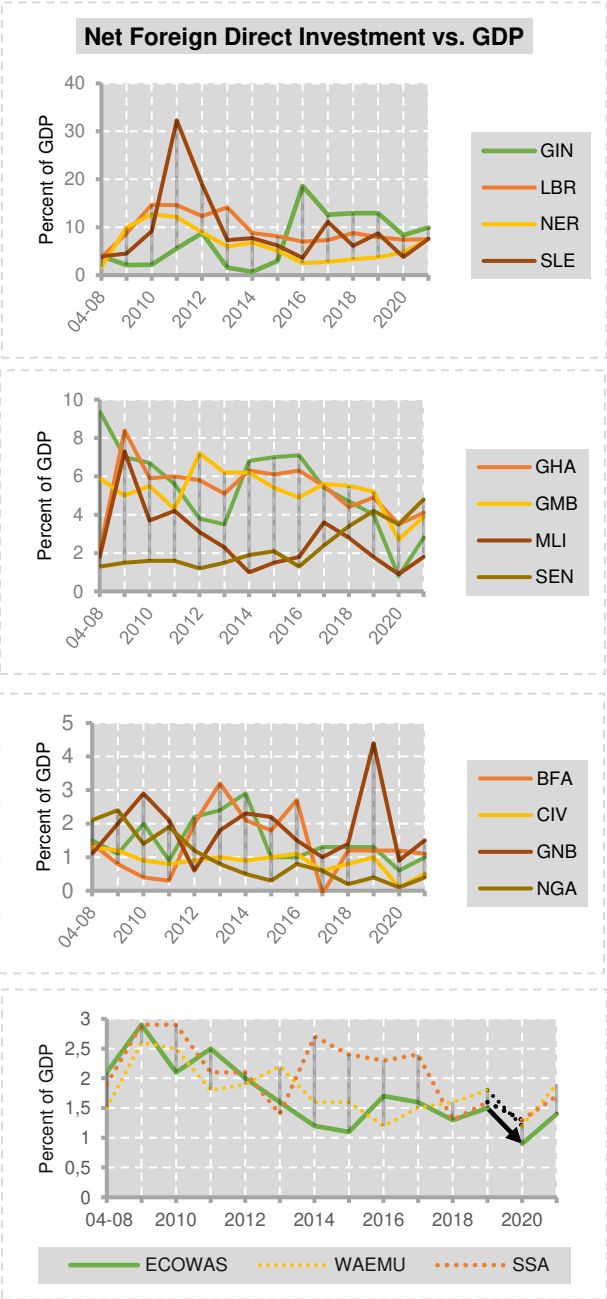


Figure 61: Annual Foreign Direct Investment (FDI) inflows for individual ECOWAS member states (sorted by amount of share) and regional comparison as percentage of GDP. 2020 and 2021 figures are estimates from Q3 2020

Source: Own figure. Data: IMF (2020d).

When scaling down to West Africa, the most recent country-level estimations released by the IMF[36] indicate a significant decrease of the FDI-to-GDP ratio from 1.5% in 2019 to 0.9% in 2020 (Fig. 61). This is in line with the ratio decline of the WAEMU states as a subgroup - albeit from a slightly higher level - but is greater than the decline of SSA as a whole. Thus, the interregional comparison indicates an above-average impact on the ECOWAS region. However, when looking at the individual EMSs, large differences between countries become apparent as well. Nigeria and Côte d'Ivoire are estimated to approach zero (0.1% for 2020), while Nigeria was as 0.4% and Senegal at 1.9% for 2019. Niger is the only EMS to even increase its ratio (from 3.7% to 4.8%). Some of the EMS, where FDI accounts for a particularly large share of GDP, have seen significant reductions of the FDI-to-GDP ratio (e.g., Sierra Leone). While for other countries the level remained almost stable (e.g., Liberia). Overall, also here a complex landscape of flows can be discerned, which is, however, dominated by the tendency to show significantly fewer incoming capital movements in 2020 and then to forecast a significant increase again for 2021.

Foreign direct investment is just one form of capital inflow, yet for most EMSs it represents the most important one. But other forms should be assessed as well, as in Nigeria, where the y-o-y FDI with regard only to the second quarter 2020 declined by -30.7%, the FPI (Foreign Portfolio Investments) dropped by -91.1% for the same period. This results in the total capital import declining by -78.6% y-o-y for that quarter (PROSHARE 2020). This

[36] Based on the mentioned adjustments in global predictions from Q4 2020 and Q1 2021, the IMF predictions might be overly negative, yet more topical country-specific data was not published while this study was written.

represents an enormous change in capital mobility pattern when assessing Nigeria-related cross-border flows. These massive declines have been reported for most countries of the Global South (OECD 2020b: 2). Thus, overall foreign investment dynamics especially in the first months of the pandemics imply a drastic change in the capital-related global networks interlinking West Africa.

7.3 Government spending

Apart from foreign movements of capital coming in, the spending of West African Governments also represents a vital measure for approaching capital mobilities. As to be seen in Fig. 62, overall West African spending is estimated to increase in relation to the GDP from 15.3% in 2019 to 16.9%. On the other hand, GDP is expected to shrink by 2.5% as the basis for calculation in the same publication (IMF 2020d: 5).

However, if one considers the total figures (IMF 2021) and compared to 2019 government spending in national currencies has increased in all EMS except for Liberia. If the previous years are also taken into account, it becomes clear that in most cases these increases are not exceptionally extreme. Nevertheless, despite an economic shock and declining government revenues an increase in internal capital movements by government institutions is evident. The magnitude of the development can be seen by contrasting all values (spending vs. GDP) of the individual member states from 2004 to 2019 to the ones 2020 (Fig. 63, p. 101). The heatmap shows a clear difference in the shared dynamics from 2019 to 2020 compared to the previous years.

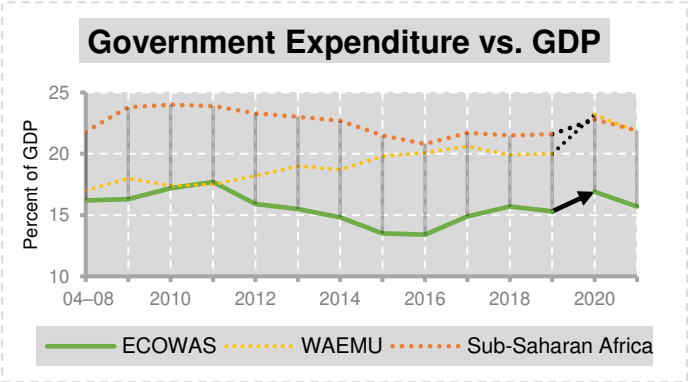


Figure 62: Annual government expenditure as percentage of GDP. 2020 and 2021 figures are estimates from Q3 2020

Source: Own figure. Data: IMF (2020d).

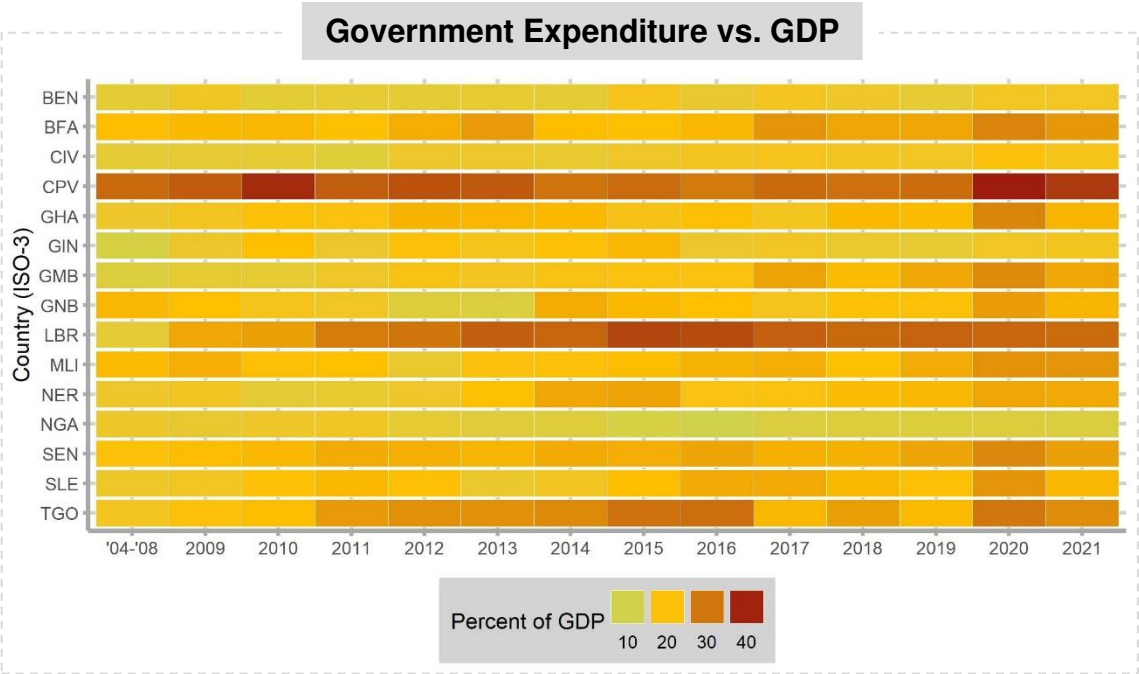


Figure 63: Heatmap of annual governmental expenditure of each ECOWAS member state as percentage of the GDP. 2020 and 2021 figures are estimates from Q3 2020

Source: Illustration by Jannis Viola. Data: IMF (2020d).

However, it is also necessary to contextualise to where the capital flows are directed. In the example of Nigeria, the reduction in government revenue discussed in chapter 6.2 led to a reduction in the health budget, but it should be noted that 60% of the total government budget was already earmarked for debt servicing before the pandemic (UNCTAD 2020c). The bottom line is that government flows have increased, but here, too, a consideration of directionality plays a central role in understanding patterns of mobility.

7.3.1 Country economic stimulus

Increased government spending throughout the pandemic is linked to the economic packages set up by governments to respond to the socio-economic crisis triggered by the pandemic complex. These potentially represent a novel as stated in the introduction to the chapter, the overall economic stimuli have reached unprecedented levels in the world and, according to the projections, their monetary magnitude more than compensates for the global monetary losses incurred so far as a result of the crisis.

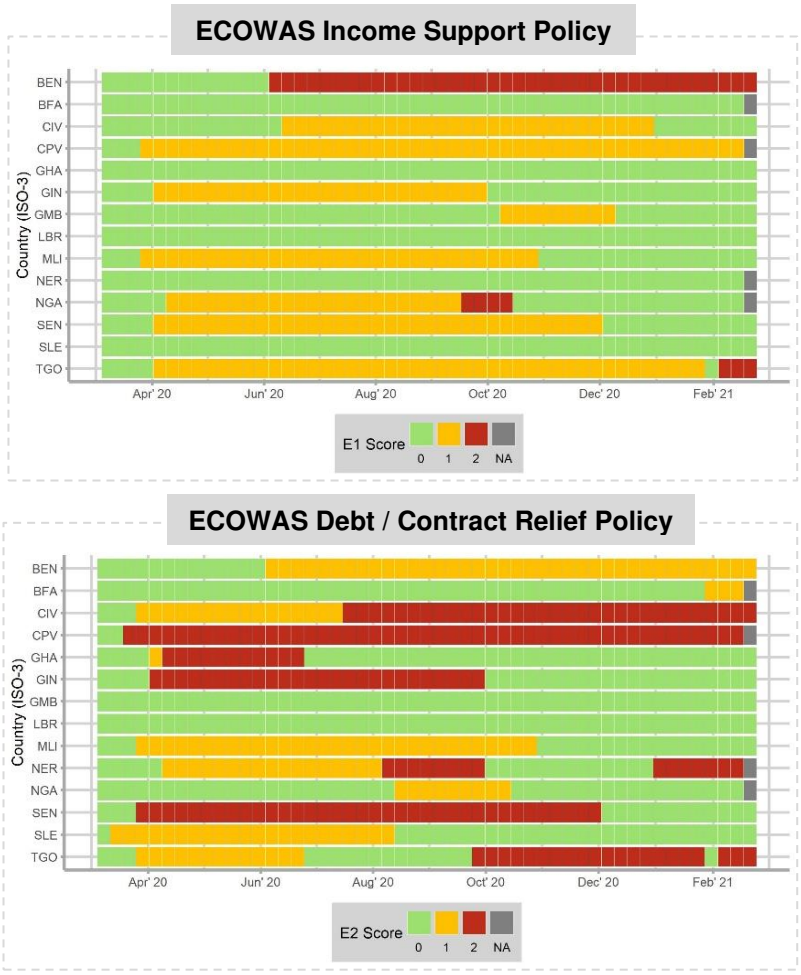


Figure 64: Tilemaps according to the principle of the previous ones. Above: C19 governmental direct cash payments to people who lose their jobs or cannot work (0: none; 1: less than 50% of lost salary; 2: 50% or more of lost salary) and bottom: governmental freezing of financial obligations for households (0: none; 1: narrow relief, specific to one kind of contract; 2: broad debt/contract relief)

Source: Illustration by Jannis Viola. Data: OxCGRT (2021c).

