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Impact of COVID-19 on Global Stock Market uncertainty

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Abstract

Fear and uncertainty surrounding the virus have led to mass selling, with cycles of volatility continuing into the later stages of the pandemic. The stock market witnessed ups and downs as a result of the response to successful and developing news related to the virus and related to government policies, closure policies, and developments. Uncertainty became the new norm and weaknesses appeared in various sectors, as it had a significant and varying impact on different industries. The aviation sectors have been depleted, which explains the restrictions on travel and the decline in consumer spending. Experienced technology and sponsorship companies. Healthcare and retail websites have grown as demand has shifted dramatically in response to the new realities of a socially distanced world and government interventions have played a crucial role in stabilizing markets and mitigating the economic fallout. Central banks implemented strict monetary policies in terms of lowering interest rates and injecting liquidity.

Keywords: COVID-19, Market uncertainty, pumping liquidity, interest rates

1. Introduction and literature review

The Corona crisis changed the economic balance, so the impact of the Covid-19 pandemic on the global stock market had a profound and unprecedented impact. Stock markets around the world witnessed varying degrees of fluctuations in response to the pandemic, as major and major indices such as the Dow Jones Industrial Average, the FTSE 100, and the Standard & Poor's 500 recorded declines (Akhtaruzzaman ,et al.2020). These declines are significant, as these declines represent part of the largest declines occurring on a quarterly basis since the start of recording financial crises. This has prompted leading researchers in the field of economists to issue warnings and send reports about what will occur of a severe global slowdown (Baek ,et al.2004). It has been predicted that a major global recession will occur, and this is explained by the consequences of this outbreak. Acute respiratory disease has caused panic and uncertainty throughout the economic environment and this has led to a significant decline in stock markets with increased volatility (Black, 1976).

Many empirical researches have shown that negative return shocks such as that resulte d from the epidemic, which have a highly impacted through their sharp fluctuations, When compared to positive return shocks, it follows that this phenomenon, called the financial leverage effect, occurs as a result of the decline in the value of stocks, and thus here the financial leverage increases (Chowdhury et al. 2016).Stock market volatility and risks will further worsen, knowing that the presence of asymmetric volatility implies that a clear increase in volatility will have a detrimental impact on investment, production, employment, and policy uncertainty, as the COVID-19 pandemic has not only affected public health and spread physical illness, but It led to the disruption of the supply and demand sides of the global economy, and it is an economic disease similar to a physical disease in humans (Danielsson ,et al.2018). This serious disorder led to a decline in bond yields and significant declines in the prices of oil derivatives, along with crises in liquidity at both the institutional and individual levels. Together, these shocks led to an increase in... Intensity of stock market fluctuations (Easterly, et al.2000)

It is necessary to analyze the factors that may help mitigate turmoil in the stock market and prevent future crises in light of these challenges. This requires a comprehensive understanding of the mechanisms through which the pandemic affects market dynamics. Understanding the psychological aspects of investor behavior during times of crisis is essential, as fear and lack of... The certainty and herd mentality that often prevails in such situations can significantly influence market volatility. By drawing on well-established theories of behavioral finance,

insight can be gained into how emotions and cognitive biases influence investors' decisions and contribute to market outcomes.

Economic flexibility refers to the economy's ability to withstand and recover from shocks and shocks, so it always examines how economically strong countries that enjoy high levels of economic flexibility were able to mitigate the economic impact of the pandemic on market movements. For values (Fernandez, 2020). The global economy has experienced significant disruptions caused by the COVID-19 pandemic, which has increased stock market volatility.

The impact of economic flexibility varies depending on factors such as industrial diversification, expansion and strengthening of social safety nets, and sound financial policies. Effective crisis management strategies. These factors contribute to the stability and flexibility of the economy (Gordon, 2005). They push us to fight against external crises. We find that countries with diverse and diverse economies are less vulnerable to shocks in the industrial sector. Diversification reduces dependence on one industry and helps spread risk. Countries with diverse economies were able to mitigate the impact. In their stock markets, relying on other sectors that were less affected by the crisis effective crisis management strategies are considered necessary to reduce the impact of stock market shocks (Abiad, et al.2015). There is clear communication and coordination between government agencies and proactive decision-making in countries with strong crisis management systems (Al-Awadhi, et al. 2020).

