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REASSESSING ATTENTION TO FINTECH: SPILLOVER EFFECTS ON CONVENTIONAL AND ISLAMIC FINANCIAL STOCKS

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ABSTRACT

This study applies an integrated Quantile Vector Autoregression and Quantile Regression to examine spillover dynamics in the FinTech context. By analysing the period from 2019 to 2024, which includes significant events such as the COVID-19 pandemic, the 2023 banking crisis, and notable regulatory developments, the study captures nonlinear and asymmetric relationships between FinTech attention (ATFIN), FinTech stock performance (FINTS), and financial stock returns, for both conventional (FINS) and Islamic (IFINS) stocks. The findings suggest that ATFIN tends to respond to market movements during normal and bearish conditions, while it becomes a net transmitter during bullish periods, amplifying investor sentiment and speculative activity. Conventional financial stocks consistently emerge as strong transmitters of market spillovers, whereas Islamic financial stocks function mainly as receivers, especially during market upswings, indicating their potential role as a stabilizing force. These results contribute to the literature on behavioural finance and financial contagion by highlighting the asymmetric behaviour of FinTech attention across market regimes. The study also offers practical implications for regulators and institutional investors. Monitoring ATFIN may help identify speculative trends, while Islamic FinTech models could appeal to more risk-averse investment profiles.

Keywords: Attention to fintech, QVAR, Investor sentiment, Stock spillover, Fintech influences.
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I. INTRODUCTION

The financial sector has witnessed a significant transformation with the rise of financial technology (FinTech), reshaping the way financial services are delivered, accessed, and perceived. FinTech encompasses a broad range of innovations, including digital banking, blockchain, peer-to-peer lending, robo-advisors, and algorithmic trading, all of which have disrupted traditional financial markets. As technology advances, investors, policymakers, and financial analysts are increasingly focused on FinTech due to its impact on market stability (Elsayed et al., 2024), profitability (Tong & Yang, 2025), and systemic risks (Chen & Shen, 2024).

Understanding the relationship between FinTech and traditional financial markets is crucial for assessing how digital transformation influences stock market performance, investment behaviour, and financial market structures. The rise of FinTech has been driven by rapid advancements in artificial intelligence (AI), big data, and blockchain technology, which enhance market efficiency (Dafri & Al-Qaruty, 2023), lower transaction costs, and promote greater financial inclusion. Traditional financial institutions have responded to the expansion of FinTech by adopting digital solutions and integrating technology-driven services to remain competitive. However, the increasing prominence of FinTech also raises concerns about financial stability, regulatory challenges, and systemic risks.

FinTech is transforming investment by making it faster, easier, and more affordable. Rather than relying solely on banks or stockbrokers, individuals can now use apps and websites to buy stocks, trade currencies, and invest in businesses. This increased accessibility may make traditional investment methods less popular (Adekoya et al., 2022). Moreover, FinTech plays a crucial role in enhancing financial transparency (Gao, 2023) and improving efficiency, customer experience, and competitiveness (Ionașcu et al., 2023), making it appealing to both institutional and retail investors. This shift has led to greater volatility in financial markets, as investor sentiment toward FinTech stocks is influenced by technological innovations, regulatory developments, and macroeconomic conditions. As a result, the relationship between FinTech and traditional financial markets has become more complex, necessitating a deeper exploration of how FinTech-related variables interact with financial stock returns.

Market attention plays a vital role in shaping investor behaviour, influencing stock prices, and driving financial trends. FinTech attention refers to the level of interest investors, media, and policymakers have in FinTech developments, as reflected in news coverage, search trends, and market discussions. Ping et al. (2025) note that increased attention to FinTech innovations and disruptions can heighten investor optimism or pessimism, directly affecting stock prices. However, whether FinTech attention acts as a leading indicator of stock market performance or merely responds to broader financial events remains uncertain (Chen et al., 2023). FinTech stock performance reflects the valuation and financial health of firms in the FinTech industry, which is often characterised by high volatility, rapid growth potential, and sensitivity to technological advancements (Adekoya et al., 2022). In contrast, traditional financial stocks represent established institutions such as banks, insurance companies, and investment firms, which operate under well-defined regulatory frameworks and typically exhibit greater stability (Badwan et al., 2024).

Figure 1 presents the evolution of attention to FinTech, measured through Google Scholar search intensity over the past decade. The data show a steady rise in FinTech-related interest from 2014 onward, with notable accelerations around 2016–2017, reflecting the growing academic and industry focus on digital payments, blockchain, and platform-based finance. Interest intensified further during 2019–2020, coinciding with the onset of the COVID-19 pandemic, as digital financial services gained prominence amid disruptions to traditional banking.

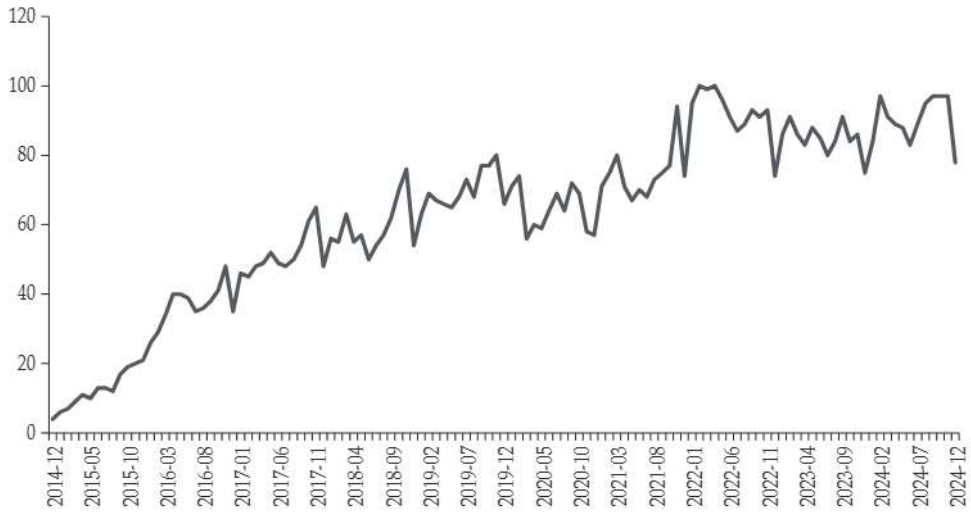


Figure 1.
Attention to Fintech Index

While previous studies have examined the impact of FinTech on financial markets, most focus on overall FinTech developments rather than the attention to and stock performance of FinTech (Hijazin & Badwan, 2025; Alnsour, 2023). Moreover, research on FinTech's role in Islamic and conventional banking primarily emphasises financial inclusion and performance metrics rather than how FinTech attention interacts with financial stock returns (Kharrat et al., 2024; Asl et al., 2024). Furthermore, although recent studies have started incorporating quantile-based approaches to capture nonlinear effects in financial markets (Abakah et al., 2023), most still rely on traditional models that assume linear relationships, limiting their ability to reflect heterogeneous market dynamics.