To outline the direct capital flows towards individuals as a first step, economic instruments chosen by the EMSs' governments in terms of income and household support are examined. The tilemaps in Fig. 64 visualise records of whether the individual government have set up policies including a freezing of financial obligations for households (e.g. stopping loan repayments, preventing the discontinuation of services such as water distribution in the event of a payment shortfall, or banning evictions) and records regarding whether the government is providing direct cash payments to people who lose their jobs or cannot work due to the pandemic (cf. OxCGRT 2021a). It is apparent that in the ECOWAS region, with the exception of Benin, there has been no longer-term framework for a more comprehensive state relief of pandemic-related income shortfalls. However, in light of the funding strength of West African social systems, but also with regard to the predominance of informal wage earners, this is in essence a category that has not been designed for the West African context. Nonetheless, it is worth noting that half of the EMSs represented have introduced a policy that is intended to compensate for at least a small part of wage losses or consisted of a one-time payment that was less than 50% of the median salary. Regarding the second category of debt relief or contract deferral options, more West African countries have introduced a policy. Half of the countries had at least temporary policies that were classified as broad, such as subsidizing 100% of water bills (e.g., Ghana) or postponing tax payment deadlines (e.g., Côte d'Ivoire). It is beyond the scope of this study to specifically approach the individual economic measures listed in the appendix (10.6). However, there are certain actions worth highlighting such as a suspension of charge on imported goods in Liberia, cash transfers to 240,000 households in Guinea, and the removing of charges on

mobile phone cash transfers in Ghana. These examples might be understood as hints towards a new mobility pattern in different shapes, impacting new types of capital transfer mediums, the interaction of mobility of capital and goods and forms of widely distributed, small-scale capital movements.

However, these policies should not detract from the fact that all in all even in relation to GDP or population size, all EMSs have introduced significantly smaller stimulus packages compared to the Global North but also compared to the ones of the so-called emerging economies. When assessing the total monetary scope of initially introduced economic stimuli policies[37] in relation to GDP (until August 2020), Senegal is the EMS with the biggest overall size (6.8%) followed by Cabo Verde and Nigeria, while most EMS remain below the 3%-threshold. For comparison, the ones introduced in India summed up to 10.3%, in Brazil 27.2% and the biggest one at that time was Japan with 68.9% (RAGA 2020: 1).

When approached in relationship with capita, Cabo Verde has the biggest spending recorded with US$ 169 per inhabitant, followed by Senegal (104) and Nigeria (92). In comparison, the G20 country with the lowest spending per capita at that time was India (207) and the one with the highest Japan (US$ 27,056) (IBID.: 2). In terms of mobility pattern, this emphasizes a global unequal spread of induced capital flows.

Nevertheless, the introduced economic measures hint at temporal shifts in the capital landscape, but the impact on actual regional capital flows must be further examined due to the large variety of fiscal instruments and policy aims addressed by the stimulus packages – they sometimes also included special commitments such as the Senegalese governments 12.5 billion FCFA fiscal stimulus for the Senegalese diaspora (RAGA 2020: 68). Given their large economic leverage, this chapter has focussed on governmental fiscal interventions. However, there were also private economic actions. One example is the "Coalition against COVID-19", which was formed by more than 100 private sector actors and which raised almost 80 million dollars until February 2021 to "support the government's response" to the pandemic in Nigeria (cf. MADDEN 2020, CACOVID 2021).

7.4 Developments in Rating

In terms of global capital mobility, international rating agencies represent an important regulatory regime. Initial reactions to the pandemic's spread regarding the so-called emerging markets reveal a massive row of downgrades. There was an above average focus on oil exporting nations, but none-oil-states were hit as well (IMF 2020f: 7). Until June alone there have been more than 30 downgrades concerning African countries. All of the biggest economies of sub-Saharan Africa got outlooks changed to negative or downgrades within the first months of COVID-19 (NAIDOO 2020). Based on a perspective of how nation state refinancing works in the interaction with the private markets in financialised global capitalism, this represents a massive impact of a

[37] "Economic stimulus packages announced in 2020 in response to Covid-19. Fiscal stimulus includes aid, grants, and guarantees. Monetary stimuli include sonly central banks' explicit monetary liquidity injection" (RAGA 2020: 1).

regime on West African actors regarding their possibilities of shaping capital mobility in the region. Due to the significant influence of the agencies' ratings on the economic room for manoeuvre of the African states, there were calls for a temporary suspension of all ratings in the context of the pandemic crisis (MoFEP 2020). The rating agencies not only reacted negatively to plans by West African governments to spend more money in the form of economic support programmes to cushion the impact of the pandemic complex in general, but also, for example, to the participation of EMS in supranational programmes designed to mitigate the negative economic impact of C19 in the Global South. For example, Moody's downgraded Côte d'Ivoire and Senegal because they wanted to participate in the G20 Debt Service Suspension Initiative (MUTIZE 2020). The dynamics pressure on EMS governments because when they increase stringency, their rating drops, but with less stringency they also unsettle investors (KIZYS ET AL. 2021). BALAJEE ET AL. (2020. 13) propose a direct link to the smaller size of economic measures in countries of the Global South: "Using a cross-section of countries, we find that fear of rating downgrades is an important driver that is preventing countries from providing stimulus. Furthermore, countries that face tighter funding conditions due to fear of credit downgrades also delay the fiscal stimulus."

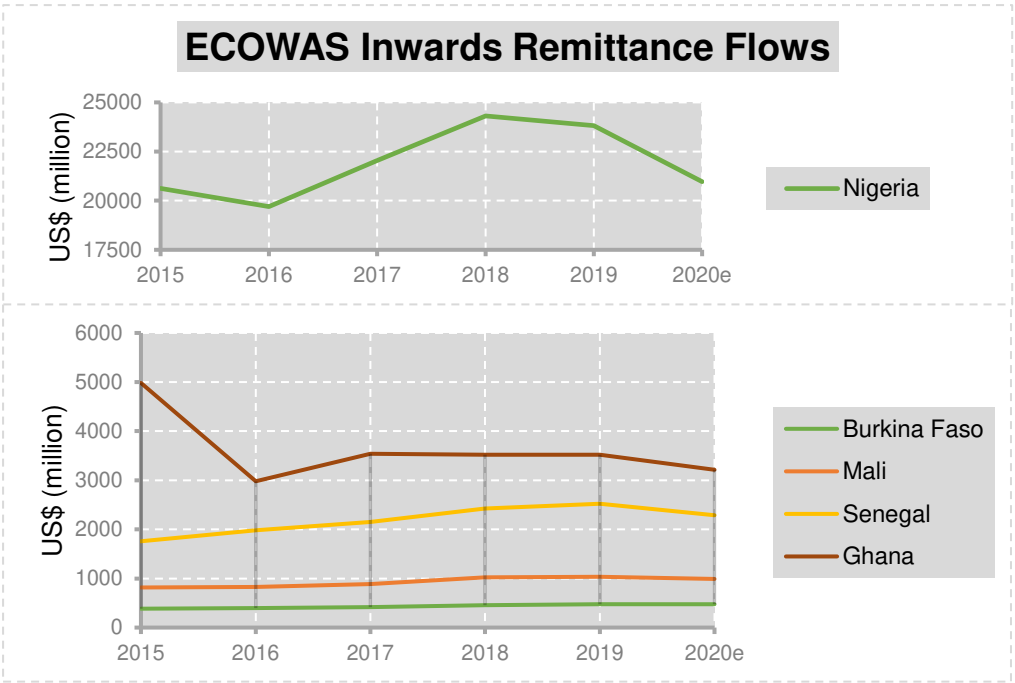
For West Africa in particular, all but one EMS that was reconsidered by one of the three big rating agencies in terms of sovereign credit ratings got at least a worse outlook, if not a downgrade (cf. Appendix 10.5). The majority of these negative reassessments took place in April, which implies a direct link to C19, and this was also reflected in the rating agencies' justifications of the downvotes. Overall, these downgrades by the influential rating agencies will have a significant impact on the (im)mobilities of capital in West Africa through changes in the flows of credit. At the same time, lower ratings mean that the EMS will be less likely to refinance themselves on the international credit market, as interest rates will become less affordable, leading to a potential reduction in capital flows to the states. At the same time, all EMS are already heavily or even very heavily indebted, and if governments want to continue to service their debts, new loans will usually have to be taken out to cover the repayments. However, the conditions for the new loans will be worse due to the downgrading, which is reflected in a potentially higher capital outflow from the sovereigns due to the rising interest rates.

7.5 Remittances

Remittances represent an important economic pillar in West Africa, with Gambia even are among the biggest receivers as share of total GDP worldwide (cf. UNCTAD 2020e: 58). Remittances to low- and middle-income countries are projected to decline by almost 20% in 2020 (UNCTAD 2020e: 23). Remittances to Sub-Saharan Africa are expected to decrease by around 9% when comparing 2019 levels to 2020 estimates (GMDAC 2021). This is mainly due to the exceptional economic impact of the pandemic complex in the most important countries in terms of remittance outflows of the Global North. The production of immobility to mitigate pandemic has direct implications for flows of capital towards West Africa. Yet the scope of these implications varies due to the differences in dependency on remittances within West Africa. Compared to other world regions, the estimated decrease puts SSA in the middle in terms of magnitude. Nevertheless, remittances to the global South are expected to remain larger in terms of monetary volume than foreign direct investments and official development assistance for 2020 and 2021 (KNOMAD

2020: 8). According to research on recent global remittance flows these types of movements of capital have usually been counter cyclical in the sense that workers sent home more money home at times of crisis. Yet due to the comprehensiveness of economic disturbances connected to COVID-19, this does not seem to have materialized in the first months of the pandemic (UNCTAD 2020e: 23). Nevertheless, a globally more nuanced dynamic with partially faster rebounds was recorded (GMDAC 2021).

Data on the individual EMS' remittance inward flows and the overall ECOWAS region figures support the impression of a decrease from the 2019 level to 2020 (Fig. 65, pp. 105-106). It is not the magnitude of the decrease that is indicating an overarching negative impact, since the volumes were also subject to significant, usually even greater fluctuations in previous years than between 2019 and 2020. But there is a shared downward direction regarding inward flows to all EMSs at the same time, which has never been the case before. Due to the clearly low variance, it can therefore be assumed that the C19 complex has an overarching influence also for the particular local realities in Western Africa. This also becomes clear when assessing the overall median to the average. These behave quite differently before 2020, with the average mainly reflecting the great influence of Nigeria due to its much larger total income. Yet, 2020 shows a shared direction. A minor but notable factor might also be disruptions in the functionality of migration-relevant capital channels. 8% of surveyed migrants in western Africa indicated a higher difficulty in the process of sending or receiving remittances due to C19 (IOM 2020f).



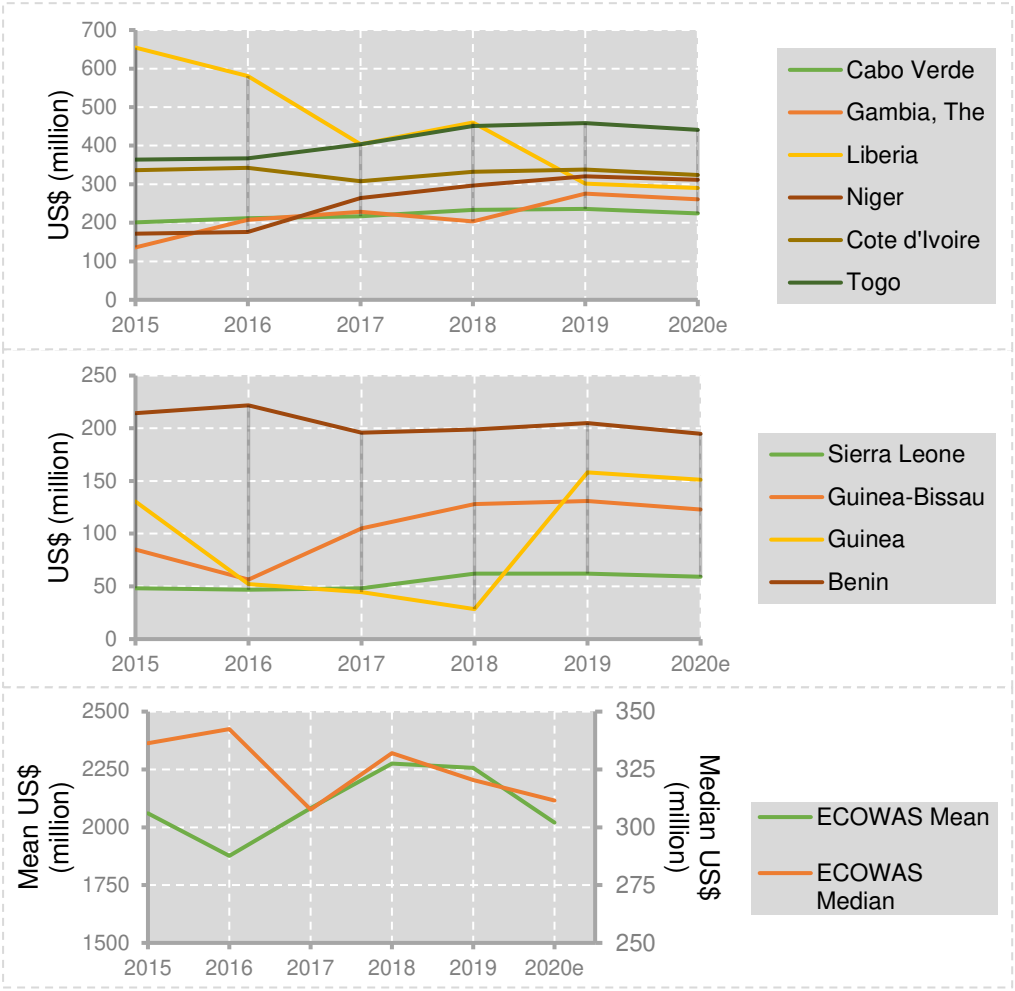


Figure 65:Development of remittances flowing to individual EMS over time. Sort by descending groups with similar inflow levels. Completed by the overall average and median of ECOWAS. Annual data updated as of October 2020

Source: Own figure. Data: World Bank (2020c).

