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An Examination of an FTSE-100 Index Company's Financial Performance: The Moderating Effect of the BREXIT Agreement (An Analysis Spanning the Previous Five Years)

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ABSTRACT

This study examined the ways in which the Brexit deal and the GBP-EUR exchange rate affected the performance of the FTSE-100 between 1 January 2018 and 31 December 2022. An MGARCH (1,1) model was used in the study to evaluate statistical processes using pre- and post-tests. According to the ARCH effect test, the regression analysis was not as good as this model. The findings showed that the moderating variables of Brexit and the GBP-EUR exchange rate, which were all statistically significant at the 1% level, significantly impacted FTSE-100 returns. In addition, the investigation assessed how the COVID-19 pandemic affected the index's performance and found that despite the continued influence of FOREX and Brexit, COVID-19 significantly increased volatility. Two scenarios related to Brexit have been studied in this research: soft Brexit, which has a good impact on the pound and UK financial firms, and hard Brexit, which may result in economic difficulties and currency depreciation. The study has made important information available to investors predicting UK stock values. It has acknowledged certain shortcomings, though, like its emphasis on the FTSE-100 and its exclusion of other macro and microeconomic factors. Further research into the long-term effects of Brexit and other economic issues affecting market performance is recommended.

INTRODUCTION

The performance of the FTSE-100 can be affected by many factors, including movements in interest rates, political developments, economic conditions and global market trends. In the realm of investing, stock market indices are essential. Essentially, they serve as barometers that provide investors in stocks and shares, or equities, with information about individual companies' performance and the markets' overall health (Forbes, 2024). Specifically, fluctuations in interest rates and exchange rates have a big influence on investor behaviour and confidence in the London Stock Exchange. According to Lal *et al.* (2023), there is a serious risk to global trade dynamics because exchange rates are inherently unstable. In fact, they may increase transaction costs and reduce business interests, which could lead to de-internationalisation. The study can show how these macroeconomic variables affect market performance separately and with moderating factors like Brexit by following the FTSE-100 index over time.

This empirical framework operates within a unique context shaped by political, technological, environmental, and other external factors. These factors lead to several limitations in empirical research, which impede the expansion of field operations. Current data from the FTSE 100 is used for analysis, reasoning and calculations. The "London Stock Exchange" (LSE) is home to the "Financial Times Stock Exchange" (FTSE) 100 index, which serves as the data source for the study. Given the significant market disruption in the UK due to COVID-19 and the Brexit deal, it is interesting to examine the performance of the FTSE-100 between 2017 and 2021. Hence the need to understand investor behaviour and trust in the 'London Stock Exchange' it depends critically on the time frame examined for the FTSE-100 index. The research chose to focus on this topic because performance metrics are made available to the public on a daily, weekly, monthly and yearly basis. To evaluate the performance of the FTSE-100 index, you can use monitoring of changes in the value of the index over time, as well as the trading activity of each of the individual stocks that make up the index.

A number of factors can affect the performance of the FTSE-100, such as changes in interest rates, political developments, economic conditions and the success of global equity markets. Changes to the weighting of individual stocks within the index, as well as the inclusion or exclusion of companies from the index, can affect the overall performance of the FTSE-100. The performance of the FTSE 100 was experimentally assessed in a study that considered the performance of the index over the previous five years, the extent to which the effects of the Brexit deal had been mitigated and the environmental regulatory framework. Rising FTSE-100 readings are generally good for financial markets and the UK economy, but falling index readings can indicate financial and economic problems. Hau and Rey (2006) use empirical data from international financial markets such as the US, Japan, UK, Germany and France to investigate the relationship between exchange rates, stock prices and capital flows. They find a strong correlation between capital flows and stock values, which are influenced by a number of variables, including market sentiment, interest

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rate differentials, and macroeconomic policies.

The author emphasizes the importance of these connections for global trade, investment, financial stability and systemic risk. To reduce possible risks, authorities and investors should recognise the complex link between share prices, capital flows, and exchange rates. These actions could involve diversifying investment portfolios, keeping an eye on the state of the market, and putting good hedging techniques into practice.

The agreement reached after the United Kingdom leaves the European Union is called the "Brexit Agreement". The "EU-UK Trade and Cooperation Agreement" was signed on 24 December 2020 and entered into force on 1 January 2021. A Brexit deal would realign the UK's trade and financial ties with other EU countries. Strong economic ties are essential for many things, including security, aquaculture, trade, and so on. It includes provisions on tariffs and quotas on goods traded between the UK and the EU, as well as mutual access to mutual services markets.