Given these gaps, this study aims to investigate the direction of the relationship between attention to FinTech (ATFIN) and stock returns, examining whether ATFIN drives stock performance or merely responds to market movements. Additionally, this study examines whether FinTech development is influenced by market crises or structural changes in finance and whether Islamic Finance has a distinct impact on FinTech compared to conventional finance. By employing Quantile Vector Autoregression (QVAR) with quantile regression, this study captures nonlinear interactions and heterogeneity in market responses, offering a deeper understanding of the role of FinTech attention in financial markets.

This study sheds light on how FinTech's attention influences financial markets, enabling policymakers, investors, and analysts to make more informed decisions.

Our findings reveal that FinTech attention plays an asymmetric role across market conditions: in bearish and normal periods, it primarily acts as a receiver of shocks, while in bullish markets it emerges as a transmitter of volatility and sentiment. Importantly, Islamic stocks respond differently from conventional ones; consistent with their stakeholder-oriented and Shariah-based foundations. They exhibit more stabilising behaviour, absorbing FinTech-driven contagion rather than amplifying it.

II. LITERATURE REVIEW

The relationship between FinTech and traditional financial markets has been a topic of interest due to its impact on financial stability (Abdullah et al., 2025; Wang et al., 2023). However, limited research has specifically examined the interactions between Islamic financial stocks and conventional financial stocks in the context of FinTech integration. This study aims to bridge this gap by assessing the extent to which FinTech impacts these two financial sectors.

2.1. Underlying Theories

The cyclical nature of FinTech attention (ATFIN) and its impact on financial markets can be understood through the lens of Behavioural Finance Theory and Financial Contagion Theory. These theories explain how investor sentiment, psychological biases, and financial spillovers drive market dynamics, particularly in the context of FinTech, Islamic finance (IFINS), and conventional financial stocks (FINS).

This study is grounded in Behavioural Finance Theory, which highlights how investor sentiment and cognitive biases shape market outcomes and, in this context, the attention devoted to FinTech (ATFIN). Prospect Theory (Kahneman & Tversky, 1979) explains how investors overreact to gains and losses, leading to shifts in attention and speculative behaviour. Shiller's (2000) notion of irrational exuberance shows how enthusiasm during bull markets can amplify FinTech attention, while pessimism in downturns causes attention to lag behind financial movements. Barberis & Thaler (2003) add that herding behaviour and overconfidence further magnify these dynamics, positioning ATFIN as a reactive variable in bearish markets but a proactive driver during speculative, bullish conditions.

Complementing this, Financial Contagion Theory provides a framework for understanding how FinTech attention translates into cross-market spillovers. Dornbusch et al. (2000) emphasise contagion as the rapid spread of financial distress, while Kaminsky & Reinhart (2000) highlight how shifts in sentiment accelerate such transmission. Forbes & Rigobon (2002) distinguish between contagion and normal interdependence, clarifying why FinTech, Islamic, and conventional financial stocks exhibit asymmetric reactions to shocks. Taken together, these theories form a conceptual model: behavioural biases explain why FinTech attention fluctuates across market regimes, while contagion theory explains how those fluctuations propagate through different segments of the

financial system. This dual framework underpins our analysis of ATFIN as both a behavioural indicator and a channel of systemic spillovers across Islamic and conventional markets.

The difference between Islamic and conventional stocks in relation to FinTech attention can be explained using Stakeholder Theory. Freeman (1984) argues that firms must serve a wide set of stakeholders beyond shareholders, a view later refined by Donaldson & Preston (1995). Iqbal & Mirakhor (2004) extend this to Islamic finance, showing that Shariah principles embed fairness, justice, and societal welfare into financial governance. As a result, Islamic stocks operate with ethical constraints that dampen speculative behaviour, making them more likely to act as stabilisers when FinTech attention surges. In contrast, conventional stocks, being shareholder-driven, are more exposed to sentiment and thus more likely to transmit FinTech-induced volatility and contagion, consistent with recent evidence on spillovers between FinTech, Islamic, and conventional markets (Abdullah et al., 2025; Billah, 2025).

2.2. Empirical Studies

Abdullah et al. (2025) investigate the asymmetric tail risk dynamics, efficiency, and risk spillovers among FinTech stocks, cryptocurrencies, and traditional financial assets. Using multifractal and time-domain quantile connectedness methods, they found that FinTech stocks are major risk transmitters, underscoring their pivotal role in financial market dynamics. Their research highlights the importance of risk transmission and how FinTech stocks interact with other asset classes, suggesting that their efficiency levels make them crucial players in shaping financial market stability. Similarly, Wang et al. (2023) explore the volatility spillover dynamics between FinTech and traditional financial industries in China, demonstrating that FinTech is a net volatility receiver in most cases but can also act as a volatility transmitter during financial crises. This suggests that the integration of FinTech into traditional markets has both stabilising and destabilising effects depending on market conditions.

Hasan et al. (2024) conduct a comparative analysis of FinTech and traditional stock markets, focusing particularly on the period during the Russia-Ukraine war. Their findings reveal that traditional stock markets exhibited higher volatility than FinTech markets, while FinTech stocks demonstrated superior returns. This finding underscores the resilience of FinTech stocks during periods of geopolitical instability and their ability to outperform traditional stocks in uncertain environments. These insights align with Billah's (2025) study, which employs a Quantile VAR model to examine the interconnectedness among AI-based assets, Sukuk, and Islamic equity indices, confirming the significant role of FinTech in modern financial markets. Billah's work emphasises the diverse nature of FinTech assets and their ability to influence different financial instruments, suggesting a growing need to understand the sector's impact on financial stability.

Investor sentiment and market reactions to FinTech developments are crucial in understanding financial market dynamics. Ping et al. (2025) investigate the impact of investor attention on risk in the FinTech industry, finding that heightened investor focus helps mitigate stock volatility. This suggests that investor sentiment

plays a crucial role in shaping FinTech market performance, and its predictive power in assessing future trends could be an area of further exploration. Similarly, Ren et al. (2022) employ time-varying Granger tests to demonstrate that digital economy attention has a significant predictive effect on stock prices. Their research highlighted that FinTech is not only influenced by traditional economic fundamentals but also by digital economy-related factors, further emphasising its unique position within financial markets.

