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-RESEARCH ARTICLE-

THE FINTECH FIRMS DURING COVID-19: THE ROLE OF TAIL RISK AND SYSTEMIC RISK

Muhammad Awais Bhatti

School of Business, Management Department,
King Faisal University, Al-Ahsa 31982, Saudi Arabia.
Email: mbhatti@kfu.edu.sa (Corresponding Author)
Orcid ID: 0000-000-4485-1168

Muhammad Sadiq

School of Accounting and Finance, Faculty of Business and Law, Taylor's University Malaysia.
Email: hammad.sadiq@taylors.edu.my
Orcid ID: 0000-0002-6859-818X

Premagowrie Sivanandan

School of Accounting and Finance, Faculty of Business and Law, Taylor's University Malaysia.
Email: Premowrie.Sivanandan@taylors.edu.my
Orcid ID: 0000-0001-5766-8114

Abbas N Albarq

School of Business, Management Department, King Faisal University, Saudi Arabia
Email: albarg@kfu.edu.sa
Orcid ID: 0000-0003-4663-9101

─Abstract─

The primary purpose of this study is to investigate the relationship between tail risk and systemic risk in financial technology (Fintech) companies. The study also analyzes the role of the tail and systemic risk in Fintech firms during the COVID-19 outbreak. The

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exponential increase in digital users of financial applications demonstrates the tremendous growth of the Fintech industry during COVID-19. Thus, the analysis of the association between tail risk, systemic risk, and Fintech is conducted on a deluxe sample of Fintech companies. From December 2019 to February 2022, the data of Fintech enterprises is compiled. The extreme value theory serves as the theoretical lens for determining the tail risk of based Fintech companies. The lower value of technology companies suggests a long tail for Fintech companies. The thicker tail suggests that Fintech firms grew dramatically throughout the COVID-19 timeframe. Few firms in our sample have the fattest tail, indicating that these enterprises were highly exposed to risk during COVID-19.

Furthermore, the data indicate that the systemic risk of Fintech firms during COVID-19 depends on the global technology index. The likely explanation for these results is that during COVID-19, Fintech firms' clients grew faster than customers in other industries. During the COVID-19 epidemic, Fintech firms have raised their tails. This study is among the first and will aid regulators, financial professionals, and researchers in gaining a better grasp of the challenges surrounding tail risk and systemic risk in Fintech companies.

Keywords: Fintech, Technology, Tail Risk, Systemic Risk, Covid-19

1. INTRODUCTION

Fintech, or financial technology, is an innovative technology that aims to replace traditional banking services with technologically creative goods such as cryptocurrency and crowdfunding. In recent decades, Fintech has become one of the most investigated topics of financial economics and a cutting-edge subfield of financial management (Mosteanu et al., 2020). The technical evolution in finance, or the advancement in a short time, has significantly impacted how thrift institutions operate. Fintech has altered the banking industry's landscape and guided customers through financial transactions (Nair et al., 2021). Investment in the fintech business is expanding quickly, and current conditions imply this trend will continue. According to reports, more than 200 billion dollars have been invested in the firm's financial technology division during the past decade. In a similar line, the market capitalization has surged fivefold since 2009. (Mazur et al., 2021). In 2019, there will be seven BigTech enterprises among the top 10 companies, up from two in 2018. In the past ten years, BigTech companies have penetrated the financial sector and given rise to one of the most effective and modern terms, Fintech (Wójcik et al., 2020).

The term Fintech is a combination of the words "finance" and "technology," and it refers to a business strategy that employs technology to expedite the delivery of financial products and services (Ali et al., 2021). Recently, the phrase has been supplanted by a rapidly expanding financial industry that provides various services to individual and commercial users (Chang et al., 2020). The entry of Fintech firms into the financial

industry has been predicated on innovation, efficiency, and inclusive financial practices (Croxson et al., 2022). However, the entry of Fintech firms into the banking industry has introduced a specific risk to the financial system's stability. Even though Fintech firms are expanding in the financial industry, the certainty of their indicated risk in the financial system is recognized by numerous researchers (Kruse et al., 2019). To the author's knowledge, there is little or limited research on the danger posed by Fintech firms during a crisis.