The United Kingdom is among the advanced economies that have developed both economically and monetarily. The "London Stock Exchange (LSE)" division includes the FTSE-100 index company managed by the FTSE Group. It began working with the Financial Times on 3 January 1984 (LSE, 2022). The new index, which is currently considered one of the largest exchanges in the world. To address environmental sustainability, LSE launched its Sustainable Funding Program in 2019.

"BREXIT" describes the significant shift in the political and economic landscape of the United Kingdom following its withdrawal from the European Union in January 2020. It therefore makes sense to compare the performance of the FTSE 100 with that of investors. optimism about the UK's economic prospects.

Maximising profit while satisfying the demands of all other stakeholders is the company's main objective (Usman, 2020). The main objective of corporate governance is stakeholder growth, which provides a way to increase shareholder wealth and distribute profits among them to create profitable portfolios. These are just some of the values that the company's management has contributed to. Today's corporations are starting initiatives that benefit the general public and their stakeholders to improve society. An ideal balance between social and economic variables maximizes the use of natural resources and motivates business sectors to change their operations to increase profits while maintaining environmental performance.

Conversely, consumers are encouraged to choose environmentally friendly goods and services. Compared to other equipment and facilities, environmentally friendly investments have lower returns. As per Client Earth (2022), companies are increasingly directing a larger share of their financial resources towards non-profit organisations that uphold the environmental regulations in the UK. In 2021, the Environment Act was ratified in the UK. However, the management is still running the company and implementing plans to boost revenue, foster future growth, and provide stakeholders access to an independent and transparent culture.

Following its exit from the EU, the UK may present more investment opportunities as it will have the autonomy to decide how best to financially and economically develop its economy without being affected by the economies of other EU members. This research uses various models and empirical data to provide a more thorough understanding of the financial performance of the FTSE 100.

The study examines the impact of the UK leaving the EU. Competitors based in the UK were also affected. Suppliers, investors and other interested parties send market prices of stocks and currencies listed on the London Stock Exchange (FTSE-100 index) in response to a Break transaction. Currency and stock markets are closely related (Hau and Rey, 2006). It is therefore necessary to examine how political concerns such as Brexit – the UK leaving the EU – and the GBP/EUR exchange rate translation are affecting the dampening performance of the FTSE-100.

The topic of concern that requires in-depth information and investigation is identified in the research problem statement. Volatility in the UK stock market, and in particular the performance of the FTSE-100 index, was significantly affected by Brexit uncertainty and fluctuations in the GBP/euro exchange rate. Many studies have examined how Brexit will affect the economy as a whole. Yet there have not been many empirical studies of how Brexit and exchange rate fluctuations affect stock indices such as the FTSE-100. This analysis attempts to close this gap by analyzing how these factors and the COVID-19 pandemic affected the returns and volatility of the FTSE-100 between January 2018 and December 2022. The empirical findings of the analysis highlight a number of moderators such as Britain's exit from the European Union (EU), which help determine the primary variables influencing the performance of the FTSE-100 index. The study provides several methods for analyzing the communication of the research challenge.

- Explore how the UK leaving the EU could affect the performance of the FTSE-100.
- Explain the process that causes the FTSE-100 time series to fluctuate.

The study also looks at how the GBP/EUR exchange rate and Brexit have affected the performance of the FTSE-100.

The following hypotheses are developed in order to investigate the previously indicated aims.

1. The null hypothesis states that the EU's choice to exit the bloc has no discernible impact on FTSE-100 returns.
2. The performance of the FTSE-100 is not significantly affected by the value of the British pound against the euro.

The following research hypotheses are presented and will be tested in light of the aims and objectives of the study:

1. The performance of the FTSE-100 is greatly impacted by the EU's Brexit decision.

2. The FTSE-100 results are considerably impacted by the Great British Pound's foreign exchange rate to the Euro.

MATERIALS AND METHODS

The study's secondary data sources include daily share prices of FTSE-100 companies from 2018 to 2022. The World Development Indicators (WDI) and Reuters provided the data for this set of financial and macroeconomic indicators, which included GDP growth, inflation, and interest rates. The dependent variable used to calculate daily returns in this study was the FTSE-100 index date. In addition to stock price data, exchange rates between the British pound (GBP) and the euro were also collected to assess the impact of exchange rate changes Transaction data were recorded, with dummy variables for recalculating the impact of Brexit deals on stock.

The panel data for this study, which consisted of daily share prices representing the 100 largest UK listed companies by market capitalization, consisted of daily share prices representing the 100 largest UK listed companies by market capitalization, was selected using the FTSE-100 index. The dataset covers key events in the Brexit process and covers the period from February 2018 to February 2022, giving analysts plenty of time to analyze the results. For each company, the timeline lasts approximately 1,260 business days. The final stock price sample was filtered to remove any companies with incorrect information or missing data.

