

THE IMPACT OF COVID 19 ON THE FTSE 100 INDEX IN LONDON STOCK EXCHANGE

Nivetha Govindaraju

BBA Student

IFIM College (Autonomous), Electronic City Phase 1, Bangalore-560100

Dr. Lakshmi.P

Assistant Professor

*Department of Management, IFIM College (Autonomous), Electronic City Phase 1,
Bangalore-560100*

Abstract:

A new virus and its illness first originated in China at the end of 2019, then rapidly spread over the rest of the world and became a pandemic. This pandemic has caused a global crisis in many ways including socially, financially, and economically but most importantly a health crisis. This pandemic not only swept countries' economies but also had an impact on financial markets. COVID-19 has had an unprecedented impact on the world economy; financial markets indicate the same. This spontaneous event landed most of the stock markets into extreme volatility. Significant capital outflows and an extremely rapid fall have been observed in almost all global financial markets. Though a similar trend prevailed everywhere during this pandemic, the impact could not be accumulated in absolute terms. According to the findings it can be stated that with the increase in the number of COVID-19 cases and deaths there have been tremendous drops in the stock markets. The study analyses daily data from December 2019 to December 2021 of the FTSE 100 Index. The study also made an effort to contrast share price developments before COVID-19 and during the COVID-19 circumstance. The FTSE Index showed volatility during the epidemic period, according to the findings. When the outcome is compared to that of the pre-COVID period, it is discovered that the return on the indices was higher during that period than it was during the COVID-19 period.

Keywords – Financial markets, volatility, FTSE 100, absolute terms, pandemic

INTRODUCTION

The COVID-19 pandemic has sent shock waves thru the global economic system and pressured big changes to the manner individuals, companies, and countries work. Covid-19 is spreading hastily. The first case become pronounced in Wuhan, China on 31 December 2019. According to Tedros Adhanom Ghebreyesus, the new virus will cohabit with humans for a very long time. Due to the COVID-19 outbreak's high infectivity, high mortality, and long incubation period, all economic sectors have been negatively impacted. The major preventive measures call for isolation and distance, which renders many economic operations

difficult. COVID-19 will alter the macroeconomic climate of the global economy in terms of total supply and demand, labor income, and financial market trading.

The progression of the illness and its effects on the economy are very unknown. The first cases of Covid-19 within the United Kingdom were recorded on 30 January 2020, in two Chinese nationals who had been staying in York. The UK's first confirmed Covid demise was on 5 March 2020. On 11 March 2020, with the rapid boom in the range of cases outside China, the World Health Organization announced that the outbreak might be categorized as a pandemic.

By then over 118,000 cases had been reported in over 114 countries, and 4,291 deaths had been recorded. On 16 March 2020, Prime Minister Boris Johnson introduced the authorities to implement measures supposed to halt the virus. The first lockdown was announced in England on 23 March 2020. The lockdown noticed the closure of non-essential high avenue companies, colleges, indoor sports activities venues, and different sports. Though the lowest point of the COVID-19 monetary crash befell in March 2020 for all foremost stock markets, the subsequent recuperation has been uneven.

At the same time as a few markets (considerably inside the U.S.) rebounded to attain file highs using the end of 2020, others (including in the UK.) remain under their pre-coronavirus height. It has been a testing-out period. The markets have seen notable volatility, displaying a steepest-ever fall of 30% from top to trough within the FTSE 100 and FTSE 250. Through the week that followed the first lockdown in the United Kingdom, there were 2.9 Million trades on London inventory trade in one day – the highest number ever recorded within a day.

LITERATURE REVIEW

The COVID-19 pandemic will cause a decline in global GDP of up to 3 percent, with developing nations suffering the greatest losses—up to 4 percent on average, but some experienced losses of over 6.5 percent—and a 13 percent decline in world commercial commerce in 2020. This study examines the macroeconomic effects of the novel coronavirus on the global GDP, international trade (using China as an example with other nations), and other industries, and suggests some preventative actions. (Research on COVID19's Effects on the Global Economy To properly credit the author: Jinjin Mou 2020 IOP Conf. Ser.: Earth Environ. Science. 546 032043)

At the macroeconomic level, the Pandemic has acted as a systemic shock to aggregate supply and demand, which together have an effect on the recession or level of economic activity. In a situation where the end of the pandemic is uncertain, the authors suggest changing public health policy from an indiscriminate suppression strategy to a targeted, effective, and intelligent mitigation strategy that reduces the risk of human life costs and socioeconomic costs. This strategy would be complemented by economic, fiscal, and monetary policies that would lessen the effects of the economic recession while taking into account the fundamental structural features of the Peruvian economy. (Luis Varona and Jorge R. Gonzales, "Dynamics of the Impact of COVID-19 on the Economic Activity of Peru")

