

FinTech and Market Discipline: New Challenges for Financial Stability

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Abstract :

The study examines the impact of FinTech on global finance, focusing on efficiency, inclusion, systemic risks, and regulatory gaps. Panel data from eight countries between 2016 and 2019 is analyzed using random effects models with regional and COVID-19 factors. Results show that FinTech and market discipline have limited direct impact on financial stability in normal conditions, but during the pandemic, FinTech improved resilience. Increased access to traditional financial institutions, on the other hand, raised systemic risk. This underscores the dual role of FinTech in financial stability.

Mots clés:

Mot clé.1: Technologie financière - FinTech

Mot clé.2: Stabilité financière

Mot clé.3: Discipline du marché

Mot clé.4: données de panel

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Résumé :

L'étude examine l'impact de la technologie financière (FinTech) sur la finance mondiale, en se concentrant sur l'efficacité, l'inclusion, les risques systémiques et les lacunes réglementaires. Les résultats montrent que la FinTech et la discipline du marché ont un impact direct limité sur la stabilité financière en conditions normales, mais durant la pandémie, la FinTech a amélioré la résilience. En revanche, l'accès accru aux institutions financières traditionnelles a augmenté le risque systémique. Cela souligne le double rôle de la FinTech dans la stabilité financière.

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1. Introduction

The rapid digital transformation of the global financial sector has redefined the mechanisms through which financial services are delivered and regulated. At the heart of this transformation lies Financial Technology (FinTech), encompassing innovations such as digital lending, peer-to-peer platforms, blockchain, and mobile banking. These tools promise to enhance financial inclusion, operational efficiency, and accessibility across both developed and emerging markets. However, FinTech's swift ascent has also raised fundamental concerns about its implications for systemic risk, regulatory oversight, and overall financial stability.

Recent global disruptions—most notably the COVID-19 pandemic—have intensified the relevance of these questions. In a time of unprecedented economic uncertainty, FinTech has demonstrated its dual nature: acting as both a stabilizing force by providing digital credit and payment alternatives, and as a source of risk through unregulated platforms and fragmented oversight. Moreover, traditional mechanisms of market discipline, such as disclosure and investor monitoring, may not function effectively in this evolving digital context.

While prior studies have explored the role of FinTech in expanding financial access or improving efficiency, few have simultaneously examined its interaction with market discipline and systemic stability, especially in a cross-country context. This paper addresses that gap by empirically analyzing the interrelationship between FinTech development, market discipline, and financial stability across eight countries between 2016 and 2019. The analysis incorporates both regional economic structures and the effects of the COVID-19 crisis using panel econometric methods.

The remainder of this paper is structured as follows. Section 2 presents a literature review and hypothesis development. Section 3 discusses the data, variables, and methodology. Section 4 outlines the empirical results and discussion. Section 5 concludes with policy implications and avenues for future research.

2. Literature review and hypotheses development

The increasing impact of Financial Technology (FinTech) within the global financial sector has generated a growing interest in academia regarding its effects on market discipline and financial stability. Numerous studies have delved into this connection

from various perspectives, including household spending, resilience in banking, digital financial inclusivity, and systemic risks.

Despite the transformative potential of FinTech, its rapid growth has raised significant concerns about its effects on financial systems. While some authors like Philippon (2016) and Thakor (2020) emphasize FinTech's ability to improve efficiency and inclusivity in finance, others warn about potential new sources of systemic risks associated with innovations such as peer-to-peer lending, blockchain, and artificial intelligence (Gomber and al., 2018). These technologies could introduce challenges in regulation (Arner and al., 2015; Mishkin, 2019) and exacerbate asymmetries in information when transparency is not effectively maintained (Shiller, 2003).

There is a divide in the literature. Buchak and al. (2018) argue that FinTech could enhance the resilience of financial systems by diversifying funding sources and reducing reliance on traditional banking channels. Conversely, Acharya and al. (2010) and Boot and al. (2020) caution that increased competition and the emergence of unregulated entities could lead to greater interconnectedness, a downward trend in standards, and increased fragility. Moreover, the concept of market discipline, typically linked to improved prudential behavior, appears uncertain within the context of FinTech. As pointed out by Nguyen and al. (2022), the lack of dependable public data and the intricate nature of FinTech business models could limit the effectiveness of market-based oversight mechanisms.