Descriptive statistics were used to examine the characteristics and distribution of the dataset. Figures presented include minimum and maximum daily returns. The goal of these descriptive measures is to identify any patterns, including excessive, or unusual stock return patterns.

Critical in this is the application of econometric methodologies to evaluate the related impact of Brexit-related factors toward stock returns. As such, this paper uses the DVECH (Diagonal VECH) method since it has a superior capability for the dynamic growth and temporal variation of stock returns under a multivariate design within the MGARCH model.

The MGARCH model estimates the conditional variance-covariance structure of the time series data. In doing this, it focuses on the changes in share prices and how they relate to other issues, such as the Brexit deal and currency prices. Generally, the MGARCH model is specified as:

$r_t = \mu + \varepsilon_t$

Along with the variance and covariance matrix could be defined as $\Sigma t = D_t R_t D_t$, where the vector of returns is D, the vector of mean returns is μ, and the error term is ε_t

$\Sigma = D_t R_t D_t$

The DVECH model was chosen because of its explicability and computational efficiency. The model was estimated using maximum likelihood estimation (MLE), a widely used technique for the analysis of economic time series.

The analysis resorts to the use of dummy variables to determine if the Brexit deal has impacted on the outcome. A dummy variable with a value of "1" was assigned to the days following the official signing of the Brexit deal, while the period before the completion of the deal is coded as "0".

The interaction terms can be used to assess how Brexit affected the relationship between FTSE-100 stock returns and other economic parameters such as exchange rate returns (GBP to EUR) etc. The effects of Brexit on stock returns are facilitated by these interaction variables. The following is the regression equation that was used to examine the moderating effect of Brexit:

$\ln(\text{return}) = \beta_0 + \beta_1(\text{brexit\_agr\_eff}) + \beta_2(\text{md\_brex\_total}) + \beta_3(\text{return\_forex\_gbp}) + \beta_4(\text{md\_return\_forex\_gbp}) + \epsilon i$

Where:

- ln(return) = logarithm of the stock returns of FTSE-100 index,
- β_0 = regression constant,
- $\beta_1 - \beta_4$ = coefficient values of the variables,
- brexit_agr_eff = dummy variable for Brexit agreement effect,
- md_brex_total = interaction variable of Brexit agreement effect and FTSE-100 stock returns,
- return_forex_gbp = return on the GBP to Euro foreign exchange rate,
- md_return_forex_gbp = interaction variable between the forex return and Brexit impact

For econometric modeling, STATA 17 was used for data analysis, which included MGARCH and OLS regression estimators. The entire analysis code is available upon request, guaranteeing reproducibility and transparency of results.

The structure of this technique ensures robustness and a comprehensive view of the relationship between the FTSE-100 share price and the Brexit deal. Sophisticated econometric models such as MGARCH are used to properly address any correlations between variables and clustering of volatility.

RESULTS AND DISCUSSION

Results

The FTSE-100 index's change from January 1, 2018, to December 31, 2022, is depicted in the above figure. The index began trading on January 1, 2018, at 7688.77. The graph shows the index's variations through January 28, 2020, and a substantial fall through March 13, 2020. The Covid-19 pandemic's combined impact probably caused this drop and the uncertainty surrounding the Brexit agreement. The index started to rise again in the middle of March 2020, most likely due to hope for the potential advantages of the Brexit agreement and the introduction of the Covid-19 vaccine. These factors bolstered investor trust in the London Stock Exchange.

