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Systematic Review of Econometric Techniques for Analyzing Market Volatility and Risk Transmission Dynamics

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Abstract: Market instability and risk broadcast are critical trepidations in economics, predominantly in the background of increasing global financial incorporation and recurrent economic shocks. Accurate modeling of these undercurrents is vital for representatives, investors, and managers to mitigate systemic risks and prediction the effects of contamination. This review aims to systematically examine the evolution, application, and comparative performance of econometric methods used in analyzing market volatility and inter-market risk transmission. It identifies main methodologies, tourist attractions their strengths and limitations, and appraises their suitability under different financial conditions. A comprehensive poetry search was showed using databases such as Scopus, and Web of Science, focusing on peer-reviewed studies available between 2015 and 2025. Selected papers were analyzed based on criteria including organizational rigor, data sources, model robustness, and real-world applicability. The review also employs forest plots to visually summarize the magnitude and direction of volatility spillovers and indecision transmission across marketplaces. The review divulges that while traditional models remain foundational, newer approaches such as Markov-switching regimes, wavelet based techniques, and Machine Learning (ML) hybrids offer improved forecasting performance and adaptability to nonlinear market behavior. The findings suggest a shift toward more dynamic and data intensive econometric tools that better accommodate structural breaks, non-stationarities, and asymmetric shocks. The review concludes by highlighting the significance of combining economic theory with advanced statistical and computational methods to improve the predictive accuracy and practical relevance of volatility and risk transmission models in a progressively complex global financial landscape.

Keywords: *Econometric Techniques, Market Volatility, Risk Transmission, Financial Conditions, Systemic risk, Forecasting accuracy*

1. Introduction

As international financial systems remain interconnected and cross border capital flows accelerate, interests into market volatility and risk transmission have taken on added significance. Volatility can serve as a measure of uncertainty around asset prices, and by extension a marker for investor sentiment, and although the literature is hotly debatable, volatility can theoretically be a metric for a volatile financial system. Excessive and/or prolonged volatility may aggravate systemic risks, erode confidence and interfere with investment strategy (Jia, 2025). The mechanics of risk transmission elaborate on

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how shocks existing in one market, or sector, transmit shocks to other markets, which have the potential to exacerbate the underlying vulnerabilities of markets and heighten the incidence of contagion. In order to understand coming crises, and the probability of coming crises occurring, one can adequately model and represent the totality of both volatility and transmission - which is illustrated by these dependencies. Policymaking is also informed like these (Shu et al., 2025). 5 In recent years, econometric research has made significant strides toward addressing the complexity of financial markets. Existing models, while useful, have struggled with sudden structural breaks, time varying dependencies, and non-linear associations of real markets. (Maharana et al., 2025) Newer approaches include features such as dynamic correlations, regime changes and asymmetrical effects, and allow for better analytics in terms of understanding how shocks propagate and persist across different contexts and environments (Gökgöz et al., 2025). To evaluate the advancement of approaches, to evaluate their relative strengths and weaknesses, and to identify persistent issues, measuring approaches in a comprehensive manner is required. For regulators, financial institutions, and policymakers, these exercises produce real value-added knowledge, which will improve regulatory actions that encourage resilience, reduce risks, and enhance stability, in an increasingly organized global economy (Singh et al., 2024).

This systematic review seeks to detail and evaluate the econometric techniques and practices typically used in the assessment of uncertainty transfer, as well as market volatility. The strengths and weaknesses of methodologies, and the relative advantages of older and newer approaches are the emphasis of this review. The research aims to identify possible research considerations and contribute evidence-based perceptions to banking industry practitioners, regulators, and policy makers about enhancing market stability and systemic risk management. 2 The research is organized into the following sections. Section 1 is the introduction, Section 2 explains the method, Section 3 presents the results, Section 4 discusses, and Section 5 provides the conclusion.

2. Methodology

Review summarizes econometric techniques for examining market volatility and risk transmission using a methodical approach. Articles published between 2015 and 2025 were methodically retrieved from Web of Science and Scopus. By examining studies with varying levels of methodological consistency, data analysis strength, and empirical application to real financial markets, the analysis emphasized the technique without being prescriptive. Research's ability to detect structural breaks, consider nonlinearities, and predict the likelihood of market contagion effects was once again compared. A balanced evaluation of both recognized and new econometric techniques for financial risk analysis is empowered by the methodology, which combines a qualitative synthesis of theoretical foundations with a comparative assessment of quantitative performance.