While conventional financial markets have received considerable attention in FinTech-related studies, research on its impact on Islamic financial stocks remains scarce. Abakah et al. (2023) examine the role of Bitcoin, FinTech, and AI stocks in relation to Islamic stocks and conventional financial markets. Their findings indicate that Islamic stocks act as effective hedges against Bitcoin, whereas FinTech stocks are more interconnected with conventional financial markets. This suggests that the principles governing Islamic finance create a distinct financial ecosystem where digital assets and FinTech innovations interact differently than in conventional markets. Similarly, Kharrat et al. (2024) analyse the relationship between FinTech and bank performance in the MENA region, revealing that FinTech innovation enhances the stability and efficiency of both Islamic and conventional banks. The study demonstrates that the integration of FinTech services in the MENA financial system holds great potential for improving financial inclusion, banking stability, and overall sectoral performance. Asl et al. (2024) further explore the impact of the digital financial ecosystem on sustainable equities, highlighting that Islamic markets maintain slightly stronger ties with FinTech-driven innovations compared to conventional responsible investments. Their study indicates that Islamic finance principles and sustainability-driven financial models are compatible with FinTech innovations, offering a unique opportunity for the growth of ethical finance.

Empirical research has increasingly examined the role of FinTech in financial markets, showing its influence on risk transmission, volatility spillovers, and investor sentiment (Abdullah et al., 2025; Wang et al., 2023; Ping et al., 2025). Yet most studies focus on conventional markets, offering limited insight into how FinTech interacts with Islamic financial systems, which operate under distinct governance and ethical principles. Some evidence suggests that Islamic finance creates a different ecosystem for FinTech (Abakah et al., 2023; Kharrat et al., 2024), but these findings are fragmented and rarely framed in direct comparison with conventional markets. In addition, the literature remains inconclusive on whether FinTech attention (ATFIN) drives stock returns or merely reacts to market dynamics, and whether it adapts to crises and structural changes or follows them passively.

These gaps highlight the need for a systematic analysis that not only traces the causal direction between ATFIN and stock returns but also contrasts how FinTech interacts with Islamic versus conventional finance, thereby offering a more integrated understanding of its role across different financial regimes.

III. DATA AND METHODOLOGY

3.1. Data

This study utilises weekly data spanning from December 2019 to December 2024, covering a five-year period that includes significant financial events such as the COVID-19 pandemic and the 2023 banking crisis. In this study, performance is measured by index returns, obtained by converting the index price series into return form. The dataset comprises four key variables that represent public attention to FinTech, FinTech stock performance, Islamic financial markets, and the broader financial sector.

The primary variable of interest, ATFIN (Google search attention for FinTech), captures public attention to FinTech and is constructed from Google Trends data using search volumes for FinTech as keywords. This proxy reflects shifts in investor awareness and sentiment, as spikes in online search activity often coincide with heightened market interest, uncertainty, or innovation in the FinTech sector (Ping et al. 2025; Chen et al. 2023; Ren, Li, & Shi, 2022). Unlike financial indicators derived purely from trading data, ATFIN provides a behavioral measure of attention, making it well-suited to capture how public interest in FinTech evolves across different market conditions.

Meanwhile, FinTech stock performance (FINTS) is captured through the Global X FinTech ETF, which tracks the performance of companies involved in digital payments, blockchain, and other financial technology innovations. To assess the relationship between FinTech and traditional financial markets, the study incorporates Islamic financial stocks (IFINS) and conventional financial stocks (FINS). IFINS is represented by the Dow Jones Islamic Financial Index, which includes Shariah-compliant financial institutions, offering a measure of Islamic finance market performance. Meanwhile, FINS is measured using the Dow Jones Global Financial Index, which provides a broader perspective on conventional banking and financial services worldwide. The combination of these datasets enables a comparative analysis of FinTech's influence on and interaction with various financial sectors, highlighting potential differences between Islamic and conventional finance.

3.2. Method

This study employs the novel Quantile Vector Autoregression (QVAR) approach (Chatziantoniou et al., 2021; Ando et al., 2022) to analyse the dynamic interdependence between FinTech attention (ATFIN), FinTech stock performance (FINTS), Islamic financial stocks (IFINS), and conventional financial stocks (FINS) across different market conditions. The QVAR methodology is particularly well-suited for this study because it captures asymmetric spillover effects and nonlinear dependencies that standard VAR models may overlook. Given that financial markets exhibit heterogeneous responses under varying conditions—such as crises, stability, and speculative booms—the QVAR framework allows for a more comprehensive understanding of how FinTech attention and financial stock dynamics interact across quantiles. As demonstrated in the spillover and quantile regression analyses, the methodology effectively differentiates between bear, normal, and bull markets, highlighting the varying intensity and direction of

financial connectedness. This makes QVAR an essential tool for capturing tail risk dynamics and the structural shifts inherent in FinTech-related financial spillovers. The QVAR model is formulated as follows:

$$y_t = \mu(\tau) + \sum_{j=1}^{p} \Phi_j(\tau) y_{t-j} + u_t(\tau)$$

In this context, y_t and y_{t-j} are k x 1 vectors of endogenous variables. The parameter τ, ranging from 0 to 1, represents the quantile under analysis. In this study, the selected quantiles—0.05, 0.5, and 0.95—correspond to bear, normal, and bull market conditions, respectively. The lag length in the QVAR model is denoted by p, while $\mu(\tau)$ is the k x 1 conditional mean vector. Additionally, $\Phi_j(\tau)$ is a k x k coefficient matrix, and $u_t(\tau)$ is the k x 1 error vector with a variance–covariance matrix $\Sigma(\tau)$.

Afterwards, the H-step ahead Generalised Forecast Error Variance Decomposition (GFEVD) of Koop et al. (1996) and Pesaran & Shin (1998) is calculated which illustrates the impact a shock in variable j has on variable i:

$$\psi_{ij}^{g}(H) = \frac{\sum_{h=0}^{H-1}\left(e_i'\psi_h(\tau)\Sigma(\tau)e_j\right)^2 / \Sigma_{ii}^{-1}}{\sum_{h=0}^{H-1}\left(e_i'\psi_h(\tau)\Sigma(\tau)\xi_h' e_j\right)}$$

where e_i represents a zero vector that equals one on the ith position. The exact normalisation procedure results into:

$$\sum_{j=1}^{k} \tilde{\psi}\, ij^{g}\,(H) = 1 \quad and \quad \sum i,j \; = 1^{k}\, \tilde{\psi}_{ij}^{g}\,(H) = 1$$

The last connectedness metric is the adjusted total connectedness index (TCI) of Chatziantoniou & Gabauer (2021) and Gabauer (2021) which ranges between [0, 1]:

$$TCI(H) = \frac{\sum_{i,j=1, i\neq j}^{k} \widetilde{\psi_{ij}^{g}}(H)}{k-1}.$$

This specification allows the relationships between the variables to change gradually over time, reflecting the evolving nature of financial markets and the impact of external shocks on these relationships. This measure is often used as a proxy for market risk, as the higher the TCI, the higher the degree of network interconnectedness.