This research contributes to the existing body of literature by analyzing the dynamic interplay between FinTech development, market discipline, and financial stability, while also considering external shocks like the COVID-19 pandemic and regional disparities. Currently, only a few empirical studies have examined these three dimensions together, especially in a cross-country context.

Based on this groundwork, the following propositions are suggested:

H1. FinTech development is positively associated with financial stability.

FinTech could enhance financial stability by improving risk management, expanding access to financial services, and modernizing existing systems. Luo, and al. (2022) demonstrate that FinTech boosts household spending and

entrepreneurship, leading to increased income and resilience. Their findings also highlight disparities in access, with urban and wealthier households benefiting more than rural or lower-income groups, raising concerns about the equitable distribution of FinTech advantages.

Furthermore, Frank and Yusheng (2023) present evidence from developing nations indicating that mobile banking subscriptions could have negative impacts on financial stability, while internet usage has a stabilizing effect. These results suggest that not all digital financial services contribute equally to resilience and should be assessed individually. Similarly, Li, He, Tian, Sun, and Ning (2022), in a study of 65 commercial banks from 2008 to 2020, discover that FinTech innovation enhances operational efficiency and risk assessment, reducing risky behaviors. Nonetheless, larger banks tend to reap greater benefits, showing variations in FinTech adoption across the sector.

Moreover, Cevik (2024), using data from 198 countries between 2012 and 2020, observes that digital lending tends to heighten systemic risks, while digital capital mobilization promotes stability. These mixed findings underscore the dual impact of FinTech and highlight the necessity for targeted regulatory frameworks.

H2. Under intense competitive pressures, market discipline can weaken financial stability.

While market discipline is typically viewed as a stabilizing influence, intense pressure from investors and markets could drive financial institutions to embrace riskier strategies to fulfill short-term performance expectations. Nguyen and Dang (2022), analyzing Vietnamese banks from 2010 to 2020, note that market discipline can help counteract the destabilizing effects of FinTech, especially when complemented by transparency requirements and strong governance mechanisms.

Similarly, Khan and al. (2023), studying banks in Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE, find that the adoption of FinTech weakens banking stability, especially in less capitalized institutions. However, effective market discipline mechanisms can partially mitigate these risks by encouraging regulatory compliance and enhancing risk management.

In conclusion, the literature indicates a nuanced and context-specific relationship between FinTech evolution, market discipline, and financial stability. This necessitates flexible regulatory strategies that integrate real-time monitoring, cross-border collaboration, and tailored risk assessments to ensure financial stability amidst rapid digital transformation.

3. Methodology

3.1. Data and Variables

Although the dataset only consists of 25 country-year pairs, it offers a valuable cross-country perspective on the impact of digital transformation. This limitation is mainly due to the lack of reliable and standardized FinTech data on an international scale. Consistent indicators, such as FinTech startup counts, are often challenging to acquire for many countries, leading Statista and the World Bank's Global Financial Development Database to be among the few credible sources for comparative analysis. Therefore, while the sample size may limit generalizability, the study presents exploratory evidence that is of practical relevance for policymakers and regulators.

The main objective of this research is to assess the impact of Fintech advancements and market discipline on the stability of the financial sector. To achieve this goal, the study employs an exploratory cross-country research design, utilizing an unbalanced panel dataset covering eight countries over the period from 2016 to 2019. Data on FinTech startups, access to financial institutions, corporate disclosure, and financial stability indicators were collected from reputable sources such as Statista and the World Bank Global Financial Development Database. The small sample size highlights the challenges of obtaining consistent cross-country FinTech data, emphasizing the importance of this research as a pioneering empirical investigation in the field.

The utilization of panel data, which combines the features of cross-sectional and time-series datasets, allows for a more in-depth and dynamic analysis of the relationship between Fintech development and financial stability. This approach enables the tracking of the same countries over multiple years, providing insights into both temporal trends and cross-country variations in key financial metrics.

The definitions and sources of the variables used in this analysis can be found in Table 1 below.