According to the UK Office for Budget Responsibility announcement, as long as COVID-19 battling precautionary measures are in effect for 3 months the country faces an expected economic loss of 35%. The budget deficit is expected to rise by 14% to the highest level ever

since the 2nd World War. The UK government has to date announced 400 Billion USD worth of aid. This aid equals 15% of the country's GDP. (The Impact of COVID-19 on Stock Markets: A Study on Selected Countries? Osman Nuri Sahina , Hilal Ilgin Uyarb)

The effects of the COVID-19 epidemic on the performance of the world stock markets have been detailed in studies (Ahmar and del Val, 2020; Al-Awadhi et al., 2020; Liu et al., 2020; Zhang et al., 2020). Due to the extremely high level of market uncertainty, the pandemic has reduced investors' confidence in the stock market (Liu et al., 2020). According to Iyke (2020), COVID-19 has significant and persistently detrimental effects on the world economy. The short-term effects of COVID-19 on Spain's IBEX index were predicted by Ahmar and del Val (2020) using ARIMA and SutteARIMA. They went on to say that SutteARIMA is the superior statistical measure for predicting this impact.

The MSCI World, Emerging Markets, European, and G7 indices represent international markets. It was found that there is a long-term correlation between stock markets and covid-19 in the study where the Fourier Cointegration test was used. (Zekai Senol and Feyyaz zeren, "Coronavirus (Covid-19) and Stock Markets: The Effects of the Pandemic on the Global Economy")

A number of government and public health sector reports, along with simulations, serve as the foundation for this argument in regard to the UK. These reports show that, between 2008 and 2017, the UK was aware of the potential effects a pandemic could have on its health system and economy (Journal of Global Faultline, 2020Vol. 7, No. 1, 9–45). Why did the UK and the USA not predict the COVID-19 pandemic? a look at how neoliberalism is flawed structurally in the UK, the US, Germany, and South Korea.

On 2 January to 20 May period covered by the FTSE All-Share price index. Early on in the crisis, the price index was rather stable, but in the weeks that followed the declaration of a lockdown in Northern Italy, it began to decrease sharply. It reached its lowest point in the week that followed the UK's proclamation of social segregation (down 35 percent from the start of January). Some of this drop has been reversed as lockdowns have been gradually relaxed worldwide including in the UK, bringing the entire decline in the FTSE All-share index during the time to 21 percent. (Rachel Griffith, Peter Levell, and Rebekah Stroud on the effect of COVID-19 on share prices in the UK)

OBJECTIVES OF THE STUDY

- 1.To study the reaction of the FTSE Index (London) to and around the COVID-19 pandemic.
- 2.to find any relations between FTSE and other indicators of economic growth.
- 3.The paper is focused on the effects of COVID on the FTSE index.
4. It further aims at defining the relationship between the death rate in London and FTSE.

RESEARCH METHODOLOGY

The data was collected online from secondary resources, and all the values were analyzed using Ms excel and E views.

EVENT WINDOW

To examine the effect of COVID-19 on FTSE 100, the event window chosen is of 25 months, including the 1 month before the announcement of information about the transmitted disease along with 2-3 months before the disease was first registered in the UK. The study further takes into account the FTSE Index score for the next 2 years period to examine the damage caused and the recovery rate.

ANALYSIS

Null Hypothesis: STOCK_MARKET_VALUES has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 0 (Automatic - based on SIC, maxlag=17)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.127522	0.0000
Test critical values:		
1% level	-3.977661	
5% level	-3.419391	
10% level	-3.132284	

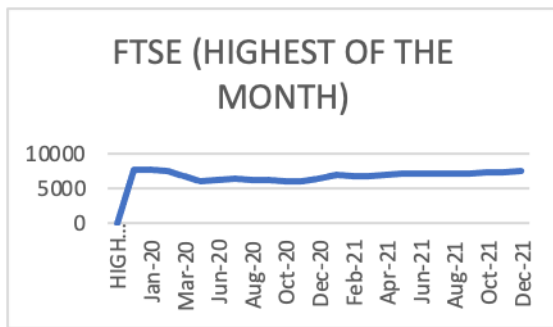
*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(STOCK_MARKET_VALUES)
Method: Least Squares
Date: 07/23/22 Time: 18:03
Sample (adjusted): 3 522
Included observations: 471 after adjustments