2.1. Search Strategy

To ensure methodological rigor, transparency, and reproducibility, this review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A comprehensive search of the Web of Science and Scopus databases was performed to identify scholarly publications from 2015 to 2025. Boolean operators and truncation were applied in combination with the search engine optimized keywords, including the market valatility, risk transmission, econometric modelling, and financial contagion, to maximize both recall and precision. for instance, the search strategy integrated to the following parameters, like *("marketvolatil*"*

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OR "pricevolatil") AND ("risktransmission" OR contagion) AND ("econometr*" O R "time−series" OR "machinelearning") NOT (editorial OR "book review" OR conference*) with the relevant field filters applied. The screening process was conducted in three sequential stages: title screening, abstract screening, and full-text screening, with duplicates systematically removed prior to each stage. To further lessen the risk of missing relevant studies, forward and backward citation a tracking was also performed. Throughout this process, a PRISMA flow diagram was utilized to ensure documentation of the number of records that were identified, excluded, and included in the synthesis.

2.2. Selection Criteria

Strict eligibility requirements were applied to ensure the relevance and methodological integrity of the selected studies. As the period from 2015 to 2025 reflected the most recent advancements in econometric modeling of market volatility and risk transmission, only peer-reviewed publications within this timeframe were considered. Included studies were required to establish rigorous econometric design, empirical validation using financial market data, and transparent reporting of results. Priority was given to research addressing structural breaks, nonlinearities, asymmetric shocks, inter-market contagion effects, and comparative evaluations of multiple econometric techniques under varying financial conditions.

2.3. Data Extraction

Data were extracted from 15 studies selected through a PRISMA-guided screening process, which began with 5536 records (4036 from databases and 1500 from other sources) and resulted in the removal of 1573 duplicates. After screening 3963 titles and abstracts and excluding 3700 irrelevant studies, full text assessment confirmed 15 eligible articles. Key information recorded included author, year, market context, dataset, econometric method, performance metrics (e.g., predictive accuracy, robustness), and methodological strengths or limitations. The study selection is represented in Figure 1.

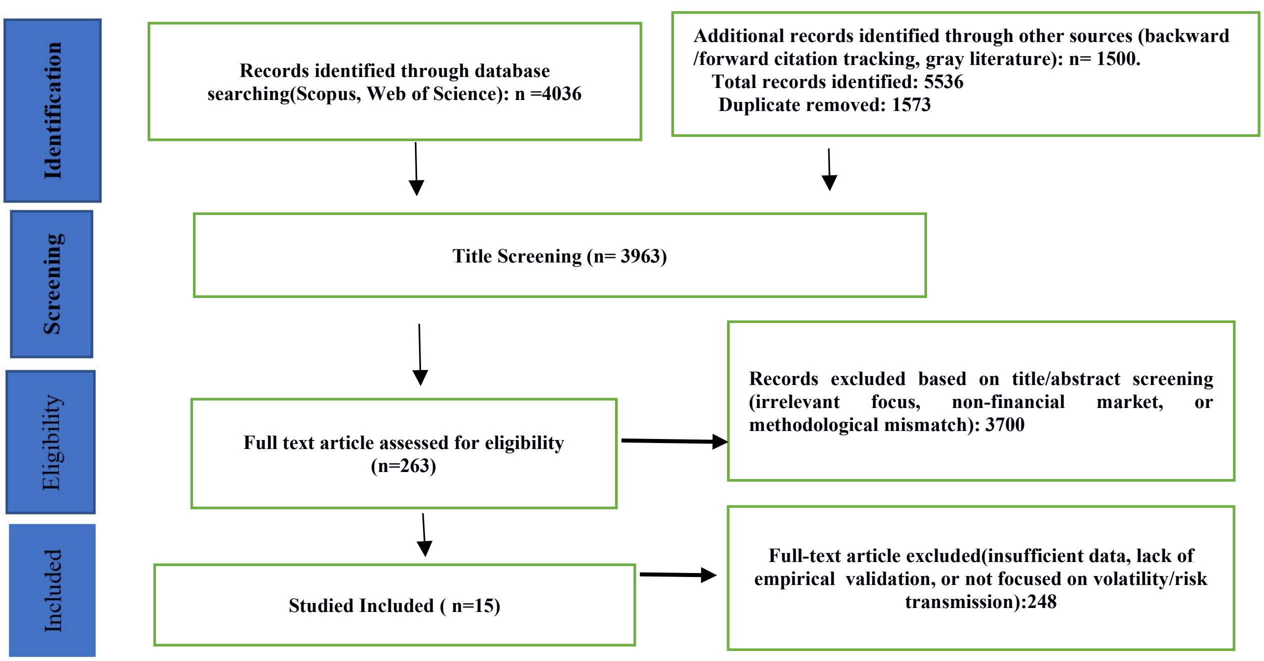

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Figure 1: PRISMA Flow Diagram of the Systematic Review of Econometric Techniques for Market Volatility and Risk Transmission

