



## The Impact of Covid-19 Pandemic on Market Liquidity: Evidence from African Countries

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### **Abstract**

**Purpose:** This study analyzed impact of COVID-19 on market liquidity. Specifically, the study examines the causal relationship that existed between daily growth of reported cases and market liquidity in selected African countries.

**Methodology:** The study used quantitative approach and panel design from African Stock Markets. It also employed the use of AMIHUD liquidity ratio to measure market depth of Liquidity.

**Findings:** The findings indicate mixed results that daily growth of reported cases impacted negatively the market liquidity for Egypt, Nigeria and Zimbabwe. Contrary, the daily reported cases had a positive impact on the market liquidity in Morocco. The reported cases of COVID-19 had no significant impact on the market liquidity for Botswana, Ghana, Tunisia, Zambia, Uganda and Kenya. Additionally, the number of reported deaths had a negative influence on market liquidity in Morocco. It is recommended that Governments should provide transparent and timely information about the state of the pandemic and its impact on the economy, and promote remote work to limit the spread of communicable diseases and minimize their impact on market liquidity and the economy at large.

**Originality/Value:** This study is meant to raise public awareness on how COVID19 pandemic has impacted the liquidity of capital markets. It is trusted that the suggested recommendations will enable the regulatory authorities to react timely and in a more transparent way in case of pandemic occurrence, hence reduce their impacts on performance of capital markets.

## **Introduction**

Market liquidity is normally regarded as a measure of market players' ability to transact in securities without substantially changing their pricing (Amihud *et al.*, 2006). Higher market liquidity is linked to lower investor apprehension, higher investor confidence and many buyers as well as sellers that are eager to trade on markets (Amihud *et al.*, 2006). Market liquidity is affected by numerous factors that include regulatory policy announcements and technological advancements in trading systems (Teplova & Rodina, 2016). Other factors include existence of risk and uncertainty such as pandemic or diseases that cause deterioration of market liquidity [International Monetary Fund (IFM) 2021; Nguyen, Hai & Nguyen, 2021].

Emergence and spread of Corona Virus Disease-19 (COVID-19) is associated with several economic crises witnessed across developed and emerging economies (Hevia & Neumeyer, 2020). Since it was announced that COVID-19 was prevalent worldwide, financial markets were characterized by high degree of uncertainty (Mdaghri, *et al.*, 2020). With the start of COVID-19, countries-imposed limitations and lockdowns that were additional causes in worsening of liquidity and stability of markets (Baig *et al.*, 2021). Alsedrah *et al.* (2021) highlighted that COVID-19 epidemic causes a financial crisis that could be mitigated over time by improving trade liquidity. Likewise, frequent information concerning COVID-19 could cause anxiety, which would have a detrimental impact on stock prices because of investors and other stakeholders losing faith in the market in Malaysia (Hashmi *et al.*, 2021).

Market liquidity in global markets came under extreme pressure due to COVID-19 pandemic that emerged and spread around the world (Zhang, Hu & Ji, 2020). Business shutdowns, quarantines and restrictions on mobility including social contacts drove markets into panic as well as negative impact on economies. For instance, the International Monetary Fund (IMF) April 2020 report forecast worldwide growth of -3 percent in 2020 and -2.1 percent in Africa, trends that were worse than those seen during the 2008–2009 global financial crisis (African Economic Outlook 2021; IMF, World Economic Outlook, 2020).

Hua, Shenb, Yucand and Xu, (2022) claimed that financial crisis produced a significant level of uncertainty, which reduced investor market participation. Low market activity causes increased market volatility as a result of less market liquidity, which forces market participants to use hedging (Kocaarslan & Soytaş, 2021). The panic because of COVID-19 scourge drove risk asset prices down and transaction or trading costs of bond increased significantly [International Organization of Securities Commissions (IOSC), 2022]. Such combination of factors ultimately led traders to widen spreads and reduce size they were willing to trade (IOSC, 2022). In addition, during COVID-19 pandemic, corporate bond primary market activity was significantly shortened, with the greatest markets efficiently closed occasionally (IOSC, 2022).