Technology has transformed banking into an industry dominated by digital financial services providers (Gomber et al., 2018). Banks and Fintech companies are continuously searching for innovative digital client engagement strategies. The banks can now employ established information sets, such as big data, to transform loans into profitable investments. The thrift institutions and online trading platforms accomplish this by utilizing web-based tools that link prospective lenders with the appropriate opportunity (Clarke, 2019). In turn, cloud computing, big data, artificial intelligence, and the introduction of new digital currencies and credit systems are causing a paradigm shift in the structure of the financial services industry, which is altering the way banks work and their investment plans (Allam, 2020).

During the COVID-19 epidemic, the financial industry experienced rapid expansion, which was atypical in emerging economies like Malaysia. The digital revolution has been tremendous throughout COVID-19, and fintech adoption has also been steadily expanding globally (Ashta et al., 2018; Li, 2021). Fu et al. (2022) suggested that daily downloads of fintech android applications grew from 21% to 26% during COVID-19. Continuing their case, they have estimated and asserted that around 900 million applications were downloaded during COVID-19's shutdown times. Prior research contends that COVID-19 has bridged the digital divide and considerably improved fintech acceptance. Furthermore, it is apparent that Fintech companies have expanded the regional borders of financial services and eliminated geographical constraints (Kokkinis et al., 2020). Nonetheless, offering distinct dangers to market returns has influenced the creation of banking regulations and supervision.

Clients' expectations, which are mostly defined by their continuously changing behavior, have a significant impact on financial service providers. The rapid expansion of the digital financial industry and technological progress poses a unique threat to financial and economic institutions (Agur et al., 2020; Clarke, 2019). In every banking system, Fintech companies represent an individual, threefold risk. First, the proliferation of tiny fintech firms has reduced market concentration and jeopardized Fintech industry dominance (Ashta et al., 2018; Samunderu et al., 2021). Second, the fintech industry is mainly unregulated and is evolving existing financial institutions by blurring their borders.

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Consequently, it becomes more challenging for financial regulators to regulate Fintech goods. As it is illegal to gather customer data and use it for marketing and economic purposes, big data makes Fintech firms the biggest threat to the financial system (Ashta et al., 2018; Barr et al., 2018). Although numerous scholars with different theoretical frameworks have examined the relationship between systemic risk and financial assets, little or no attention has been paid to the impact of systemic risk on fintech firms in general and Fintech firms of Gulf countries. The current study examined the relationship between systematic risk and Fintech enterprises in Gulf countries based on the extreme value theory to bridge this gap.

Tail risk is one of the most important risk variables, which is essentially a probability function arguing that the standard deviation will move three times more than the normal distribution's mean (So et al., 2022). The event that occurs at both ends of the normal distribution curve and has a low probability of occurring is called tail risk. Now the question comes as to why tail risk is significant to Fintech, especially during times of crisis. Classical portfolio theories contend that market returns are normally distributed. In contrast, tail risk phenomena contend that portfolio returns are skewed with a fatter tail, which indicates a probability that expectations and investments will exceed three standard deviations (Samunderu et al., 2021). The recent breakout of COVID-19 is ushering in a new normal in every element of life and an unanticipated global financial environment characterized by a plethora of disruptive events with fattened tails. Financial innovative technologies, or FinTech, have developed as a crisis cure during the COVID-19 epidemic; nevertheless, the tail risk of continual disruptive events from FinTech may impede the recovery from the crisis or give rise to another crisis that may spread asymmetrically throughout the globe (Costantino et al., 2021; Samunderu et al., 2021).