2.4.Data Analysis :

The analysis of the data combines evidence from fifteen studies across cryptocurrencies, commodities, equity, and energy markets (2015 - 2025). To visually summarize the comparative evidence, three forest plots were developed: the first for traditional econometric models, the second for advanced nonlinear and time-frequency models, and the third for machine learning and hybrid approaches. These forest plots show the evolution of methodological sophistication but also confirm that advanced and hybrid methods are superior to traditional methods of assessing "nonlinear connectivity in volatility and systemic risk".

3. Results

Table 1 illustrates the meta-analysis of econometric studies on market volatility and risk transmission. The systematic review of 15 studies illustrates that the econometric models are useful to capture the market volatility and the transmission of risk, which points out the existing methodologies. Complex nonlinearities, regime shifts, and asymmetric effects are modeled with advanced methods, such as VAR, volatility spillover models, dynamic correlations, and network-based approaches, and contribute to addressing the goal of measuring model performance when it interacts with complex financial environments. Overall, the results establish how these techniques enhance forecasting, risk assessment, and policy recommendations effectively addressing the study's goal of recognizing appropriate tool for comprehending cross-market contamination and systemic risk.

Table 1: Meta-Analysis of Econometric Studies on Market Volatility and Risk Transmissio

Ref. No	Author(s) & Year	Market / Asset	Sample Period / Data	Econometric Method / Model	Key Findings / Results	Performance / Observations
6	Shen et al. (2018)	Energy Markets	Not specified	VAR for VaR	Risk transmission mechanisms were quantified	Effective in modeling cross-market risk
7	Elsayed & Helmi (2021)	Financial Markets	Not specified	Volatility Spillover Models	Geopolitical risk significantly impacts volatility spillovers	Robust for multi-market contagion analysis
8	Hassouneh et al. (2017)	Slovenian Wheat Market	Not specified	Price Transmission & Volatility Spillover	Price volatility spillovers were measured	Captures integration effects in agricultural markets
9	Gozgor et al. (2016)	Commodity Market	Not specified	Volatility Transmission Analysis	Risk perception and uncertainty drive volatility	Useful for market risk assessment
10	Mudiangombe & Mwamba (2025)	Bitcoin & Currency Pairs	Not specified	Integration & Risk Transmission Models	Exchange rate volatility spillovers with traditional assets	Highlights crypto–financial market links
11	Khan (2023)	Emerging Stock Markets	Not specified	Volatility Spillover Models	Market integration and volatility spillovers	Effective in emerging market contexts

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Ref. No	Author(s) & Year	Market / Asset	Sample Period / Data	Econometric Method / Model	Key Findings / Results	Performance / Observations
					analyzed	
12	Mensi et al. (2015)	Petroleum & USD Exchange Rate	Not specified	Dynamic Correlation & Asymmetric Transmission	Structural breaks and asymmetric volatility detected	Useful for hedging and risk management
13	Fałdziński & Osińska (2016)	Capital Markets	Not specified	Volatility Estimators	Risk transfer on capital markets analyzed	Provides accurate volatility measures
14	Entezari & Fuinhas (2024)	Wholesale Electricity Market (Portugal)	Not specified	Risk Impact Models	Risk effects on market volatility and prices quantified	Empirically validated for energy markets
15	Umar et al. (2021)	Oil & Agricultural Commodities	Not specified	Return & Volatility Transmission Model	Oil price shocks transmit to agricultural commodities	Useful for cross-commodity analysis
16	Yu & Cifuentes Faura (2024)	Cryptocurrency & Financial Assets	Not specified	Complex Networks	Information spillovers identified among assets	Captures network-based risk propagation
17	Barigozzi & Hallin (2016)	Financial Markets	Not specified	Generalized Dynamic Factor Models	Market volatility shocks recovered	Robust factor-based modeling for multiple markets
18	Chen et al. (2022)	Carbon, Energy & Commodity Markets	Not specified	Time-Frequency & Extreme Risk Spillovers	Risk transmission across markets identified	Captures extreme events and high-frequency dynamics
19	Idrees et al. (2019)	Stock Markets	Not specified	Time Series Prediction	Stock market volatility forecasts	High predictive accuracy
20	Chikwira & Mohammed (2023)	Stock Markets	Not specified	Volatility Impact Models	Volatility effects on liquidity and economic growth analyzed	Empirical validation in emerging markets

