Connection between stock markets in Europe and the U.S.

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Abstract:

This research shows how variability and disturbances spillover effects between European Union and United States share prices from 1935 to 2020. For such an entire study, which comprises four sample group periods, the asymmetric GARCH-BEKK framework is employed to conduct empirical analysis. As per the empirical findings, financial market interdependencies between two economies have gotten better since the start of EMU (European Currency Union), insinuating that improved capital market interactions and connectedness may increase domestic economy threats and risks to global shocks while also minimizing potential diversification benefits.

Keywords:

Interdependence, multivariate GARCH-BEKK, shock and volatility spillovers, stock markets.

1. Introduction:

The goal of this study is to find solutions to these important aspects. To find the solution, we're using a multivariate search analysis to investigate the landscape of stock and fluctuation knock on effects in between UK and US share prices under various global economic structures from July 1, 1935, because when FT30 index was created, to January 31, 2020, because when UK formally exited the EU. This study has various key implications for public and private investors, including World War II, the global financial system problem, global oil disasters, the 1987 stock market meltdown, and the European monetary crisis. Customers will be sufficiently knowledgeable on the potential benefits of portfolio diversification in an increasingly linked economy.

1.1. The international monetary system:

The UK and US money systems also began to play prominent positions in monetary policies and expansion throughout the last eight decades. Because of the fluctuating global financial system, the linkages between share prices are unlikely to remain constant throughout the age.

1.2. Shock and volatility transmission: Theory and evidence:

The mechanics of stress and volatility spillovers are underpinned by the communicating impacts of domestic & global news on global equities. Experts have used leakage methodologies to measure the amount of global capital market integration and interdependence. Hamao, Masulis, and Ng (1990) have it on a regular basis.

By using the multimodal EGARCH framework, Kim, Moshirian, and Wu (2005) considered the effect of the EMU on trade flow from 1989 to 2003.

1.3. Research objective:

The research's main goal is to look into the EU and US's economic interdependence. As globalization progresses, with repercussions for both developed and developing countries, the important question is whether "the global will become mutually dependent on the basis of classical economic models with proportional along with a comparative benefit?" If the answer is yes, we'll assess the EU-US relationship.

2. Literature Review:

A huge proportion of studies has been conducted to determine if asset values are normally distributed (as predicted by Efficient Market; throughout this case, firm price movements will be anticipated) or are irregular.Greene and Fielitz (1977) foundproof to determination in regular US market proceeds using R/S methods.

Panto et al. (1976) became the first to exam for share price interdependence using similarity. Engle and Granger (1987) and Johansen (1991, 1996) have used the cointegration methods to investigate carriage returns in previous research.

2.1. European union:

Robert Lighthizer, the US Trade Minister, and Phil Hogan, the Preferential Tariff Director, said And the EU has struck an arrangement on a collection of import fees that might increase free trade for hundreds of billions in the US and EU exports. We can divide the principal four subordination within European Union as follows: imports, exports, trade balance, and investment.

2.2. Theory and evidence on macroeconomic converging with financial volatility:

As per the conceptual model, when economic cycles, deflation, and borrowing costs align, more economic relations between nations may lead to greater capital flow over time (see Kose, Otrok, & Prasad, 2012). The feature will evolve throughout time due to differing face value and the participation of both macroeconomic considerations.

2.3. Macroeconomic convergence:

2.3.1. Business cycle convergence:

While using the rising trend in manufacturing capacity as a substitution for real economy divergence. As per Kim, Moshirian, and Wu, crises may be more thoroughly transmitted among money systems when nations are in equal real economic regions, boosting integration (2005).

2.3.2. Interest rate convergence:

Exchange rate drift is proxied by the dependent connection between European and US bond yields. If bond yields in Europe and the United States narrow, it could be attributable to similar financial authorities. Kim, Moshirian, and Wu (2005) demonstrated that moving closer to a

uniform cost of borrowing meaningly bigger converging among EMU besides us (see also Syllignakis & Kouretas, 2011).

2.3.3. Inflationary convergence:

The positive association between Consumer prices in the United States and Europe is used as a measure for deflation acceleration. The greater the link connecting Europe's and America's stock markets, the larger the junction of their relative consumer prices. Consumer price inflation, according to Kim, Moshirian, and Wu (2005).

2.3.4. Economic plan uncertainty convergence:

According to Baker, Bloom, and Davis (2016, p. 16). Changes in equity markets' stochastic frontier increased investor concerns and impair stock return, according to Antonakakis, Chatziantoniou, and Filis (2013), who analyzed a datasets dating 1985 to 2013.