2. Data and Methodology

The data sources and variables used are clearly defined in Table 1. This research paper uses data from multiple sources to examine the impact of the COVID-19 pandemic on several capital markets and the economy along with their measurement definitions and the data set includes daily price indices, trading volumes and the VIX index for the period. From mid-2019 to late 2020 for thirty-four countries and These countries were selected on the basis of the availability of data and the comprehensiveness of their markets. Daily data on COVID-19 cases and deaths from the first WHO record of the outbreak on 31 December 2019 through August 2020 are included and the countries in the sample are also described in Table 2 and Unit root tests such as the Levin-Lin-Chu test were used (Ali ,et al.2020). Im-Pesaran-Shin test and Fisher type tests to take the first or second differences for non-stationary data (Baker,et al.2020).

2.1. Testing procedures

Appropriate tests were conducted to hold time series data stationary before modeling to obtain a final statistically valid size for This paper aims to analyze the impact of Covid-19 on markets and economies using a large-scale dataset from multiple sources (Bakshi & Chen, 1996).

Table 1: Definition of variables within a list

Variables	Definitions of the variables	Sources
Variables related to COVID-19		
CTC	Growth in total COVID-19 cases in the world	The World Health Organization, and ourworldindata.org
CTD	Growth in total COVID-19 deaths in the world	
CSC	Growth in total COVID-19 cases of each country in our sample	
CSD	Growth in COVID-19 deaths of each country in our sample	
Variables related to the capital market		
RET	Log return of the broad stock market index from each country in our sample	DataStream
RME	Log return on MSCI Emerging Market index	
RMW	Log return of MSCI world index	
RVX	Log returns of CBOE VIX volatility index	
LVO	Log of total trading volume of each market index in our sample	
LVX	Log of CBOE VIX volatility index	
LDX	Log of the broad stock market index of each country in our sample	
LGX	GDP adjusted market Index	

This helps in studying how market flexibility affects pandemic-induced volatility and analyzing the impact of Coronavirus (COVID-19) on stock market returns and volatility in different countries. The research developed a dynamic panel model (EGARCH) where Equation 1 represents the conditional average of daily index returns and includes lagged returns and control variables such as trading volume, VIX returns, oil prices, and GDP, but most importantly of all it includes the change in infections and deaths caused by... Coronavirus (Covid-19) globally and in every country (Bickart, et al. 2005).

Table 2: Description of the Data

Cumulative Percentage	Percentage	Frequency	Country
2.94	2.94	295	Australia
5.88	2.94	295	Austria
8.82	2.94	295	Belgium
11.76	2.94	295	Brazil
14.71	2.94	295	Canada
17.65	2.94	295	China
20.59	2.94	295	Czech
23.53	2.94	295	Egypt
26.47	2.94	295	Finland
29.41	2.94	295	France
32.35	2.94	295	Germany
35.29	2.94	295	Greece
38.24	2.94	295	Hungary
41.18	2.94	295	India
44.12	2.94	295	Indonesia
47.06	2.94	295	Italy
50.00	2.94	295	Japan
52.94	2.94	295	Malaysia
55.88	2.94	295	Mexico
58.82	2.94	295	Netherlands
61.76	2.94	295	Norway
64.71	2.94	295	Philippines
67.65	2.94	295	Poland
70.59	2.94	295	Singapore
73.53	2.94	295	South Africa
76.47	2.94	295	South Korea
79.41	2.94	295	Spain
82.35	2.94	295	Sweden
85.29	2.94	295	Switzerland
88.24	2.94	295	Taiwan
91.18	2.94	295	Thailand
94.12	2.94	295	Turkey
97.06	2.94	295	United Kingdom (UK)
100	2.94	295	United States (USA)