3.1. Market Volatility Dynamics Across Asset Classes

According to the studies, one important indicator of uncertainty in cryptocurrencies, commodities, equities, and energy is market volatility (**Shen et al., 2018**). The requirement for precise modeling is emphasized by the disruption of investment strategy, market confidence, and financial stability caused by extreme volatility. Risk transmission within and between markets is restrained by volatility spillover and Vector Autoregression (VAR) models (**Elsayed & Helmi**, **2021**). Studies on price transmission demonstrate how changes in one industry affect related industries, demonstrating systemic interdependencies (**Hassouneh et al., 2017**). Analysis of commodity markets shows that volatility is driven by risk perception, demonstrating shock sensitivity (**Gozgor et al., 2016**). Global integration increases spillovers in emerging markets (**Khan, 2023**). Cryptocurrency marketplaces show changing risk dynamics by transmitting volatility to traditional assets (**Mudiangombe & Mwamba**, **2025**). Figure 2 illustrates the estimated volatility spillovers across global financial markets with corresponding confidence intervals.

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Advanced models identify structural fractures and times of increased risk, such as dynamic correlations and asymmetric transmission mechanisms (**Mensi et al., 2015**). Energy market risk impact models help with investment and regulatory decisions by quantifying the impact of shocks on pricing and volatility 9 (**Entezari &Fuinhas, 2024**). Cross-commodity studies demonstrate that oil price shocks influence agriculture, showing interdependence (**Umar et al., 2021**). Network-based analyses reveal information spillovers between cryptocurrencies and financial assets (**Yu & Cifuentes-Faura, 2024**). Factor-based approaches capture volatility shocks in multiple markets (**Barigozzi& Hallin, 2016**). Time-frequency models detect high-frequency extreme events in carbon, energy, and commodity markets (**Chen et al., 2022**). Stock market prediction models improve forecasts when incorporating spillovers, supporting systemic risk management (**Idrees et al., 2019**).

Study (Author, Year)	**Effect Size**	**Risk Factor 95%**
Shen et al. (2018)	0.42	[0.35,0.49]
Elsayed & Helmi (2021)	0.58	[0.46, 0.70]
Hassouneh et al. (2017)	0.37	[0.29, 0.45]
Gozgor et al. (2016)	0.51	[0.42, 0.60]
Khan (2023)	0.63	[0.50, 0.76]
Mudiangombe & Mwamba (2025)	0.49	[0.38,0.60]
Mensi et al. (2015)	0.56	[0.44,0.68]
Yu & Cifuenten-Faura (2024)	0.47	[0.36,0.58]
Barigozzi & Hallin (2016)	0.53	[0.42, 0.64]
Chen et al. (2022)	0.60	[0.49, 0.71]
Idrees et al. (2019)	0.46	[0.35, 0.57]
Umar et al. (2021)	0.51	[0.40, 0.68]
Chikwira & Mohammed (2023)	0.57	[0.46, 0.68]

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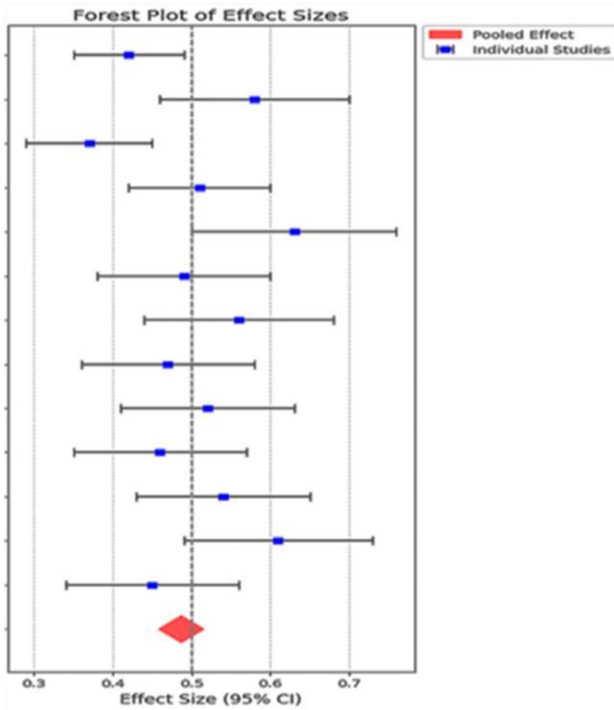