Table 1: Definition of Variables

Variable	Definition	Source
FS	Financial stability measured by the Z-score	World Bank
FINC	Number of FinTech startups	Statista
AFI	Access to financial institutions (bank branches per 100,000 adults)	World Bank
DISC	Disclosure index (0-10) measuring corporate transparency	World Bank

Source: World Bank

3.2. Model Specification

Random effects (RE) models were utilized in the panel data analysis, with robustness checks conducted using fixed effects (FE) estimations for comparison purposes. The determination of the appropriate model specification was guided by the Hausman test. In addition to the main variables of interest, regional dummy variables and a COVID-19 dummy variable were included in the model to account for systemic shock effects. While the absence of an explicit "control group" posed a challenge, the dummy variables were utilized as quasi-controls to address unobserved heterogeneity.

The model specification follows the framework of previous empirical studies that examine the relationship between financial technology and financial stability (Beck and al., 2018; Philippon, 2019). These studies suggest that FinTech development can contribute to financial stability through improved efficiency, risk management, and greater access to financial services.

This study applies an econometric model (1) using panel data to analyze the impact of FinTech development on financial stability:

$$ST_{it} = \alpha_0 + \beta_1 FINC_{it} + \beta_2 AFI_{it} + \beta_3 DISC_{it} + \varepsilon_{it} \quad (1)$$

where:

- ST_{it} : Financial stability of country i in year t ,
- $FINC_{it}$: Number of FinTech startups,
- AFI_{it} : Access to financial institutions,
- $DISC_{it}$: Corporate disclosure index,
- ε_{it} : Error term.

3.3. Descriptive Statistics and Preliminary Analysis

The descriptive statistics presented in Table 2 offer valuable insights into the distribution and variability of the variables examined in this study. Specifically, the financial stability variable (FS) demonstrates a mean of 14.08 and a median of 15.38, indicating a relatively stable financial landscape among the countries included in the analysis. The range of 5.93 to 22.49 shows some degree of variability, yet the skewness of -0.08 suggests a distribution that is almost symmetrical.

In contrast, the FinTech development variable (FINC) shows significant variability, with a mean of 170.28 and a maximum value of 604.00, highlighting substantial disparities in the adoption of FinTech across different countries. The high skewness value of 1.47 indicates a strong right skew, suggesting that a few countries have a disproportionately larger number of FinTech startups compared to the rest.

The access to financial institutions (AFI) variable demonstrates moderate variation, with a mean of 14.90 and a standard deviation of 5.55. The skewness of 0.97 suggests a slight positive skew, implying that most countries have relatively limited access to financial institutions, with only a few exceptions.

The disclosure index (DISC) has an average value of 7.04 and a distribution that is relatively balanced, as evidenced by a skewness of -0.32, indicating consistent levels of corporate disclosure across the sample. Taken together, these descriptive statistics reveal substantial heterogeneity in FinTech development and financial access among the countries studied, factors that could significantly impact financial stability.

Table 2: Descriptive statistics

Variable	Mean	Median	Max	Min	Std. Dev.	Skewness
FS	14.08	15.38	22.49	5.93	5.66	-0.08
FINC	170.28	124.00	604.00	40.00	146.77	1.47
AFI	14.90	14.03	29.73	4.44	5.55	0.97
DISC	7.04	7.00	9.00	5.00	1.46	-0.32

Having discussed the descriptive statistics of the variables, we now turn to the correlation matrix to explore the potential linear relationships among them.

Table 3 : Correlation Matrix

Variable	SF	FINC	AFI	DISC
SF	1			
FINC	0.3547	1		
AFI	-0.3013	0.36130	1	
DISC	-0.5541	-0.1865	-0.0310	1

The correlation matrix analysis reveals valuable insights into the interrelationships among key variables in the research study. Notably, the positive correlation coefficient of 0.3547 between financial stability (SF) and FinTech development (FINC) indicates that an upsurge in FinTech startups is linked to increased financial stability. This finding supports the argument that advancements in financial technology can bolster resilience in the financial sector. On the other hand, the negative correlation coefficient of -0.5541 between SF and corporate disclosure (DISC) suggests that heightened transparency may lead to heightened regulatory scrutiny or market volatility, potentially impacting overall stability.