Even if more recent statistics on global economic impacts of C19 imply a medium-term contraction that is less severe than initially predicted, the already statistically reliable economic contraction in Q2 2020 and the associated abrupt global developments must nevertheless be seen as at least a temporary major change in migrant capital flow patterns concerning in the WA context. The figures suggest that the decline in mobile remittance flows to WA, at least for the whole of 2020, has not reached extreme levels that have not been observed before in most EMSs, but it is important not to forget its enormous scale, that this largest form of capital source for the Global South has now reached (which in absolute terms nevertheless speaks for an enormous change within the global capital flow networks) and the local differences within the ECOWAS region regarding the extent of inflows and the extent of socio-economic dependence on this type of flows.

7.6 Development of commodity prices

Because of its export orientated economies which can be mainly traced back to the political economy of colonialism, all West African states still depend to varying degrees on commodity prices on the international market. The development of these prices is powerfully influencing capital mobility as it determines state finances in many EMSs. In this chapter we provide an overview of price changes during the initial phase of the pandemic to complement the perspectives on (im)mobilities of capital in West Africa and contextualize figures on exports.

Regarding such commodities that represent important shares in West African total exports, the dynamics since February 2020 were ambiguous. Of the major mineral commodities, from January until April 2020, only gold was showing an increase in prices (+12.8%) (GARSIDE 2020). When considering the usual attractiveness of gold during economic crises, the price experienced an unconditionally high volatility in the first quarter 2020 (BOURAIMA ET AL. 2020). However, the overall dynamics represented its traditional safe-haven function with a substantial y-o-y growth rise with a peak in the beginning of August 2020. Afterwards, with the partial recovery of the global economy, the price started to decrease again, yet not significantly compared to the previous year's levels.

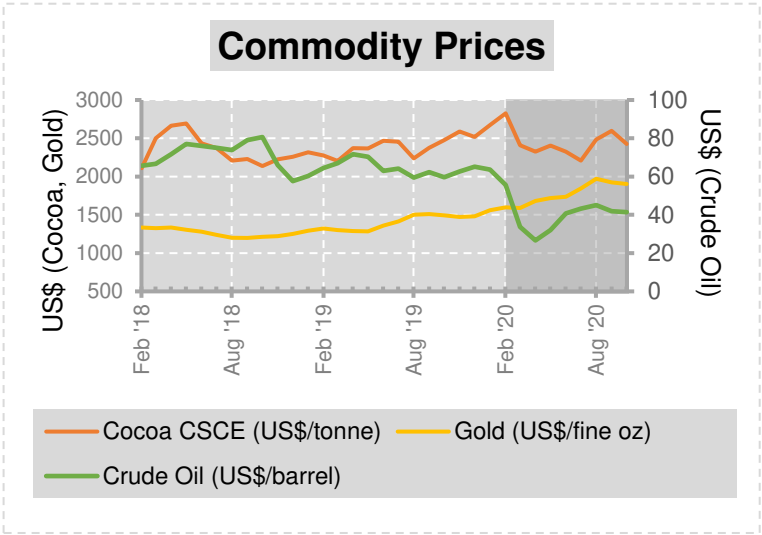


Figure 66: International prices a published by the BOG, monthly

Source: Own figure. Data: Bank of Ghana (2020: 22).

Oil, on the other hand, showed significant price declines in direct temporal correlation to the pandemic outbreak. This mirrors economic dynamics and the globally dropping demand for motorized mobility due to the immobilizations by the pandemic regimes. Oil trade functions as an indicator of investors' confidence in the functioning of the global capitalist machinery. Collapsing prices had direct implications for the governments of Nigeria and Ghana in particular facing a limitation of fiscal space (AfDB 2020: xiii). In relation to 2019 Nigeria experienced a decline of close to 30% in the indicator established by the Institute of International Finance that indicates export share-weighted change in price of total exports (HILGENSTOCK & SEZERCAN 2021: 3). Yet, these developments always represent a twofold issue since ECOWAS net oil importing countries benefit from lower oil prices (AFDB 2020: xiii). In Ghana, increased gold price seems to have overcompensated oil losses in terms of an exports-share weighted perspective (HILGENSTOCK & SEZERCAN 2021:3) although oil revenues are more directly integrated in state funding.

Also for cocoa, a decline in price was observed, even though to a lesser extent. In January 2020, international prices started on a higher level than in the beginning of 2019, but then declined with the outbreak, particularly impacting Côte d'Ivoire as world's biggest cocoa producer (cf. BOURAIMA

ET AL. 2020). With a higher temporal resolution of the core commodity price instead of the monthly CSCE price shown in Fig. 66 (p. 107), one can observer a substantial increase in volatility and a short-term collapse beginning of June to the lowest level of the last 3 years, to then increase again but still with a high fluctuation (cf. MARKETSINSIDER 2021).

Cotton as another important commodity mostly for WAEMU states, showed the same development but with an even more extreme drop in April and a sharper rise afterwards with less fluctuation. For Benin, with cotton products resembling more than 50% of its total goods exports (BOURAIMA ET AL. 2020: 407), this represents an abrupt momentum of crisis which, at least in terms of prices, turned into a benefit over the months. As described in chapter 6.1, cashew prices followed a similar trend.

Commodity price dynamics followed first of all a similar trend of reacting abruptly with significant reduction and afterwards increased again and most indexes saw a C19-related growth in volatility as well. In a perspective on mobility networks, this results in less steady patterns. Secondly, these patterns have implications for mobility relations in capital flows as well as flows of goods due to pricing having an intermediary role regarding both. And at the same time, they are impacted by immobility regimes, for instance regarding crude oil prices. This is especially relevant for West Africa with its high share in commodity exports.

7.7 Debt Dynamics

Debt might be understood as the counterpart to the previously discussed inflows with regard to directionality of capital mobility. Global debt jumped to a new all-time high of US$ 24 trillion as a result of the pandemic complex. With the economic contradiction this translates to a drastic surge in debt-to-GDP ratio (cf. TIFTIK ET AL. 2021: 1). However, this development was primarily driven by the countries of the Global North, and despite debt-to-GDP ratios that are also rising for the large African economies, most of them end up at the bottom of the global comparison of C19-related increases of debt ratios (IBID.: 2).

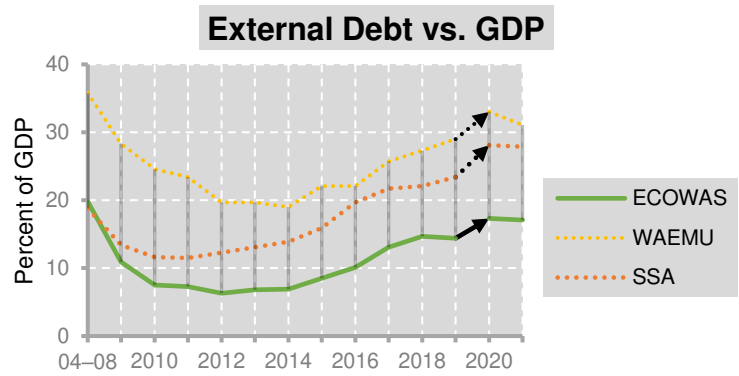


Figure 67: Total annual external debt (official debt, debtor based) recorded for the ECOWAS region and regional comparisons, in relation to GDP. 2020 and 2021 figures are estimates from October 2020

Source: Own figure. Data: IMF (2020d).

Regarding ECOWAS, a significant widening of the public deficit is projected in connection to COVID-19. As a whole, it is expected to reach 6.4% in 2020, which represents a substantial growth compared to the previous years. "The region's budget deficit in 2020 reflects a general worsening in all countries" (WFP ET AL. 2020: 3). The total external debt (Fig. 67) of the ECOWAS region in relation to GDP is expected to grow substantially from 14.4% in 2019 to 17.3% in 2020. The

growth rate is the same as the one for overall Sub-Saharan Africa (+120% y-o-y) and slightly higher than the one estimated for exclusively the WAEMU region (+113%), which implies a focus of negative performance in the bigger non-WAEMU states.

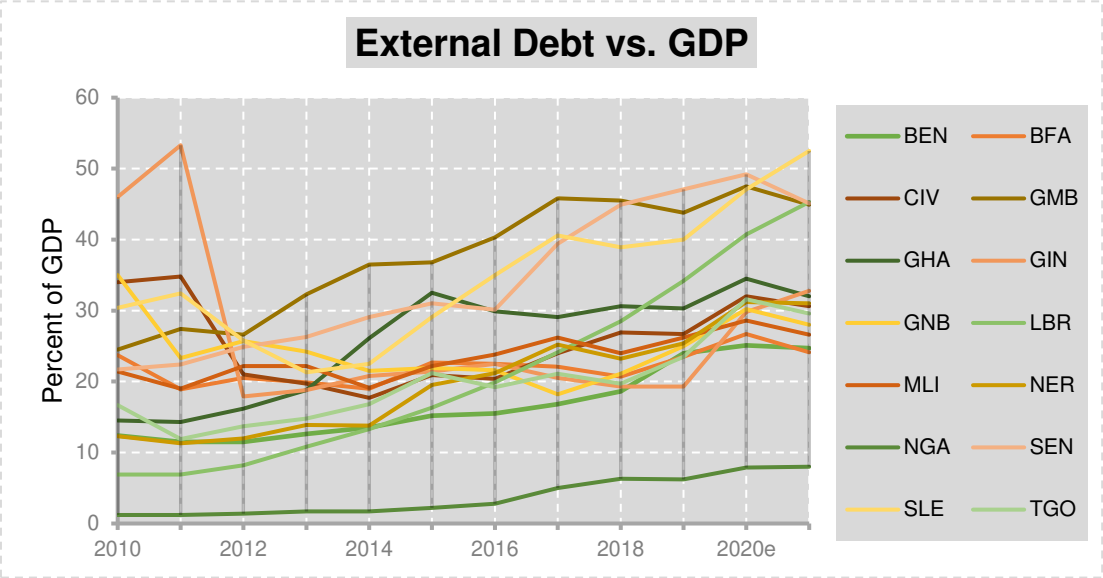


Figure 68: Total annual external debt (official debt, debtor based) recorded for the individual ECOWAS member states, in relation to GDP. Cabo Verde not included due to significantly higher values. 2020 and 2021 figures are estimates from October 2020

Source: Own figure. Data: IMF (2020d).

Nevertheless, the pressure debt burden puts on national governments varies significantly. According to the Jubilee Debt Campaign Categorisation, 5 EMSs (Ghana, Cabo Verde, The Gambia, Senegal, Sierra Leone) were in a debt crisis in 2020, and all other but two (Guinea, Nigeria) are labelled as being in risk of a public and/or private debt crisis (JUBILEE 2021). Ghana is by far the EMS with the highest share of government revenue spend for debt repayment in 2020 (50.2%) followed by Gambia (26.6%), Sierra Leone (18.1%) and Senegal (16.1%) (IBID.). On the other side, Burkina Faso was the EMS with the lowest share in 2020 (5.6%). Globally, there is a total of 52 countries, that spend more than 15% of the governmental revenue for debt burden in 2020, in 2018 that number was at 31 and in 2015 at 22. This implies, that the pandemic complex is mainly enhancing a trend, that was already observable before. Regarding the total external debt in relation to economic output (Fig. 68), the biggest growth when relating the 2020 figures to the 2019 baseline is reported for Guinea (154%), followed by Togo (134%) and Nigeria (127%). Senegal was the one with the lowest growth (104%). Magnitude varies, but the tendency is shared. Furthermore, it is not the EMSs which are already in a debt crisis[38], that saw the biggest debt growth rates during the pandemic, but other ones.

[38] In the sense of the previously given categorisation by the Jubilee Debt Campaign.

In the context of debt dynamics, however, the pandemic complex seems to have catalysed and unified pre-existing developments of increasing capital mobility out of the EMS towards external debtors, adding another element to the overall map of capital mobility patterns and their links to the pandemic complex.

7.8 Initial Outline: Pandemic (Im)mobility Regimes and Capital

Due to the varying embeddedness of capital flow with regard to the political economy and the role of human interaction, capital mobility regimes follow a fundamentally different logic than the ones concerning people's movements. Capital flows, like flows of goods, are key for global capitalism. From the regime's point of view, capital mobility is especially worth promoting in times of crisis. As capital movements are widely depersonalised, they are to be fostered from the perspective of the regimes' political-economic logics. Since the production of immobility of people, and, as has been shown, the disruption of flows of goods also have negative implications for the production and flows of capital, at least with regard to the real economy, there is a clash of interests from the pandemic regimes' point of view. Overall, however, it should be noted that, there is an interest in protecting and strengthening pre-pandemic capital mobility patterns and this is also the case in the context of West Africa.

Yet these particular regimes are also embedded in the global power hierarchies. As during the financial crisis of 2008, the response by Western governments is to raise enormous amounts of money which benefit selected parts of the economy and can lead to the state of massive and broad capital movements in the financialised economies and to rising stock market prices, despite a crisis-ridden real economy. In ECOWAS there is no financialised superstructure complementing the real economy that could be similarly flooded with money. And there is little room for manoeuvre to influence capital mobility to a comparable extent. This is mainly because the erosion of the austerity paradigm, which has been seen since the financial crisis, for instance in the European centres, is not granted to the states of West Africa by the global financial policy regimes. This interference with West African regimes, in the sense of not permitting interventionism, involves many aspects, which in turn can be understood as facets of a global capital regime. Such aspects for instance include:

- Influence of rating agencies (cf. chapter 7.4),
- Monetary policy interventions aimed at maintaining the capital mobility landscape in the Global North (cf. VASUDEVAN 2020) carried out by hegemonic nation-state actors of the North and supranational institutions,
- Market logics following responses to the economic weakness of southern states by private-sector capital actors,
- and globally impactful ideologies that influence economic policy and economic behaviour.

The result of the imbalance, as described, is the severe limitation of the influence of local capital mobility regimes (cf. chapter 7.1), and, in return, a greater influence, for example, of the US repo facility set up in the course of the pandemic (cf. IBID.), on West African mobility realities compared to local interventions.