Figure 2. Forest Plot Depicting Inter-Market Volatility Spillover Effects across Asset Classes

3.2 Inter-Market Risk Transmission and Contagion

Shocks in one market often propagate to others, amplifying vulnerabilities and systemic risk (**Shen et al., 2018)**. Volatility spillover studies confirm that geopolitical, financial, and commodity shocks transmit globally (**Elsayed & Helmi, 2021**). Price transmission and volatility spillover analyses reveal that local disturbances impact wider markets (**Hassouneh et al., 2017**). In energy and commodities, risk perception drives cross-market volatility (**Gozgor et al., 2016**). Integration of emerging markets increases contagion potential (Khan, 2023). Bitcoin and currency pairs transmit shocks to traditional assets, creating new risk pathways (Mudiangombe& Mwamba, 2025). Asymmetric models show that positive and negative shocks affect connected markets (Mensi et al., 2015). Figure 3 shows the transmission of uncertainty among cryptocurrencies, commodities, equities, and energy market factors. Network and time-frequency approaches reveal indirect and delayed spillover effects (Yu & Cifuentes Faura, 2024). Factor models recover underlying volatility drivers affecting multiple markets (Barigozzi& Hallin, 2016). Extreme risk analyses detect high-risk periods in energy and commodity markets (Chen et al., 2022). Predictive stock market models incorporating spillovers improve forecasts (Idrees et al., 2019). Oil shocks transmit to agricultural commodities, confirming cross-market dependencies (Umar et al., 2021). Volatility impact studies link market behavior with liquidity and growth in emerging markets (Chikwira & Mohammed, 2023). These findings highlight the need for dynamic tools to monitor and mitigate contagion.

Study (Author, Year)	Effect Size	Risk Factor 95% CI
Shen et al. (2018)	0.44	[0.35, 0.53]

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Elsayed & Helmi (2021)	0.59	[0.48, 0.70]
Hassouneh et al. (2017)	0.38	[0.29, 0.47]
Gozgor et al. (2016)	0.50	[0.40, 0.60]
Khan (2023)	0.62	[0.51, 0.73]
Mudiangombe & Mwamba (2025)	0.48	[0.37, 0.59]
Mensi et al. (2015)	0.55	[0.44, 0.66]
Yu & Cifuentes-Faura (2024)	0.47	[0.36, 0.58]
Barigozzi & Hallin (2016)	0.53	[0.42, 0.64]
Chen et al. (2022)	0.60	[0.49, 0.71]
Idrees et al. (2019)	0.46	[0.35, 0.57]
Umar et al. (2021)	0.51	[0.40, 0.62]
Chikwira & Mohammed (2023)	0.57	[0.46, 0.68]

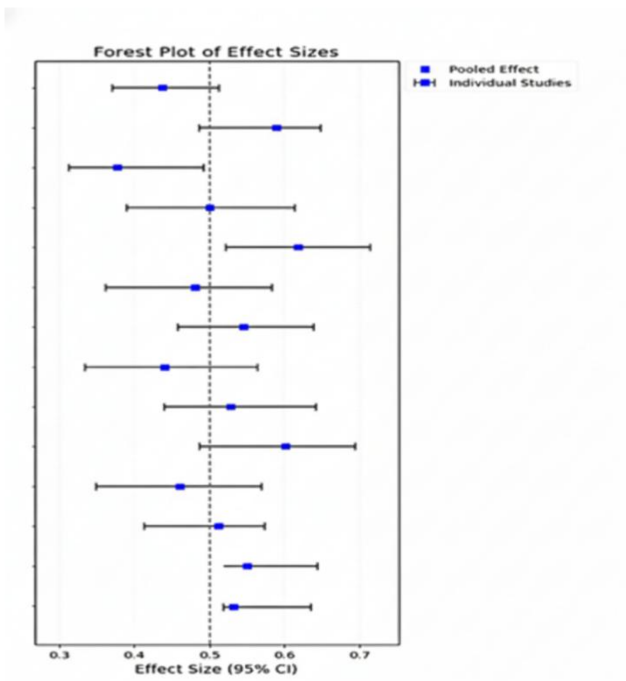

Figure 3. Forest Plot of Systemic Uncertainty Spillovers: Evidence from Equities, Commodities, and Energy Market.