Moreover, the negative correlation coefficient of -0.3013 between SF and access to financial institutions (AFI) suggests that enhanced financial inclusion could potentially introduce systemic risks by expanding credit markets.

Additionally, the weak negative correlation coefficient of -0.1865 between FINC and DISC implies that a larger number of FinTech startups may be associated with slightly reduced corporate transparency, possibly indicative of regulatory complexities. Conversely, the positive correlation coefficient of 0.3613 between FINC and AFI underscores that regions with a higher concentration of FinTech startups also tend to have greater accessibility to financial institutions, thereby promoting financial inclusion. In conclusion, the correlation analysis underscores intricate interactions among financial stability, FinTech development, financial accessibility, and corporate disclosure, underscoring the need for further econometric validation to solidify these relationships.

3.4. Hausman Test

This study utilizes panel data econometric methodologies to account for a combination of cross-sectional heterogeneity and temporal variations. With panel data being utilized, the study explores both fixed effects (FE) models

and random effects (RE) models. The fixed effects model specifically controls for time-invariant country-specific characteristics, while the random effects model operates under the assumption that these characteristics are not correlated with the explanatory variables. To determine the most suitable model for analysis, the study employs the Hausman test.

The Hausman test determines whether a fixed effects model or random effects model is appropriate.

Table 4: Hausman test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.6779	2	0.7125

Since the probability 0.7125 ($> 5\%$) is above the threshold, the random effects model is preferred. This suggests that country-specific unobservable characteristics are uncorrelated with the explanatory variables, justifying the use of RE estimation.

4. Results and discussion

4.1 Estimation of the Random Effects Model

Based on the results of the Hausman test, the random effects model was selected as the appropriate estimation method. The results of the estimation without dummy variables are presented in the following table 5:

Table 5 : Estimation Results of the Random Effects Model (Without Dummy Variables)

Variable	Coefficient	Std. Error	t-Statistic	P-value
C	31.7839	9.9860	3.1828	0.0045
FINC	0.0068	0.0046	1.4789	0.1540
AFI	-0.3042	0.2158	-1.4098	0.1732
DISC	-2.0640	1.2892	-1.6009	0.1243

The findings from the estimation results suggest that financial stability (SF) is influenced by a combination of factors, however, none of the independent variables display statistical significance at conventional levels. The constant

term (C) stands out as statistically significant at the 1% level (coefficient: 31.7839, p-value: 0.0045), indicating a relatively high baseline financial stability in the absence of explanatory variables. This aligns with Bayoumi (2018), who emphasizes the impact of macroeconomic conditions on financial stability beyond the variables considered in the model.

The negligible positive impact of FinTech startups (FINC) (coefficient: 0.0068, p-value: 0.1540) is consistent with the research of Buehler and Sadowski (2019) and Narula and Nair (2021), suggesting that while FinTech has potential for transformation, its influence on financial system stability is limited in the early stages of development.

Similarly, the insignificant negative effect of access to financial institutions (AFI) (coefficient: -0.3042, p-value: 0.1732) resonates with the findings of the World Bank (2017) that financial inclusion without robust regulatory frameworks can introduce systemic risks. Additionally, the corporate disclosure index (DISC) exhibits a negative but statistically insignificant relationship with financial stability (coefficient: -2.0640, p-value: 0.1243), supporting studies such as Brealey et al. (2012) which suggest that increased transparency may result in short-term market volatility, while La Porta et al. (2006) highlight the long-term benefits of disclosure.

The model's explanatory power ($R^2 = 0.2699$) indicates that only 26.99% of the variation in financial stability can be explained by the included variables, illustrating the complexity of factors influencing financial stability as discussed by Adrian and Shin (2010). Despite the overall significance of the model at the 10% level (F-statistic = 2.587, p-value = 0.080), the insignificance of individual variables suggests the need for further exploration. Future research may consider incorporating additional determinants such as macroeconomic stability, regulatory policies, and financial literacy to enhance our understanding of financial stability dynamics.

4.2 Estimation with Dummy Variable for the COVID-19 Pandemic

In order to examine the impact of the COVID-19 pandemic, and given the absence of a quantitative variable directly representing the pandemic in the

database, the empirical strategy uses temporal indicator variable (COVID-19). This variable serves as quasi-control, allowing for the estimation of differential effects based on the periods considered.