Small scale capital flows during the pandemic led to a global increase in the use of "mobile money" (cf. BAZARBASH ET AL. 2020), i.e., telephone-based transfers without conventional banking. Such developments should be further researched regarding their linkages to power structures when the immobilisation of people increases the need for capital movements independent of physical movements.

Abrupt and drastic changes in the mapping of global and West Africa-specific capital mobility pattern were evident. However, these changes mostly came in the form of an intensification of pre-existing trends and not novel phenomena. Despite these drastic changes, the most recent statistics on developments regarding the landscape of capital mobility rather imply a faster-then-expected global rebound. New findings also suggest an increase of inequalities and non-simultaneity between the movements of capital within and towards the Global North and South. Apart from this, certain economic effects of the pandemic complex will not develop their full impact until 2021.

8 Conclusion

The global spread of the novel coronavirus caused massive and abrupt disruptions of various mobility patterns within the networks studied here, showing both the emergence of new types of steering mechanisms and the amplification of existing ones.

Across the majority of topics covered in this study, significant changes in mobility patterns were evident in the wake of government responses to COVID-19. Impacts are most evident on human mobility. Practices of governing mobility and stasis differ significantly. The diversity and complexity of mobility regimes in ECOWAS do not allow for generalizations of impacts. However, the data collected in this study can provide a basis for future typification of the mobility regimes that have emerged in the context of the pandemic in West Africa. These regimes are shaped both by global political and geo-economic entanglements and very place-specific conditions, limiting or amplifying directionality, pace, and extent of movements of bodies and things.

Three different but entangled spheres were brought together in the framework of global capitalism and its local formations. The food sector in ECOWAS, as the largest economic sector in West Africa, with a share of 40% of the regional gross domestic product (OECD 2019), can be used as an example. Not only is this sector of particular importance, but it is also incorporated in a variety of ways into different flows and socio-economic structures that shape the mobilities of people, goods, and capital. Thus, it is impacted in different ways by the pandemic complex, but, at the same time, also contributes to the production of pandemic realities. According to the OECD (2020c), "in the food sector alone […] more than 82 million jobs will be directly affected by mobility restrictions". Mobility restrictions will and already have heavily impacted agricultural production and processing, as well as the movement of food products. With regard to the important internal migration as a key feature of West African food systems (IBID.), changing production patterns impact human mobility, too. Additionally, this is all embedded in a market framework in which flows of capital determine the production of the products, and the circulation of those kinds of commodities produces capital flows reciprocally. Thus, all types of mobility discussed in this study are directly relevant for the food sector and therefore also for the regimes.

And these are just some examples of the manifold embeddedness of the regional food sector, to illustrate the interconnectivity of the different spheres of mobility, suggesting an overarching reading of the developments described in this study.

To summarize some macro-trends of human mobility patterns:

- There were, in locally diverging degrees, severe immobilisations until June 2020 with a peak in May, followed by a continuous decline towards the pre-pandemic baseline. Towards the end of the year, there were signs of both overcompensation and a second, smaller wave of immobilisations.
- Cross-border mobility was and is heavily restricted with an underlying tendency of significantly prioritizing the opening of airports and maritime border points over land borders within the ECOWAS.
- Asynchronicity shapes the way pandemic regimes affect individual lives a year after the outbreak. While many people returned to January 2020 levels of mobility and public transport usage those depending on cross-border movements still experience substantial restrictions.

(Im)mobilities of goods:

- Here, in contrast to the mobilities of people, a clear distinction has developed between mobilities that are strongly affected and mobilities that are scarcely affected at all.
- Maritime mobility of goods and cross-border hinterland transports were unevenly impacted. Shipping of goods towards and from West Africa seems, by and large, less affected than overland transport that struggles with border restrictions in the ECOWAS region.
- Overall, exports from West Africa are significantly more impacted by the pandemic complex than imports. Yet, when assessing recent numbers of total trade volumes for Sub-Saharan Africa, imports are more impacted - which illustrates the complexity of recent trends.

(Im)mobilities of capital:

- There is a substantial increase in unequal developments[39] in terms of capital flows and distribution when comparing cross-regionally or between different parts of the economy.
- Despite internal differences, there is a regional macro-trend of significantly shrinking movements of external capital flows towards West Africa while internal expenditure grew, both connected to the pandemic complex. Even though all types of inflows were declining in 2020, with outflows (debts) growing, local governments were not able to set up

[39] From a global perspective, this inequality in developments might be framed as the seemingly contradictory simultaneity of the first increase of extreme poverty since 1998 (WORLD BANK 2020e) and a booming financial market and all-time stock market peaks in the Global North after an initial short-term drop (cf. MCKINSEY 2021).

regulatory regimes comparable to those in the Global North that are efficient enough to substantially mitigate negative impacts on capital dynamics.

- In terms of mobility patterns, the supraregional dynamics as described might be apprehended as an enhanced tendency of a decoupling of the spheres of capital flows connected to the Global North, with its C19-related governmentally subsidised financialised corporations, and the Global South, with its limited possibilities for interventions. In terms of geographical capital distribution this might be understood as an overall growing capital base in the Global North, due to the magnitude of the stimuli overcompensating for the negative impacts of the pandemic complex (cf. chapter 7), and a shrunk base in the Global South and, specifically in West Africa[40].

All in all, we revealed a more nuanced picture with significant variations for most subtopics in this study. Thus, narratives of causal one-dimensional impacts of COVID-19 in WA should be rejected.

[40] The conditions shaping these phenomena were discussed in an article by Ghana's Finance Minister Ofori-Atta in the FINANCIAL TIMES (2020), in which he proposed a coordination of African actors for a push towards a restructuring of the global financial architecture according to the needs of countries in the Global South.

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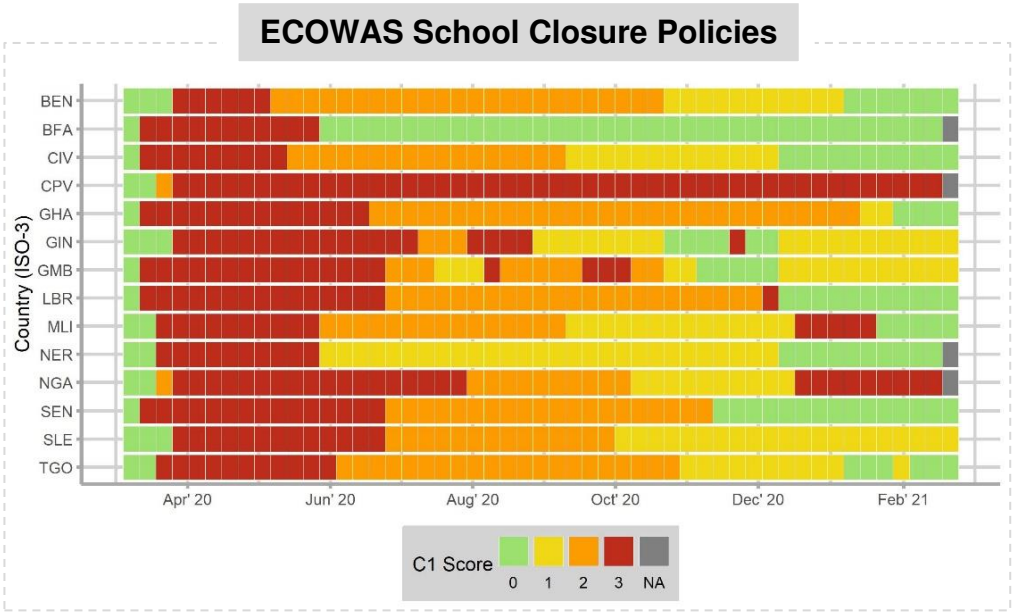
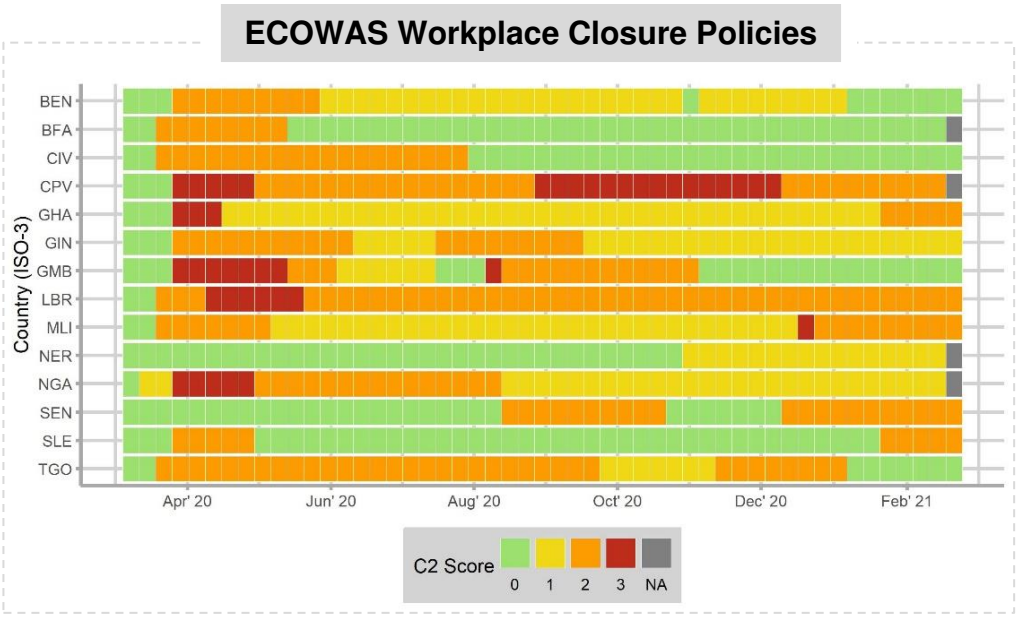
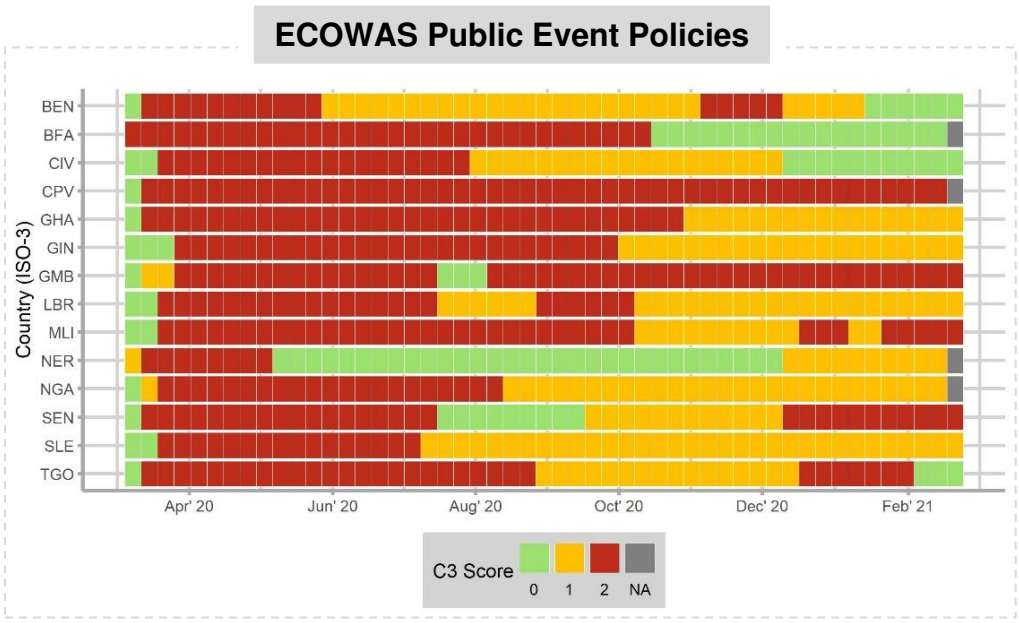
10 Appendix

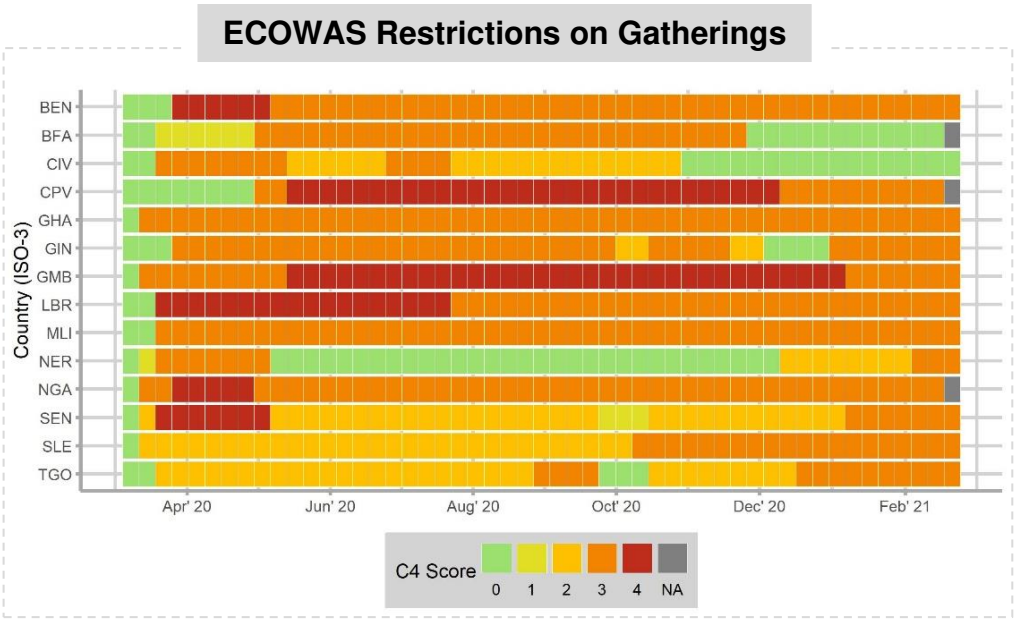
10.1 ECOWAS OxCGRT 'C' Sub-Indexes (Containment and Closure Policies)

