STOCK ANALYSIS

Abstract

The financial market is subject to fluctuations as a result of a number of news items, including a variety of events that may have an impact on the stock market, such as economic, business, or political developments, all of which may cause a broad range of stock prices to vary. However, in the global stock market, this is considered regular behaviour. An investor should continue to observe these events prior to making any investing decisions. Markets may display unanticipated behaviour that contradicts the available knowledge. As a consequence, market anarchy ensues, with irrational exuberance supplanting financial justice.

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Introduction

Investors' interest in the generation and distribution of stock returns in rising stock markets has been piqued by the rapid and regular changes in political and economic circumstances. Emerging changes are happening at a faster pace and in a different direction in these countries than in established markets. According to Santosa, (2019), advances in information and communication technology aided in the collection of critical data while also providing liquidity to investors in global equity markets. This trend triggered two significant revolutions. To begin, investors benefit from rapid access to information, which results in greater returns. Second, since this critical information is disseminated more quickly, stock prices are also protected. As a result, volatility may be used to measure the stock market's liquidity. Alternatively, when equity markets become more volatile, investors become more cautious, perhaps resulting in a decline in stock market activity.

Descriptive statistics

The correlation between the average rate of return and the amount of risk is positive. Volatility historically has had a positive correlation with returns in all equity markets, since increased market results in greater yields. To conduct a formal inquiry, we look at the correlation between average return and risk (Iwayan and Anom, 2020). Due to the fact that the calculated t is less than the critical t of 2.77, the estimated correlation coefficient between average return and risk of squared stock returns is 0.7514, which is considered a high correlation but statistically insignificant. We use the p–value approach due to the closeness of the t– statistic, i.e. p, correlation is significant at the 10% significance level, which econometricians do not recognise (Suhadak et al., 2019).

|	N	Mean Monthly	Mean Annual
Sq. BSE	2453	0.009676	0.116107
Sq. Hangseng	2488	0.008746	0.104947
Sq. Kospi	2463	0.010556	0.126666
Sq. KSE	2449	0.007762	0.093139
Sq. Nikkei	2453	0.008065	0.096779
Sq. Shanghai	2580	0.008455	0.101459
Valid N (listwise)	2449		

On the other hand, some experts feel that stock return volatility is integrally linked to market uncertainty and thus plays a significant role in a range of investment decisions and portfolio management. Because market volatility is the primary risk indicator, anticipating it effectively is crucial (Sudarno et al., 2021). Volatility is defined in finance as the degree to which a transaction's price fluctuates over time using the standard deviation of logarithmic returns (Alam et al., 2021). Volatility is defined as a considerable fluctuation in the value of an investment over a short period of time. When volatility increases, the risk of loss increases proportionately, as does the likelihood of loss and a decrease in investment returns. A low volatility index shows that an investment's value does not change much over time but rather swings at a constant rate (Iwayan and Anom, 2020). Crestmont Research previously discovered a correlation between market performance and volatility (Alam et al., 2021). The volatility of the Standard & Poor's 500 Index was determined in this research by examining the average daily range (S&P 500 index). According to this study, more volatility suggests a larger danger of a falling market, and decreased volatility indicates a greater possibility of a rising market (Ang and Liu 2007). Glosten et al. (1993) used an updated GARCH-M model to examine the effect of volatility on the risk premium associated with stocks (Sudarno et al., 2021).

According to financial analysis, the mean of stock returns is crucial for market forecasting: the lower the mean value, the greater the profit. Stock return returns are very low and negative in 2008, indicating that they cannot be utilised to anticipate market stability. However, the mean was very high during the global financial crisis of 2008. As a consequence, we may conclude that increasing volatility is a red flag for the financial market. While the normal distribution of returns is symmetrical and the tails are favourably skewed during the non-crisis period of 2004, the frequency distribution is discontinuous in Figure 4b. The kurtosis of volatility is greater than that of stock returns.