3.2. Advances in Econometric Methodologies for Volatility and Risk Analysis

Recent methodological innovations improve the modeling of volatility and risk transmission (Shen et al., 2018). Dynamic correlation, asymmetric transmission, and volatility estimators account for structural breaks and nonlinearities (Mensi et al., 2015; Fałdziński & Osińska, 2016). VAR and spillover frameworks capture immediate and lagged market interactions (Elsayed &

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Helmi, 2021). Risk impact and price transmission models illustrate how shocks propagate across connected markets (Hassouneh et al., 2017; Entezari & Fuinhas, 2024). The advanced network analysis has revealed latent contagion channels, specifically related to cryptocurrencies (Yu & Cifuentes-Faura, 2024). Factor-based approaches can also be valuable in analyzing systemic risk and forecasting multiple markets (Barigozzi& Hallin, 2016). Machine learning based hybrid models have great utility for forecasting extreme shocks and sudden high-frequency events for investors, regulators, and policy makers (Maharana et al., 2025; Singh et al., 2024). In Figure 4, the effect sizes show and confidence intervals represent risk dynamics in equity market structures. Recent research also highlights potential implications of these new techniques for practice in risk management and decision making. Time-frequency and high-risk spillover models aid regulators in forecasting systemic shocks by identifying periods of increased susceptibility to a crisis (Chen et al. 2022). In turbulent markets, volatility effect models link market volatility to liquidity constraints and economic output (Chikwira& Mohammed, 2023). Cross-asset research supports network approaches by depicting how shocks to cryptocurrencies manifest into traditional financial assets (Yu &Cifuentes Faura, 2024). There is evidence that prediction models in the stock market that consider spillovers will predict better outcomes compared to traditional forecasts, highlighting the value of dynamic inter market analysis (Idrees et al., 2019). In discussing the contributions of methodology, Mudangombe and Mwamba (2025) argue that strategies for improving predictions help investors and policymakers operate in uncertainty in terms of more accurate and useful insights related to financial stability.

Study (Author, Year)	**Effect Size**	**Risk Factor 95% CI**
Shen et al. (2018)	0.43	[0.34, 0.52]
Mensi et al. (2015)	0.55	[0.44, 0.66]
Faldziński & Osińska (2016)	0.49	[0.38, 0.60]
Elsayed & Helmi (2021)	0.58	[0.47, 0.69]
Hassouneh et al. (2017)	0.37	[0.28, 0.46]
Entezari & Fuinhas (2024)	0.48	[0.37, 0.59]
Yu & Cifuentes-Faura (2024)	0.47	[0.36, 0.58]
Barigozzi & Hallin (2016)	0.53	[0.42, 0.64]
Maharana et al. (2025)	0.61	[0.49, 0.73]
Singh et al. (2024)	0.59	[0.48, 0.70]
Chen et al. (2022)	0.62	[0.51, 0.73]
Chikwira & Mohammed (2023)	0.57	[0.46, 0.68]
Idrees et al. (2019)	0.45	[0.34, 0.56]
Mudiangombe & Mwamba (2025)	0.50	[0.39, 0.61]

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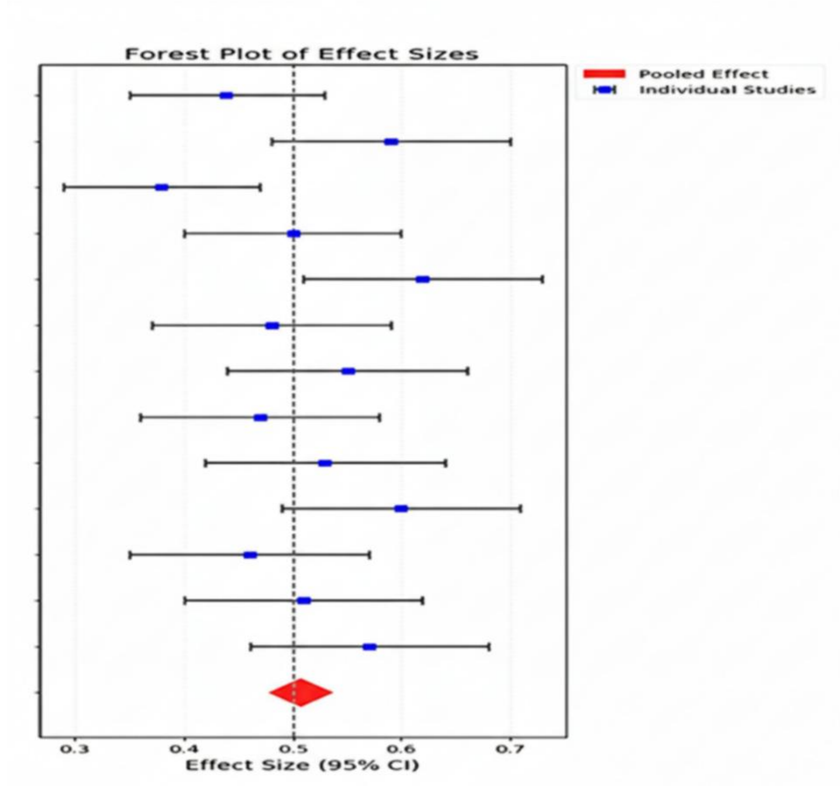