In addition to the Quantile Vector Autoregression (QVAR) approach, this paper also employs Quantile Regression (QR) to analyse the relationships between financial variables across different quantiles of the conditional distribution. Unlike

ordinary least squares (OLS), which estimates the mean effect of explanatory variables, Quantile Regression provides insights into how relationships vary across different points in the distribution, making it particularly useful for capturing asymmetric effects and tail dependencies in financial markets.
The standard Quantile Regression model is given by:

$$Q_y(\tau|X) = X\beta(\tau) + u_\tau$$

where $Q_y(\tau \mid X)$ represents the τ conditional quantile of the dependent variable y given the explanatory variables X, $\beta(\tau)$ is a vector of quantile-specific coefficients, and u_τ is the error term satisfying the quantile restriction. This model enables the examination of different impacts of explanatory variables at various quantile levels, thereby capturing asymmetric relationships in the data. By analysing the lower, median, and upper quantiles, the study captures potential nonlinearities and asymmetric effects that may be overlooked in traditional mean-based regression models.

IV. FINDINGS

4.1. Descriptive Statistics

Table 1 presents the descriptive statistics for the weekly returns of public attention to Fintech (ATFIN), Fintech stocks (FINTS), conventional financial stocks (FINS), and Islamic financial stocks (IFINS) from December 2019 to December 2024. With the highest mean return of ATFIN (0.0058), public attention paid to Fintech is more volatile than financial stock returns. However, the median returns for FINTS, FINS, and IFINS, all of which are equal to positive numbers, indicate that despite minor losses in the previous months, these indices tend to be accompanied by small gains over time. The maximum and minimum return values indicate that ATFIN is the only one that exhibits both spikes and drops, with 0.4815 as its highest point and -0.2571 as its lowest point, far exceeding the fluctuations in financial stock indices. This suggests that Fintech awareness is more susceptible to sudden and extreme changes.

The standard deviation values reveal that ATFIN (0.0992) has the highest return volatility, followed by FINTS (0.0469), IFINS (0.0304), and FINS (0.0302). This indicates that higher return fluctuations than those of conventional and Islamic financial stocks characterise Fintech-related variables. The skewness values indicate a deviation from the normal distribution in the returns: ATFIN is positively skewed (0.9144), whereas FINTS, FINS, and IFINS are negatively skewed. In addition, the kurtosis values are high for FINS (10.0362) and IFINS (10.5146); thus, fat-tailed distributions are present, implying that extreme market movements are more frequently observed. This is a good reason to employ the Quantile VAR (QVAR) method, which includes various market conditions at different points in the return distribution (crisis, normal, and boom periods).

Table 1.
Descriptive Statistic

	ATFIN	FINTS	FINS	IFINS
Mean	0.0058	0.0013	0.0014	0.0019
Median	0.0000	0.0039	0.0025	0.0019
Maximum	0.4815	0.1709	0.1428	0.1456
Minimum	-0.2571	-0.2127	-0.1638	-0.1784
Std. Dev.	0.0992	0.0469	0.0302	0.0304
Skewness	0.9144	-0.0151	-0.4549	-0.2432
Kurtosis	6.5351	5.3116	10.0362	10.5146

Source: Authors' work

4.2. QVAR Average Spillover

Table 2 presents the quantile spillover analysis for bear, normal, and bull markets, considering Fintech attention, Fintech Stocks, Islamic financial stocks, and conventional financial stocks. The Total Connectedness Index is a standard for measuring interdependence in financial markets and exhibits volatility under various market conditions. The bear market period is characterised by a higher system risk of 68.67 in the Total Connectedness Index, indicating that financial shocks are widely disseminated across various markets. Under normal market conditions, the Total Connectedness Index declines to 44.81, suggesting a relative decoupling of financial sections and a reduction in cross-market dependencies as investor behaviour stabilises. However, in the case of bull markets, the Total Connectedness Index spikes dramatically to 69.98, above the bear market level. Financial interdependence is even more prevalent during periods of strong or speculative growth than during times of crisis. The pattern demonstrates that negative markets expand the contagion effect via financial distress, whereas bull markets foster robust linkages stemming from investors' confidence and connected market behaviours.

In the analysis of net spillovers, ATFIN is a significant net recipient under both bearish (-12.32) and normal (-10.78) market conditions, suggesting that Fintech's attention responds to external shocks rather than instigating them. In negative markets, FINS (+12.14) serves as the predominant net transmitter, indicating that traditional financial stocks have a significant influence on spillover effects during crises. In typical markets, spillovers are more equilibrated, with FINTS (+3.29) and IFINS (+7.20) conveying shocks, while FINS (+0.29) has no impact. In bull markets, ATFIN transitions from a net receiver to a net transmitter (+10.70), whereas IFINS (-9.74) becomes a net receiver, indicating that Fintech mood influences spillovers in bullish situations, whereas Islamic financial stocks assimilate them. This approach aligns with the understanding that Islamic finance operates as an inverse cycle, mitigating speculation in auto-inflation markets through the principles of risk-sharing and ethical investment.

Previous studies validate the argument that Fintech's attention has a major impact on financial market volatility and risk transfer (Wang et al., 2023). The findings of the time-varying study show that Fintech mood has a greater effect in a bull market (Ren et al., 2022). In contrast, a lagging investor focus on Fintech

exacerbates speculation and increases market volatility (Ping et al., 2025). The aforementioned arguments demonstrate that policymakers must incorporate fintech sentiment into their systemic risk assessment and regulatory framework (Adekoya et al., 2022).