Time Series Graph

Interest variables are a critical macroeconomic rate since they are inversely connected to economic growth. Interest rates are typically used to refer to the cost of capital, or the expense of borrowing money for a certain period of time. The interest rate is the cost of borrowing money

from the borrower's viewpoint (borrowing rate). The interest rate is the expense incurred by a lender in return for lending money (lending rate) (Sudarno et al., 2021).
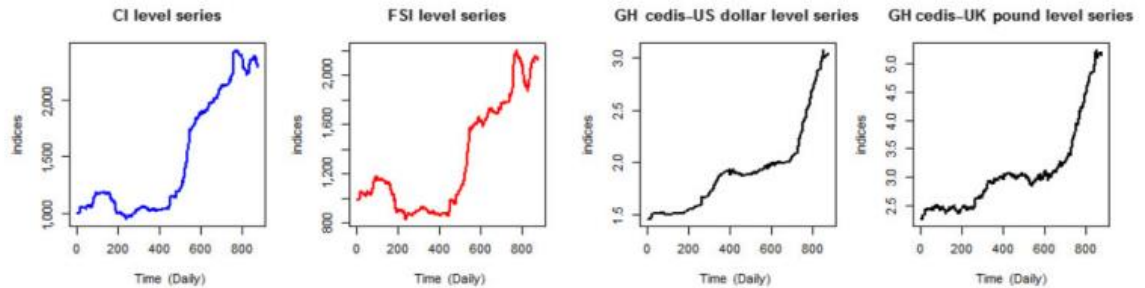

This indicates that stock prices and currency rates exhibit co-movement and volatility clustering during the study period. While the cedi–pound, cedi–euro, cedi–yen, and cedi–dollar rates all exhibit similar patterns of co-movement with the CI and FSI, the cedi–CFA and cedi–naira rates do not. This might be a result of a dearth of naira and CFA transactions by Ghanaian investors and publicly traded firms. Between 2011 and 2014, the two currencies (the naira and the CFA) fluctuated somewhat against the Ghana cedi due to their distinct exchange rate regimes (Bawumia, 2014).
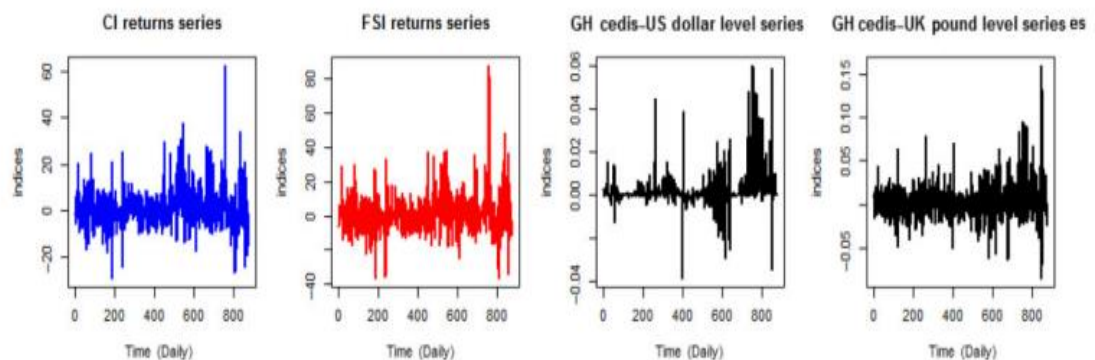
Along with the time graphs, Table 1 variables the statistical characteristics of each variable. The CI's average daily profits (9.5 percent) beat those of the FSI in the returns series (8.7 percent