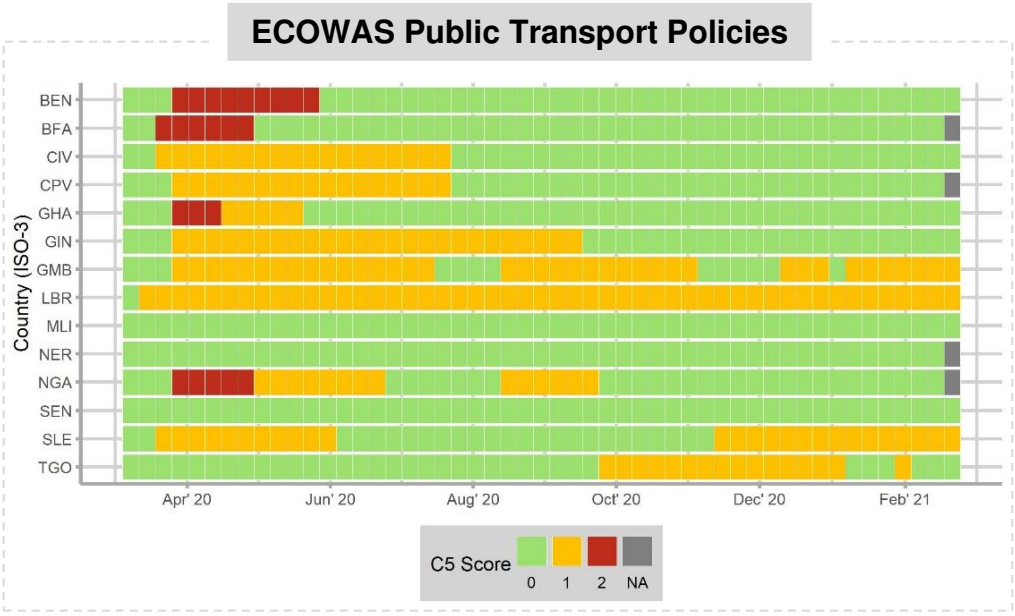
Figure 69: Tilemaps of each OxCGRT sub-index regarding containment and closure policies and below a breakdown of the coding as formulated by the authors (OxCGRT 2021c; Illustration: Jannis Viola):

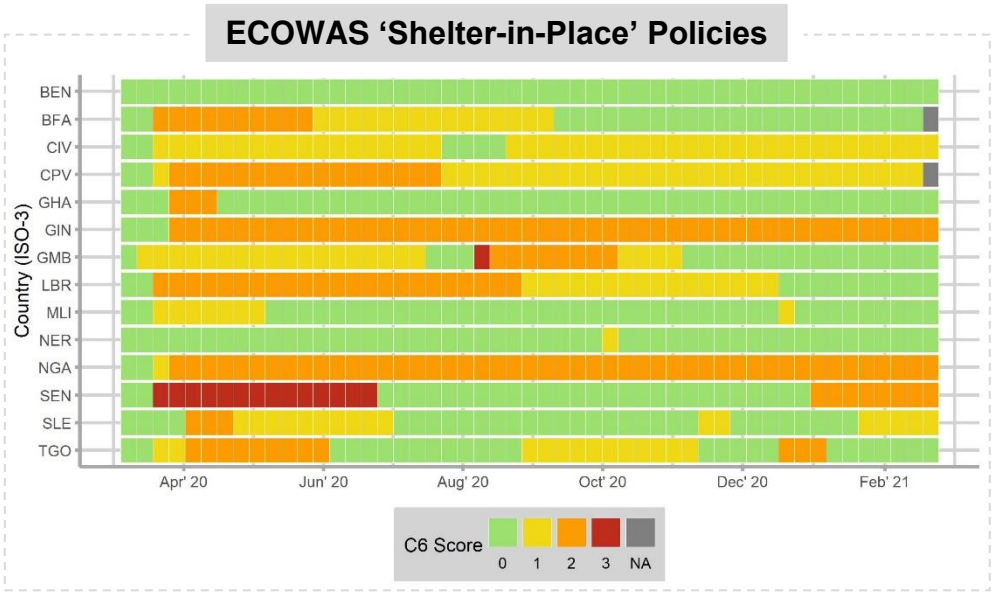


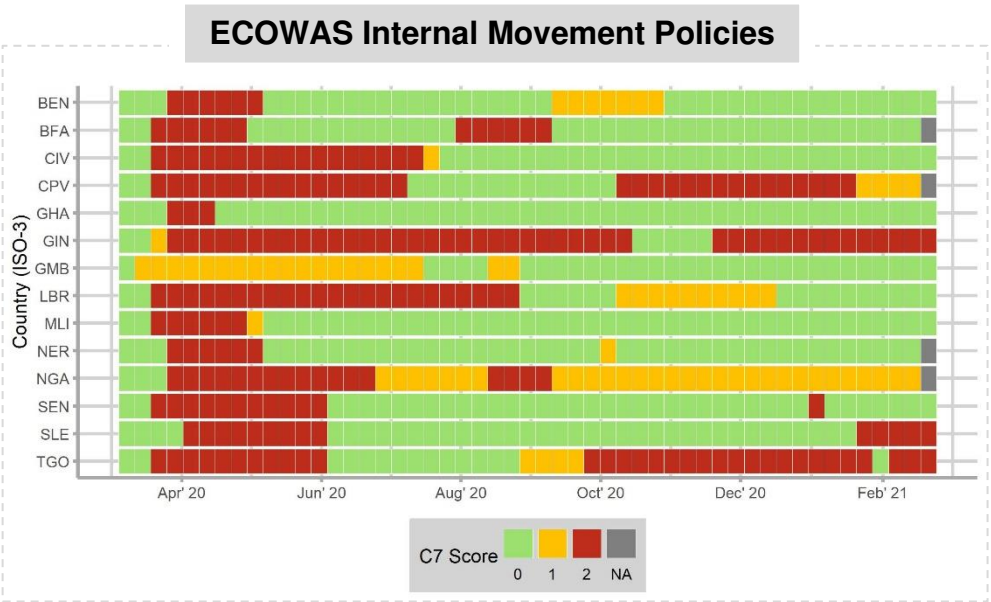

ECOWAS Workplace Closure Policies
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
C2 Score
0
1
2
3
NA

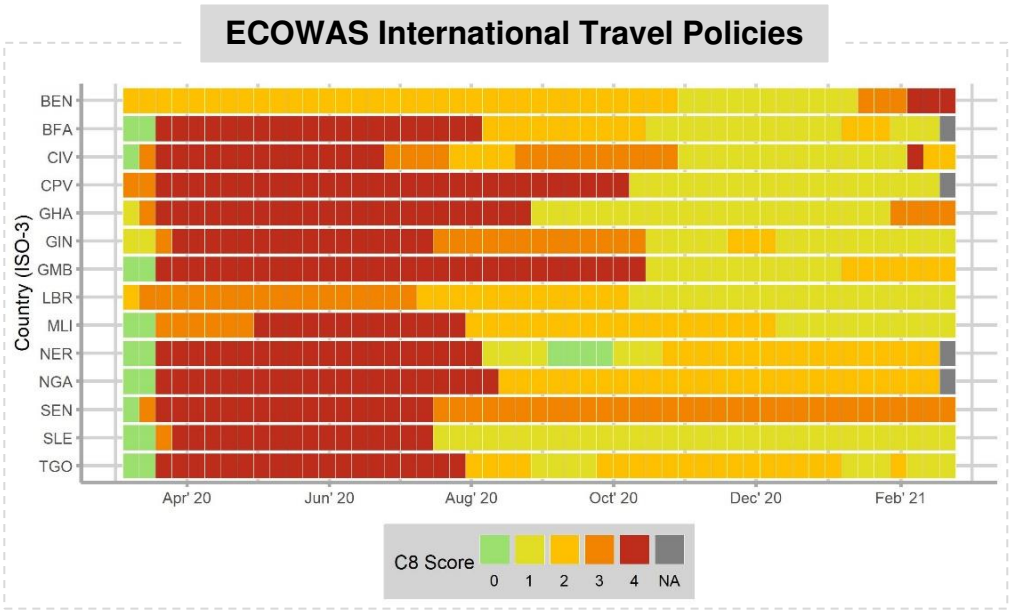

ECOWAS Public Event Policies
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
C3 Score
0
1
2
NA


ECOWAS Restrictions on Gatherings
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
C4 Score
0 1 2 3 4 NA


ECOWAS Public Transport Policies
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
C5 Score
0 1 2 NA


ECOWAS 'Shelter-in-Place' Policies
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
C6 Score
0
1
2
3
NA


ECOWAS Internal Movement Policies
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
C7 Score
0
1
2
NA

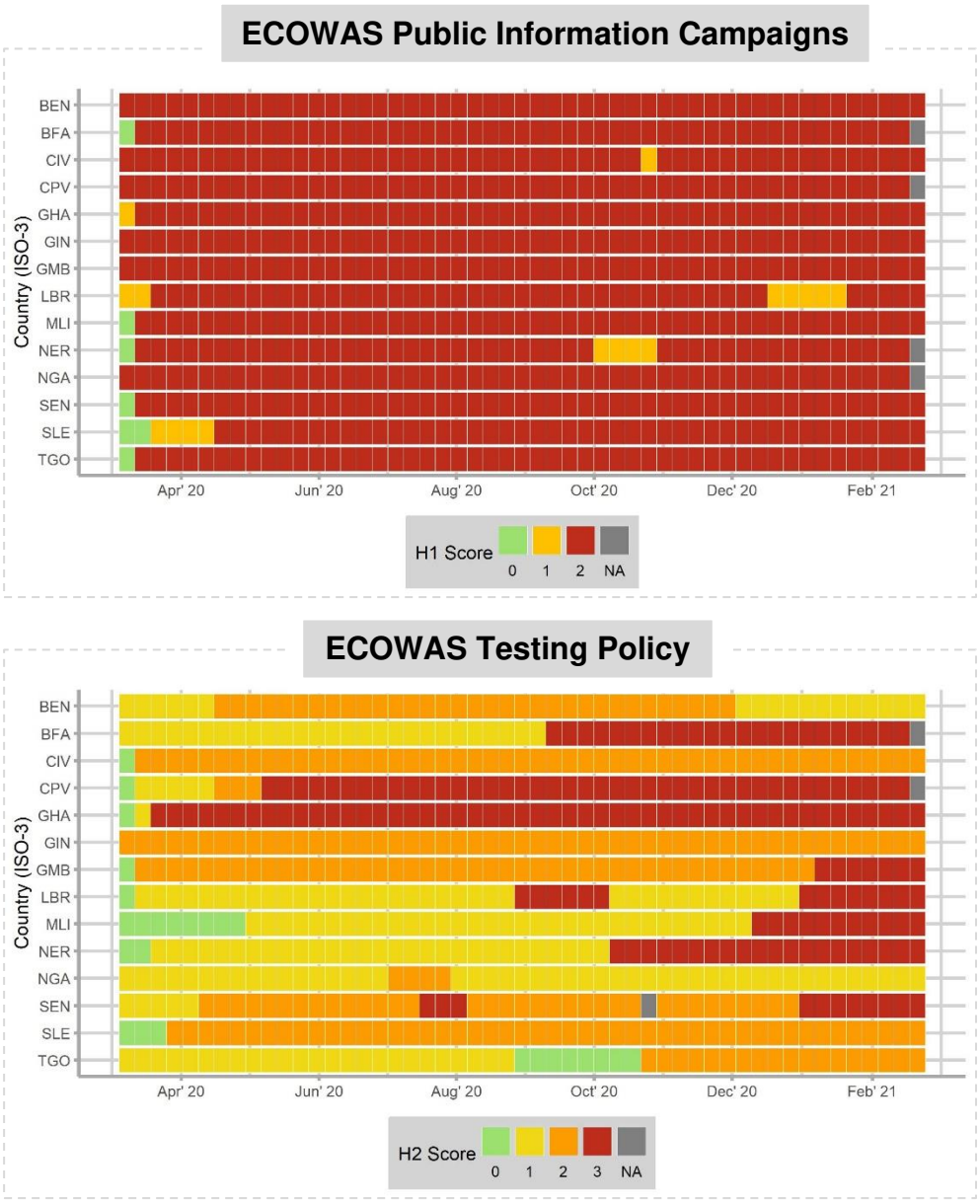

ECOWAS International Travel Policies
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
C8 Score
0
1
2
3
4
NA

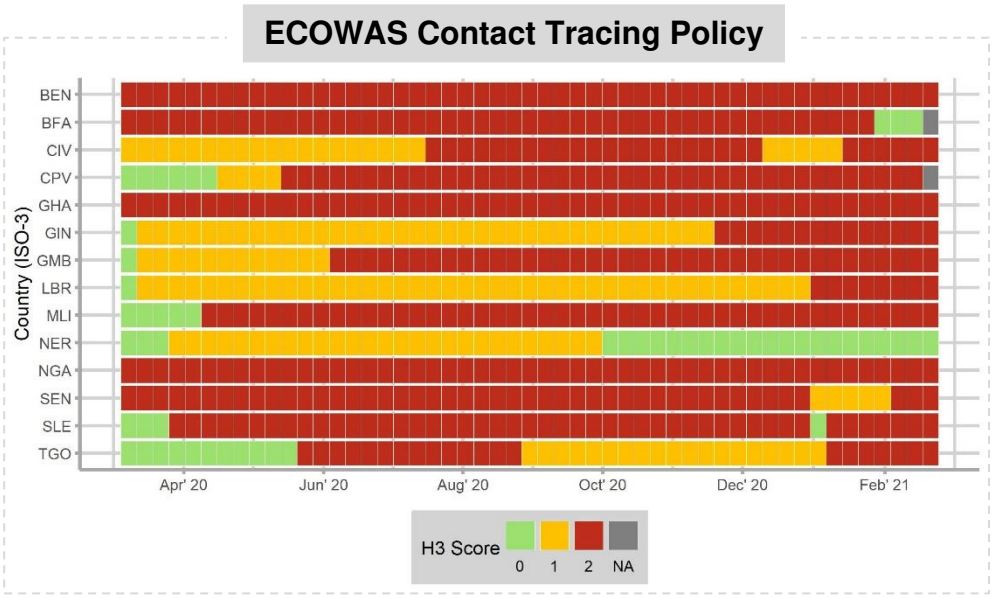
Codebook regarding the preceding tilemaps:

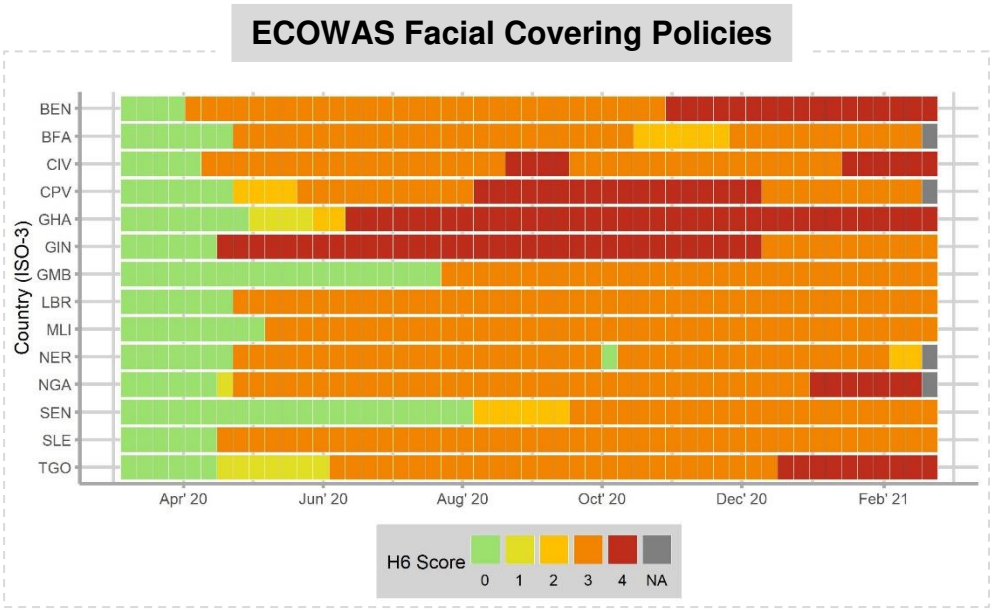
ID	Name	Description	Measurem.	Coding
C1	C1_School closing	Record closings of schools and universities	Ordinal scale	0 - no measures 1 - recommend closing or all schools open with alterations resulting in significant differences compared to non-Covid-19 operations 2 - require closing (only some levels or categories, e.g. just high school, or just public schools) 3 - require closing all levels Blank - no data
C2	C2_Workplace closing	Record closings of workplaces	Ordinal scale	0 - no measures 1 - recommend closing (or recommend work from home) 2 - require closing (or work from home) for some sectors or categories of workers 3 - require closing (or work from home) for all-but-essential workplaces (e.g. grocery stores, doctors) Blank - no data
C3	C3_Cancel public events	Record cancelling public events	Ordinal scale	0 - no measures 1 - recommend cancelling 2 - require cancelling Blank - no data
C4	C4_Restrictions on gatherings	Record limits on gatherings	Ordinal scale	0 - no restrictions 1 - restrictions on very large gatherings (the limit is above 1000 people) 2 - restrictions on gatherings between 101-1000 people 3 - restrictions on gatherings between 11-100 people 4 - restrictions on gatherings of 10 people or less Blank - no data
C5	C5_Close public transport	Record closing of public transport	Ordinal scale	0 - no measures 1 - recommend closing (or significantly reduce volume/route/means of transport available) 2 - require closing (or prohibit most citizens from using it) Blank - no data
C6	C6_Stay at home requirements	Record orders to "shelter-in-place" and otherwise confine to the home	Ordinal scale	0 - no measures 1 - recommend not leaving house 2 - require not leaving house with exceptions for daily exercise, grocery shopping, and 'essential' trips 3 - require not leaving house with minimal exceptions (e.g. allowed to leave once a week, or only one person can leave at a time, etc.) Blank - no data
C7	C7_Restrictions on internal movement	Record restrictions on internal movement between cities/regions	Ordinal scale	0 - no measures 1 - recommend not to travel between regions/cities 2 - internal movement restrictions in place Blank - no data
C8	C8_International travel controls	Record restrictions on international travel (foreign travellers)	Ordinal scale	0 - no restrictions 1 - screening arrivals 2 - quarantine arrivals from some or all regions 3 - ban arrivals from some regions 4 - ban on all regions or total border closure Blank - no data

10.2 ECOWAS OxCGRT 'H' Sub-Indexes (Health System Policies)

Figure 70: Tilemaps of each OxCGRT sub-index regarding health system policies and below a breakdown of the coding as formulated by the authors (OxCGRT 2021c; Illustration: Jannis Viola):




ECOWAS Contact Tracing Policy
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
H3 Score
0
1
2
NA


ECOWAS Facial Covering Policies
Country (ISO-3)
BEN
BFA
CIV
CPV
GHA
GIN
GMB
LBR
MLI
NER
NGA
SEN
SLE
TGO
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
H6 Score
0
1
2
3
4
NA

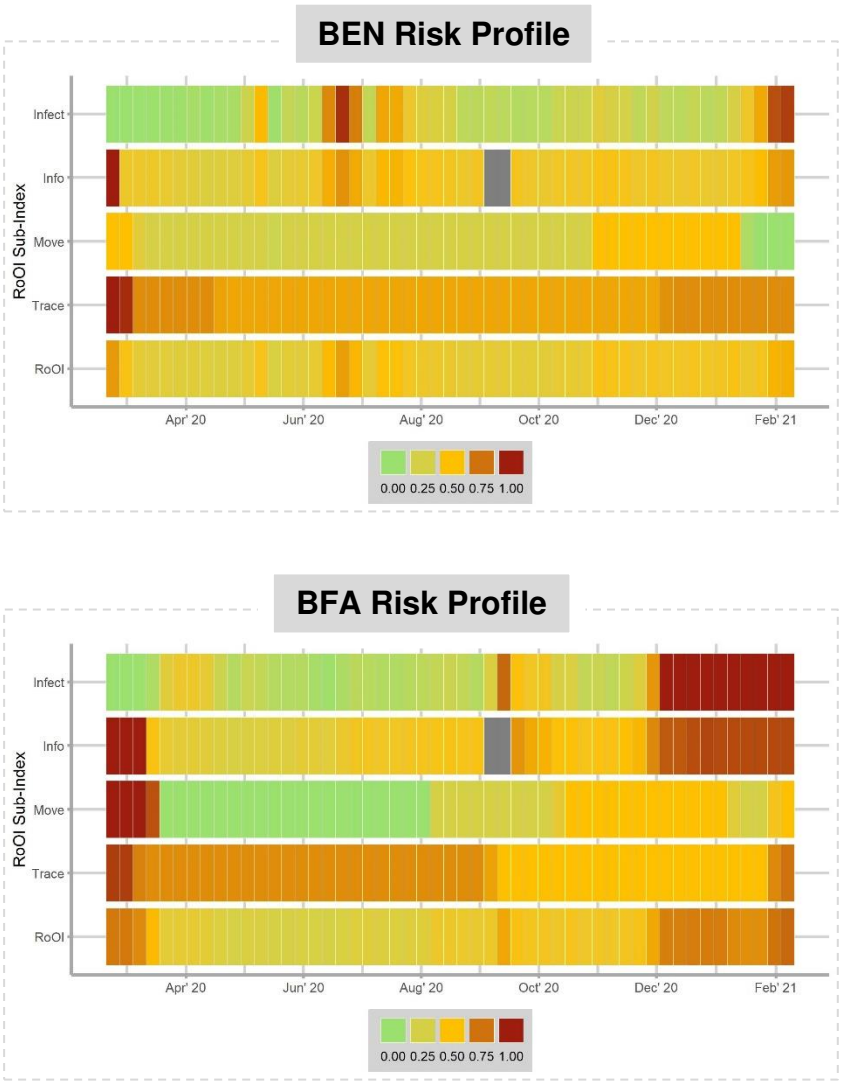
Codebook regarding the preceding tilemaps:

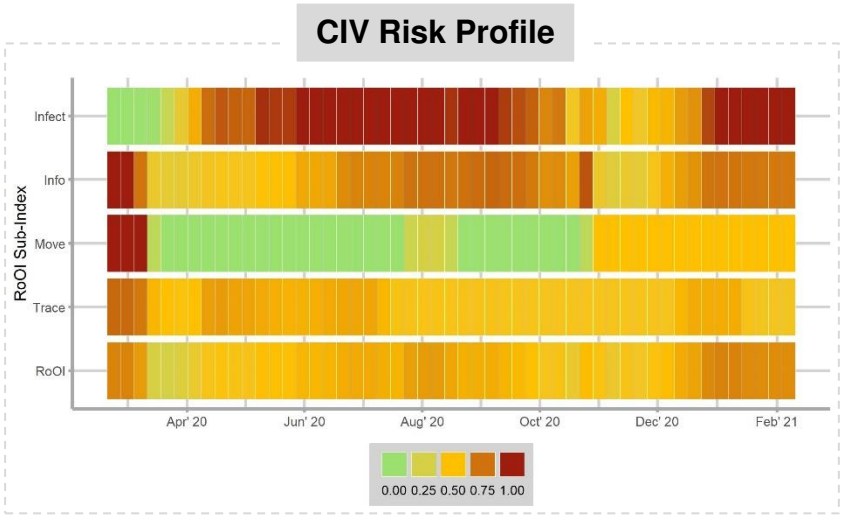
ID	Name	Description	Measurem.	Coding
H1	H1_Public information campaigns	Record presence of public info campaigns	Ordinal scale	0 - no Covid-19 public information campaign 1 - public officials urging caution about Covid-19 2- coordinated public information campaign (e.g. across traditional and social media) Blank - no data
H2	H2_Testing policy	Record government policy on who has access to testing (only PCR, not antibody)	Ordinal scale	0 - no testing policy 1 - only those who both (a) have symptoms AND (b) meet specific criteria (e.g. key workers, admitted to hospital, came into contact with a known case, returned from overseas) 2 - testing of anyone showing Covid-19 symptoms 3 - open public testing (eg "drive through" testing available to asymptomatic people) Blank - no data
H3	H3_Contact tracing	Record government policy on contact tracing after a positive diagnosis (identifying; not voluntary Bluetooth apps)	Ordinal scale	0 - no contact tracing 1 - limited contact tracing; not done for all cases 2 - comprehensive contact tracing; done for all identified cases
H6	H6_Facial Coverings	Record policies on the use of facial coverings outside the home	Ordinal scale	0 - No policy 1 - Recommended 2 - Required in some specified shared/public spaces outside the home with other people present, or some situations when social distancing not possible 3 - Required in all shared/public spaces outside the home with other people present or all situations when social distancing not possible 4 - Required outside the home at all times regardless of location or presence of other people
H7	H7_Vaccination Policy	Record policies for vaccine delivery for different groups	Ordinal scale	0 - No availability 1 - Availability for ONE of following: key workers/ clinically vulnerable groups / elderly groups 2 - Availability for TWO of following: key workers/ clinically vulnerable groups / elderly groups 3 - Availability for ALL of following: key workers/ clinically vulnerable groups / elderly groups 4 - Availability for all three plus partial additional availability (select broad groups/ages) 5 - Universal availability

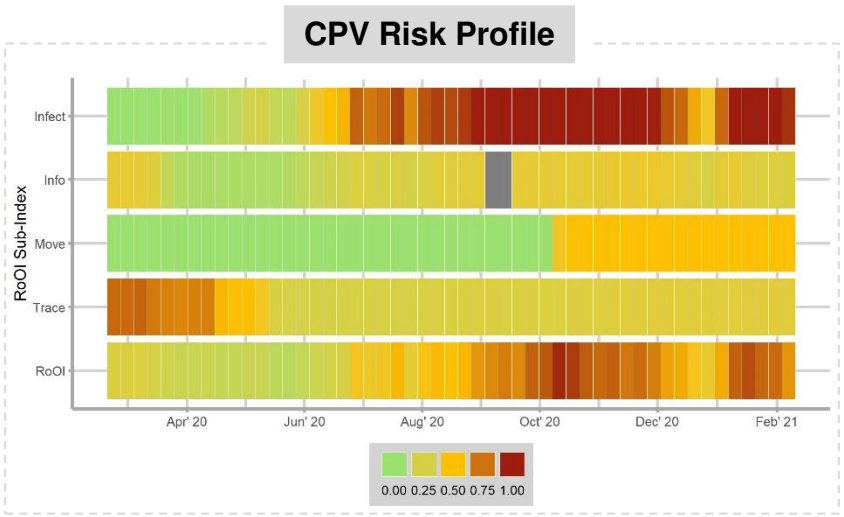
10.3 EMS Individual RoOI Risk Profiles

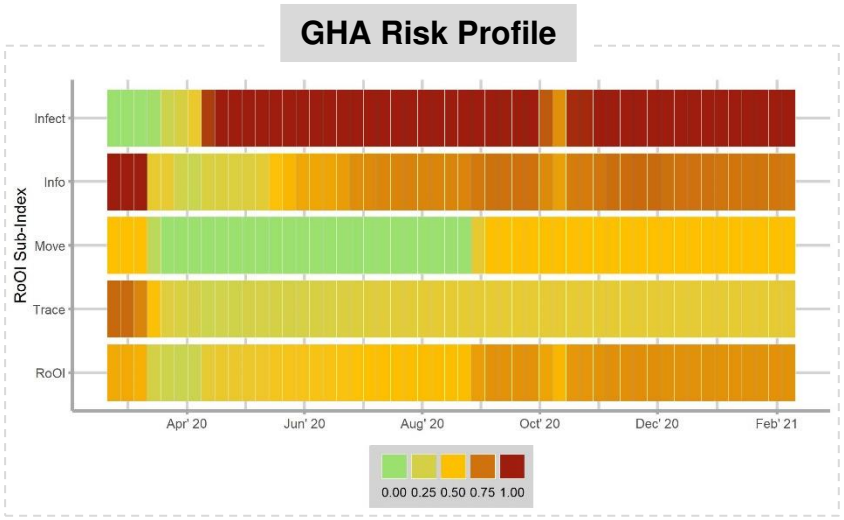
Figure 71: Heatmaps of each OxCGRT Risk of Openness Sub-index and the index itself regarding each individual EMS. Variables: (1.) 'Infect': RoOi Sub-Index 'cases controlled'. A metric between 0 and 1 based on new confirmed cases each day; (2.) 'Info': RoOi Sub-Index 'community'. A metric between 0 and 1 based on whether a country has a public information campaign and the level of mobility reduction, weighted for current transmission risk; (3) 'Move': RoOi Sub-Index 'manage imported cases'. A metric between 0 and 1 based on the stringency of the country's restrictions on travel arrivals (does not measure risk of exporting cases); (4.) 'Trace': RoOi Sub-Index 'test and trace'. A metric between 0 and 1, half based on testing and contact tracing policy, and half based on the number of tests-per-case a country has conducted (does not measure isolation) and (5.) 'RoOI': Combined Risk of Openness Index (Including 'endemic factor').