Specifically, a dummy variable (DUMMY) was introduced into the model to capture the potential impact of the COVID-19 pandemic. This variable takes the value 1 for the years affected by COVID-19 (2019 onwards) and 0 otherwise. The new model (2) is specified as follows:

$$ST_{it} = \alpha_0 + \beta_1 FINC_{it} + \beta_2 AFI_{it} + \beta_3 DISC_{it} + \beta_4 DUMMY_{it} + \varepsilon_{it} \quad (2)$$

The results of the estimation with the dummy variable are presented in table 6 below.

The integration of the COVID-19 dummy variable has a significant impact on the results of the model, providing valuable insights into the relationship between financial stability and its determinants during times of economic turmoil. Notably, the coefficient of FinTech startups (FINC) achieves statistical significance at the 5% level (p-value: 0.0172), indicating that the development of FinTech positively contributes to financial stability even when faced with external shocks such as the COVID-19 pandemic. This finding aligns with Arner et al. (2020), who emphasize the role of FinTech in enhancing the resilience of the financial system through digital financial services and alternative credit channels during crises.

The variable related to access to financial institutions (AFI) remains negative but reaches marginal significance at the 10% level (p-value: 0.0893), suggesting that increased financial access could potentially have a destabilizing effect, possibly due to excessive credit expansion and heightened risk exposure. This phenomenon is discussed by Beck et al. (2018), who argue that rapid financial inclusion can worsen financial fragility in weak regulatory environments. Meanwhile, the corporate disclosure index (DISC) continues to show no statistical significance, consistent with previous findings indicating that corporate transparency does not clearly impact financial stability in this model. This is in line with Bushman et al. (2004),

who point out that while disclosure enhances investor confidence, its immediate effects on systemic stability remain uncertain.

Table 6: Estimation Results of the Random Effects Model (With COVID-19 Dummy Variable)

Variable	Coefficient	Std. Error	t-Statistic	P-value
C	31.5267	10.9937	2.8676	0.0095
FINC	0.0139	0.0053	2.5968	0.0172
AFI	-0.4085	0.2288	-1.7855	0.0893
DISC	-1.8942	1.4368	-1.3183	0.2023
DUMMY	-1.6144	0.7169	-2.2516	0.0357

The COVID-19 dummy variable (DUMMY) is statistically significant at the 5% level (p-value: 0.0357) with a coefficient of -1.6144, confirming the significant negative impact of the pandemic on financial stability.

This result is supported by global financial trends observed during the crisis, as highlighted by Goodell (2020), where increased market volatility, heightened credit risks, and systemic uncertainties resulted in widespread disruptions in financial institutions. The model's explanatory power notably improves, with an R^2 of 0.41, indicating that 41% of the variation in financial stability is now explained. The overall significance of the model is further confirmed by an F-statistic of 3.456 (p-value: 0.026580), underscoring the robustness of these findings at the 5% level.

These results emphasize the importance of FinTech resilience during financial crises while also shedding light on potential risks associated with financial accessibility in turbulent economic conditions.

4.3 Estimation with Regional Dummy Variables

Given the limitations of the initial sample size, a statistically significant assessment of financial stability was not feasible. To address this, we adopted a continental approach, analyzing financial stability while incorporating regional economic and financial characteristics specific to Asia, America,

Europe, and Africa. This methodology allows for a more nuanced understanding of how FinTech development impacts financial stability across different economic landscapes.

To evaluate the relationship between FinTech development and financial stability, we introduced dummy variables to represent the continents of the analyzed countries. The following panel data econometric model (3) was employed:

$$ST_{it} = \alpha_0 + \beta_1 FINC_{it} + \beta_2 AFI_{it} + \beta_3 DISC_{it} + \beta_4 DUMMY_{COVID} + \beta_5 DUMMY_{AS} + \beta_6 DUMMY_{AM} + \beta_7 DUMMY_{AF} + \varepsilon_{it} \quad (3)$$

The estimation results using a random effects model incorporating continental factors are summarized in Table 7.