). In any situation, the FSI suggests a greater degree of risk than the CI. The risk associated with the cedi–naira (4.68) and cedi–CFA (3.16) conversion rates is considerably greater than the risk associated with the rest of the sample, despite the fact that daily mean stock market returns are statistically indistinguishable from exchange rates. When the Jacque–Berra statistics are calculated at the 1% level of significance, all series contradict the concept of normalcy. Exchange rates follow a platykurtic distribution, but stock market returns follow a leptokurtic distribution.
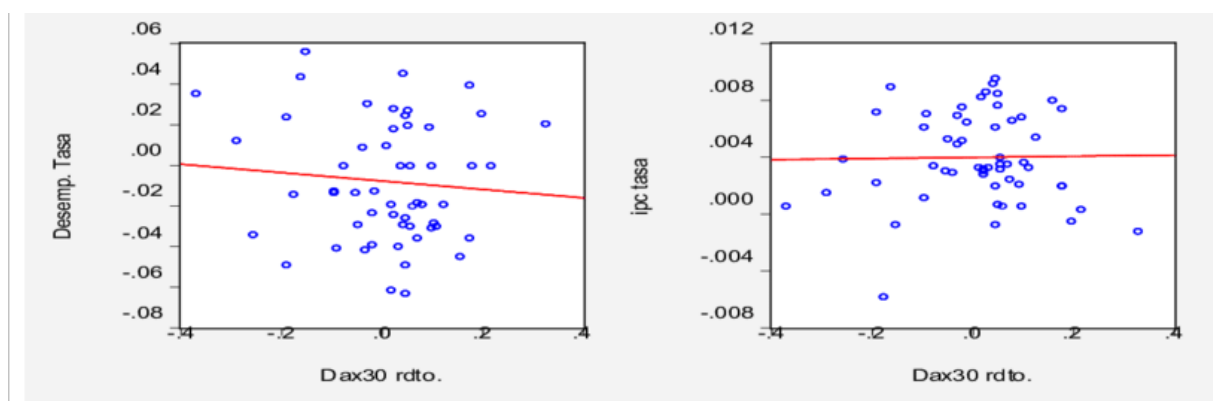
Effective investors are always on the lookout for fresh investment opportunities in a strong market. Only a few individuals may earn above-average profits in an inefficient market, weakening public confidence in the market. Individuals will shift their money from the stock market to the bank if banks increase the interest rate they provide to depositors. As a consequence, demand for shares will decrease, resulting in a decrease in the price of those shares, and vice versa. When banks provide higher interest rates to depositors, lending interest rates rise in response, resulting in a decrease in economic price, another rate that affects share prices, and vice versa. In principle, the interest rate and the price of a stock are inversely related. By comparison, the QR corrects the aforementioned shortcomings. The choice to analyse the link between exchange rate and stock returns using Bayesian QRs was driven by recent suggestions that QRs have the capacity to create more wide dependent relationships between asset returns. Additionally, QR has been demonstrated to be more robust than typical regression approaches in modelling outliers.

Suhadak, et al., (2018) for example, demonstrated conclusively through the use of the QR to examine the relationship between stock prices and exchange rates in Asian markets that when exchange rates are extremely high or low, the negative relationship between stock and foreign exchange markets is extremely prevalent. For the following reasons, a Bayesian approach to the QR is better than a Frequentist one: It generates accurate estimates that fully account for parameter uncertainty, (ii) it avoids approximations to estimators' asymptotic variances, and (iii) it naturally

manages model complexity in terms of model selection. The findings of this research will assist policymakers, asset managers, and traders alike. Additionally, the data offer an answer to the following question: Are interest rate fluctuations a factor in stock market performance? Connecting equity and foreign exchange markets would give critical information to governments and other industry players.

Scatter graphs Stock price

The financial literature as a whole accepts that the process of globalisation started at the beginning of the twentieth century, most notably the globalisation of financial systems, the focus of this book. Financial globalisation is the result of national financial systems becoming deregulated, increasing in increased interconnection among international financial systems. As a result, this would be one of the primary reasons for the global financial crisis's rapid and extensive development in 2008. Around the moment of the century, equity markets had substantial gains, reflecting an economic upswing that lasted until roughly 2007.