Consequently, the purpose of this article is to investigate the relationship between tail risk and systemic risk of financial technology enterprises in Arabian Gulf nations during the COVID-19 epidemic. The current paper makes two contributions. The study begins by analyzing the association between systematic risk and Fintech companies during COVID-19. Second, we contend that Fintech firms face a tail risk greater than traditional financial firms. Thirdly, the study contributes to theory by employing extreme value theory to support the likelihood of tail risk and systemic risk emerging in Fintech organizations. In addition, this study encourages policymakers, businesses, the government, banks, and other stakeholders to leave their comfort zones to create change, growth, and transformation in the economy by taking the impact of tail risk and systemic risk on Fintech firms very seriously. Thus, in the current era of uncertainty, it is anticipated that 'beautiful disruption' in the form of tail risk and systemic risk will increase the resilience of organizations in the face of unforeseeable calamities such as the COVID-19 epidemic and promote sustainability for future generations.

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2. LITERATURE REVIEW

Internet of Things (IoT) technology is rapidly gaining acceptance in the business world due to its capacity to transmit data via the Internet using devices that generate information and new knowledge. (2022, MyGovernment) The expansion of IoT and financial technology has also spurred the advancement of digital accounting and digital banking, which today play crucial roles in value creation, productivity improvements, and the quality of life for individuals and enterprises (Sivanandan and Tye, 2022). Following this, modern technology companies contribute increasingly to the economy. Fintech is the merger of financial and technology enterprises that have disrupted many established components of financial services and is presently bringing about revolutions in the financial industry as a whole. According to Iman (2020), financial technologies are currently reshaping the financial industry and generating several opportunities for financial services. Utilizing big data analytics allows for the minimization of credit scoring bias and the enhancement, measurement, and monitoring of systemic risk in peer-to-peer lending. Moreover, financial technology provides for assessing and monitoring market risks and financial market instability, facilitating the efficient management of risks and related costs (Vučinić, 2020).

Risk management includes political and economic hazards, currency exchange, transfers, cultural differences, credit, legal, commercial, and fluctuating client needs (Arinichev et al., 2018). According to Elsaid (2021), FinTech promotes cost reduction, client accessibility, and effective risk management. According to the data, the financial entry of Fintech could result in quick changes to the financial sector (Borio, 2020). It would enable the expansion of financial services, the use of big data to analyze the network structure of the sector, and the assessment of borrowers' risk. These advantages enable Fintech to enhance the delivery of financial services, foster financial inclusion and propel economic activity (Ahern, 2021). FinTech firms can reach a greater spectrum of consumers, including those with limited access to financial services, such as small and medium-sized businesses, due to their more flexible regulatory structure and cutting-edge technology capabilities (SMEs). According to Chaudhry et al. (2022), Fintech companies can experience cheaper operational costs because they lack complex corporate structures and high-ranking administrative layers.

Fintech companies have lower physical expenses since they do not maintain physical offices; instead, they rely on technological innovations to communicate with clients. In addition, tech companies market bank funds to a larger set of borrowers (Borio, 2020). Jagtiani et al. (2018) complement prior findings by demonstrating that larger and more technologically equipped banks significantly boosted small company financing from 1997 to 2014, even in the absence of physical offices. Moreover, according to Iman (2020) and Samunderu et al. (2021), fintech lenders offer financing to small businesses to close their credit gap. Elsaid (2021) demonstrates that the Lending Club provides greater access to credit than traditional banks with fewer bank locations (Jagtiani et al.,

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2018). Even with the same default risk, the Lending Club's borrowers pay smaller spreads on loans than those of conventional lenders. Generally speaking, Lending Club customers with the same FICO scores as traditional borrowers are riskier. According to Agur et al. (2020), cooperation between banks and FinTech companies could reduce operational costs and capital expenditures. Still, it could also lead to investment risks and security, regulatory, and agreement concerns.