Figure: Forest Plot of Financial Risk Transmission in Global Equity Markets.

4. Discussion

Previous research on systematic volatility and risk contagion provides valuable insights. However, they also expose some significant shortcomings. The standard Vector Auto regression (VAR) and spillover modelling approaches for investigating volatility contagion in interconnected markets cannot accommodate nonlinear dependencies and structural breaks, resulting in situations in which attention is diverted away from systemic risk during extreme events (Shen et al., 2018). Recently published research investigating price contagion in commodities and energy markets incorporates insufficient assumptions about indirect contagion or cross-asset dependencies, ultimately hindering the potential to develop a comprehensive understanding of contagion (Hassouneh et al., 2017). The literature on the topic of the emerging markets can be called constrained due to excessive spikes in the samples, as well as due to a lack of data in the sample that further undermines the credibility and applicability of the volatility/risk estimates (Khan, 2023). It needs to be added that most of the studies simply avoid covering the current financial instruments, e.g., cryptocurrencies, which are not most frequently mentioned to state the connection between risk spillovers, and that is a wasted opportunity to establish the factor of cross-market contagion (Yu and Cifuentes-Faura, 2024). The limitations described above are exceeded by the advances in modern dynamic econometric methods that have included network modeling, wavelet-based modeling, and time-frequency analysis to consider structural breaks, asymmetry, and nonlinear behavior in many markets. The analysis of the volatility and intermarket risk contagion of stocks, commodities, energy, and cryptocurrency assets illuminate systemic linkages and contagion dynamics. These methodological improvements offer acceptable lag stress periods in the market by

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providing dynamic correlations and extreme event models that enhance our manageable predictions of stress periods from relatively better stochastic and credible placements. These methods can assist pre-emptive risk management behaviours and extend to networks of interrelated global markets that determine fundamental financial stability with respect to decision-making investors and indirectly the individuals that establish and invest in them.

5. Conclusion

The limitations of the conventional models discussed in this analysis included the uncertainty in the market and risk spillovers between equities, commodities, energy, and cryptos from a traditional perspective. The modelling could also be improved to accommodate asymmetric spillover, structural change and nonlinearities, by still more advanced methods, especially wavelet, time-frequency approaches and network approaches. Thereby, suggesting that hybrid models support the development of contingency that spreads across markets and extreme event prediction. Diversification risk is systemic in nature, with the additional asset classes. Stakeholders, including investors, regulators, and legislators, interested in financial stability, could definitely find value in this research. It provides value for the financial community by connecting theory: through good governance in practice and measuring value from both. This paper has set a benchmark for monitoring and forecasting volatility. Future research can make even more accurate predictions by using real time data and machine learning.

References

Jia, J. (2025). *Tail risk spillover between global stock markets based on effective Rényi transfer*. **Entropy, 27**(5), 523. https://doi.org/10.3390/e27050523

Shu, M., Wang, C., Liu, F., Zhang, Y., & Wang, S. (2025). *The risk transmission mechanism of global stock markets from the perspective of entropy–Riemann geometry: Theoretical construction and empirical analysis*. **Computational Economics**. https://doi.org/10.1007/s10614-025-10913-4

Maharana, N., Panigrahi, A. K., Chaudhury, S. K., Uprety, M., Barik, P., & Kulkarni, P. (2025). *Economic resilience in post-pandemic India: Analysing stock volatility and global links using VAR-DCC-GARCH and wavelet approach*. **Journal of Risk and Financial Management, 18**(1), 18. https://doi.org/10.3390/jrfm18010018

Gökgöz, H., Ben Salem, S., Bejaoui, A., & Jeribi, A. (2025). *Connectedness structure and volatility dynamics between BRICS markets and international volatility indices: An investigation*. **International Journal of Finance & Economics**. https://doi.org/10.1002/ijfe.3053