Table 7: Random Effects Model Estimation with Continental Dummy Variables

Variable	Coefficient	Std. Error	t-Statistic	P-value
C	31.8521	11.3297	2.8113	0.0116
FINC	0.0066	0.0048	1.3849	0.1830
AFI	-0.2962	0.2791	-1.0613	0.3026
DISC	-2.0789	1.5852	-1.3115	0.2062
DUMMY_AS	-1.0909	6.9001	-0.1581	0.8761
DUMMY_AM	0.0781	5.3894	0.0145	0.9886
DUMMY_AF	0.3607	8.0129	0.0450	0.9646

A comprehensive statistical analysis was conducted to assess the influence of various explanatory variables on financial stability (FS). The findings indicate that while the constant term is statistically significant at the 5% level, the independent variables of interest, including FinTech startups (FINC), access to financial institutions (AFI), and corporate disclosure (DISC), do not demonstrate statistical significance. The coefficient associated with FINC (0.0066, p-value: 0.1830) suggests that FinTech startups do not have a significant impact on financial stability within the model, aligning with

previous research by Philippon (2019) which emphasizes the regulatory environment and market maturity in determining the effects of FinTech on stability. Similarly, the coefficient for AFI (-0.2962, p-value: 0.3026) indicates no significant relationship between financial access and stability, consistent with findings by Beck et al. (2018) on the nuanced effects of financial inclusion.

The corporate disclosure index (DISC) also remains statistically insignificant (coefficient: -2.0789, p-value: 0.2062), in line with research by Bushman et al. (2004) on the varying impact of transparency on market dynamics.

Furthermore, the regional dummy variables for Asia, America, and Africa show no significant impact on financial stability relative to the reference region, suggesting that regional factors captured in the model do not differentiate stability outcomes significantly. This aligns with the perspective of Laeven and Valencia (2018) on the influence of institutional quality and macroeconomic fundamentals over geographical location alone. The low explanatory power of the model ($R^2 = 0.258$) indicates that only 25.8% of the variance in financial stability is explained, implying that other unaccounted factors may play a more substantial role. The overall model insignificance (F-statistic: 1.043, p-value: 0.431) further supports the argument that financial stability is shaped by a broader range of factors beyond those included in standard econometric models, as noted by Adrian and Shin (2010).

In light of these findings, it is evident that the current model may not be sufficient for explaining variations in financial stability. Further research incorporating additional macroeconomic and institutional factors is recommended to enhance the explanatory power of the analysis. Additionally, the incorporation of a COVID-19 dummy variable alongside the continental dummies in the model was conducted to refine the analysis, and the updated estimation results are presented in Table 8.

Table 8: Random Effects Model Estimation with COVID-19 and Continental Dummy Variables

Variable	Coefficient	Std. Error	t-Statistic	P-value
C	27.6222	1.7860	15.4661	0.0000
FINC	0.0417	0.0035	11.9153	0.0000

AFI	-0.9090	0.0754	-12.0504	0.0000
DISC	0.2572	0.3170	0.8116	0.4283
DUMMY	-4.0410	0.6194	-6.5272	0.0000
DUMMY_AS	-6.3369	1.0839	-5.8465	0.0000
DUMMY_AM	-10.8012	1.3112	-8.2379	0.0000
DUMMY_AF	-9.9871	1.5947	-6.2626	0.0000

The updated model demonstrates a high level of explanatory power, as evidenced by an R^2 value of 0.742, indicating that 74.2% of the variance in financial stability is explained by the model. The statistical significance of the model is reinforced by an F-statistic of 6.99 and a p-value of 0.000520, suggesting that the variables included in the model collectively offer a robust explanation of the dynamics of financial stability.

The coefficient for FinTech startups (FINC) is 0.0417, with a p-value close to zero, confirming a significant positive impact of FinTech expansion on financial stability. This finding is consistent with previous research by Philippon (2019) and Arner et al. (2020), emphasizing the role of FinTech in enhancing financial efficiency, reducing transaction costs, and increasing resilience through digital innovation.

On the other hand, the coefficient for access to financial institutions (AFI) is -0.9090, suggesting a strong negative relationship with financial stability. This may be attributed to systemic risks associated with excessive credit expansion and financial overexposure, as discussed by Beck and al. (2018) and Demirgüç-Kunt and Klapper (2013).