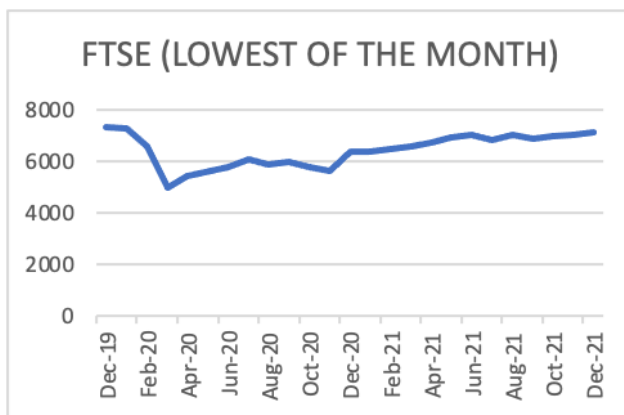
Variable	Coefficient	Std. Error	t-Statistic	Prob.
STOCK MARKET VALUES(-1)	-0.191629	0.026886	-7.127522	0.0000
C	1189.702	171.2017	6.949127	0.0000
@TREND("1")	0.345102	0.113809	3.032294	0.0026
R-squared	0.098073	Mean dependent var	-1.407452	
Adjusted R-squared	0.094219	S.D. dependent var	361.4399	
S.E. of regression	343.9915	Akaike info criterion	14.52546	
Sum squared resid	55378513	Schwarz criterion	14.55192	
Log likelihood	-3417.746	Hannan-Quinn criter.	14.53587	
F-statistic	25.44459	Durbin-Watson stat	2.828741	
Prob(F-statistic)	0.000000			

Augmented Dickey fuller test is conducted and found that the values follow a normal pattern.

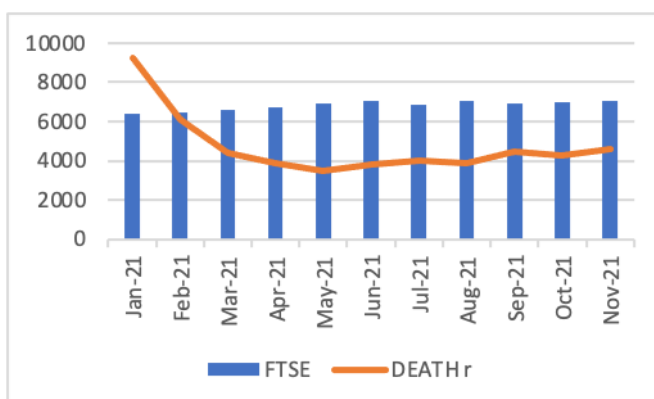
RESULTS AND DISCUSSION



The graph represents the highest FTSE score for each month during covid. It can be observed that the FTSE was at its highest pre-covid and the line struggles to reach 7000s. The chart is at its highest at the rate of 7623.59 as of Dec 2019. Though the chart shows an upward movement in the year 2021, even after 2 years the FTSE has not reached the previous highest range (Dec 2021 – 7420.69)



The fluctuations in the FTSE index can be well observed in the above graph. The effects of covid are seen in the graph even after 24 month period. The graph hits the lowest in the month of march (March 23, 2020- 4993.89). The annual closing level of the FTSE index in 1997 is 5135.50, which is much higher than the FTSE in March 2020 when COVID-19 was at its peak. COVID has directly affected the FTSE index to a huge extent.



The above graph shows the FTSE index and death averages in London for the period Jan 21'- Nov 21'

$X - M_x$	$Y - M_y$	$(X - M_x)^2$	$(Y - M_y)^2$
4531.909	-411.395	20538200.008	169246.220
1331.909	-352.435	1773981.826	124210.750
-331.091	-230.325	109621.190	53049.815
-852.091	-81.555	726058.917	6651.292
-1249.091	104.315	1560228.099	10881.524
-942.091	218.615	887535.281	47792.319
-725.091	25.535	525756.826	652.013
-880.091	240.005	774560.008	57602.182
-257.091	85.055	66095.736	7234.276
-472.091	177.015	222869.826	31334.149
-155.091	225.175	24053.190	50703.576
Mx: 4739.091	My: 6818.855	Sum: 27208960.909	Sum: 559358.116