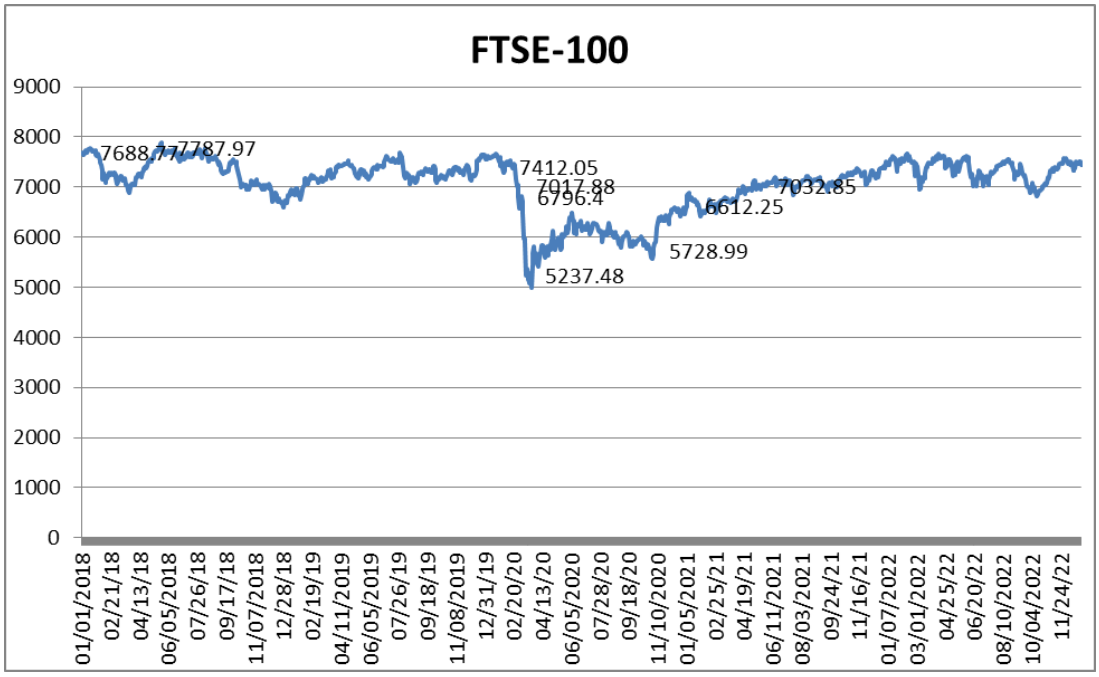

Figure 1: Descriptive results

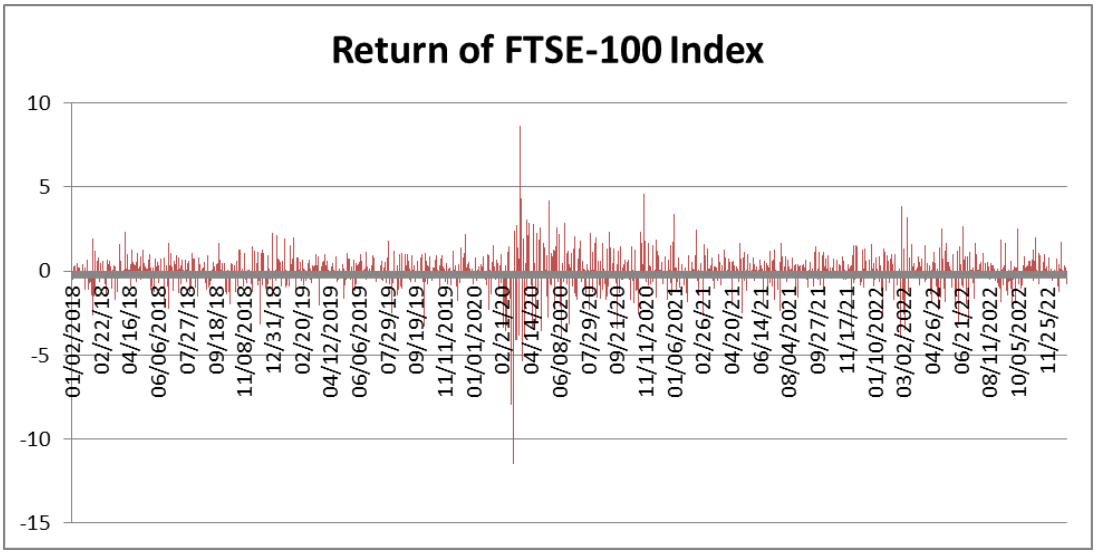

Figure 2: Return of FTSE-100 Index

The figure above shows the log natural return for the FTSE-100. For investors – domestic and international – who have suffered heavy losses due to Covid-19 and Brexit, the period from 28 January 2020 to 13 March 2020 is particularly important.

Table 1: Descriptive statistics

Year	Statistics	Close	Inretu ~2	Forex~p
2018	1-Mean	7363.292	.0129502	l.173809
	2-Median	7418.34	.07	l.l77302
	3-Maximum	7877.45	3.84	1.2108
	4-Minimum	6584.68	-3.96	1.112595
	5-Standard deviation	309.2208	1.021165	.0216202
	6-Kurtosis	2.023255	5.260621	2.285875
	7-Skewness	-.3919698	-.3630764	-.4425107