Table 2.
QVAR Average Spillover

tau0.05	**ATFIN**	**FINTS**	**IFINS**	**FINS**	**FROM**
ATFIN	34.70	20.16	22.23	22.92	65.3
FINTS	16.84	29.52	25.42	28.22	70.48
IFINS	18.06	24.44	28.81	28.69	71.19
FINS	18.09	24.49	25.11	32.31	67.69
TO	52.99	69.09	72.76	79.83	**TCI**
NET	-12.32	-1.39	1.57	12.14	68.67
tau0.50	**ATFIN**	**FINTS**	**IFINS**	**FINS**	**FROM**
ATFIN	76.45	7.28	9.85	6.42	23.55
FINTS	3.94	49.14	25.43	21.49	50.86
IFINS	4.54	23.73	47.25	24.47	52.75
FINS	4.29	23.14	24.66	47.9	52.10
TO	12.78	54.15	59.95	52.38	TCI
NET	-10.78	3.29	7.20	0.29	44.81
tau0.95	**ATFIN**	**FINTS**	**IFINS**	**FINS**	**FROM**
ATFIN	36.12	22.09	19.53	22.26	63.88
FINTS	24.81	29.45	22.24	23.5	70.55
IFINS	24.93	25.06	26.15	23.85	73.85
FINS	24.84	24.48	22.34	28.34	71.66
TO	74.58	71.63	64.11	69.62	**TCI**
NET	10.7	1.08	-9.74	-2.04	69.98

Notes: The "TO" row represents the spillover to other variables, while the "FROM" column represents spillovers from other variables. The "NET" row shows the difference between the "TO" and "FROM" values, which gives the net directional connectedness. A positive value in the "NET" column indicates that the variable is a net transmitter of shocks, whereas a negative value indicates that it is a net receiver.

Source: Authors' work

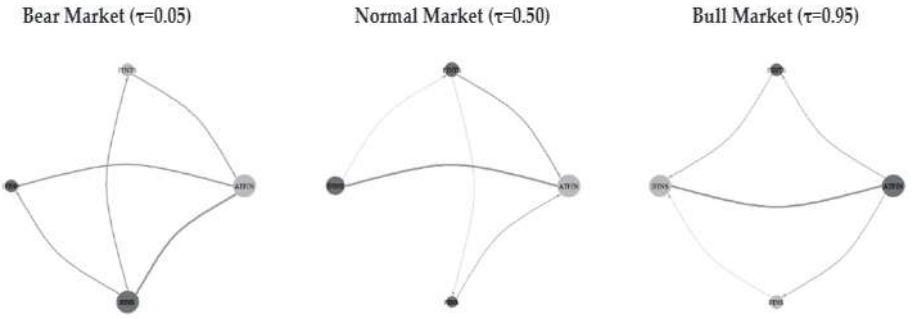
4.2.1. QVAR Network Spillover

Figure 1 depicts the network spillover of bear, normal and bull markets. The network spillover analysis in bear market conditions reveals that conventional financial stocks are the most significant transmitters of shocks, followed by Islamic financial stocks. This finding suggests that traditional finance plays a dominant role in influencing market volatility during downturns, reinforcing its position as a primary driver of systemic financial stress. Fintech attention functions as the largest net receiver of shocks, implying that public interest in Fintech is largely reactive to broader financial instability rather than serving as a proactive force. Fintech stocks also operate as net receivers, with spillovers directed towards Fintech attention, Islamic finance, and conventional finance, underscoring Fintech's embeddedness within both financial systems. The transmission of shocks from Islamic finance to Fintech-related variables further highlights their role in shaping

Fintech trends during economic downturns. These findings suggest that during periods of financial distress, conventional and Islamic financial systems exert a greater influence on market sentiment and Fintech dynamics than the reverse.

Under normal market conditions, Islamic finance becomes the primary conduit for transmitting shocks, followed by Fintech and conventional financial stocks. This structural shift suggests that Islamic finance plays an active role in shaping market movements under stable economic conditions. The strong link between Islamic finance and Fintech attention indicates that investor interest in Shariah-compliant financial solutions may influence Fintech sentiments. Likewise, Fintech and conventional financial stocks also transmit shocks to Fintech attention, with Fintech stocks exhibiting stronger spillover effects, suggesting that the performance of Fintech stocks significantly shapes investor sentiment. The presence of weaker interdependencies between Fintech stocks and conventional finance further indicates that financial segments become relatively independent under stable conditions. These findings suggest that, in normal market conditions, Fintech and Islamic finance exhibit stronger interconnectedness, with Islamic finance assuming a leading role in market transmission.

During bullish periods, Fintech attention shifts from being a passive recipient to the most influential transmitter of shocks, indicating that public interest in Fintech plays a pivotal role in shaping financial market dynamics during speculative upswings. This represents a fundamental departure from bear and normal market conditions, in which Fintech's attention is previously reactive. Fintech stocks have emerged as the second-largest transmitter, reinforcing the notion that investor enthusiasm in Fintech extends beyond sentiment and directly impacts broader financial trends. Islamic finance emerges as the primary net recipient of shocks, followed by conventional finance, suggesting that these sectors absorb speculative pressures rather than amplify them. The strong link between Fintech attention and Islamic finance, along with its connections to conventional financial stocks and Fintech stocks, underscores Fintech's growing influence on traditional financial markets. The weaker connections between Fintech stocks and Islamic finance, as well as between conventional finance and Islamic finance, further reinforce the role of Islamic finance as a stabilising force during speculative periods.



Note: Blue indicates net positive spillover, while yellow indicates net receiver. The size of the circle reflects the strength of the transmitter. The arrow shows the direction of transmission, and its thickness represents the transmission strength.
Source: Authors' work

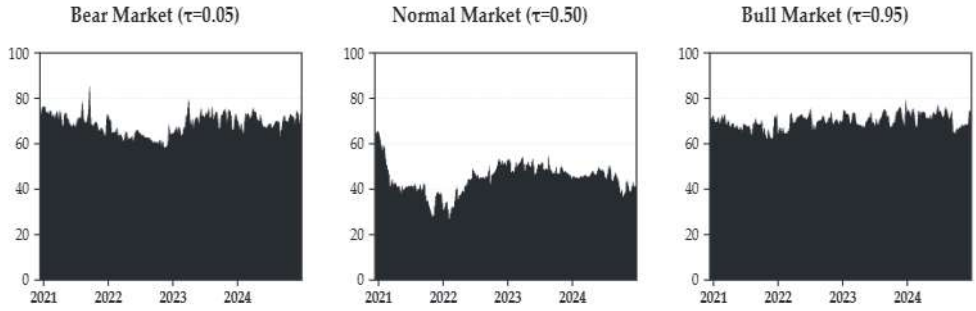
Figure 2.
QVAR Network Spillover

4.2.2. QVAR Dynamic Total Connectedness Index

Figure 2 shows the QVAR Dynamic Total Connectedness Index, which reveals significant variations in financial spillovers under different market conditions. In the bear market ($\tau = 0.05$), the TCI remains consistently high, fluctuating between 60% and 80%, indicating strong financial interconnectedness. This suggests that during downturns, shocks propagate widely across Fintech attention (ATFIN), Fintech stocks (FINTS), Islamic financial stocks (IFINS), and conventional financial stocks (FINS), making the financial markets highly interdependent. A notable spike in early 2023 coincided with the collapse of Silicon Valley Bank (SVB) in March 2023, which triggered concerns about financial sector stability and led to increased spillovers across banking and financial markets. The heightened TCI during this period reflects contagion effects as investors re-evaluate risks in both traditional and Fintech markets. Similarly, the Federal Reserve's 2022 tightening cycle, marked by aggressive interest rate hikes, likely contributed to heightened spillovers as financial stocks reacted strongly to macroeconomic uncertainty.