2.4. Financial volatility:

2.4.1. Real exchange rate volatility:

In theory, the appears to be an inverted relationship between firm marketplace linkage and currency depreciation because currency depreciation is a useful determinant of threat valued in the money system (see Bodart & Reding, 1999). Thus according to Syllignakis and Kouretas, currency fluctuations have a major impact on market integration (2011).

2.5. Commodity price volatility:

Petroleum oil is the most important trading market, followed by bullion. Several speculators flocked to gold as a safe haven property while other products performed badly. There still are two types of price movements. Uncertainty in the equity market, as well as financial and trade events: principles outside of the economy

2.6. Factors that affect the stock market:

Whereas company earnings and purchase notifications have always had a consequence on a corporation's stock market gains, other activities have an influence on companies and the economy as a whole.

2.7.   What factors determine the price of stocks?

The primary driver of asset values is an addition to the economy. Whenever buy requests surpass sales demands, stock prices skyrocket; when going to sell orders outnumber buy ones, stock prices fall. Money, the economy, desires, and sentiments all have an effect on sales.

2.8.   What causes stock price changes?

The share value of inventories at any particular time is set by the market, or how frequently people are willing to swap stocks with that stock at every specific price point whether you should buy, sell, or keep our company, avoiding losses are reduced gains.

3.   Research Methodology:

The majority of the data used in this study was derived from secondary sources. The study was conducted using the following methods. It was decided to perform a literature review in order to understand more about EU-US economic connections, both current and past. A variety of books, periodicals, and publications were consulted in order to compile the information presented here. However, in this instance, a search on the internet was utilized. Finance scholars used cointegration tests to assess the medium- to long-term shared stochastic tendency across variables (Engle & Granger, 1987; Johansen, 1988; Gregory & Hansen, 1996).

$$R_{UK,t} = \alpha_{UK} + \sum_{i=1}^{P_{UK}} \beta_{UK,i} R_{UK,t-1} + \sum_{i=1}^{P_{US}} \beta_{US,i} R_{US,t-i} + \epsilon_{UK,t}$$

$$R_{US,t} = \alpha_{US} + \sum_{i=1}^{P_{US}} \beta_{US,i} R_{US,t-1} + \sum_{i=1}^{P_{UK}} \beta_{UK,i} R_{UK,t-i} + \epsilon_{US,t}$$

The temporal differences as in random variable both Europe and the US share prices, per the Modeling framework, are dependent on a really steady, its corresponding lags including bridge, and the perturbations constituents, who reflect unforeseen events on a regression model.

The bayesian autocorrelation Ht was modelled using an egarch framework (Kroner and Ng, 1998), with the disturbances variable _t=((UK,t), (US,t)) being normalised (Aladesanmi, 2020).

$$H_t = CC' + A' \in_{t-1} \in'_{t-1} A + B'H_{t-1}B + D'\eta_{t-1}\eta'_{t-1}D$$

The fundamental grids over such a superstructure were lower hexagonal in channel Matrix, but its not necessarily A, B, or D. By handling with nonlinear elements, the theory generates good moderately in the creation of covariances, giving it an edge over VECH approaches.

The garph (1, 1) formulation's usability in a really three separate setting is strengthened as chooses to follow: The year 2020 (Aladesanmi).

$$
\begin{aligned}
H_t = \begin{pmatrix} h_{11,t} & h_{12,t} \\ h_{21,t} & h_{22,t} \end{pmatrix} \\
= CC' + \begin{pmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \end{pmatrix} \begin{pmatrix} \epsilon_{11,t-1}^2 & \epsilon_{1,t-1}\epsilon_{2,t-1} \\ \epsilon_{2,t-1}\epsilon_{1,t-1} & \epsilon_{22,t-1}^2 \end{pmatrix} \begin{pmatrix} \alpha_{11} & \alpha_{12} \\ \alpha_{21} & \alpha_{22} \end{pmatrix} \\
+ \begin{pmatrix} \beta_{11} & \beta_{12} \\ \beta_{21} & \beta_{22} \end{pmatrix} \begin{pmatrix} h_{11,t-1} & h_{12,t-1} \\ h_{21,t-1} & h_{22,t-1} \end{pmatrix} \begin{pmatrix} \beta_{11} & \beta_{12} \\ \beta_{21} & \beta_{22} \end{pmatrix} \\
+ \begin{pmatrix} \delta_{11} & \delta_{12} \\ \delta_{21} & \delta_{22} \end{pmatrix} \begin{pmatrix} \eta_{11,t-1}^2 & \eta_{1,t-1}\eta_{2,t-1} \\ \eta_{2,t-1}\eta_{1,t-1} & \eta_{22,t-1}^2 \end{pmatrix} \begin{pmatrix} \delta_{11} & \delta_{12} \\ \delta_{21} & \delta_{22} \end{pmatrix}
\end{aligned}
$$

4. Research Findings:

This same 1971 worldwide monetary crisis, the 1973/74 global oil shock, and October 1987 market crash, in 1997 Asian downturn, that 1998 Russian debt crisis and also the 2008 financial meltdown, stock values steadily sank from highs to historical lows during World War II (Aladesanmi, 2020).