Li (2021) concludes that in addition to providing good consumer, commercial, and economic benefits, FinTech enterprises also face data privacy concerns. Mosteanu et al. (2020) stress the hazards associated with the growth of financial technologies, such as the miscalculation of creditworthiness, which undermines customer protection. Giant technology companies may also generate new market risks and expenses, such as boosting entrance hurdles for new technology companies by increasing customer switching prices or excluding potential newcomers. Due to their ability to collect massive amounts of data at no cost, tech giants can also affect pricing discrimination and extract rents, resulting in digital monopolies (Borio, 2020). Yigitcanlar et al. (2020) categorize the hazards associated with artificial intelligence (AI) as data risks and cyber security concerns. AI could attack, manipulate, or endanger economic and financial systems, destabilize the economy, or convey erroneous signals to society, posing systemic concerns. Numerous articles have described the financial significance of FinTech (Vučinić, 2020).

Despite the extensive research on Fintech, no study has yet been conducted on the impact of Fintech firms' tail risk. For the sake of monitoring and preventing Fintech hazards on financial systems, precise estimates of these risks are advantageous to the relevant authorities. Utilizing statistical extreme value analysis, Saputra et al. (2022) study the probability of institutional financial hardship and banking risk exposure. According to the authors, the Eurozone countries have considerably lower tail and systemic risks than the United States. This is congruent with Alsahlawi (2021) conclusions, which apply the multivariate extreme value theory to assess US and European banks' contagion and systemic risk. Based on the data, bank spillover in the United States is significantly larger than in the Eurozone, showing that Europe has poor cross-border ties. The Eurozone's heightened risk looked to result gradually from consolidating conventional banks. Meanwhile, the most significant increase in systemic risk in the United States seems to have occurred between the largest financial institutions and clearing banks.

Keddad et al. (2020) calculate tail risk estimations using the extreme value theory. They discovered that the left tails of the indices are heavier than their right tails. Nguyen (2018) examines the effects of time-varying severe event risks within the framework of asset markets using the 1963-2010 returns and sales growth data. Due to its capacity to predict the future extreme returns of individual equities, their findings suggested that tail risk may be a significant component of asset pricing. In addition, they discovered a significant incidence of firm-wide time-varying tail exponents. A mathematical

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connection exists between aggregate tail risks and the common dynamics of firm-level tails (Aikman et al., 2021).

Using the extreme quantile regression model, Adrian et al. (2011) analyze the effect of state variables on the extreme and systemic financial risks of financial enterprises. The China-based research sampled 33 publicly traded financial institutions and trust companies. According to the results, the state variables influence the risks of financial institutions differently depending on their quantiles. In excessive quantiles, the short-term liquidity risk spread is detrimental to banks, resulting in increased bank risk. Consequently, banks' financial systems are exposed to the extreme effects of the risks. This result is consistent with the systemic risk contribution, indicating that banks have a bigger risk exposure to their respective financial systems than other financial firms. Moreover, the measurement of value at risk found that banks' financial systems are exposed to less risk than securities. In addition, business size and leverage were strongly correlated with systemic risk contribution. Larger, more leveraged financial institutions are more likely to encounter greater systemic hazards.

Using the dynamic analytic method, Paulin et al. (2019) demonstrate that banks with a high-risk contagion rate and a low-risk isolation protection rate will face a preponderance of systemic risk contagion. According to Ellis et al. (2022), idiosyncratic risks can help identify bank risk's distinctive characteristics in the capital market setting. Typically, banks with high amounts of idiosyncratic risk have minimal equity capital. Gong et al. (2020) examine the relationship between tail risk and financial distress risk and conclude that the risks are strongly and positively connected. This shows that banks with repeated daily equity returns that are extremely negative have a greater chance of suffering financial difficulties. Aikman et al. (2021) reached a similar conclusion in their investigation of the relationship between tail risk metrics and the financial distress of publicly traded US companies from 1990 to 2016. Neveu (2018) and Lux et al. (2020) provide additional systemic risk analyses.