The COVID-19 dummy variable has a significantly negative coefficient of -4.0410, underscoring the severe adverse impact of the pandemic on financial stability. This finding is in line with research by Goodell (2020) and Chetty and al. (2020), highlighting the global financial disruptions caused by COVID-19, including increased credit risks, liquidity shortages, and heightened market volatility.

Additionally, the significantly negative coefficients for regional dummy variables—Asia (-6.3369), America (-10.8012), and Africa (-9.9871)—

suggest that financial stability in these regions is notably lower compared to the reference region. This result aligns with studies such as Laeven and Valencia (2018), emphasizing the influence of institutional quality, regulatory frameworks, and economic resilience on financial stability disparities across regions.

Overall, these findings emphasize the importance of FinTech in enhancing financial stability, while also pointing out vulnerabilities associated with financial overexpansion, regional economic disparities, and external shocks like the COVID-19 pandemic.

5. Conclusions and Recommendations

This research study aims to analyze the effects of the development of Financial Technology (FinTech) and market discipline on financial stability in a sample of eight countries from 2016 to 2019 using an unbalanced panel dataset. By employing random effects models that control for regional variations and external shocks such as the COVID-19 pandemic, the study reveals complex dynamics in the relationship between technological innovation, financial accessibility, institutional transparency, and systemic resilience.

Preliminary findings indicate that variables such as the number of FinTech startups (FINC), access to financial institutions (AFI), and the corporate disclosure index (DISC) do not have a statistically significant impact on financial stability. These results might be due to limitations in the sample size, diverse contexts within the sample, or unobserved variables not included in the initial model. However, when considering the impact of the COVID-19 pandemic, the development of FinTech shows a statistically significant positive influence on financial stability. This highlights the importance of FinTech in enhancing the resilience of the financial system, particularly during times of systemic stress, by providing alternative avenues for credit, payments, and savings.

Conversely, increased access to financial institutions has a negative effect on financial stability, especially during external shocks. This suggests that rapid expansion of financial services, without strong risk management oversight, could exacerbate systemic vulnerabilities. The corporate disclosure index consistently shows no significant impact, indicating that current disclosure frameworks may not effectively capture financial risks or influence market behavior in a way that affects systemic stability.

From a policy standpoint, the findings support a balanced regulatory approach that encourages FinTech innovation while addressing associated risks. Regulatory frameworks should be adaptable to ensure that financial inclusion remains in line with the supervisory capacity of institutions. Furthermore, the disparities in financial stability across regions, as indicated by negative coefficients for Africa, Asia, and the Americas, suggest the need for region-specific regulatory reforms and capacity building efforts.

Despite its valuable insights, the study has limitations such as a relatively small sample size and limited timeframe that may restrict the generalizability of the results. Additionally, relying on aggregate indicators like startup counts and access metrics may not fully capture the depth and quality of financial services or institutional governance.

This research study presents empirical findings regarding the impacts of FinTech development and market discipline on financial stability in eight countries between 2016 and 2019. The results of this study partially validate the first hypothesis, suggesting that FinTech has a positive correlation with stability during times of systemic stress, such as the recent COVID-19 pandemic. The second hypothesis is also supported, indicating that market discipline can worsen instability under competitive pressures, as evidenced by the negative impact of increased access to financial institutions during crises.

These findings highlight the importance of adaptive regulation that fosters FinTech innovation while also addressing potential systemic risks. Regulatory frameworks should incorporate real-time monitoring, promote resilient digital infrastructures, and ensure that initiatives aimed at financial inclusion are closely monitored for associated risks. The regional variations observed in the study underscore the necessity for tailored policy responses that consider differences in institutional quality and market maturity.

Future research in this area should aim to expand the sample size and time frame, include detailed data on individual FinTech usage, and explore potential non-linear effects or thresholds in the relationship between FinTech and financial stability. The use of advanced econometric techniques, such as dynamic panel models or structural equation modeling, could provide deeper insights into the causal pathways at play. Ultimately, this study contributes valuable insights to the ongoing discussion on the governance of digital finance, highlighting the dual role of FinTech as both a potential stabilizer and destabilizer depending on market conditions and regulatory frameworks.

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