2019	1-Mean	7275.381	.0389147	1.161028
	2-Median	7285.92	.06	1.165501
	3-Maximum	7686.61	3.41	1.192606
	4-Minimum	6692.66	-3.71	1.098901
	5-Standard deviation	195.7016	.8133762	.0196842
	6-Kurtosis	3.475529	6.016296	4.554382
	7-Skewness	-.5867506	-.3898.874	-1.364023
2020	1-Mean	6283.794	-.0557977	1.128124
	2-Median	6123.69	.06	1.116944
	3-Maximum	7674.56	8.67	1.204964
	4-Minimum	4993.89	-11.51	1.064283
	5-Standard deviation	613.5054	1.83785	.0315353
	6-Kurtosis	3.140849	11.22291	2.499749
	7-Skewness	.90l7349	-1.025021	.778643
2021	1-Mean	7003.338	.040428	1.138674
	2-Median	7051.59	.06	1.139731
	3-Maximum	7420.69	2.24	1.19861
	4-Minimum	6407.46	-3.28	l.7457'6
	5-Standard deviation	230.678	.75725	.0265307
	6-Kurtosis	2.475834	4.991277	2.144443
	7-Skewness	-.5490201	-.3301204	-.1506887
2022	1-Mean	7358.35	-.0505179	1.131183
	2-Median	7425.89	0.001	1.13135
	3-Maximum	7672.4	2.33	1.158212
	4-Minimum	6826.15	-3.2	1.101079
	5-Standard deviation	202.479	.7781923	.0110642
	6-Kurtosis	2.593402	4.195375	2.572687
	7-Skewness	-.7476944	-.4115493	-.215859
Total	1-Mean	7056.782	-.0025	1.14672
	2-Median	7193.23	.05	1.146395
	3-Maximum	7877.45	8.67	1.2108
	4-Minimum	4993.89	-11.51	1.064283
	5-Standard deviation	536.1052	1.118929	.0292335
	6-Kurtosis	3.93108	17.89613	2.132838
	7-Skewness	-1.22789	-l.097826	-.0312437

Descriptive statistics for the closing index, logarithmic returns (lnretu^2), and forex rate (forex_~p) for the years 2018–2022 are shown in this table. The variable "close" shows a downward trend from 2018 to 2020 with a significant reduction in 2020, indicating the combined effects of Covid-19 and Brexit. However, in 2021 the FTSE-100 started to rise again and stabilized in 2022. The Forex GBP variable shows that the GBP has fallen in value against the Euro between 2018 and 2020. All things considered, the variations in the value of the GBP were not that great between 2021 and 2022. In 2018 and 2019, the FTSE-100's logarithmic return, or lnreturn2, demonstrated a positive return. However, because of the epidemic and Brexit agreement, it had a negative return (-0.0557977) in 2020. Following a comeback in 2021, there was another decline in 2022, which was probably brought on by additional Covid-19 variations and financial difficulties.

Important metrics such as the sample period's minimum, maximum, standard deviation, and median show how volatile the FTSE-100 index was. The FTSE-100, for instance, saw substantial volatility caused by the uncertainties around Brexit and the pandemic, peaking at 7877.45 and falling to 4993.89.

Table 2: Correlation matrix

	Inretu ~2	br~r_eff	return~p
lnreturn2	1.0000		
brexit_agr~f	0.0213	1.0000	
retun_fore~p	-0.0473	-0.0062	1.0000

This table shows the correlation matrix between the model variables. The Brexit deal has a negative association (-0.0473) with the GBP-euro exchange rate and a positive correlation (0.0213) with Lnreturn2. Given the low correlation coefficients, the model is unlikely to be multicollinear. The variables with the highest association (-0.0473) were lnreturn2 and retun_forex\p; however, even this value is modest, indicating that none of the variables are significantly correlated.

Table 3: Regression Results

Variables	Coef.	T - value	P -value
brexit _agr_eff	0.0216391	0.40	0.691
retun_forex_gbp	-0.1384268	-1.90	0.058
md _brex _toal	1.00	21.87	0.000
md _brex_toal_forx	0.1384268	1.12	0.262
-cons	-0.0216391	-0.63	0.529
R-Square	0.2742	Adjusted R- Square	0.2719
F- Statistics	120.80	Prob > F	0.0000

The results of the linear regression model are shown in this table. Lnreturn2 is the dependent variable and brexit_agr_eff, retune_forex_gbp, md_brex_toal and md_brex_toal_forx are the independent variables. FTSE-100 returns appear to be slightly positively affected by brexit_agr_eff (0.0216391), but a t-value of 0.40 shows that this effect is not statistically significant at the 5% level. The coefficient of Retun_forex_gbp (-0.1384268) indicates that FTSE-100 returns appear to be negatively affected by changes in the GBP-Euro exchange rate. This effect is significant at the 10% level as indicated by a t-value of -1.90. The significant impact of the Brexit deal on the FTSE-100 is evidenced by the highly significant coefficient md_brex_toal (1.00), which has a t-value of 21.87 at the 1% level. The md_brex_toal_forx coefficient of 0.1384268 shows that the effect on returns is positive, although not statistically significant.