The United States will undergo a recession at the conclusion of this year, which will mostly affect stock markets. As a result, financial globalisation accelerated the spread of the US recession to markets across Europe and the rest of the world in early 2008. According to historical stock time statistics, international equity markets have witnessed a general decrease in yields this year, a trend that began in 2009 and has lasted multiple quarters. The goal of this study, as stated by Sudarno et al., (2021) and others, is to examine the possible association between international stock market returns and a collection of major macroeconomic variables gleaned from prior research. Due to the study's short sample time, it may be possible to assess if changes in the economic cycle – before to, during, and after the current global financial crisis – impacted the relationship between macro variables and returns on various international stock markets.
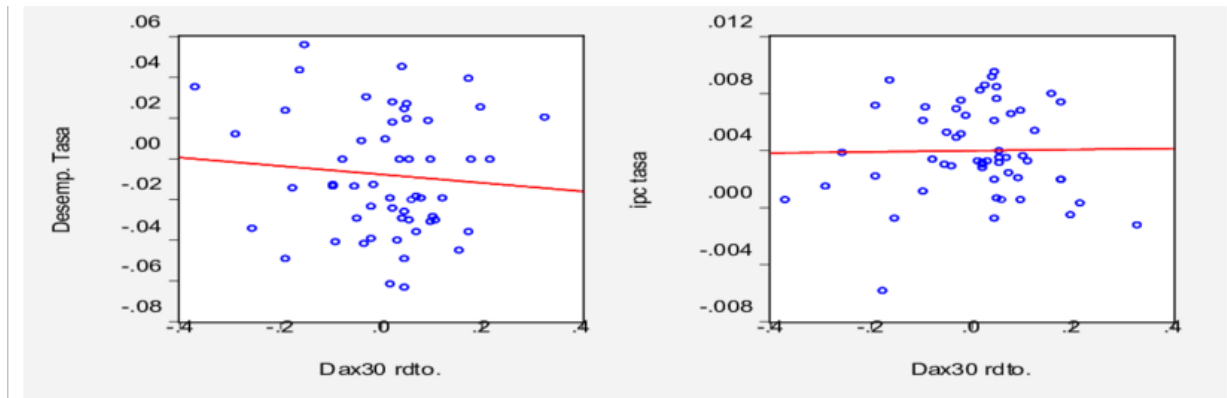
The CPI increases at a consistent rate, except during recessions, when it decreases. For the most part, the IPI acts similarly to the market index, since both continue to climb at equal rates until the crisis. Then it resumes its original growth rate, which has stayed steady in recent years, signalling that it is beginning a growth phase equivalent to stock market returns (between 2012 and 2014). Figure 2 depicts the international stock market indices and unemployment rates. (in a hierarchical fashion) In France, for example, the link is inverse for the great majority of the time, particularly during times of crisis, when a collapse in market prices results in a decrease in unemployment. Historically, a decrease in market returns has been correlated with a considerable decline in unemployment. As a consequence, unemployment will have an inverse connection with the market index, as seen in Table 1. For the majority of the time period investigated, Figure 2 seems to visually reflect this connection. This relationship is particularly strong in the United States, but it can also be observed in European countries, as unemployment rates declined and market returns increased during the pre-crisis period. When a recession begins, the index market falls precipitously and unemployment continues to climb at a rate several percentage points greater than before.

Conclusion

To establish robustness and to determine if there is a relationship between the explanatory variables and the stock market returns of other countries, we employ correlation analysis and scatter plots to validate our early results. To maintain the stationary nature of the explained and explanatory variables, the variables in this second analysis are expressed as growth rates (one quarter relative to the preceding quarter). The analysis is conducted nation by country, with variables for each country represented in a first matrix covering the period 2000 to 2014. The matrices for each of the previously mentioned sub-periods will be presented later in this section:

pre-crisis (2000-2006), crisis (2007-2010), and post-crisis (2011-2016). (2011-2014). The whole sample period is divided into sub-periods to see if the correlation is stronger at different times in time and to eliminate any distortions that may have occurred during certain time periods and therefore influenced the entire sample.

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