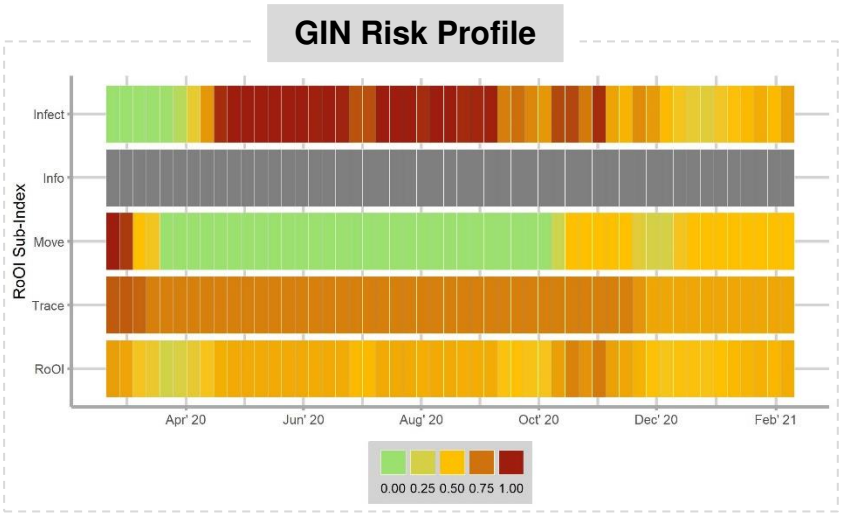
Source: HALE ET AL. (2021). Illustration: Jannis Viola.

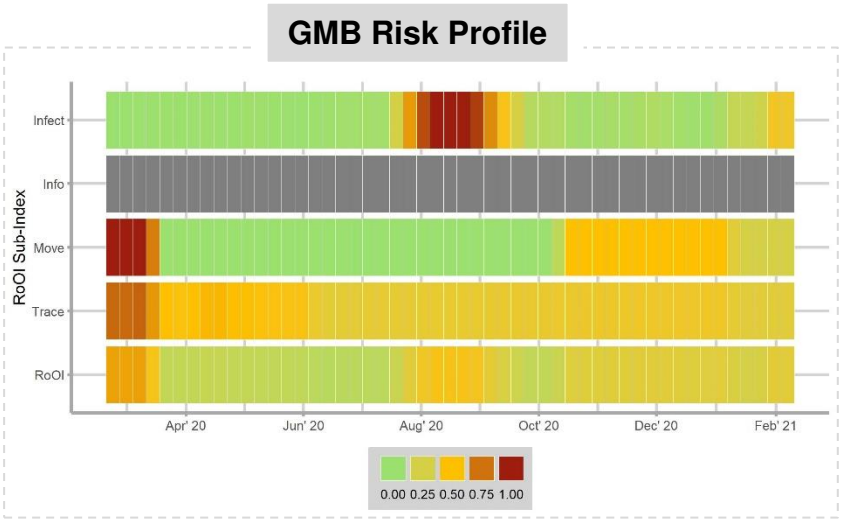


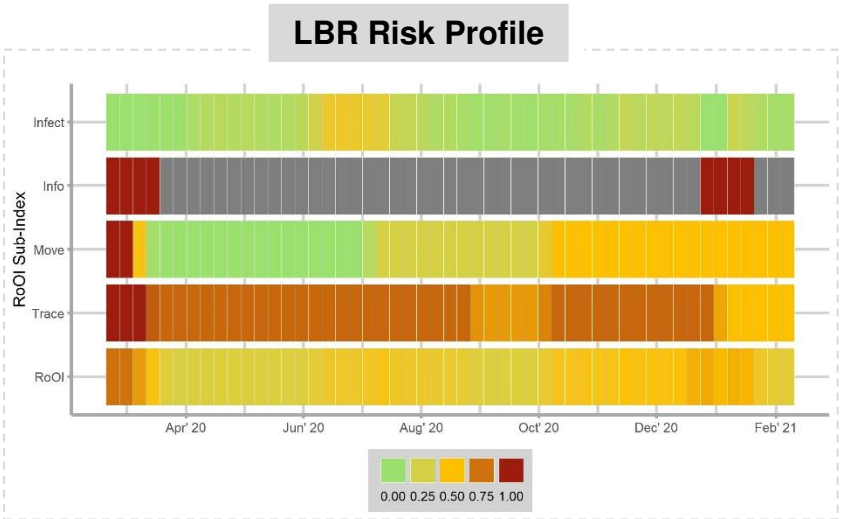

CIV Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00

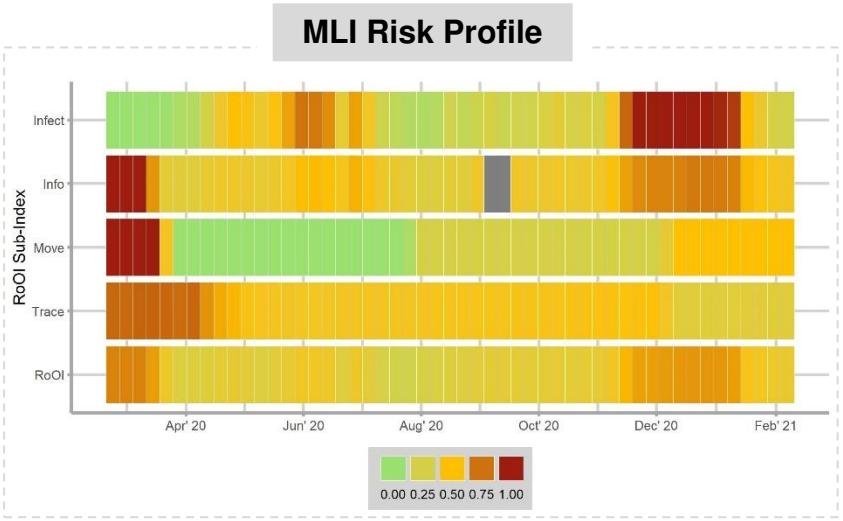

CPV Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00

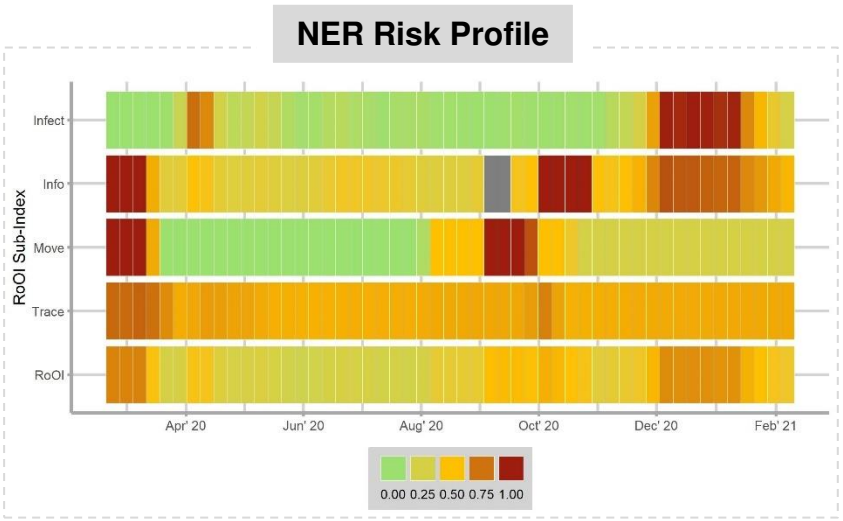

GHA Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00

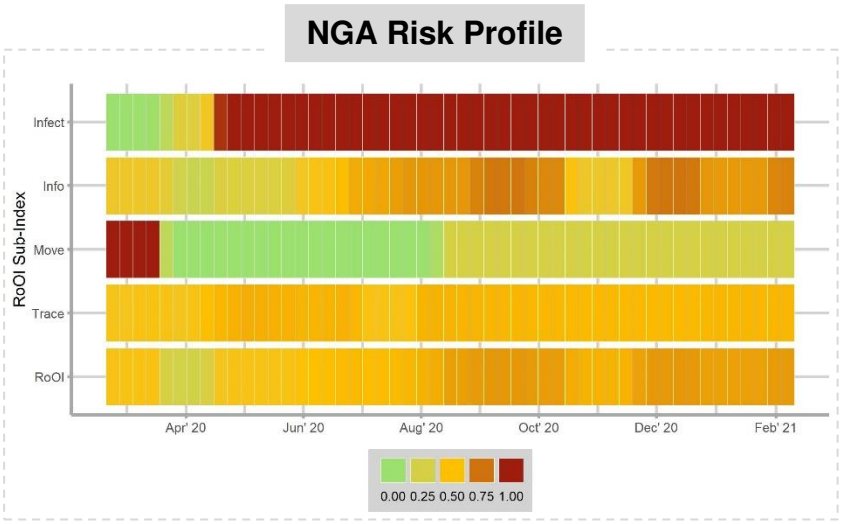

GIN Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00

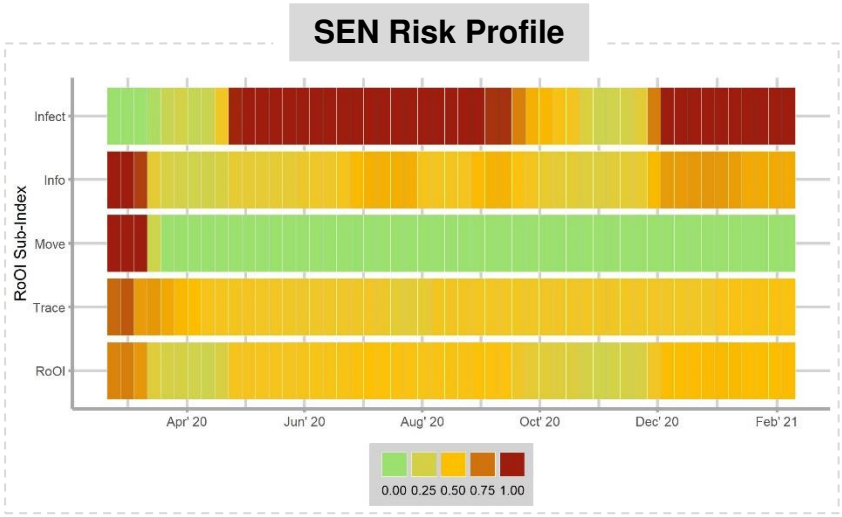

GMB Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00

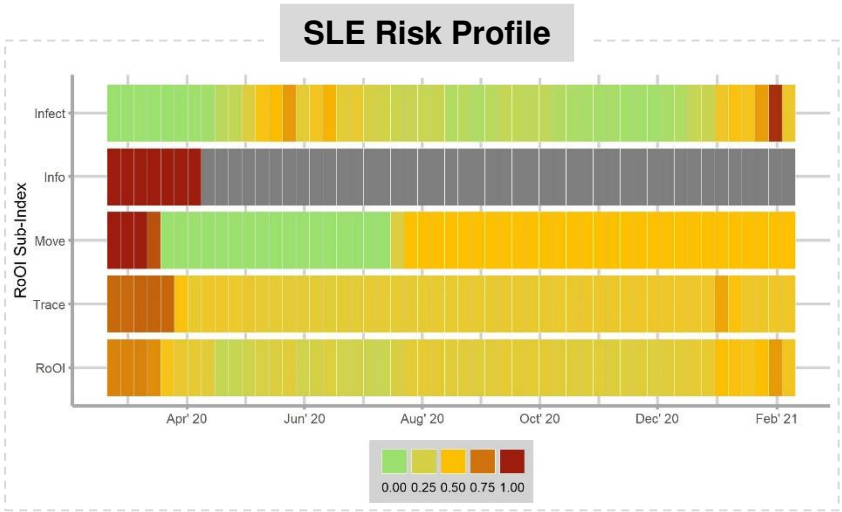

LBR Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00

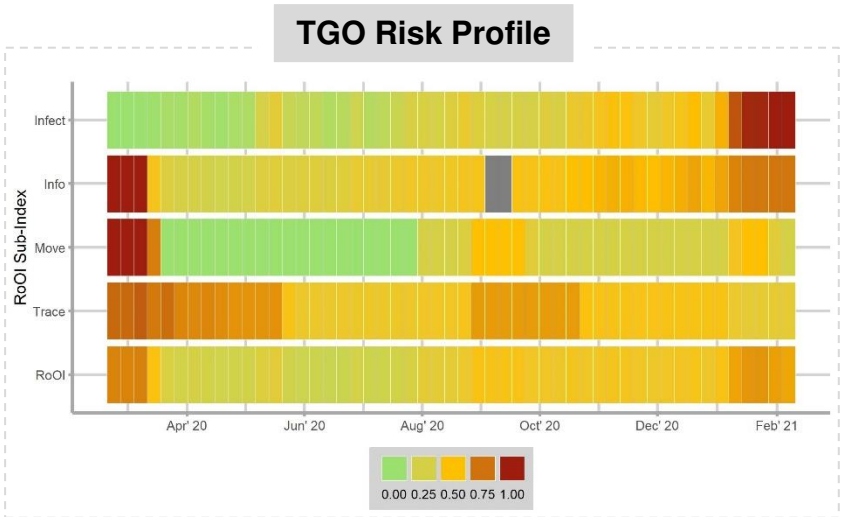

MLI Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00


NER Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00


NGA Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00


SEN Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00


SLE Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00


TGO Risk Profile
RoOI Sub-Index
Infect
Info
Move
Trace
RoOI
Apr' 20
Jun' 20
Aug' 20
Oct' 20
Dec' 20
Feb' 21
0.00 0.25 0.50 0.75 1.00