This allows both local and international transmission effects to be captured. It is assumed that the error term in Equation 1 has a normal distribution with some conditional moment properties as defined in Equations 2-5 but Equation 6 will model

The conditional variance following the EGARCH(1,1) process, where the natural log of the conditional variance is expressed as a function of the lagged standardized residual term plus the growth in global and local COVID-19 cases/deaths according to the development of a fixed-effects dynamic panel model for analyzing stock returns.

$$\mathrm{RETit} = \mu i + \sum \mathrm{AkKk} = 1\ \mathrm{RETi,t} - k + \mathrm{XitB1} + \mathrm{CWtB2} + \mathrm{CSitB3} + \varepsilon \mathrm{it}, i = 1, \ldots, N;\ t = t, \ldots T \quad (1)$$

Equation 1 to focus on the conditional mean, while Equation 6 focuses on the EGARCH structure of the conditional variance, and both Contains key COVID-19 variables to isolate their impact on markets (Bloom ,et al.2007)**.**

$$E[\varepsilon it\ \varepsilon js] = 0 \text{ for } i \neq j \text{ and } t \neq s, \quad (2)$$

$$E[\varepsilon it\ \varepsilon js] = 0 \text{ for } i = j \text{ and } t \neq s, \quad (3)$$

$$E[\varepsilon it\ \varepsilon js] = \sigma^2_{ij,t} \text{ for } i \neq j \text{ and } t = s, \quad (4)$$

$$E[\varepsilon it\ \varepsilon js] = \sigma^2_{it}. \quad \text{for } i = j \text{ and } t = s, \quad (5)$$

$$\ln(\sigma_{it}^2) = \lambda 0 + \lambda 1 CWt + \lambda 2 CSit + \lambda 3 RSit + \alpha zi,t-1 + \gamma\ (|zi,t-1| - \sqrt{2}\ \pi\diagup) + \delta \ln\ (\sigma_{i,t}^2 - 1) \quad (6)$$

The goal of the proposed model is to understand how pandemic incidence/deaths and resilience indicators affect market volatility. By analyzing the signs and magnitudes of the coefficients as well as other macroeconomic characteristics as defined in Table 1, the model in Equation 6 will study stock market volatility and fluctuations. The relationship with various factors related to Covid-19 deaths/deaths in addition to market elasticity, so zit is the uniform residual after a normal Gaussian distribution, while CWt and CSit depend on the growth rates of Covid-19 infections and deaths data around the world and within each country. Therefore, it will focus RSit vector on the degree of market elasticity, the proposition and its subcomponents (Bollerslev, 1990).

$$\ln(\sigma^2_{it}) = \lambda 0 + \lambda 1 CWt + \lambda 2 CSit + \lambda 3 RSit + \lambda 4 CWt * RSit + \lambda 5 CSit * RSit + \alpha zi,t-1 + \gamma\ (|zi,t-1| - \sqrt{2}\ \pi\diagup) + \delta \ln\ (\sigma^2_{i,t} - 1).. \quad (7)$$

A positive sign of 1 and 2 indicates that volatility has worsened due to the coronavirus. If market stability can reduce variance, a negative sign is expected for the RSit components (3), which indicates that the primary purpose is to ascertain the sign and magnitude of the coefficients for CWt, CSit, and RSit - represented by lect1, lect2, and 3, respectively, in Equation 6, and move to Equation 7 contains the interaction terms between RSit and both CWt as well as CSit where several post-estimation diagnostics are performed to ensure the

statistical integrity of the models from cross-validation of the results and for use in the effect specification (Borjigin et al. 2020).