In contrast, during the normal market ($\tau = 0.50$), the TCI dropped significantly in early 2021 and remained at lower levels before recovering in 2023, reflecting reduced systemic risk and weaker linkages among financial variables in stable conditions. However, the gradual increase in TCI towards 2024 suggests that interconnections strengthened over time, possibly due to shifting investor sentiment following a period of high inflation and evolving monetary policy.

In a bull market ($\tau = 0.95$), the TCI is consistently high, similar to bear market conditions, fluctuating between 70% and 90%, but with greater stability. This suggests that financial spillovers intensify when markets are highly optimistic, likely due to increased speculative activity, higher trading volumes, and stronger cross-market dependencies. Events such as the AI-driven stock rally in late 2023, which significantly boosted financial and technology stocks, could have contributed to stronger spillovers under bullish conditions. Unlike bear markets, where heightened spillovers result from systemic distress, in bullish conditions, investor optimism and synchronised market movements drive interconnectedness. The dynamic patterns across quantiles reinforce the idea that financial connectedness is weakest in normal markets but strengthens under extreme conditions, whether driven by crisis-induced contagion or speculative enthusiasm.



Note: Figure 2 shows the QVAR Dynamic Total Connectedness Index (TCI) across market conditions. The TCI is high in bear and bull markets, indicating strong spillovers during crises and speculative periods, while it declines in normal markets, reflecting reduced interconnectedness and stability.
Source: Authors' work

Figure 3.
QVAR Dynamic Total Connectedness Index (TCI)

4.3. Quantile Regression

The quantile regression results in Table 3 reveal significant variations in the interactions between Fintech attention (ATFIN), Fintech stocks (FINTS), Islamic financial stocks (IFINS), and conventional financial stocks (FINS) across different market conditions. In bear markets ($\tau = 0.05$), none of the independent variables significantly influence ATFIN, suggesting that Fintech attention does not respond to financial shocks during downturns. However, FINTS is significantly influenced by both FINS and IFINS, indicating that Fintech stocks are highly reactive to movement in traditional financial markets during crises. Similarly, FINS is significantly affected by IFINS and FINTS. Meanwhile, IFINS is strongly influenced by both FINS and FINTS, confirming that Islamic finance remains interconnected with conventional and Fintech markets, even under financial distress.

In normal markets ($\tau = 0.50$), financial interconnectedness remains strong, but spillovers appear to be more stable. While ATFIN remains statistically insignificant across all predictors, FINTS continues to be significantly driven by both FINS and IFINS, reflecting its dependency on traditional financial sectors even in stable periods. Similarly, FINS is influenced by both FINTS and IFINS, indicating that conventional financial stocks remain vulnerable to spillovers from Fintech and Islamic finance. IFINS also shows strong linkages with both FINS and FINTS, emphasising that Islamic finance plays an integral role in maintaining financial market stability under normal conditions. These results suggest that Islamic and conventional finance continue to shape Fintech markets, even when systemic risk is lower.

In bull markets ($\tau = 0.95$), ATFIN becomes statistically significant, with FINS emerging as a key driver of Fintech attention, indicating that Fintech interest intensifies during optimistic market conditions when traditional finance performs well. FINTS remains significantly influenced by IFINS, suggesting that Islamic finance continues to provide strong spillover effects even in speculative environments. Similarly, FINS remains driven by both IFINS and ATFIN, reinforcing the idea that Fintech attention plays a leadership role during a market boom. Finally, IFINS remains highly influenced by both FINS and FINTS, underscoring its role as a market shock absorber during speculative periods. These findings suggest that Fintech attention becomes a key transmitter in bullish conditions, while Islamic finance shifts from being a driver in normal markets to a receiver, in line with QVAR results.

Table 3.
Quantile Regression

Dependent Variable	Quantile (τ)	Independent Variable	Coefficient (t-statistic)	p-Value	Significance
ATFIN (Fintech Attention)	0.05 (Bear Market)	FINTS	-0.5939 (-1.49)	0.1363	NS
		FINS	0.4981 (1.07)	0.2869	NS
		IFINS	0.4987 (0.76)	0.4471	NS
	0.50 (Normal Market)	FINTS	-0.2161 (-0.60)	0.5502	NS
		FINS	0.2779 (0.44)	0.658	NS
		IFINS	0.0691 (0.13)	0.8993	NS
	0.95 (Bull Market)	FINTS	-0.4880 (-1.59)	0.1134	NS
		FINS	0.7078 (1.37)	0.1724	NS
		IFINS	0.1349 (0.20)	0.8422	NS
FINTS (Fintech Stocks)	0.05 (Bear Market)	ATFIN	-0.0519 (-1.60)	0.1099	NS
		FINS	0.5460 (4.70)	4.25E-06	***
		IFINS	0.9506 (5.80)	1.93E-08	***
	0.50 (Normal Market)	ATFIN	-0.0299 (-1.40)	0.1621	NS
		FINS	0.6131 (4.25)	3.03E-05	***
		IFINS	0.7478 (5.51)	8.72E-08	***
	0.95 (Bull Market)	ATFIN	0.0497 (1.44)	0.1507	NS
		IFINS	1.0345 (5.29)	2.58E-07	***
FINS (Conventional Finance Stocks)	0.05 (Bear Market)	ATFIN	0.0245 (1.39)	0.1649	NS
		FINTS	0.2353 (3.46)	6.43E-04	**
		IFINS	0.6748 (6.01)	6.24E-09	***
	0.50 (Normal Market)	ATFIN	-0.0021 (-0.15)	0.8823	NS
		FINTS	0.2110 (4.70)	4.34E-06	***
		IFINS	0.5501 (7.41)	1.81E-12	***

Table 3.
Quantile Regression (Continued)

Dependent Variable	Quantile (τ)	Independent Variable	Coefficient (t-statistic)	p-Value	Significance
IFINS (Islamic Finance Stocks)	0.95 (Bull Market)	ATFIN	0.0548 (4.03)	7.36E-05	***
		IFINS	0.7874 (6.84)	5.87E-11	***
	0.05 (Bear Market)	ATFIN	-0.0384 (-1.89)	0.0601	NS
		FINTS	0.3517 (5.80)	1.96E-08	***
		FINS	0.5414 (6.18)	2.44E-09	***
	0.50 (Normal Market)	ATFIN	-0.0049 (-0.35)	0.7297	NS
		FINTS	0.2826 (8.20)	1.18E-14	***
		FINS	0.4358 (5.84)	1.56E-08	***
	0.95 (Bull Market)	ATFIN	-0.0167 (-0.97)	0.3322	NS
		FINTS	0.2164 (4.83)	2.30E-06	***
		FINS	0.5828 (9.48)	1.82E-18	***

Note: Table 3 shows the quantile regression results for Fintech attention (ATFIN), Fintech stocks (FINTS), conventional finance stocks (FINS), and Islamic finance stocks (IFINS) across the bear, normal, and bull markets. ATFIN is mostly insignificant, confirming its reactive role, whereas FINS and IFINS significantly influence FINTS. ATFIN is significant for FINS only in bull markets. Significance levels: *** ($p < 0.01$), ** ($p < 0.05$), NS (not significant).