Based on an R-squared value of 0.2742, the independent variables account for about 27.42% of the variation in returns for the FTSE-100. The overall model appears statistically significant, suggesting that the independent variables together account for a large amount of variation in FTSE-100 returns, based on an F-statistic of 120.80 and a p-value of 0.0000.

The regression results showed that the GBP-euro exchange rate had a large but negative effect on FTSE-100 returns, while the Brexit deal had a statistically significant positive effect. Other factors have a less noticeable effect on returns. Overall, the model provides useful information about the factors affecting the FTSE-100 index; however, further study of new variables can improve the explanatory power of the model, as indicated by the R-squared value.

Table 4: Variance inflated factor test

Variable	VIF	1/NIF
md_brex_to-x	1.54	0.648115
rerun_fore~p	1.54	0.648641
md_brex_toal	1.00	0.998265
brexit_agr~f	1.00	0.999453

The results of the VIF test show that all variables have VIF values less than 5, indicating that the model does not exhibit significant multicollinearity. This suggests that the independent variables have little or no association with each other, justifying their inclusion in the model.

Table 5: LM test for ARCH

Lags (p)	chi2	Df	Prob>chi2
1	36.368	1	0.0000

With a chi2 value of 36.678 and a p-value of 0.0000, the LM test for ARCH rejects the null hypothesis that there is no effect of ARCH. This implies that the MGARCH model is better appropriate for further study because it validates the autoregressive conditional heteroscedasticity of the model.

Table 6: MGARCH (1, 1) regression results of model variables

	Coef.	Std.Err.	z	P>z
Inreturn 2				
brexit _agr_eff	0.002753	.0002749	10.02	0.000

retun_forex_gbp	-.5685644	.0008766	-648.59	0.000
md _brex _toal	1.000291	.0000166	6.0e+04	0.000
md _brex_toal_forx	.5700163	.0008715	654.05	0.000
-cons	-.0031089	.0002748	-11.31	0.000
Sigma0				
I_I	2.11e-07	6.74e-08	3.13	0.002
L.ARCH				
I_I	106.9573	5.643745	18.95	0.000
Wald-test	7.290	Prob > chi2	0.000	Log-likelihood 243.2885

This table presents the MGARCH (1, 1) regression results along with details of the variance and conditional mean equations. FTSE-100 returns are positively affected by Brexit_agr_eff (coefficient = 0.002753, p = 0.000), indicating a favorable correlation between index performance and the success of the Brexit deal. Retun_ forex_gbp results show a significant inverse relationship between exchange rate volatility and FTSE-100 returns (coefficient = -0.5685644, p = 0.000). This result is consistent with other studies conducted by Hau and Rey (2006). The significantly favourable effects for md_brex_ toal (coefficient = 1.000291, p = 0.000) lend credence to the hypothesis that FTSE-100 volatility is significantly affected by Brexit deals. md_brex_toal_forx has a positive effect on FTSE-100 returns (coefficient = 0.5700163, p = 0.000), indicating that exchange rates also have an effect on market volatility.

The variation of FTSE-100 returns (also known as Sigma0) is significantly affected by the coefficient 1_1 = 2.11e-07, p = 0.002. The presence of volatility clustering in the data is also confirmed by the significant ARCH terms (1_1 = 106.9573, p = 0.000).

Table 7: MGARCH (1, 1) regression results of model variables (Robustness)

Coef.	**Std.Err.**	**Z**	**P>z**
Inreturn 2			
brexit _agr_eff	0.0272737	0.0005632	48.43
retun_forex_gbp	-0.5730744	0.001352	-423.87
md _brex _toal	1.000063	6.34e-06	l.6e+05
md _brex_toal_forx	.5719111	0.0013626	419.71
Covid 19	-.0715423	0.0006365	-112.40
-cons	.0275184	0.0005622	48.95
Sigma0			
I_I	l.28e-07	3.64e-08	3.52
L.ARCH			
I_I	122.3726	6.531525	18.74

The dummy variable for COVID-19 in the previous table has a statistically significant negative impact on the return of the FTSE-100 (coefficient = -0.0715423, p = 0.000). This suggests that FTSE-100 volatility was lower during the COVID-19 outage. These findings are consistent with past studies, including Ngwakwe (2021), which highlight the detrimental effects of the pandemic on global stock markets.