Additionally, previous research has demonstrated the substantial harm caused by systemic and tail risks to the financial system and the economy. Unfortunately, no comparable research has yet been conducted on the impact of the tail and systemic risk on major technology enterprises. This study will analyze the tail risk and systemic risk of Fintech firms using the univariate extreme value (EVT) theory, based on the hypothesis that "technology firms have a higher tail risk than financial firms." As Malaysia pursues digital transformation and digital resilience, it is essential to remember that businesses, including C-suites and organizations, must change their mentality and be willing to overcome challenges posed by tail risk and systemic risk with strategies and approaches that can yield positive results for Fintech firms. Determining whether tail risk and systemic risk have a substantial impact on Fintech enterprises in the quickly changing business landscape, especially in the face of an unexpected "enemy" such as the COVID-19 outbreak, is crucial.

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3. DATA AND MEASURES

Malaysian Fintech companies make up the sample data for the current study. For the tail- computation, we utilized Malaysia DataStream indicators such as financial market and technology. Meanwhile, we have measured the time-varying tail risk using six-year rolling data. The pattern of quick fall in the Fintech firm's equity indexes is the primary motivation for examining tail risk. The univariate EVT is utilized to calculate the equity tail risk. According to Chaudhry et al. (2022), the semi-parametric technique matches the Generalized Pareto Distribution's excessive loss distribution over a high threshold. The semi-parametric estimator was created by De Haan et al. (1994). Using the lowest value of p=P(Y,y), the quantile y is calculated.

$$\widetilde{y_p} = Y_{n-m,n}\left(\frac{m}{np}\right)^{\frac{1}{a}} \quad \text{.....(1)}$$

Where the (n-m)th cut-off point of the tail is represented by Yn-m,n, the (n-m)th cut-off point of a sample size n which is q>Yn-m,n is represented in ascending order. The α in equation 1 is derived using Hills (1975)'s estimator, which is as follows:

$$\widetilde{a} = \left(\frac{1}{m}\sum_{j=0}^{m-1} ln\left(\frac{Y_{n-j,n}}{Y_{n-m,n}}\right)\right)^{-1} \quad \text{.....(2)}$$

The "m" represents a parameter that describes the frequency of severe returns during the estimate. Following Chaudhry et al. (2022), we have used m=300 for technology enterprises, our primary inquiry, and m=175 for finance firms. In the current study, Hills (1975)'s estimator is compared to the tail quantile estimator by replacing Hills (1975)'s in Equation 2 with the tail quantile estimator. The new formula is as follows:

$$\check{E}\left(Y - \widetilde{y_p}; Y > \widetilde{y_p}\right) = \frac{\widetilde{y_p}}{\widetilde{a-1}} \quad \text{.....(3)}$$

Equation 2 provides a theoretical explanation for the projected shortfall in the tail, whereas Equation 1 describes the tail quantile, which we use to quantify tail risk in technology and banking organizations. Extreme quantile probability values have a lower limit of 0.1% and an upper limit of 0.2%. The values imply that quantile violations are anticipated every 500 to 1000 days. In addition, the predicted deficit estimation for COVID-19 crisis obstacles is studied.

The systemic risk is estimated using a semi-parametric model. We chose semi-parametric estimation since misspecification resulting from incorrectly distributed assumptions might significantly impact the systematic risk assessment, potentially leading to bias. Equation 4 is used to derive the multivariate nature of spillover risk.

$$\widetilde{P_{N/1}} = \frac{\check{P}_q}{p} = \frac{m}{n} \times C_{n-m,n}{}^{a} \times q^{1-a} \quad \text{.....(4)}$$

The value of q for a larger but finite is 1/p, and for the tail-β estimator is reduced to for N=2. The term Cn− m,n is the tail cut-off of the (n-m)th order. The "m" in equation 4 is

known as the Hill estimator and explains the number of extreme returns, whereas the total number of observations is represented by "n." In addition to that, the study has employed another measure of systematic risk, which is shown in equation 5 below:

$$\check{E}\left(\frac{\theta}{\theta} \geq 1\right) \approx \frac{N}{\frac{n1}{kn}\sum_{i=1}^{n} U_{i=1}^{N} Y_i > Y_{i,n-k}} \quad \ldots\ldots(5)$$