3. Empirical Findings

3.1 Preliminary Statistics and Basic Volatility Model

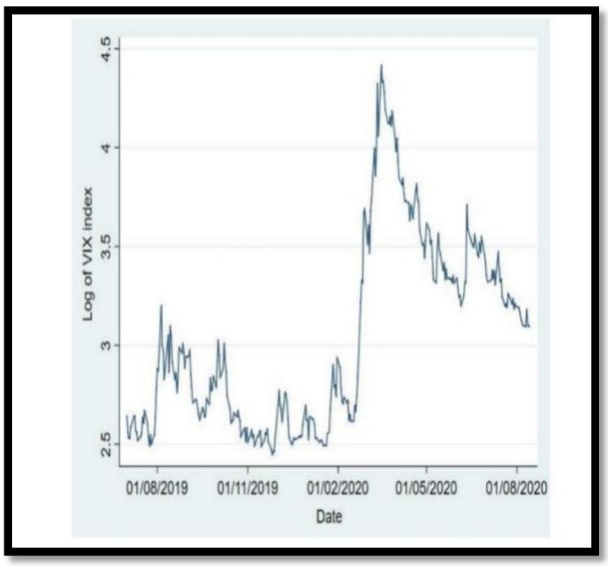
Preliminary analysis reveals a greater dispersion in returns in conjunction with the effects of the Corona virus in major economies such as Italy, where Panel A indicates that the average return was negative (-0.03%), while the MSCI indices hovered around zero (Briguglio ,et al.2009), as Table 3 gives Additional evidence from summary statistics and correlations. Additional statistics and index behavior are consistent in indicating amplification of uncertainty and volatility caused by the onset of the global health crisis in March 2020. Chart 1 shows that the distribution of index returns over the sample period shows significant variation starting in March 2020 when the coronavirus took its toll (Christie, 1982). Initially on major European economies such as Italy, France and Spain FIDE The pandemic has increased the dispersion of returns across the equity markets under investigation Trading volume – as represented by the log of volume – has shown a high standard deviation of 2.87, implying high volatility likely to be driven by volatility Increasing due to the Corona virus crisis, and this demonstrates the potential effects of the Corona virus (Corbet ,et al.2020).

At the same time, the volatility index remained high for the rest of the sample period compared to pre-pandemic levels, in support of the idea of significant variation in returns and shifts in trading activity, which confirms the significant turmoil the market is witnessing. From that point on, as Figure 2 shows, the VIX reached record highs in March 2020 as the coronavirus spread in Europe and was classified as a pandemic by the World Health Organization (Dellas & Hess, 2005).

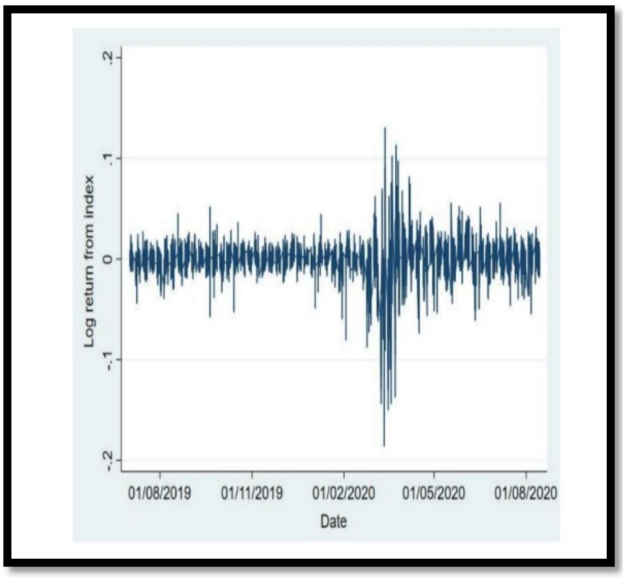
This inverse correlation was strongest for the emerging markets index versus domestic case growth. Examination of the correlation and descriptive analysis provide useful context on the variable interconnections and systematic differences between developed and developing markets within the research data set, and the correlation matrix in Table 3 provides insight into the relationship. Among the key study variables where index returns (RET, RMW, RME) showed negative correlations with changes in global and local COVID-19 cases and deaths. (Didier et al. 2012).