Discussion

The study's findings offer some important insights into the factors influencing the FTSE-100 in 2022 and beyond, particularly in light of the Brexit deal and the Covid-19 epidemic. The findings shed light on investor behavior and macroeconomic concerns that affected market performance by shedding light on both short-term shocks and long-term changes in financial markets. One of the most important things to remember is how volatile the FTSE-100 was, especially in 2020. The index experienced a significant decline from 28 January 2020 to 13 March 2020. This loss can be attributed to a combination of the Covid-19 pandemic and uncertainty surrounding the Brexit deal. This is consistent with the findings of Ganie *et al.* (2022) who found that high volatility and huge abnormal returns of sample indices show how Covid-19 has affected the stock market. These events significantly reduced investor risk-taking, which subsequently triggered panic selling and a sharp market decline. But the second rally, which began in mid-March 2020, probably represents a resurgence of market confidence as the Brexit deal came together and the release of the Covid-19 vaccine raised hopes for an economic comeback. The World Bank predicted that in 2021, the world economy would have the strongest post-recession rebound in eight decades. However, it was anticipated that the recovery would differ throughout

nations, with major economies predicted to improve rapidly while many developing nations would lag behind (The World Bank, 2021).

Additionally, a tendency of increased volatility in 2020 is evident in the descriptive statistics, with standard deviations rising noticeably in comparison to prior years. This fits in with the general market patterns of the time, when the world's financial markets saw never-before-seen levels of uncertainty. Notably, changes in the GBP-Euro exchange rate paralleled the FTSE-100's steep decline and subsequent rebound, indicating a close relationship between currency movements and market performance. But according to Korus and Celebi (2019), although "good" Brexit news strengthens the pound against the euro, "bad" Brexit news causes the pound to weaken against the US dollar and the euro.

From an exchange rate perspective, the decline of the British pound against the euro between 2018 and 2020 is a sign of overall market anxiety about Brexit. The negative correlation (-0.0473) between FTSE-100 returns and the GBP-Euro exchange rate suggests that the FTSE-100 performed better when the GBP fell. This might be because UK exports are more competitive when the GBP is weaker, which could be advantageous for big international corporations that are listed on the FTSE-100. Regression analysis, however, shows that FTSE-100 returns were significantly but negatively impacted by changes in the GBP-Euro exchange rate. This implies that investors viewed currency changes as a source of uncertainty, which adversely affected their willingness to take on risk. Bissoondeeal *et al.* (2023) also emphasised that many multinational corporations would be extremely concerned about currency and political fluctuations following the Brexit referendum, and many were thinking about reducing or even stopping operations completely and delaying plans for expansion.

The results of the regression study show that the FTSE-100 index was positively and statistically significantly affected by the Brexit deal. This study highlights the importance of political stability for financial markets. The deal gave investors much-needed clarity on the future relationship between the UK and the EU after years of uncertainty. The positive coefficient on the Brexit deal suggests that markets were happy to hear the news, especially after the details of the deal were released and investors had a chance to consider its long-term implications. However, since the vote, business pessimism about the state of the economy has hindered investment growth (BBC, 2023). An interesting result can be seen in the coefficient for md_brex_toal: the Brexit deal significantly reduced the volatility of the FTSE-100. This finding lends credence to the idea that policy changes had a large impact on market behaviour. The significant t-value (21.87) associated with this variable suggests that market volatility was mostly due to the political unpredictability surrounding Brexit and the final deal served to stabilize investor expectations. Moreover, variable correlation matrices do not show significant multicollinearity, indicating that each variable represents a different stage of market development The relatively low R-square value (0.2742) indicates that many unknown variables contributed to explaining FTSE-100 returns in Resources are available for further research on variables that can affect market performance, such as monetary policy, industry-specific trends, and the state of the global economy. MGARCH (1,1) results are supported by basic linear regression statistics. Brexit had a positive and statistically significant impact on FTSE 100 returns, while GBP-EUR exchange rate volatility had a significant negative impact. This illustrates the important role of political stability and monetary stability in financial market health. Moreover, the MGARCH results support the autoregressive conditional heteroskedasticity, indicating that FTSE-100 returns dominated the volatility clustering over the analysis period.

This approach shows how key economic factors such as exchange rate fluctuations and political developments such as Brexit affect market outcomes Studies show that investor sentiment which is heavily influenced by political and economic changes is affected by market changes and performance impact. Subsequent research could include more detailed models of FTSE-100 performance based on other factors such as interest rates or indicators of global economic conditions.

CONCLUSION

This study also examined the moderating effects of the Brexit deal and exchange rates between the British pound and the euro between February 1, 2018 and February 31, 2022. The study assessed the applicability of several statistical techniques using various pre- and post-tests. Utilising tests to verify the reliability and validity of model variable estimations is the study's main goal. Regression methodology is unsuitable for analysing the FTSE-100's performance, as demonstrated by an ARCH effect test. As a result, the study use the MGARCH technique to examine the FTSE-100's performance and volatility.