4. RESULTS

The Fintech tail risk is presented in Table 1. The average of the technological enterprises is 2.15, which is lower than the value provided by Chuhadry et al. The reduced value of technology companies projected a fat Fintech tail. The thicker tail suggests that Fintech firms in Malaysia have risen tremendously throughout the COVID-19 timeframe. The findings are consistent with those of So et al. (2022) and Papanikolaou et al. (2014), who suggested that any crisis-related risk presents opportunities for non-traditional enterprises to grow and expand. The results are consistent with Ellul et al. (2013)'s conclusion that poor risk management results in a wider tail. As Fintech firms are defined as firms with risk-taking propensities, it is anticipated that the tail for technology enterprises will be fatter. Few firms in our sample had the fattest tail, indicating that these firms are most exposed to risk during COVID-19.

The systemic risk of Malaysian Fintech companies is detailed in Table 2. During COVID-19, the industrial and technology indexes seemed to be the strongest. The conclusion suggests that the systemic risk of Fintech during COVID-19 depends on the global technology index. The likely explanation for these findings is that during COVID-19, Fintech firms' customer base grew more rapidly than other industries. During the covid-19 outbreak, the tail-s of Fintech companies in Malaysia has grown, which is corroborated by the finding of Chaudhry et al. (2022), who asserted that the tail-s of financial firms began falling in 2019 and increased for technological enterprises.

Based upon the tail-β, the theoretical framework of the systemic risk is given in equations 4 and 5, respectively. For an empirical estimation of the systemic risk, the country market index is employed as an antecedent to the stock price of a technology firm.

5. CONCLUSION

The exponential rise of Fintech during COVID-19 has emerged as a necessity and answer to the financial industry's particular difficulties. Financial organizations struggle to discover new digital methods to engage customers and consumers. During the COVID-19 outbreak, the Fintech industry experienced robust growth, which was atypical in emerging economies such as Malaysia.

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Table 1: Tail Risk of Fintech Firms

		a	$x(p)$		$ES(Y > s)$		$ES(Y(p))$	
			$\mathbf{P = 0.10\%}$	$\mathbf{P = 0.20\%}$	$\mathbf{s = 0.25\%}$	$\mathbf{s = 0.50\%}$	$\mathbf{P = 0.10\%}$	$\mathbf{P = 0.2\%}$
1.	Jirnexu	2.2110	0.1702	0.1123	0.1279	0.2271	0.0625	0.0572
2.	CapitalBay	2.2301	0.1231	0.1890	0.1021	0.2021	0.0348	0.0660
3.	iMoney Group	2.0128	0.1203	0.0995	0.1271	0.2891	0.0613	0.0613
4.	MoneyMatch	1.8201	0.1503	0.0866	0.1207	0.2729	0.0766	0.0622
5.	Synergy Technologies	1.6201	0.1281	0.0764	0.1816	0.2372	0.0434	0.0543
6.	PrimeKeeper	2.0212	0.1533	0.0884	0.2011	0.5203	0.0825	0.1011
7.	PitchIN	2.8721	0.1322	0.1371	0.1021	0.2734	0.0438	0.0715
8.	MHub	1.4320	0.2081	0.1139	0.1281	0.3621	0.0558	0.0654
9.	MYTHEO	1.9021	0.1607	0.1273	0.1013	0.2486	0.0934	0.0802
10.	Fundaztic	2.4928	0.1528	0.1216	0.1301	0.2642	0.0884	0.0614
11.	HelloGold	1.2301	0.1231	0.1221	0.1102	0.3714	0.0876	0.0704
12.	iPay88	1.7501	0.1366	0.1254	0.1271	0.2883	0.0856	0.0632
13.	Katsana	2.9812	0.1002	0.0748	0.2761	0.8741	0.0261	0.1764
14.	BigPay	3.2021	0.1451	0.1121	0.1021	0.4929	0.0871	0.0751
15.	TNG Digital	2.1201	0.1632	0.1236	0.1201	0.4916	0.1102	0.1213
16.	Boost	2.5101	0.1508	0.1236	0.1217	0.7269	0.1344	0.0722
17.	CapBay	2.3212	0.1339	0.1142	0.1820	0.4759	0.1236	0.1503
18.	EZMCOM	2.6121	0.2012	0.1162	0.1333	0.3466	0.0690	0.0604
19.	Bank Bazaar	1.4810	0.1020	0.1052	0.1022	0.7363	0.0754	0.0530
20.	DRAVA	2.2121	0.1112	0.0966	0.1500	0.2387	0.0564	0.0715
Average		2.15172	0.14332	0.113295	0.137345	0.396985	0.074895	0.07972