As expected, volatility (VIX) showed strong positive correlations with local coronavirus metrics, validating the rise in market uncertainty associated with pandemic developments. Oil prices are negatively correlated, in line with the recent declines witnessed in global prices amid the health crisis. (Dixit and Benedek, 1994). It is worth noting that GDP had a very slight but negative correlation with global and domestic increases in the Coronavirus, and this explains the fact that major economies experienced disproportionately negative impacts, which is an indicator of the silent negative correlation between official interest rates and the Coronavirus and thus their decline. . interest rates. Global interest in disease outbreak response (Gulen & Ion, 2016). As for the most important indicators, which is the resilience index, which showed positive correlations with Covid-19 numbers, which means that resilient markets may have withstood the pressures despite the difficult circumstances. High disease burden. This is because investors in these areas have reduced trading volumes significantly as uncertainty about the resulting risks has increased (Fornari & Mele, 2013). The epidemic. Emerging economies were dominated by energy-focused industries, with clear differences between the two samples. They found that the general characteristics differed significantly when moving to Panel (C), between the developed and emerging market groups based on statistical tests. Not surprisingly, developed markets outperformed their emerging counterparts on most social and economic indicators, the exceptions being official interest rates, which are more likely to reflect quantitative easing, and oil intensity (Fernandez et al. 2014).

Graph 1: Distribution of Log returns (RET).



Graph 2: Distribution of Log of CBOE VIX Index



So, it is clear that the Covid-19 pandemic has created a state of increased uncertainty in global stock markets and the indicators and data have given some key results that illustrate this:

- Volatility reached record levels in March 2020 as the crisis spread, measured by the VIX index, and remained high for several months compared to pre-pandemic levels, as the dispersion of returns across stock indices increased significantly starting in March 2020, linked to the initial effects of the virus in major economies, as it showed Trading volumes are unusually high and this is attributed to pandemic-induced fluctuations in stock prices (Estrada, 2020).
- Correlations revealed that market returns, GDP growth and policy rates were negatively associated with rising coronavirus infections/deaths globally and domestically as oil prices witnessed sharp declines amid the health crisis and this contributed to increased uncertainty in commodity markets and financial markets as investors in economies Relatively flexible. Significantly reduce risk appetite by reducing trading activity (Engle, et al.2013).

Table 3: Summary Statistics and Correlation Matrix

Variable	Mean	Standard Deviation	Percentile Mean			
			p25	p50	p75	p95
LDX	8.5515	1.3457	7.3834	8.5869	9.2972	10.9485
LGX	1.6114	0.4515	1.3629	1.5457	1.7760	2.8221
RET	-0.0003	0.0171	-0.0056	0.0001	0.0068	0.0213
LVO	12.5034	2.8683	10.9516	12.1884	13.7328	18.9514
LVX	3.0428	0.4834	2.6203	2.8887	3.3820	3.9975
RVX	0.0015	0.0906	-0.0541	-0.0071	0.0363	0.1651
RMW	0.0003	0.0168	-0.0037	0.0009	0.0061	0.0232
RME	0.0001	0.0139	-0.0049	0.0006	0.0062	0.0184

MPR	2.2344	3.3537	0.0000	0.9000	3.7500	9.2500
LOP	3.7817	0.3724	3.6595	3.9691	4.0367	4.1097
LGD	5.5954	1.4127	4.5333	5.1880	6.3749	8.4725
RES	4.2159	0.3383	3.8895	4.3838	4.5017	4.5750
CPS	4.2256	0.1370	4.1558	4.2503	4.3202	4.4055
COG	4.2810	0.1904	4.1748	4.3192	4.4142	4.5801
OIN	4.2801	0.1511	4.1860	4.3122	4.3959	4.4443
INQ	4.3326	0.1893	4.1904	4.3668	4.5019	4.5689
PRO	3.2303	0.6428	2.7262	3.4398	3.6937	4.0508
HEL	4.3570	0.0848	4.3232	4.3830	4.4076	4.4597
FID	0.6490	0.1771	0.5160	0.6727	0.7912	0.8768
FII	0.6838	0.1731	0.5651	0.7013	0.8390	0.9400