X Values

$$\Sigma = 52130$$

$$\text{Mean} = 4739.091$$

$$\Sigma (X - M_x)^2 = SS_x = 27208960.909$$

Y Values

$$\Sigma = 75007.41$$

$$\text{Mean} = 6818.855$$

$$\Sigma (Y - M_y)^2 = SS_y = 559358.116$$

X and Y Combined

$$N = 11$$

$$\Sigma (X - M_x)(Y - M_y) = -2894417.505$$

R Calculation

$$r = \frac{\Sigma (X - M_x)(Y - M_y)}{\sqrt{(SS_x)(SS_y)}}$$

$$r = -2894417.505 / \sqrt{(27208960.909)(559358.116)} = -0.7419$$

KEY

X: Death averages in London

Y: FTSE Index

M_x : Mean of X Values

M_y : Mean of Y Values

$X - M_x$ & $Y - M_y$: Deviation scores

$(X - M_x)^2$ & $(Y - M_y)^2$: Deviation Squared

$(X - M_x)(Y - M_y)$: Product of Deviation Scores

The value of R is -0.7419. This is a moderate negative correlation, which means there is a tendency for high X variable scores to go with low Y variable scores (and vice versa)

This implies that a high rate of death goes with a low FTSE Index and vice versa.

CONCLUSION

Worldwide devastation has resulted from the COVID-19 pandemic. Due to COVID, the vast majority of commercial activities around the world ceased, and those that required physical presence became difficult because of legal constraints and pandemic-related anxiety. Therefore, every significant macroeconomic indicator displayed a negative scale. The stock market changes can be used to observe COVID-19's financial effects. As a result, we examine how the COVID-19 outbreak affected the FTSE Index between December 19 and December 22. Results showed that the FTSE is still unable to stretch to reach its prior levels following the COVID-19 epidemic. On March 23, 2020, the FTSE scores its lowest point in years. But when the event window came to an end, we see that the stock markets were gradually making up for the blow the coronavirus outbreak had dealt them. The findings of the computation of correlation show a negative association between the local death rate and the local stock market index.

REFERENCES

1. The impact of COVID-19 on share prices in the UK - **Rachel Griffith, Peter Levell, and Rebekah Stroud**
2. "Diffusion of COVID-19 impact across selected stock markets: a wavelet coherency analysis" AUTHORS Taufeeque Ahmad Siddiqui <https://orcid.org/0000-0002-3149-2234> Haseen Ahmed <https://orcid.org/0000-0002-8721-6132> Mohammad Naushad <https://orcid.org/0000-0003-4421-3422> (November 2020)
3. Aloui, C., & Hkiri, B. (2014). Comovements of GCC emerging stock markets: New evidence from wavelet coherence analysis. *Economic Modelling*, 36, 421-431. <https://doi.org/10.1016/j.econmod.2013.09.043>
4. Felmingham, D., & Grüneberg, R. N. (2000). The Alexander Project 1996–1997: latest susceptibility data from this international study of bacterial pathogens from community-acquired lower respiratory tract infections. *Journal of Antimicrobial Chemotherapy*, 45(2), 191-203. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/10660501/>
5. Hudgins, L., Friehe, A. C., & Mayer, E. M. (1993). Wavelet Transform Atmospheric Turbulence. *Physical Review Letters*, 71(20), 3279. <https://doi.org/10.1016/B978-0-08-052084-1.50029-6>
6. Hahn, L. S. (2004). International transmission of stock market movements: a wavelet analysis. *Applied Economics Letters*, 11(3), 197-201. Retrieved from [HTTPS://ideas.repec.org/a/taf/apeclt/v11y2004i3p197-201.html](https://ideas.repec.org/a/taf/apeclt/v11y2004i3p197-201.html)
7. Panda, A. (2020). Chinese Foreign Ministry Spokesperson Implies US Military Brought Coronavirus to Wuhan. *The Diplomat*, March 13. Available at: <https://thediplomat.com/2020/03/chinese-foreign-ministry-spokesperson-implies-us-military-brought-corona-virus-to-wuhan/> [Accessed June 2020].
8. Otte, J. (2020). Several people die of Covid-19 in UK hospitals pass 20,000. *The Guardian*, April 25. Available at: <https://www.theguardian.com/world/2020/apr/25/uk-coronavirus-death-toll-passes-grim-milestone-of-20000> [Accessed June 2020].
9. The Department of Health. (2011). UK Influenza Pandemic Preparedness Strategy. London: Department of Health, Social Services, Public Health (DHSSP)
10. Özdemir, M.Ç. (2020). COVID-19 (Corona)'un Küresel 'İ ,sgücü Piyasalarına ve Topluma Muhtemel Etkileri.

<http://sesam.sakarya.edu.tr/tr/duyuru/goster/91192/COVID-19-corona-un-kuresel-isgucu-piyasalarina-ve-toplumamuhtemel-etkileri>, accessed 24.03.2020

11. Glosten, L., Jagannathan, R., & Runkle, D. (1993). On the relation between the expected value and the volatility of the nominal excess return on stocks. *Journal of Finance*, 48, 1779–1801. 10.1111/j.1540-6261. 1993.tb05128.x