Source: Authors' work

4.4. Granger Causality

Table 4 presents the results of the Granger causality test as a robustness check. The result reaffirms that FinTech attention primarily functions as a reactive variable rather than a driver of financial market movements. The significant causality from conventional financial stocks and Islamic financial stocks to ATFIN is consistent with the study's QVAR spillover and quantile regression analyses, indicating that broader financial market dynamics have a substantial influence on public interest in FinTech.

Furthermore, the significance of FINTS to ATFIN suggests that the performance of FinTech stocks plays a predictive role in shaping FinTech attention. This finding supports the notion that investor sentiment and media coverage respond to fluctuations in FinTech stock prices, resulting in increased search activity and discussions about FinTech-related developments. However, the QVAR results suggest that ATFIN transitions into a net transmitter under bullish conditions; yet, the lack of Granger-causal influence from ATFIN to FINTS or FINS indicates that this effect is likely contemporaneous rather than predictive. Given that Granger causality captures time-lagged predictive relationships, the result suggests that

while ATFIN may exert influence in high-growth environments, its effects are likely to be instantaneous and sentiment-driven rather than systematically leading to improved financial stock performance over time.

Table 4.
Pairwise Granger Causality Tests

Null Hypothesis	F-Statistic	p-Value	Causality	Direction of Causality
FINTS → ATFIN	2.9209	0.0557	Yes	FINTS → ATFIN
ATFIN → FINTS	0.6325	0.5321	No	—
IFINS → ATFIN	4.9601	0.0077	Yes	IFINS → ATFIN
ATFIN → IFINS	0.4584	0.6328	No	—
FINS → ATFIN	10.2669	0.00005	Yes	FINS → ATFIN
ATFIN → FINS	0.3141	0.7307	No	—
IFINS → FINTS	1.7876	0.1695	No	—
FINTS → IFINS	0.3419	0.7108	No	—
FINS → FINTS	1.3778	0.254	No	—
FINTS → FINS	2.2694	0.1055	No	—
FINS → IFINS	0.9081	0.4046	No	—
IFINS → FINS	4.9809	0.0076	Yes	IFINS → FINS

Source: Authors' work

4.5. Discussion

4.5.1. Does Attention to Fintech (ATFIN) Drive, or is it Influenced by Fintech and Financial Stock Returns?

The QVAR spillover analysis reveals that Fintech's attention is predominantly a net receiver of shocks in both bear and normal markets. During these periods, Fintech's attention consistently has negative net values, indicating that it absorbs volatility from Fintech stocks, Islamic finance, and conventional finance. This finding suggests that public interest in Fintech is reactive to broader market movements when conditions are either distressed or relatively stable. These findings align with those of Wang et al. (2023), who observed that market sentiment surrounding Fintech is largely shaped by external financial shocks rather than serving as an independent driver of market dynamics.

However, in bull markets, Fintech attention transitioned into a net transmitter with a spillover value of 10.70, highlighting its role in shaping market trends under optimistic conditions. This aligns with the work of Saeed Meo et al. (2023), who find that digitalisation and Fintech innovation often exert a more prominent influence on financial markets during speculative phases. The quantile regression results reinforce this cyclical behaviour, showing that, in bear ($\tau = 0.05$) and normal ($\tau = 0.50$) markets, no independent variable significantly influences Fintech attention, nor does Fintech attention significantly impact Fintech stocks, Islamic finance, or conventional finance. However, in bull markets ($\tau=0.95$), Fintech attention occasionally becomes significant, particularly in terms of influencing conventional finance. This suggests that heightened public enthusiasm for Fintech can amplify stock performance in traditional financial markets. These findings

align with Billah (202 5), who demonstrates that digital finance attention can contribute to heightened speculation and increased volatility spillovers during market upswings. Thus, while Fintech's attention remains reactive in times of uncertainty and stability, it assumes a proactive role in speculative environments, warranting regulatory scrutiny to prevent excessive market exuberance.

4.5.2. Does Fintech Follow Market Crises or Structural Changes in the Finance Industry?

The dynamic Total Connectedness Index and QVAR results indicate that significant crises and structural changes, such as the collapse of Silicon Valley Bank in early 2023 and the Federal Reserve's aggressive rate hikes, correlate with spikes in TCI, implying broader contagion effects. Fintech's role as a net receiver in both bear and normal markets supports the notion that it reacts to external shocks rather than instigates them. This suggests that when financial turbulence occurs, whether through systemic distress or policy shifts, public interest in Fintech increases as a response rather than a precursor to these events. This observation is consistent with Abdullah et al. (2025), who find that Fintech-related investor attention tends to increase following economic uncertainty rather than predicting financial crises.

The quantile regression results reinforce this observation, as no significant coefficient is observed for Fintech attention in non-bullish conditions. This suggests that Fintech's attention does not independently lead or trigger crises but instead follows broader financial sector performance. These findings are supported by Foo et al. (2025), who demonstrated that Fintech-related risk spillovers intensify in response to financial instability but do not precede major market downturns. This reactive nature suggests that while Fintech sentiment may serve as a gauge of investor confidence, it is not a reliable predictor of systemic financial disruption.

4.5.3. Does Islamic Finance Influence Fintech Differently from Conventional Finance?

From the QVAR perspective, Islamic finance is often a key transmitter or stabiliser, depending on market conditions. In normal markets, Islamic finance has emerged as the strongest transmitter, indicating that it plays a leading role in shaping Fintech dynamics. Islamic finance continues to actively transmit shocks in bear markets, second only to conventional finance, demonstrating its strong interlinkages with Fintech markets. However, in bull markets, Islamic finance transitions into a net receiver, suggesting that it behaves more like a safe haven, absorbing the speculative pressures generated by Fintech sentiment and Fintech stocks. These findings align with Billah (2025), who identified Islamic finance as a stabilising force during periods of heightened financial speculation, particularly in mitigating excessive risk spillovers from AI-related assets and digital finance.