3.2 The Basic Conditional Mean and Variance Model

The conditional mean and variance model variables for uncertainty in financial markets have significant relationships as coronavirus cases and infections negatively affect economic growth and expected profits of firms, which is reflected in stock returns. The rise in infection cases increases uncertainty about the course of the epidemic and its effects on the economy, prompting investors to quickly unwind risk positions. The resilience index plays a moderating role, as economic resilience declines. The possibility of exacerbation of shocks and their effects on financial markets. The relationship between resilience and uncertainty highlights the importance of enhancing the ability of economies to adapt to crises to achieve broader stability in financial markets (Engle & Ng, 1993).

Empirical models identify a negative return impact of COVID-19 as it is associated with increased volatility. Countries' resilience has significantly mitigated volatility by mitigating the effects of the local epidemic. VIX (RVX) yields negatively impacted yields (-6.43%) significantly at 1%. Oil prices had a positive impact on returns by 4.69%, or 1%. We note that GDP (LGD) positively but not significantly affected returns at 0.01%, as these results are consistent with previous literature with the exception of LOP. Growth in global cases (CTC) and deaths (CTD) decreased revenues by -0.17% and -0.79% respectively, which is a significant amount of 1%. Local Deaths (CSD) also led to a significant decrease in revenue by -0.51%. At 10%, the results of the conditional mean and conditional variance models are shown in Table 4, where Column 1 shows the results from the dynamic panel fixed effects model (Equation 1), which indicate that COVID-19 negatively affected market returns. We note that Column 2 displays the results of EGARCH (1,1) (Equation 6) which captures the fluctuations. The growth of global and local cases and deaths was positively associated with the conditional variance, reaching 10%. Global cases (4.31) and deaths (2.78) had a stronger

impact than local cases (0.06). and mortality (0.24), and δ captures the persistence of fluctuations, while positive α indicates that positive shocks were more destabilizing. Column 3 presents the interaction terms with respect to country resilience. RES, RES*CSC and RES*CSD were negative and significant at 10%, indicating that resilience reduced local COVID-19 fluctuations by 24.14-29.04% through a lower risk of case/death, where RES alone reduced fluctuations by 28.90. %. Global/local variations in COVID-19 coefficients were significant (Engel, 2002).

VIX returns show a spillover of uncertainty across asset classes. Likewise, the shift in oil prices highlights the real economy as an independent source of macro uncertainty. Both channels exacerbate instability in conditional volatility dynamics and the results provide valuable insights into the relationship between uncertainty during the Covid pandemic. -19 and key variables in conditional variance models, where negative coefficients for case/death growth in conditional mean specifications confirm that higher health and economic risks weaken expected returns according to expectations theory (Duval and Vogel, 2008).

Table 4: Basic Volatility Model

Variable	RET	Conditional Variance Process
RETt-1	0.0003	(0.0251)
RVX	-0.0643***	(0.0065)
LVO	0.0003	(0.0005)
LOP	0.0469***	(0.0046)
LGD	0.0001	(0.0003)
CTC	-0.0017***	4.3095***
CTD	-0.0079***	2.7830***
CSC	0.0003	0.0561*
CSD	-0.0051*	0.2407***
RES	-	-0.2890***
RES*CTC	-	0.4601
RES*CTD	-	-2.2313**
RES*CSC	-	-0.2414*
RES*CSD	-	-0.2904*
Alpha (α)	0.0077	0.0008
Gamma (γ)	0.4928***	0.4702***
Delta (δ)	0.3987***	0.3325***
Lambda ($\lambda 0$)	-5.3731***	-4.7474***
p-value for equality of CTC and CTD	0.016	0.000
p-value for equality of CTC and CTD	0.015	0.000
Observation	9,848	5,989
R-squared	0.1844	
No. of countries	34	
Time FE	Yes	No
Country FE	Yes	No

It turned out that the increase in infections led to a deterioration in profit expectations and aggregate demand to some extent. It is expected and thus led to a reduction in the risk premium priced in the stock. The conditional variance results are also consistent with periods of heightened uncertainty about the macroeconomic implications of the pandemic, and higher global and domestic coronavirus measures were positively associated with volatility, which is logical and consistent with Knight's high uncertainty. As future trajectories have become more uncertain, this has amplified risk premia and risk aversion in markets (Doidge et al. 2007).