MGARCH (1, 1) regression results show that the moderating effects of Brexit and FOREX GBP to EUR have an impact on FTSE-100 returns. Moderator variables are significant at the 1% level. Based on empirical evidence, the study suggests that investors in the UK and other countries use information to predict the market prices of London Stock Exchange (LSE)-listed shares, which affects the performance of the FTSE-100 index. The research also examines the performance of the FTSE-100 during the COVID-19 outbreak to assess the stability of the softening impact of the Brexit deal and the FOREX GBP to EUR exchange rate. The analysis comes to the conclusion that COVID-19 has a considerable impact on the FTSE-100 index even when the influence elements of interest moderators do not vary much. It demonstrates the validity and credibility of the findings.

Hard Brexit and soft Brexit are the two forms of Brexit and how they affect society. The straight entry of the UK into the "European Single Market" or "soft Brexit" contributed to the stabilisation and restoration of the

pound's value in relation to the US dollar and the euro. Investor expectations in the currency market have a beneficial effect on the GB Pound, which is good for UK banking and financial institutions. On the other hand, a hard Brexit concentrates on the difficulties the UK would encounter when attempting to enter the "European single market". In such a scenario, the British pound will begin to lose value against the US dollar and the euro. Ultimately, the volatility of the British pound against the euro would have an impact on the stock market, banking sector and other industries in the UK.

The effects of the Brexit deal on the performance of the FTSE-100 are complex and multifaceted.

1. The market will stabilize once further uncertainty caused by the UK leaving the EU is removed.
2. The agreement provided clarification on several points regarding the future trading relationship between the UK and the EU, including the relationship with the North Island.
3. The FTSE-100 is heavily impacted by Brexit headwinds. Some provisions may relate to bilateral trade agreements between the UK and other EU members.
4. Trade barriers could prevent unrestricted trade between EU members via the UK transit route, reducing economic activity in the EU and UK economies combined. The performance of the FTSE-100 index may be indirectly affected by a decline in the profitability of UK-based businesses.
5. New trade restrictions resulting from Brexit may affect the flow of products and services between the UK and the EU, in addition to current cross-border trade concerns such as inflows and outflows of foreign direct investment, tariffs and customs controls. Because of this, businesses that rely on trade with the EU have had to change the way they operate, increasing costs and creating logistical problems.
6. The UK no longer has the approval powers necessary for financial institutions established in the UK to offer services across the EU without the need for special authorisation. For this reason, in order to remain active in the EU market, UK financial institutions must establish subsidiaries.

The top 100 companies listed on the LSE by market capitalization make up the FTSE-100 index. The performance of this index was affected by the Brexit referendum on 23 June 2016. The Brexit result causes the FTSE-100 to fall; it lost approximately 8% of its value over the next two days. The primary cause was people's fears about how Brexit would affect the UK and the global economy.

However, the FTSE-100 bounced back quickly from these losses, rising almost 14% to pre-Brexit levels at the end of 2016. This was notable because a significant percentage of multinational companies listed in the FTSE-100 rely more on the world economy than the UK economy. In the years since the Brexit referendum, the FTSE-100 has performed admirably. As of March 1, 2023, it is trading at over 7,400 points, almost 10% higher than its pre-Brexit position, despite the Covid-19 epidemic and the UK leaving the EU.

Limitations

Although the study offers useful insights into how the Brexit deal and other macroeconomic variables affect the performance of the FTSE-100, there are a number of limitations that should be noted as they may limit how broadly and thoroughly the results can be applied.

1. The exclusive focus of the study is the FTSE-100 index, which represents the largest companies listed on the London Stock Exchange. While providing insight into the UK stock market, it is challenging to generalize the results to other European or global stock markets. It is possible that other EU nations especially those most directly affected by Brexit saw distinct market responses. The absence of consideration for the distinct economic circumstances, investor conduct, and regulatory frameworks of other European nations constrains the relevance of the results to such areas.
2. The research period is limited to January 2018 to December 2022 and includes significant events related to the Brexit process and the Covid-19 pandemic. But it rules out possible large-scale market changes as the UK's new economic association with the EU develops. The dataset does not sufficiently take into account the long-term consequences of Brexit, including adjustments to investment patterns, labor mobility and trade flows. In the future, research could look back further to evaluate more slow market responses to the Brexit agreement and other later developments.
3. The study evaluates the FTSE-100 index using a limited set of macroeconomic variables, such as the Brexit agreement and the GBP-Euro exchange rate. While these are important factors, other macroeconomic variables that can affect stock market performance, such as per capita GDP in the UK, inflation and unemployment rates are not included and how, research agency specific some risks, excluding profit and earnings per share (EPS), which are examples of firm-level micro-economic variables The inclusion of such data can provide a more comprehensive understanding of how Brexit has affected individual FTSE-100 firms, particularly given the broad industry base of index therefore.

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