Regardless of studies that have been conducted on COVID-19 pandemic and market liquidity (for example, Al-Awadhi *et al.*, 2020; Alfaro *et al.*, 2020; Baig *et al.*, 2021; Eleftheriou and Patsoulis, 2020; He *et al.*, 2020; Liu *et al.*, 2020; Mdaghri *et al.*, 2021; Zhang, 2020), none dealt on the COVID-19 effect on Sub-Saharan Africa's (SSAs) market liquidity and accordingly, further research was needed. The link between COVID-19 pandemic and market liquidity in Africa countries has been narrowly discussed. Thus, this study examines the causal relationship that existed between daily growth of reported cases and market liquidity in selected African countries.

## **Literature Review**

### ***Theoretical Review***

The Black Swan Theory formulated by Taleb (2007) on Effect of the Highly Unlikely was used in the study. Black Swan Theory describes highly unpredictable events that have a huge impact on stock markets, money markets, and the general economy (Zhanga *et al.*, 2021). The Black Swan theory has three features. It must first be unexpected, which is an occurrence where there is no prior indication that it will happen and as a result, surprises both analysts and the market and second, distinguishing characteristics have a significant impact (Taleb, 2007). They significantly disrupt the global economy like Covid-19 and third, humans often explain events and their causality after they happen (*ibid.*). The COVID-19 pandemic

meets all criteria for a black swan case (Mishra, 2020). For instance, the COVID-19 pandemic occurs without warning; second, the said pandemic has a disproportionate effect, upsetting the balance of the global economy and market; and third, the world has just recently come to realization that the pandemic could have been prevented. As a result, it seemed like COVID-19's appearance was a Black Swan event (Mishra, 2020).

Investors have been discouraged by changes in the global stock brought by news of a pandemic and its consequences (Naseem et al., 2021). One danger that must be dealt with in the stock market is on effects of a Black Swan event. Therefore, despite low likelihood of these events occurring, it would be a grave error to ignore them. This leads to recommend that investors should have a structured, diversified portfolio that includes a variety of asset classes so that they can serve as counterbalances in the event that they must react to changing economic or financial circumstances.

In the context of the effect of daily growth of reported cases and deaths on market liquidity in selected African countries, the Black Swan Theory can help explain the unexpected and extreme market volatility caused by the pandemic. The daily growth of reported cases and deaths is an unpredictable event that can have a significant impact on market liquidity, as it creates uncertainty and fear among investors. The theory also highlights the importance of preparedness and resilience in the face of Black Swan events. The countries that have been most successful in mitigating the impact of the pandemic on their economies and markets have been those that were most prepared and able to adapt quickly to changing circumstances. For example, countries with strong healthcare systems, effective government responses, and robust economic support measures have been better able to weather the pandemic than those with weaker systems and responses.

#### ***Empirical Literature Review***

Umar and et al' (2020) study focused on COVID-19 and stock market liquidity in China. Their study used secondary data that spanned from 1st July 2019 to 10th July 2020 (ibid.). Findings of Vector Autoregression (VAR) revealed an absence of both short-term and long-term relationships among new cases due to COVID-19 pandemic

on market liquidity (ibid.). Their findings mean that no confirmation of the effect of COVID-19 on stock market liquidity.

In addition, Nguyen, Hai and Nguyen (2021) from Vietnam examined market liquidity during the COVID-19 epidemic. They used secondary from Vietnamese stock exchange, spanning from January 30th, 2020, to May 15th, 202 (ibid.). Findings of panel regression analysis disclosed that daily rise in the total number of confirmed cases caused by COVID-19 had a significant negative influence on market liquidity. Kunjal (2021) from Johannesburg investigated how COVID-19 affected market liquidity in Johannesburg Stock Exchange. Findings showed that a rise in number of verified COVID-19 cases caused enterprises' liquidity to decrease (ibid.). Further, it was unveiled that an increase in COVID-19-related mortality causes a rise in a firm's liquidity (ibid.). While Kunjal (2021) only used the Johannesburg Stock Market of South Africa, one country, this study employed panel data, which included data from ten African countries. Likewise, Baig and et al (2021) from United States of America (USA) looked at how the COVID-19 pandemic affected microstructure of equities markets. Findings demonstrated a significant increase in market illiquidity that was associated with an increase in corona virus-related confirmed cases and death (ibid.). Similarly, Chatjuthamarda et al (2021) investigated how COVID-19 affected market liquidity globally using a total of 43 stock indices.