Countries' resilience has reduced volatility through two channels assumed in macroeconomic models of uncertainty – through fear of exposure to domestic production and pandemic-induced demand shocks through deeper healthcare and fiscal policy – and by facilitating more deeply held beliefs. Coordination to improve welfare among heterogeneous agents is consistent with consensus theories of expected utility.

3.4 Robustness Tests

Volatility appears to be less dependent on elasticity and more uniformly affected. Interestingly, increased resilience in emerging markets has paradoxically enhanced volatility, which implies that structural weakness distorts risk assessment. As strong institutions and stable fundamentals are key to achieving effective resilience, this research examines the impact of country resilience and macroeconomic factors on uncertainty in financial markets during the Covid-19 pandemic across developed and emerging markets. The results of the interaction and market segmentation models provide useful insights as the results in Table 7 show that flexibility interacted positively with variables such as CPS and COG. And INQ to significantly reduce volatility in all markets. According to the market, markets with similar resilience could see a reduction in volatility of up to 90.9% with a higher cost per share, 76.88% with better imports, and a 0.4177% per unit reduction in oil density, she explained. The results of Table 6 comparing developed markets and emerging markets are revealing, with emerging markets seeing much lower sensitivity to global coronavirus deaths due to resilience and overall strengths with volatility falling to 382.41%. However, the growth in local cases has disproportionately increased uncertainty (Dixit and Benedick, 1994). There is a need for crisis-resilient systems at the local level.

Table 5: Interaction of Sub-component with Resilience Index

Var	Conditional Variance Process											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
CTC	4.3020 ***	4.0567 ***	4.1910 ***	4.3933 ***	4.3159 ***	4.3071 ***	4.4816 ***	4.2993 ***	4.2842 ***	4.1902 ***	4.2002 ***	3.9934 ***
CTD	2.7650 ***	3.8377 ***	3.2195 ***	2.5552 ***	2.6472 ***	2.7916 ***	2.0794 ***	2.9027 ***	2.7392 ***	2.4677 ***	2.4600 ***	3.4363 ***
CSC	0.0565 *	0.0745 **	0.0790 **	0.0548 *	0.0517	0.0479	0.0530	0.0455	0.0412	0.0503	0.0503	0.0608
CSD	0.2395 ***	0.1995 ***	0.2002 ***	0.2445 ***	0.2479 ***	0.2496 ***	0.2462 ***	0.2567 ***	0.2614 ***	0.2510 ***	0.2508 ***	0.2152 ***
RES	0.2068 ***											
CPS		-0.8825 ***										0.8868 **
COG			-0.4614 ***									-0.2955 ***
MPR				0.0104 ***								-0.0029
LGD					-0.0085							-0.0170
PRO						-0.1247 ***						0.0238
OIN							0.1426 **					0.0871
INQ								-0.0045 ***				-0.0012
HEL									-0.6739 ***			-0.2958
α	-0.0016	-0.0115	-0.0135	-0.0001	0.0003	-0.0034	0.0108	-0.0020	-0.0015	0.0094	0.0090	0.0033
γ	0.4820 ***	0.4527 ***	0.4654 ***	0.4896 ***	0.4912 ***	0.4778 ***	0.5101 ***	0.4770 ***	0.4845 ***	0.4966 ***	0.4951 ***	0.4750 ***
δ	0.4031 ***	0.3169 ***	0.3671 ***	0.4232 ***	0.4075 ***	0.3963 ***	0.4570 ***	0.3832 ***	0.4019 ***	0.4382 ***	0.4397 ***	0.3449 ***
$\lambda 0$	-4.4659 ***	-2.3794 ***	-3.6847 ***	-5.1830 ***	-5.2460 ***	-4.9949 ***	-5.4617 ***	-5.1604 ***	-2.4101 ***	-4.9047 ***	-4.8761 ***	-0.1527
Obs.	5,989	5,989	5,989	5,989	5,989	5,989	5,812	5,989	5,989	5,812	5,812	5,635