10.4 Freight Data

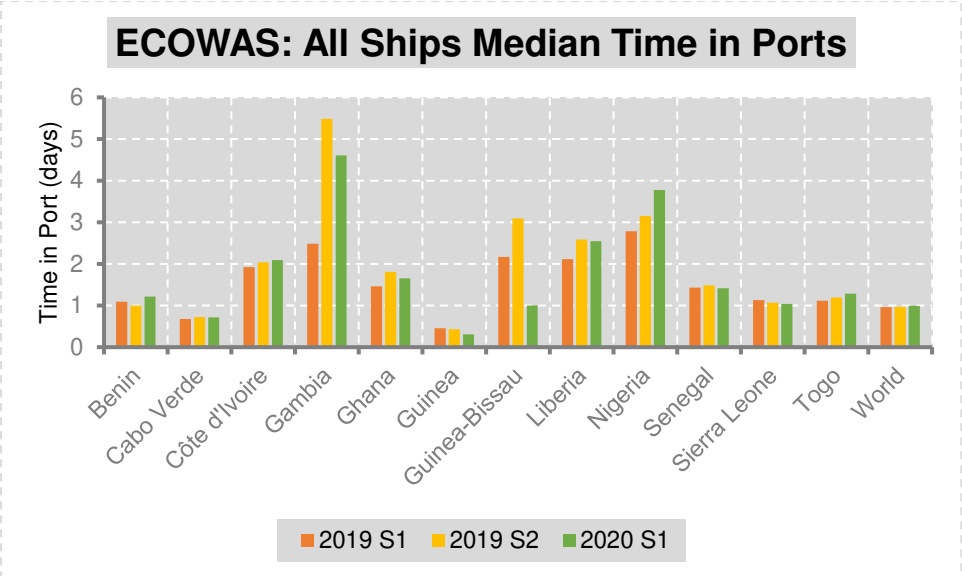


Figure 72: Semi-annual median time of all ship types combined in ports in the ECOWAS region.

Source: Own figure. Data: UNCTAD (2021b).

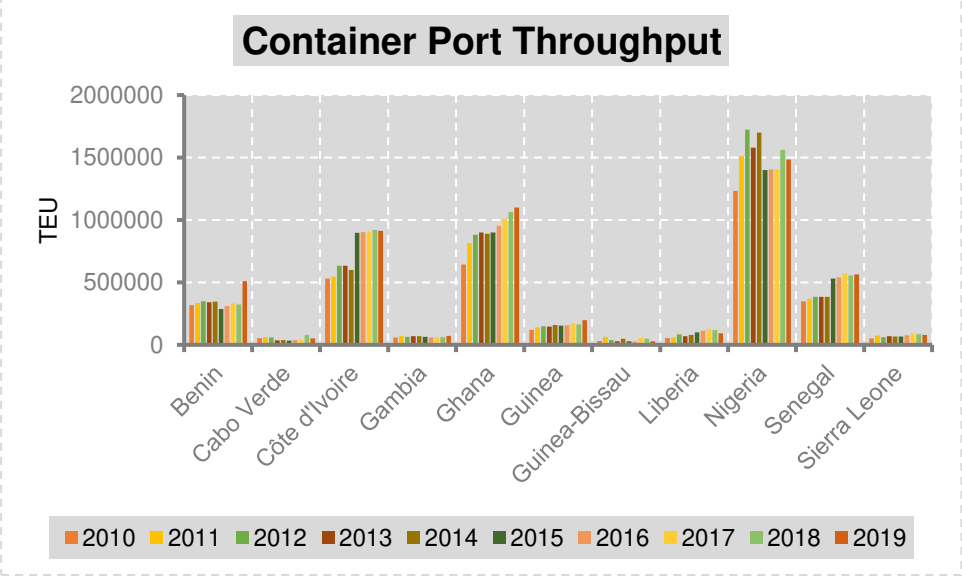


Figure 73: Annual container port throughput in West Africa.

Source: Own figure. Data: UNCTAD (2021c).

10.5 ECOWAS Sovereign Credit Ratings

ECOWAS states that were reconsidered after March 2020			*Outlooks: po = positive, st = stable, neg = negative*			
Country	Agency	Last rating before march	Mar 20	Apr 20	Aug 20	Sep 20
Benin	Fitch	B po		B st		
CPV	Fitch	B po		B- st		
	S&P	B st		B neg		
CIV	Moody's	Ba3 st			Ba3 st	
GHA	Moody's	B3 po		b3 neg		
	S&P	B st		B neg		B- st
MLI	Moody's	B3				Caa1
NGA	Fitch	B+ neg		B neg		B st
	S&P	B neg	B- st			
SEN	Moody's	Ba3 st			Ba3 neg	

Figure 74: Changes of Sovereign Credit Ratings regarding EMSs during the first months of the pandemic.

Source: TradingEconomics (2021c) & TheGlobalEconomy (2021).

10.6 ECOWAS Economic Stimuli / Policy Responses

	RAGA 2020 (until August)	AFDB 2020 (until June)
BEN	• $128.5 mill. (CFAF 74.12 Bn.) for informal business support • Extension of tax filing deadlines • CFAF 60 Bn. For medical response • CFAF 50 Bn. For cash transfers to vulnerable citizens (p. 55)	• Response plan $672 million (4.2% of GDP) • Supporting the most vulnerable social strata and businesses in the most severely affected industries (hotels, restaurants, transport, • and leisure) • reducing 50% of the tax on motor vehicles, 25% of the cost of licenses for passenger transport companies, 50% of the daily space charges for traders in major markets. • postponing the payment of taxes, duties, and social security contributions for companies in the most affected sectors • reducing salary costs for six months benefiting smaller enterprises affiliated with the National Social Security Fund • reducing customs duties on basic food products (CFAF 4.6 billion) (p. 57)
BFA		• 394 billion CFA emergency plan • creation of a solidarity fund for informal traders of fruits and vegetables, • acquisition of agricultural output and animal fodder to support pastoralists (p. 59)
CPV	• Total fiscal stimulus $91.7 mill. • $29.8 mill. to support businesses in loan guarantees, tax facilities • $39.4 mill. credit line for all firms • $21.7 mill. for the most vulnerable • $0.7 mill. to an emergency plan covering new heath care needs (p. 58)	• Government deferred tax payments until December 2020 • Approved €36 million in state-guaranteed lines of credit to protect private businesses • Central bank reduced its benchmark interest rate, dropped the permanent credit liquidity facility, approved special credit line of €400 million to commercial banks • Government approved €369,000 for 8,000 households in extreme poverty • €2.7 million targeting 30,000 informal sector workers, • Food assistance for 22,500 families • Enhanced social protection for the elderly (p. 61)
CIV		• Government adopted an FCFA 95.9 billion public health response plan • Additionally, an FCFA 1,700.9 billion economic, social, and humanitarian support plan including private sector support measures (e.g., postponing tax payment deadlines for retailers and support fund for informal sector) and social measures (e.g. temporary payment of electricity bills (April to July 2020) and water bills (May to August 2020) for the most disadvantaged)) (p. 67)
GHA	• Total fiscal stimulus: $2 Bn. • BOG C19 relief bond $1.8 Bn. • $107 mill. stimulus package for SMEs • $178 mill. support to industries (p. 60)	• Monetary policy measures (e.g., reduction of policy rate from 16% to 14.5%, removing charges on mobile money transactions below GH¢100 for three months to end-June, lowering the reserve requirement ratio from 10% to 8% and cutting the conservation buffer for banks from 3% to 1.5%) • Fiscal measures (Coronavirus Alleviation Program, $219 million + National Trust Fund (COVID–19 Fund) + Ghana COVID–19 Private Sector Fund) • subsidizing water bills by 100% and electricity bills by 50%, from April to June 2020 • special life insurance cover and other pay incentives for frontline health professionals (p. 76)

GMB		• Health sector spending was increased by GMD 0.5 billion (0.5% of GDP) (COVID–19 Pandemic Action Plan) • Government adjusted domestic fuel prices • Central bank reduced its policy rate an increased the standing deposit facility rate • providing food aid to vulnerable (a bag of rice, a bag of sugar, and 10 liters of cooking oil) • coverage of salaries of workers in the tourism sector for three months (April–June 2020) • Extensions for VAT tax returns for businesses (p. 75)
GIN		• Emergency Response Plan (Ministry of Health) • Economic Recovery Plan (Prime Minister's Office • Distribution of protection kits • Cash transfers to 240,000 households, • Free water and electricity from April to June 2020. • Reducing the financial and tax burdens (e.g. for tourism industry • (p. 77)
GNB	• Total fiscal stimulus: $2.1 mill. • $0.8 mill. to supply the Ministries of Health, Home Affairs and Defence • $0.9 mill. to distribute 20,000 bags of rice and 10,000 bags of sugar throughout the country (p. 61)	• No specific macroeconomic measures were adopted, as the country remains mired in political deadlock with no clear policy direction. (p. 78)
LBR		• Food distribution to the poor (US$ 25m), • Free water & electricity, • Suspension of charge on imported goods • No preshipment penalty (p. 81)
MLI	• Total fiscal stimulus: $67 mill. • Introduced temporary tax incentives • $67 mill. In revised budget for health expenditure (p. 64)	• Special fund of FCFA 100 billion for supporting the most vulnerable households, strengthening price controls to avoid price gouging, • Free distribution of 56,000 tons of grain and 16,000 tons of livestock feed. (p. 85)
NER		• Removing taxes and duties on products related to pandemic mitigation and on intercity ground transportation • Reduction of taxes for imports and hospitality sector • Enlargement of support plan for vulnerable populations (p. 91)
NGA	• Total fiscal stimulus: $4.8 Bn. • $3.3 Bn. from government; $1.1 Bn. [sic] via central bank	• NGN 500 billion ($1.4 billion) credit facility health care facilities support, relief for taxpayers, employers incentivize) • Conditional cash transfers to extra 1 mio. household • NGN 50 billion ($139 million) targeted credit facility • Liquidity injection of NGN 3.6 trillion (2.4% of GDP) into the banking system

	• $1.4 Bn. has been approved to support healthcare facilities, provide relief for taxpayers, and incentivize employers to retain and recruit staff during the downturn (p. 67)	• Reduction of interest rates from 9% to 5% • Central bank coordinated private sector special intervention targeting NGN 120 billion ($333 million) (p.92)
SEN	• Total fiscal stimulus: $1.65 Bn. • FCFA100 Bn. for hard-hit sectors such as tourism and transport • credit guarantee of FCFA 200 Bn. • FCFA 69 Bn. for urgent food aid and essential medical supplies • FCFA 15 Bn. will for suspension of utility payments for poorer customers • FCFA 12.5 Bn. for the Senegalese diaspora (p. 68)	• Response and solidarity fund of CFAC 1 trillion • Accelerate payments to private sector state suppliers (CFAF 302 billion) • Tax measures to support the formal sector (p. 95)
SLE	• Total fiscal stimulus: $123 mill. • Le 298.3 Bn. for SME financing & social safety net • tax rebate for health workers covering a 3-months period, and insurance cover for front line workers (p. 69)	• COVID–19 Quick Action Economic Response Program (25 March 2020) • Building stock of essential commodities and stabilizing prices • Business support (e.g., avert layoffs of employees) • Provide assistance for local production and processing of staple food items (p. 97)
TGO		• NOVISSI cash transfer scheme for the most vulnerable • Providing free water and electricity for the subsidized tranche sociale category for a period of three months. • Disbursing CFAF 2 billion for the initial economic measures • National solidarity and economic recovery fund of CFAF 400 billion (p. 104)

Figure 75: Listing of major economic measures taken by the EMSs in response to the pandemic.

Source: RAGA (2020) & AFDB (2020).

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Title	Author(s)	Year of Publication	Version
COVID-19 and (Im)mobilities in West Africa	Andras Breuer, Martin Doevenspeck, Kamal Donko and Serge Ouedraogo	2021	26 (3)
African Studies and the Question of Diasporas	John Ayotunde (Tunde) Isola Bewaji	2021	25 (2)
Figuring Out How to Reconfigure African Studies	Rüdiger Seesemann	2020	24 (1)

Breuer, Andras; Doevenspeck, Martin; Donko, Kamal; Ouedraogo, Serge (2021). COVID-19 and (Im)mobilities in West Africa. University of Bayreuth African Studies Working Papers 26, Africa Multiple *connects* 3. Bayreuth: Institute of African Studies.

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