Results demonstrated that there is a significant relationship between quantity of confirmed cases and deaths as well as market quality, with economic, financial, and political risks playing an important influence. Chebbi, Ammer and Hameed (2021) explored connection between stock liquidity and the COVID-19 pandemic in American stock markets. Results of the regression analysis revealed a substantial inverse association between daily growth in number of cases and death on market liquidity.

Thus, despite studies carried out in Africa, for example, Kunjal (2021) from Johannesburg, this study fills methodological and context gap by advancing knowledge on how the COVID-19 pandemic affected market liquidity for African countries hard-hit by the pandemic. Additionally, whereas majority of previous

studies employed panel regression to analyze the issue, this study used a panel autoregressive distributed lag model, which is appropriate for time series with many cross-sections (panel). The panel Autoregressive Distributed Lag model was used because the investigation covered multiple countries. Furthermore, the Granger causality and long-term relationship between variables in the ARDL model aid in understanding short-term and long-term effects for each selected country.

The study hypothesized a negative correlation between daily number of cases and market liquidity. It implies that market liquidity declines as the number of cases and fatalities caused by COVID-19 rises. The hypothesis aligns with Karim and et al (2020) from South Africa; Nguyen, Hai, and Nguyen, (2021) from Vietnam; and He and co-workers (2020) from China.

## **Research Methodology**

### **The Research Tool**

The study employed the use of quantitative research approach to find out the extent the pandemic affects market liquidity. Panel research design was used since nature of data, time variable (i.e., daily time variable such as daily number of cases and death due to Covid-19; daily price) was extracted from more than two African counties. The study included daily data from 10 countries within African continent that were hard hit by COVID-19 pandemic included Kenya, Uganda, Egypt, Botswana, Ghana, Tunisia, Morocco, Nigeria, Zambia and Zimbabwe. The study used daily data covered from form 7<sup>th</sup> February 2020 to 11<sup>st</sup> March 2022. Data was extracted from secondary sources from Africa Stock market website and Investing.com that offers the data related to market liquidity. Likewise, both World Health Organization and STATIST websites provided data on number of cases and death associated on COVID-19. In measurement of variable, market liquidity, as determined by Amihud's (2002) suggested AMIHU liquidity ratio, which measures market depth. AMIHU denotes the stock price as a function of the daily volume of shares traded. The indicator's value increases when market liquidity decreases. Independent variable was COVID-19 pandemic and adapted measures used by Al-Awadhi (2020), that is, daily

percentage change in the total number of confirmed cases and daily percentage change in the number of confirmed deaths.

### Data Analysis Approaches

The study used panel Autoregressive Distributed Lag model (ARDL). The ARDL model helped to analyze the impact of the COVID-19 epidemic on market liquidity in each individual country. The following sub-sections present some of the procedures that make up the ARDL model, including the unit root test, lag selection, coefficient estimation and Granger causality.

#### Unit Root Test

The Im-Pesaran-Shin (IPS) unit-root test was performed to ensure that included variables had unit roots or otherwise to avoid spurious regression. In contrast to the alternative hypothesis that certain panels are stationary, the null hypothesis can be phrased as all variables in all panels were non-stationary. Im, Pesaran, and Shin (1995) tests were utilized in the study to determine the variables' integration order. To estimate ARDL, the unit root test and order of variable integration are not required (see Pesaran and Smith, 1995; Pesaran, 1997). However, the study looked at the unit root to make sure that no variable's integration went above order I. (2). The IPS test serves as the ADF's foundation for each series (Pesaran, 2003). However, the IPS test is typically predicated on the arithmetic mean of each individual series and therefore, a series may potentially be suggested by ADF as

$$\Delta y_{i,t} = \alpha_i + \rho y_{i,t-1} + \sum_{j=1}^{p_i} P_{i,j} \Delta y_{i,t-j} + v_{i,t} \dots\dots\dots 1.0$$

Where t represents time period,  $P_i$  represents lag order;  $v_{i,t}$  stand for error term;  $\Delta y_{i,t}$  stand for change in variable in respect to time; i stands for observation;  $\alpha_i$  represent constant, j stands for number of panel (Pesaran, 2003).