The quantile regression results confirm that Islamic finance exerts a steady, significant influence on Fintech stocks across all market conditions, whereas conventional finance tends to dominate in crises. This distinction highlights the unique role of Islamic finance, which, while maintaining close interconnections with Fintech, does not always mirror the behaviour of conventional stocks.

Saeed Meo et al. (2023) similarly found that Islamic financial markets respond asymmetrically to uncertainty, suggesting that they provide risk mitigation during financial shocks while also facilitating growth in stable conditions. These findings reinforce the argument that Islamic finance fosters sustainable Fintech growth during stable market periods while serving as a defensive mechanism during speculative expansions.

V. CONCLUSION AND RECOMMENDATION

This study examines the intricate relationship between Fintech attention (ATFIN), Fintech stock performance (FINTS), and financial stock returns (FINS, IFINS) across bear, normal, and bull markets. Specifically, it explores whether ATFIN acts as a market driver or reactive variable, investigates whether Fintech attention follows financial crises and structural transformations, and assesses how Islamic finance differentially influences Fintech compared to conventional finance. By employing a robust econometric framework that integrates QVAR spillover analysis with quantile regression, this study provides novel insights into the dynamic context-dependent interactions among these financial components.

The findings from the QVAR analysis reveal that Fintech attention predominantly serves as a net receiver of shocks in both bear and normal markets, indicating that the public interest in Fintech reacts to broader market dynamics rather than shaping them during periods of financial distress or stability. However, in bull markets, ATFIN transitions into a net transmitter, suggesting that heightened public interest in Fintech can amplify market optimism and speculative behaviour. Meanwhile, Islamic finance exhibits a dual role: it operates as a strong transmitter of shocks in normal and bear markets but assumes a stabilising function in highly speculative bull markets. Conversely, conventional finance remains the dominant transmitter of market fluctuations during downturns, underscoring its pivotal role in shaping systemic financial risks and investor sentiment during crises.

The quantile regression results reinforce these findings, demonstrating that the ATFIN does not exhibit significant predictive power in non-bullish market conditions. However, in bullish markets, it exerts a measurable influence on FINS, reflecting the role of Fintech sentiment as a driver of investor optimism. Furthermore, Fintech stocks consistently depend on both Islamic and conventional financial markets across all market conditions, underscoring the fundamental interdependence between the Fintech sector and traditional financial systems. The persistent influence of IFINS on FINTS across quantiles confirms that Islamic finance remains integral to Fintech market stability, even as its role oscillates between that of a leading transmitter and a passive shock absorber, depending on the prevailing market sentiment.

A key contribution of this study lies in unveiling the cyclical nature of Fintech's attention. During downturns, the ATFIN remains a lagging indicator that reacts to financial market stress rather than initiating it. However, during periods of speculative growth, Fintech attention assumes a proactive role, influencing market sentiment and contributing to financial spillovers. This cyclical behaviour has significant regulatory and investment implications. Policymakers may need to adopt targeted oversight mechanisms to monitor Fintech sentiments during

speculative periods, thereby mitigating excessive market exuberance and potential asset bubbles. Simultaneously, the ability of Islamic finance to transition from a shock transmitter to a stabiliser suggests that fostering robust Shariah-compliant financial frameworks could enhance market resilience, particularly in times of heightened financial uncertainty.

5.1. Theoretical and Managerial Implications

This research enhances the financial market spillover theory and behavioural finance by illustrating that Fintech attention exhibits a cyclical pattern, transitioning from a passive recipient of shocks in bearish and normal markets to an active transmitter in bullish conditions. These findings corroborate the attention-based asset pricing theory, which posits that investor attention influences asset price fluctuations, particularly in speculative contexts. Increased public interest in Fintech during market upswings enhances investor sentiment and magnifies financial spillovers, thereby reinforcing attention-driven market dynamics. This study further develops the financial contagion theory by demonstrating that Islamic finance functions as both a shock transmitter in normal and bear markets and as a stabiliser in speculative environments. The countercyclical characteristics of Islamic finance indicate that Shariah-compliant financial systems offer resilience against rampant speculation, reinforcing theories emphasising the stabilising function of ethical and value-driven finance in global markets.

From a managerial standpoint, these findings offer significant insights for financial regulators, institutional investors, and Fintech companies. Regulators should incorporate Fintech considerations into early warning models for speculative bubbles, as their shift from a reactive to a proactive role in bullish markets indicates their potential to enhance investor optimism and foster market exuberance. Institutional investors can utilise Fintech sentiment as a primary indicator of asset allocation decisions, especially in bullish conditions, where its impact on financial markets intensifies. Furthermore, Fintech companies functioning in Islamic finance regions can strategically align their business models with Shariah-compliant principles to attract risk-averse investors and bolster financial stability. The interaction among Fintech, traditional finance, and Islamic finance highlights the necessity of formulating regulatory and investment strategies that consider sentiment-driven market volatility while leveraging the stabilising function of Islamic financial systems.

This study should be seen as a first step in understanding the role of FinTech attention in financial markets. Since our findings show that the influence of FinTech sentiment is more pronounced in bullish conditions, it suggests that FinTech attention can actively drive asset prices when markets are positive. This opens the door for developing a more comprehensive FinTech attention index, as well as conducting sub-regional analyses to test whether this phenomenon is stronger in countries with more vibrant FinTech activity or in those with a larger share of Islamic banks.

5.2. Limitations and Recommendations

First, using Google Trends as a proxy for Fintech interest may not be sufficient to capture the entire spectrum of investor sentiment, whereas other measures, such as social media analytics or a news-based sentiment index, may provide a more thorough approximation. Second, the current study is limited to a few financial instruments; therefore, future studies can examine a broader range of financial assets, such as cryptocurrencies and decentralised finance, to see if they display similar spillover tendencies. Third, while the Quantile Vector Autoregression framework is effective in capturing nonlinear dependencies, it is subject to issues such as quantile sensitivity and crossing; future research could address these by applying composite quantile regression or related techniques to improve robustness.. Four, we acknowledge that FinTech attention can also be influenced by exogenous shocks such as Economic Policy Uncertainty (EPU) and Geopolitical Risk (GPR), and that sub-period analyses around major events such as COVID-19 and the Russia–Ukraine conflict could yield further insights.

Future studies should conduct cross-sectional comparisons across regions to examine how different regulatory settings and cultures influence Fintech involvement in mainstream and Islamic financing, thereby providing a more comprehensive global perspective on financial market spillovers.

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