It depicts the whole and sub-period stock returns for the UK and the United States (Aladesanmi, 2020). The UK market is expected to follow the same path as the US market in terms of market structure.. Two-sample and Levene tests' test statistics are also provided. The differences between means and variances are now the numbers used to represent the results of such tests. Kolmogorov-Smirnov tests are used to test the null hypothesis with equal median and distribution values in k samples (Aladesanmi, 2020).

4.1. Return spillovers:

Vector error correction investigation using genuine log rates of European and US share prices for complete and micro, both Garch and Johansen examination demonstrate no co integration linkages amongst European and US equities at typical levels.

4.2. Shock and volatility spillovers:

The highest amplitude of both the summing of Scalar couples with Input and The output factors has principal components well below unity throughout frequency, meeting the non - stationary conditions for the garch-bekk covariances ht. As a whole, the data continues to favor the hypotheses of significant reversible surprise as well as turbulence economic impacts in during EMU and pre-EMU periods.
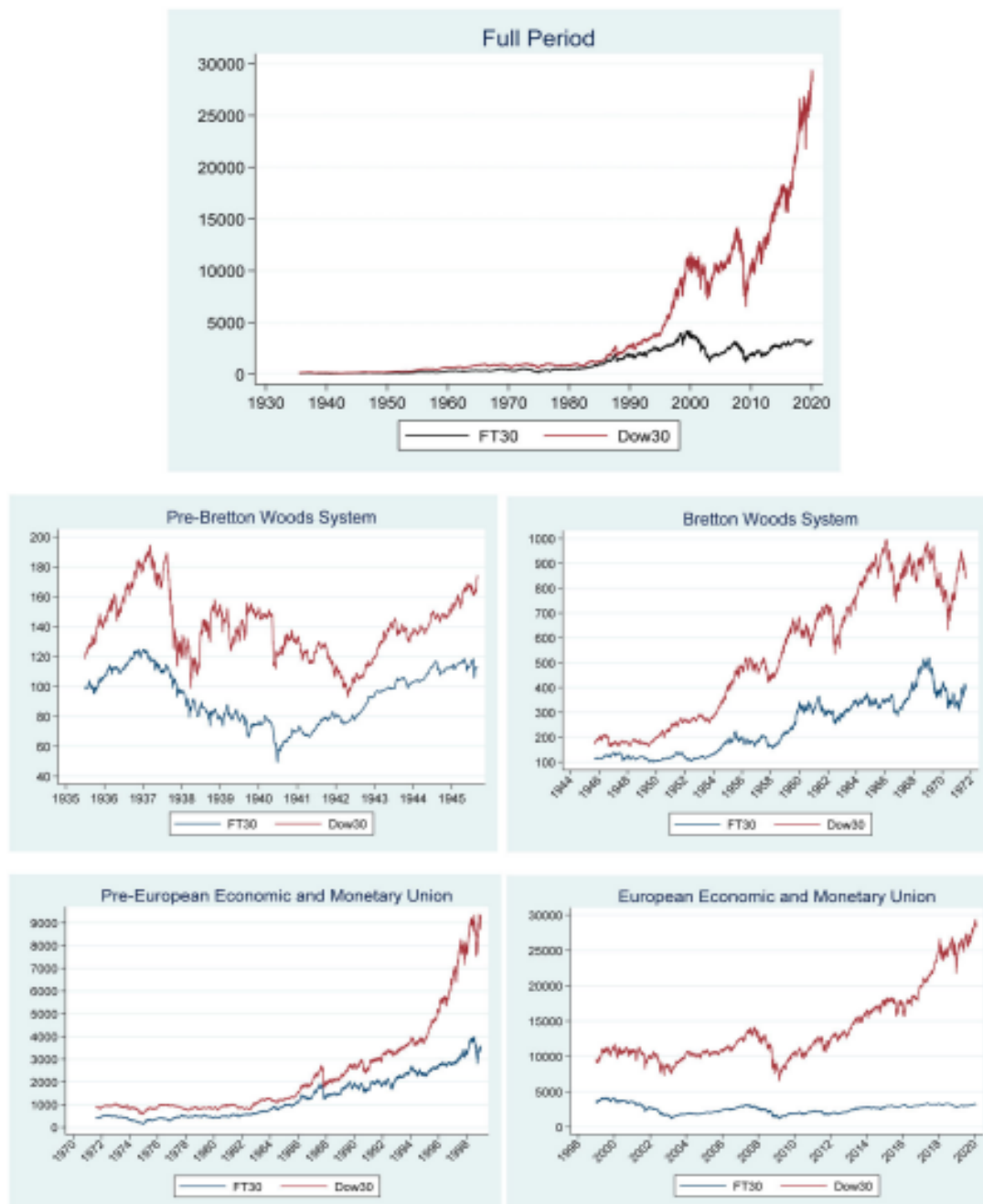