#### Estimating Mean Group

In order to address bias caused by heterogeneous slopes in dynamic panels, Pesaran, Shin, and Smith's (1995) mean group proposal is significant in panel ARDL estimation. Mean group estimator has the benefit of providing long-run parameters

for the panel by averaging long-run parameters from those models for each country (Pesaran, Shin, and Smith, 1995). The general equation of ARDL is as follows:

$$Y_t = \alpha_i + \gamma_i Y_{i,t-1} + \beta_i X_{it} + \varepsilon_{it} \dots\dots\dots 1.1$$

Where, i represents the selected nations where i=1,2,3, .....N,  $\alpha_i$  stand for constant;  $\gamma_i$  stands for coefficient of endogenous variable;  $\beta_i$  stands for coefficient for exogenous variable;  $X_{it}$  exogenous variable;  $\varepsilon_{it}$  error term;  $Y_t$  stands for endogenous variable; t stands for time variable.

Second, Pool Mean Group understands long-term and short-term relationships between COVID-19 and market liquidity, and it illustrates diverse dynamics of different nations as displayed in equation 1.2

$$Y_{it} = \sum_{j=1}^{p-1} \gamma_j^i (Y_i)_{t-1} + \sum_{j=0}^{q-1} \delta_j^i (X_i)_{t-j} + \varphi^i (Y_i)_{t-1} + \mu_i + \varepsilon_{it} \dots\dots\dots 1.2$$

Where  $(X_i)_{t-j}$  the (k\*1) is vector of control variables for group i;  $\mu_i$  signifies the fixed effect. In principle, the panel can be unequal, and p and q may differ from countries. The letter Y is market liquidity, X is a set of exogenous variables (number of cases and death due to CODIV-19);  $\gamma$  and  $\delta$  stand for short-run coefficients of outcome and control variables, respectively,  $\beta$  are long-run coefficients,  $\varphi$  the coefficient of speed of adjustment to long run, whilst subscripts i and t stand for nations and time, correspondingly. Empirical model indicated in equation 1.3

$$\Delta \ln ML_t = \alpha + \sum_{i=1}^{k+d} \beta \Delta \ln ML_{t-1} + \sum_{i=1}^{k+d} \varphi \Delta \ln CASE_{t-1} + \sum_{i=1}^{k+d} \delta \Delta \ln DEATH_{t-1} + \lambda_1 \ln ML_{t-1} + \lambda_2 \ln CASE_{t-1} + \lambda_3 \ln DEATH_{t-1} + u_t \dots\dots\dots 1.3$$

Where k Is the optimal lag order, and d Is the maximum order of integration of the variables;  $u_t$  is the stochastic error term, and  $\Delta$  denotes for the first difference operator. Further, ML, CASE and DEATH stand for market liquidity, number of cases and death due COVID-19, respectively, in natural logarithm. The coefficients  $\beta$ ,  $\varphi$ ,  $\delta$  and  $\Phi$  stand for short-run dynamics of the model, while coefficients  $\lambda_1$ ,  $\lambda_2$ ,  $\lambda_3$ , stand for long-run dynamic relationship.



### Findings and Discussion

Findings of unit root test exposed that market liquidity; number of cases and number of deaths are stationary at both levels and at first difference. Moreover, results of Hausman Test indicate the probability value of the chi-square test is (0.3647>0.05); hence the alternative hypothesis is rejected. Thus, Pooled Mean Group is the most effective estimator for analyzing ARDL panel data. Findings demonstrate that, at 5 percent significance level, the daily increase in COVID-19 reported cases for Egypt has a negative influence on market liquidity. Nigeria's short-term results demonstrate that the daily increase in reported COVID-19 cases has a negative impact on market liquidity (p=0.008).