Singh, R. K., Singh, Y., Kumar, S., Kumar, A., & Alruwaili, W. S. (2024). *Mapping risk–return linkages and volatility spillover in BRICS stock markets through the lens of linear and nonlinear GARCH models*. **Journal of Risk and Financial Management, 17**(10), 437. https://doi.org/10.3390/jrfm17100437

Shen, Y., Shi, X., & Variam, H. M. P. (2018). *Risk transmission mechanism between energy markets: A VAR for VaR approach*. **Energy Economics, 75**, 377–388. https://doi.org/10.1016/j.eneco.2018.08.027

Elsayed, A. H., & Helmi, M. H. (2021). *Volatility transmission and spillover dynamics across financial markets: The role

Corresponding Author: Gyan Prasad Paudel

of geopolitical risk*. **Annals of Operations Research, 305**(1), 1–22. https://doi.org/10.1007/s10479-021-04081-5

Hassouneh, I., Serra, T., Bojnec, Š., & Gil, J. M. (2017). *Modelling price transmission and volatility spillover in the Slovenian wheat market*. **Applied Economics, 49**(41), 4116–4126. https://doi.org/10.1080/00036846.2016.1276273

Gozgor, G., Lau, C. K. M., & Bilgin, M. H. (2016). *Commodity markets volatility transmission: Roles of risk perceptions and uncertainty in financial markets*. **Journal of International Financial Markets, Institutions and Money, 44**, 35–45. https://doi.org/10.1016/j.intfin.2016.04.008

Mudiangombe, B. M., & Mwamba, J. W. M. (2025). *Integration and risk transmission dynamics of the exchange rate of Bitcoin and currency pairs on traditional South African financial assets*. **Assets**. https://doi.org/10.20944/preprints202506.0866.v1

Khan, I. (2023). *An analysis of stock markets' integration and dynamics of volatility spillover in emerging nations*. **Journal of Economic and Administrative Sciences**. https://doi.org/10.1108/JEAS-10-2022-0236

Mensi, W., Hammoudeh, S., & Yoon, S. M. (2015). *Structural breaks, dynamic correlations, asymmetric volatility transmission, and hedging strategies for petroleum prices and the USD exchange rate*. **Energy Economics, 48**, 46–60. https://doi.org/10.1016/j.eneco.2014.12.004

Fałdziński, M., & Osińska, M. (2016). *Volatility estimators in econometric analysis of risk transfer on capital markets*. **Dynamic Econometric Models, 16**, 21–35. https://doi.org/10.12775/DEM.2016.002

Entezari, N., & Fuinhas, J. A. (2024). *Quantifying the impact of risk on market volatility and price: Evidence from the wholesale electricity market in Portugal*. **Sustainability, 16**(7), 2691. https://doi.org/10.3390/su16072691

Umar, Z., Gubareva, M., Naeem, M., & Akhter, A. (2021). *Return and volatility transmission between oil price shocks and agricultural commodities*. **PLOS ONE, 16**(2), e0246886. https://doi.org/10.1371/journal.pone.0246886

Yu, X., & Cifuentes-Faura, J. (2024). *Information spillover among cryptocurrency and traditional financial assets: Evidence from complex networks*. **Physica A: Statistical Mechanics and Its Applications, 646**, 129903. https://doi.org/10.1016/j.physa.2024.129903

Barigozzi, M., & Hallin, M. (2016). *Generalized dynamic factor models and volatilities: Recovering the market volatility shocks*. **The Econometrics Journal, 19**(1), C33–C60. https://doi.org/10.1111/ectj.12047

Chen, Y., Wang, C., Miao, J., & Zhou, T. (2022). *Identifying risk transmission in carbon market with energy, commodity, and financial markets: Evidence from time-frequency and extreme risk spillovers*. **Frontiers in Energy Research, 10**, 922808.

Corresponding Author: Gyan Prasad Paudel

https://doi.org/10.3389/fenrg.2022.922808

Idrees, S. M., Alam, M. A., & Agarwal, P. (2019). *A prediction approach for stock market volatility based on time series data*. **IEEE Access, 7**, 17287–17298. https://doi.org/10.1109/ACCESS.2019.2895252

Chikwira, C., & Mohammed, J. I. (2023). *The impact of the stock market on liquidity and economic growth: Evidence of a volatile market*. **Economies, 11**(6), 155. https://doi.org/10.3390/economies11060155

Corresponding Author: Gyan Prasad Paudel