Figure.1: Closing prices of FT30 and Dow30 for the entire period and four sub-periods
(source :aldesanmi-2020)

4.3. Paying attention to the difference between the stock markets in Europe and the United States:

Suggestions for equities to buy within Europe's equity market were made in recent years, signaling how the us stock exchange gives even bigger possible value.

The European stock market's poor performance has pushed up pricing indicators (eurozone - P/E ratio: 16.3 and US - P/E ratio: 25.8, as of 15 June), only with CAPE (Cyclically Adjusted Price to Earnings) ratio promising for larger protracted returns. Regulation, for example, in key sectors, will all play a key role ("Europe vs. US stock market: mind the gap", 2021).

Figure. 2: Yields of S&P 500 and Eurostoxx (source: Li, 2007; Li & Giles, 2015)

Table.1: Stock market returns by sector

Stock market returns by sector		
Sector	**US**	**Euro area**
Energy	4.3%	2.4%
Materials	8.9%	4.89%
Industry	13.9%	8.7%
Consumer discretionary	17.9%	13.2%
Consumer essentials	14.4%	12.9%
Health	15.6%	11.4%
Finance	9.3%	-1.0%
Information technologies	12.2%	10.1%
Telecommunications	12.1%	1.9%
Utilities	12.1%	-6.4%
General index	12.3%	5.6%

Source: CaixaBank Research, based on Bloomberg data.

5. Conclusion:

Study of volatility & shock spillovers between European and the US stock markets over the period 1935–2020. The four hypotheses are supported by the evidence: significant spillovers of shock and volatility in both directions between European and the US stock markets, as was the case throughout the EMU and before the BW. It is increasingly important for policymakers to effectively control key macroeconomic parameters in order to establish resilience to negative shock spillovers, particularly financial contagion, in terms of financial markets' sustainability. Finally, strong, effective, and very well policy steps that increase liquidity & market confidence can greatly lessen the intensity of such a crisis as well as the risk of financial contagion.

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India's stock market now 7th biggest in the world as BSE m-cap surges to $2.7 trillion

India's stock market is the second-best performer among the top 15 countries in 2021 and soon it may overtake France to become the sixth biggest in the world. India's stock market is now the seventh biggest, up three spots, in the world as total market capitalisation increased to $2.7 trillion. The BSE Sensex crossed the 51,000 mark on Friday while the NSE benchmark Nifty crossed the 15,000 level for the first time. Including Friday's gains, the benchmark Nifty has gained 6.9% so far in 2021.

India's stock market is now bigger than Canada, Germany and Saudi Arabia, the Economic Times mentioned in a report. Worth mentioning here is that India's stock market is the second-best performer among the top 15 countries in 2021 and soon it may overtake France to become the sixth biggest in the world. Total market capitalisation of France now stands at $2.86 trillion.

Almost after 11 months, India's stock market edged past Canada, which is now the 8th biggest on the basis of market capitalisation. Europe's largest economy Germany has a market value of $2.53 trillion. Only two European countries — France and the United Kingdom — are among the top seven markets, the business daily mentioned.

The MSCI India index has gained 21% in the last three months compared to 19% by MSCI Emerging Market and 12% by MSCI World indices.

Foreign portfolio investors have pumped in nearly $4.05 billion in Indian equities since January 1, the second-best inflow among emerging markets after Brazil which saw investments of $4.5 billion during this period. Weakness in the US Dollar has helped emerging markets' performance in recent months.

Analysts say India has been among the better performers also because of a faster recovery in domestic demand after the Covid-19-led disruptions and the government's focus on reviving the economy.

Based on the latest IMF projections, India's growth will rebound sharply to 11.5% in FY22 and 6.8% in FY23.

This article id for further studies- Not part of the article-Reference: Economic Times