Additionally, in Zimbabwe, short-term results indicate a daily increase in reported COVID-19 cases has a negative impact on market liquidity (p=0.021). Moreover, results from Morocco noted that short run results indicate that COVID-19 daily increase in reported cases has a positive influence on market liquidity (p=0.000). Furthermore, research from Botswana, Tunisia, Zambia, Uganda and Ghana indicates that although the daily increase in reported cases brought on by COVID-19 is insignificant influence on market liquidity. Likewise, results show that the daily death growth due to COVID-19 in Morocco has negative impact on the market liquidity. Moreover, findings on the daily death growth due to COVID-19 in Nigeria has positive impact on the market liquidity (p=0.013).

**Table 4: Panel ARDL Estimates**

Country	Variables	Coef.	P_value	Country	Coef.	P_value
Egypt	ECT	0.157122	0.000*	Morocco	0.137394	0.009*
	ln_cases	-0.00047	0.022**		0.00062	0.000*
	ln_deaths	0.0004	0.043**		-0.0007	0.000*
	_cons	0.001581	0.026**		-0.0022	0.000*
Botswana	ECT	0.075075	0.083***	Nigeria	0.19762	0.000*
	ln_cases	-5.82E-06	0.487		-0.00027	0.008*
	ln_deaths	-5.70E-06	0.658		0.00029	0.013*
	_cons	-4.3E-05	0.230		0.000586	0.089***

Ghana	ECT	-0.03476	0.485	Zambia	-0.09342	0.100***
	ln_cases	2.38E-05	0.822		1.86E-05	0.886
	ln_deaths	1.82E-05	0.868		0.000058	0.666
	_cons	-0.00026	0.623		-0.00026	0.621
Kenya	ECT	-0.01016	0.834	Uganda	-0.07508	0.204
	ln_cases	-0.00025	0.946		1.96E-05	0.916
	ln_deaths	0.000584	0.895		-8.07E-06	0.953
	_cons	-0.00325	0.720		-3.4E-05	0.977
Tunisia	ECT	0.116978	0.017**	Zimbabwe	0.592545	0.000*
	ln_cases	-4.27E-06	0.947		-0.00024	0.021**
	ln_deaths	-4.4E-05	0.507		6.75E-05	0.562
	_cons	0.000139	0.548		0.000924	0.007*

Note: \*, \*\* & \*\*\* stand for significant at 1%, 5% & 10% respectively

### ***Causal Relationship between Daily Growth of Reported Cases and Market Liquidity: Negative Relationship***

Findings from Egypt established that at 5 percent significance, daily increase in reported COVID-19 instances has a detrimental effect on market liquidity. This suggests that a unit change in the daily rise of reported cases is associated with a 0.00047-unit decline in market liquidity as shown in Table 4. Also, in Nigeria, results exhibited that daily increase in reported COVID-19 cases has a negative impact on market liquidity at 1 percent significance level ( $p=0.008$ ). This indicates that while other factors remain constant, a unit change in the daily rise of reported cases brought by COVID-19 was linked to a decrease in market liquidity in Nigeria (see Table 4). Thus, for Egypt, Nigeria and Zimbabwe, increase in reported COVID-19 cases exhibit negative impact on market liquidity, which aligns with formulated hypothesis.

In conclusion, such negative effect, studies such as Phuong (2021); Anh and Gan (2021) point out that the stock market as well as other businesses have experienced an evident upward trend after the Government enacted epidemic control programs such as boarder restriction, lockdown, work from home, travel restrictions,

declaration of national health emergency, social distancing, cancelation of public events, temporary closures of educational institutions.

The findings concur with a study undertaken by Nguyen, Hai, and Nguyen (2021) of Vietnam that revealed that daily increase in overall number of confirmed cases brought by COVID-19 had a considerable negative impact on market liquidity. Similarly, Johannesburg-based Kunjal (2021) revealed that a rise in number of confirmed COVID-19 cases caused enterprises' liquidity to decrease. Similar outcomes are seen with American researchers, for instance, Chebbi, Ammer, and Hameed (2021). The results of the regression analysis revealed a negative association between daily growth in the number of cases and liquidity (*ibid.*). Likewise, Ashraf (2020) carried out a study that concentrated on effect of COVID-19 on market liquidity in 64 countries and revealed that there are adverse linkages between liquidity and higher numbers of confirmed cases.