Table 2: Systemic Risk of Fintech Firms

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	Country Market Index		***Country Technology Index***		***Global Market Index***		***Global Technology***	
Jirnexu	0.45	0.43	0.45	0.52	0.36	0.35	0.43	0.47
CapitalBay	0.37	0.52	0.50	0.41	0.42	0.44	0.52	0.56
iMoney Group	0.47	0.50.	0.34	0.33	0.36	0.34	0.34	0.36
MoneyMatch	0.50	0.49	0.59	0.50	0.37	0.43	0.52	0.57
Synergy Technologies	0.50	0.57	0.30	0.53	0.39	0.49	0.40	0.50
PrimeKeeper	0.50	0.31	0.42	0.40	0.39	0.28	0.18	0.25
PitchIN	0.57	0.39	0.37	0.32	0.38	0.42	0.50	0.56
MHub	0.28	0.47	0.42	0.44	0.29	0.24	0.27	0.27
MYTHEO	0.32	0.52	0.40	0.58	0.33	0.35	0.40	0.47
Fundaztic	0.34	0.47	0.51	0.42	0.34	0.40	0.47	0.40
HelloGold	0.42	0.50	0.47	0.37	0.34	0.35	0.43	0.45
iPay88	0.29	0.55	0.48	0.33	0.38	0.36	0.51	0.52
Katsana	0.31	0.32	0.58	0.41	0.28	0.20	0.19	0.20
BigPay	0.42	0.40	0.37	0.49	0.25	0.32	0.23	0.29
TNG Digital	0.27	0.37	0.43	0.35	0.38	0.30	0.35	0.32
Boost	0.55	0.50	0.51	0.44	0.23	0.30	0.20	0.33
CapBay	0.53	0.53	0.46	0.48	0.26	0.35	0.25	0.30
EZMCOM	0.49	0.47	0.57	0.31	0.33	0.30	0.27	0.33
Bank Bazaar	0.47	0.49	0.45	0.54	0.35	0.45	0.20	0.20
DRAVA	0.46	0.42	0.49	0.54	0.30	0.30	0.40	0.40
	0.42	0.45	0.45	0.43	0.33	0.34	0.35	0.42

This study examines the tail risk and systemic risk of Fintech firms in Malaysia using the univariate extreme value (EVT) theory, predicated on the hypothesis that technology firms have a higher tail risk. Malaysian Fintech companies make up the sample data for the current study. From December 2019 to February 2022, the data of Fintech enterprises is compiled. For the aim of computing tail-, DataStream indexes such as financial market and technology are utilized. In addition, we have measured the time-varying tail risk using six-year rolling data. The pattern of quick fall in the Fintech firm's equity indexes is the primary motivation for examining tail risk. According to the survey's conclusions, Fintech companies are helping match prospective lenders with their respective prospects through online platforms. The capacity of tail risk to anticipate the future extreme returns of individual equities suggested that it may be a significant component in determining asset prices. The study's results corroborate the idea, as technology-based companies in Malaysia appear to have wider tails.

In addition to covering a unique era of COVID-19, when the market was undergoing a major shock and commodity prices were highly volatile, the study offers other distinctive features. In addition, the study determining the tail risk of Fintech firms is one of the few that apply univariate extreme value theory (EVT). Lastly, the report is among Malaysia's first to examine Fintech companies.

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