The quality of governance and the size of the economy have contributed significantly to reducing uncertainty in emerging markets. This underscores strong policy-making preferences and resilience in crises. Financial deepening has amplified sensitivity to shocks. Country characteristics played a role. plays an important role in mitigating the transmission of uncertainty between and within regions during this unprecedented pandemic period, and the findings provide valuable policy perspectives on building adaptive resilience. This study analyzes how country-level resilience and macroeconomic factors influenced uncertainty in financial markets during the coronavirus pandemic. corona. -19 pandemic. 19 Across developed and emerging markets, where interaction models and market segmentation provide useful insights into uncertainty dynamics, examining the outcomes of resilience interactions identifies levels of governance, infrastructure quality and economic freedom as critical

components of resilience that significantly reduced volatility across markets through two main channels (Didier, et al. 2012).

Table .6 Impact of Market Resilience on Developed vs. Emerging Markets

Var	Conditional Variance Process									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
CTC	**3.7192***	**3.7973***	**3.7676***	**3.8831***	**3.8515***	**4.0456***	**3.8477***	**3.8941***	**3.8691***	**3.8431***
CTD	**3.8359***	**3.5326***	**3.3763***	**3.1636***	**3.3033***	**2.6754***	**3.1766***	**3.1207***	**2.9978***	**3.0019***
CSC	**0.1568***	**0.1414***	**0.1338***	**0.1263***	**0.1178***	**0.1240***	**0.1227***	**0.1198***	**0.1163***	**0.1172***
CSD	**0.0854***	**0.1121***	**0.1265***	**0.1382***	**0.1473***	**0.1416***	**0.1384***	**0.1469***	**0.1526***	**0.1525***
RES	0.2068***									
CPS		-0.8825***								
COG			-0.4614***							
MPR				0.0104***						
LGD					-0.0085					
PRO						-0.1247***				
OIN							0.1426**			
INQ								-0.0045***		
HEL									-0.6739***	
α	-0.0176	-0.0154	-0.0077	-0.0092	-0.0119	0.0025	-0.0125	-0.0103	0.0042	0.0050
γ	0.4517***	0.4597***	0.4678***	0.4724***	0.4685***	0.4917***	0.4717***	0.4733***	0.4810***	0.4828***
δ	0.3320***	0.3610***	0.3619***	0.3879***	0.3725***	0.4228***	0.3801***	0.3902***	0.4063***	0.4049***
$\lambda 0$	-19.2976***	-4.6917*	-5.1780***	-5.3872***	-6.5106***	2.6809	8.0966***	-1.0744	-5.7678***	-5.3642***
Observations	5,989	5,989	5,989	5,989	5,989	5,812	5,989	5,989	5,812	5,81

Conclusions

This study analyzed the phenomenon of uncertainty caused by the Corona pandemic in global financial markets, and shed light on the mechanisms of transmission of uncertainty between markets, according to daily data of global stock market indices and an index measuring market volatility since the spread of the Corona virus in late 2019. The results concluded that the spread of the Covid-19 epidemic at the global and local levels has contributed to increasing the uncertainty among investors. The markets also witnessed sharp and increasing

declines in performance, accompanied by a noticeable increase in volatility rates, which reflects the worsening state of uncertainty. It also showed the relationship between the level of economic flexibility of countries and the extent to which they are affected by increasing uncertainties. certainly. Economies with greater flexibility contributed to reducing these effects through their ability to confront shocks. Based on the above, this study provides us with useful results about how the uncertainty resulting from the Corona pandemic is transmitted and the factors that limit its consequences on financial markets.

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