#### ***Causal Relationship between Daily Growth of Reported Cases and Market Liquidity: Positive Relationship***

Moreover, according to findings on Morocco, the daily increase was significant at 1 percent. This suggests that a unit change in daily increase in reported COVID-19 cases in Morocco is associated with an increase in market liquidity of 0.00062 units as displayed in Table 4. The finding is inconsistent with formulated hypothesis, which states that 'number of cases due to COVID-19 pandemic was negatively associated with market liquidity.' Thus, there exists a significantly positive relationship among liquidity and growth rate of daily COVID-19 infections in Morocco. It confirmed the worsening severity of the COVID-19 in hindering growth of Morocco stock market and raised incurred transaction cost. Findings concur with those from American researchers, for example, Baig and et al (2021), whose analysis demonstrated a significant association among rises in confirmed corona virus cases and a rise in market liquidity.

### ***Causal Relationship between Daily Growth of Reported Cases and Market Liquidity: Insignificant***

Moreover, evidence from Botswana Ghana, Kenya, and Tunisia reported number of cases had no effect on market liquidity (see Table 4). The finding was inconsistent with formulated hypothesis, which stated that 'number of cases due to COVID-19 pandemic negatively associated with market liquidity. Results concur with those by Umar and et al (2020) who employed Vector Autoregression (VAR) and found no evidence of both short-term and long-term correlations among new cases because of the COVID-19 pandemic's effects on market liquidity. Their findings imply that there is no proof of COVID-19's impact on stock market liquidity.

### ***Causal Relationship between Daily Death Growth and Market Liquidity: Negative Relationship***

Findings from Morocco's daily death growth caused by COVID-19 were significant at 1 percent and had a negative effect on market liquidity. This leads to the conclusion that a unit change in daily death growth caused by COVID-19 in Morocco is connected to a 0.0007 loss in market liquidity (see Table 4). Findings from Morocco align with formulated hypothesis, which stated that 'number of death due to COVID-19 pandemic negatively associated with market liquidity. The outcomes are consistent with Marozva and Magwedere's (2021) investigation on association among COVID-19 and market liquidity in developing economies. Their study found that across all liquidity metrics in all markets, there was a negative and significant relationship between liquidity and the number of deaths caused to COVID-19 (*ibid.*).

### ***Causal Relationship between Daily Death Growth and Market Liquidity: Positive Relationship***

Findings indicated a positive impact of the daily death growth due to COVID-19 on market liquidity at 5 percent in Egypt (see Table 4). It means that a unit change in daily death growth due to COVID-19 is associated with an increase in market liquidity of 0.000198 units (see Table 4). Therefore, the COVID-19-related daily death growth is linked to an increase in market liquidity in Egypt. Also, in Nigeria, a unit change in daily death growth caused by COVID-19 in Nigeria is associated with a rise

in market liquidity of 0.00029 (see Table 4). Thus, in Egypt and Nigeria, their results do not align with formulated hypothesis, which state that number of death due to COVID-19 pandemic negatively associated with market liquidity. The findings concur with those by Johannesburg researcher, Kunjal (2021), who looked at how COVID-19 affected market liquidity. His findings demonstrated that an increase in COVID-19-related mortality causes a rise in business liquidity (*ibid.*). In a similar vein, Baig and et al (2021) from the United States of America revealed that the rises in confirmed pandemic deaths were connected to a sizable increase in market illiquidity.

#### ***Causal Relationship between Daily Death Growth and Market Liquidity: Insignificant***

Findings from Ghana, Kenya, Zambia, Uganda, Zimbabwe, and Tunisia showed that a unit change in daily death due to COVID-19 had no influence on market liquidity (see Table 4). Thus, insignificant increasing number of daily deaths and liquidity is due to characteristics of data used in the model. That is, COVID-19-related deaths recorded in Kenya, Zambia, Uganda, Zimbabwe, and Tunisia are somewhat low, and furthestmost of them happened in the elderly or those with preexisting morbidity. The results are consistent with those by Umar and et al (2020) from China who revealed that there is no proof of the impact of COVID-19 on stock market liquidity. In a similar vein, Gherghina, Armeanu, and Joldes (2021) showed that there was no connection between number of deaths and market liquidity.

#### **Conclusions**

The daily increase in reported cases of COVID-19 in Egypt, Nigeria, and Zimbabwe is related to a decline in market liquidity. Thus, the panic and uncertainties of COVID-19 pandemic increased the worldwide financial instability and caused falls in market indices. Prominent among the financial market segments is the stock market, which weathered spiked volatility, declined liquidity and sharp fall in prices of equities and commodities instantly after rise in number of COVID-19 cases. Moreover, in Morocco, reported cases of COVID-19 increased market liquidity. Furthermore, according to data from Botswana, Ghana, Kenya, Tunisia, Zambia, and Uganda, the daily increase in reported COVID-19 cases had no impact on market liquidity.

In Morocco the daily reported cases had a positive impact on market liquidity, while in Egypt, Nigeria and Zimbabwe, they had negative impact. The positive impact on market liquidity was due to fact the Morocco government implemented strict public health measures, such as widespread testing, mandatory mask-wearing, and social distancing, which helped to control the spread of the virus and instill confidence in investors.

Additionally, the government provided economic support to affected businesses, which could have also contributed to the positive impact on market liquidity. On the other hand, in Egypt, Nigeria, and Zimbabwe, the negative impact of daily reported cases on market liquidity could be due to a weaker response to the pandemic. The governments in these countries was slow to implement public health measures, which led to a higher number of cases and deaths, and increased uncertainty among investors. Additionally, there may have been a lack of economic support for affected businesses and workers, which could have further impacted market liquidity. Other factors that could contribute to the abnormality could be the differing levels of political stability, economic growth, and investor confidence in these countries, which could also impact the relationship between daily reported cases and market liquidity.

However, daily death growth due to COVID-19 had insignificant effect on liquidity for Kenya, Zambia, Uganda, Zimbabwe, and Tunisia, but had a positive impact on market liquidity at a statistically insignificant level. This might be due to very low fatality rate of corona virus infections, which investors might not have included in their technical analysis. That is, the COVID-19-related deaths recorded in Kenya, Zambia, Uganda, Zimbabwe and Tunisia were somewhat low, and furthestmost of them happened in the elderly or those with preexisting morbidity.

Based on the observation that the daily increase in reported COVID-19 cases in Egypt, Nigeria, and Zimbabwe is related to a decline in market liquidity, study recommend need for implement strict public health measures: To slow the spread of

COVID-19 and minimize its impact on market liquidity, governments in Egypt, Nigeria, and Zimbabwe should implement strict public health measures, including social distancing, mask-wearing, and hand hygiene. This could help reduce the number of new cases, which in turn could help stabilize market liquidity. Second study recommend increasing transparency and communication: Governments should provide transparent and timely information about the state of the pandemic and its impact on the economy. This could include regular updates on the number of new cases, hospitalizations, and deaths, as well as information on government policies and support measures. Effective communication can help reduce uncertainty and prevent panic among investors. Finally, study recommend implementing targeted economic support measures: Governments could implement targeted economic support measures to support businesses and workers that are most affected by the pandemic. This could include providing financial assistance to small and medium-sized enterprises, providing tax breaks or incentives to companies that retain their workers, and increasing funding for social welfare programs.

Based on the observation that the number of reported deaths had a negative influence on market liquidity in Morocco, here are some possible recommendations: first is promote remote work: To limit the spread of COVID-19 and minimize its impact on market liquidity, governments could encourage remote work where possible. This could include providing financial incentives to companies that allow their employees to work from home, as well as investing in digital infrastructure to support remote work. Second is strengthening the healthcare system: To reduce the number of deaths from COVID-19 and other health issues, governments in Morocco should invest in strengthening the healthcare system. This could include increasing the number of healthcare workers, improving access to healthcare facilities, and investing in medical research and development. A stronger healthcare system can help reduce the impact of future pandemics on market liquidity and the economy as a whole.

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