

**FINTECH'S QUANTUM IMPACT ON INVESTOR APPRAISALS, MODERATED BY  
COUNTRY COMPETITIVENESS IN ASIA'S BANKING INDUSTRY**

**Mozaffar Alam Chowdhury**

PhD Candidate, School of Business and Economics, University Putra Malaysia

**Dr. Soh Wei Ni\***

Corresponding author, School of Business and Economics, University Putra Malaysia  
43400 UPM Serdang, Selangor

**Dr. Norhuda Binti Abdul Rahim**

School of Business and Economics, University Putra Malaysia, 43400 UPM Serdang, Selangor

**Dr. Jalila Binti Johari**

School of Business and Economics, University Putra Malaysia, 43400 UPM Serdang, Selangor

**Abstract**

**Purpose** - the purpose of the research is to examine the quantum impact of fintech on investors' evaluation with the moderating effect of country competitiveness in the Asian banking industry from 2016 to 2022. **Methodology** - the research includes a sample consisting of 92 privatized commercial banks in Asia, uses cross-country analysis, and analyzes the stock returns using the Fama-French Model (FFM) approach. Panel regression models have been utilized consisting of fixed effect model. **Results** - the results show that the interaction term (Fintech\*country competitiveness) is a jointly significant determinant of stock evaluation. **Originality** - the study contributes to the literature on fintech funding and stock return relationships, moderated by country competitiveness. **Implication** - Fintech and country competitiveness interaction has a significant effect on stock returns in the Asia's banks. **Limitation** - there was no data available prior to 2016 since fintech was a new technology at the time.

**Keywords:** *Fintech, Investors' evaluation, Moderation, Competitiveness and Stock returns.*

**JEL Classification:** O2, O3, O4, P2, P3, P4

**1. INTRODUCTION**

The fintech industry did not exist early in the 2000s. The development of fintech and its history can be traced back to 2008, due to the global financial crisis, during which people lost trust in banks. Later, the emergence of fintech evolved, and people were allowed to access banks, which led to building trust in fintech applications. This has been directed to drive up not only Fintech demand but also competitive motivations to increase the number of Fintech start-ups and make it a fast-growing industry. As fintech has experienced rapid growth, raising capital for banks was easy on the stock market. When there is fintech news in the markets, it creates positive market

sentiment, and investors' attitudes towards the stock markets become positive, which drives up demand for stocks, leading to a positive stock valuation. Another critical factor has been included, which is country competitiveness, which has led banks to increase fintech funding and remain competitive in the market. However, an environment is important, and the government plays a vital role in it, where banks raise their funding for fintech to disrupt their traditional business models.

When fintech funding is higher, banks can increase shareholders' wealth, which positively impacts their stock valuation. Higher country competitiveness may attract quality investors, leading to adequate liquidity and capital flow in the stock market. As a result, the stock market will be more efficient, which will allow investors to judge the company's performance, which will reflect in the share price. However, Asia lags in country competitiveness and fintech funding, resulting in a significant proportion of underbanked small and medium enterprises (SMEs) and consumers. This raises a concern about investor perceptions, which may weaken stock returns due to low profitability. The purpose of the research is to understand how fintech and country competitiveness interact as a moderator to strengthen or weaken the relationship between fintech and stock returns.

## 2. LITERATURE REVIEW

The best price for stocks or options may be found using agency theory, an economic theory (Linder & Foss 2015). Additionally, businesses may make choices when they are unsure about taking on new risks. According to agency theory, businesses typically plan to overinvest when faced with uncertainty (Zhu et al., 2020). If agency theory is used in this study, it will address Fintech as a tool that banks may use to decide how much money to give Fintech in order to find the best price for stocks. If the theory is correct, this might lead to investors evaluating the stocks. The impact of competition on innovation and business analytics was examined by Ashrafi & Zareravasan (2022). They created a model and theorized from the dynamic capability (DC) viewpoint to look at the ways in which various business analytic techniques affect innovation and competitive advantage. Sutanto & Sudarsono (2018) investigate the relationship between company resources and Indonesian banks' competitiveness. If the dynamic capability view theory is used in this study, fintech will be addressed as a resource. By using it, a bank may raise performance and expand capacity in order to achieve the desired goal, which, if successful, might lead to higher stock returns.

Fintech's impact on stock returns has been the subject of several research (Li et al., 2017; Asmarani and Wijaya, 2020; Sapulette et al., 2021; Carlini et al., 2022; Wang et al., 2023) in the literature. After Carlini et al. (2022) examined the effect of Fintech on stock returns using European and North American banks, they concluded that bank investment had an impact on stock markets. Li et al. (2017) discovered a positive association between Fintech financing and stock returns.

On the other hand, Sapulette et al. (2021) discovered a comparatively less detrimental effect of Fintech on larger banks, while Asmarani and Wijaya (2020) found that Fintech has no significant

effect on retail banks' stock returns listed on the Indonesia Stock Exchange using Fintech as funding value and CAPM as stock returns. Wang et al. (2023) discovered, however, that investors' risks were reduced as a result of fintech development. However, Senarathne and Long (2019) shown that competitiveness is negligible when compared to returns on ordinary stocks, whereas Zhang (2020) found that fintech has a comparative edge over stock returns. No research was done on the relationship between stock returns and fintech using the usual metric of CAPM and national competitiveness as a moderating variable. In this study, the following hypothesis has been proposed to be investigated:

**Ha1:** Fintech has a significant positive effect on bank stock returns.

**Ha2:** Fintech influences stock returns with the moderating effect of country competitiveness.

Table 1: Literature Matrix

Variables	Measurement	Data	Citations	Expected Significant
<b>DV:</b>				
Stock Returns	CAPM using Fama-French 3 Factors Model	Eikon DataStream, Kenneth R. French data library	Milosevic-Avdalovic, (2018), Al-Dwiry et. al (2022), Tarsono (2021), Zhuang & Zhang (2020), Li et al. (2017), Asmarani & Wijaya (2020), Sapulette et al. (2021), Carlini et al. (2022), Faulkender & Wang, (2006), Wang et al. (2023), Assefa et al. (2017).	Positive
<b>IV:</b>				
Fintech	Funding as a proxy	CB Insights and Crunchbase	Lee et al. (2021), Lee et al. (2023), Farouk & Kabiru (2015), Li et al. (2017), Asmarani & Wijaya (2020), Li et al. (2017), Sapulette et al. (2021), Carlini et al. (2022), Banna et al. (2023), Wang et al. (2023).	Positive
Country competitiveness	IMD world competitiveness	IMD World Competiti	Senarathne & Long, 2019) and Sutanto & Sudarsono (2018)	Positive

	ness index as proxy	veness Index		
GDP growth	Economic growth	WDI of WB and IMF	Huy et al. (2020) & Mirzaei et al. (2013)	Positive
Inflation	CPI Index as a proxy	WDI of WB and IMF	Huy et al. (2020) & Mirzaei et al. (2013)	Negative
Interest rate	Lending rate	WDI of WB and IMF	Huy et al. (2020) & Mirzaei et al. (2013)	Positive
Cash	Cash	Eikon DataStream	Faulkender & Wang (2006).	Positive
Earnings	EBIT	Eikon DataStream	Faulkender & Wang (2006)	Positive
Dividend	Dividend	Eikon DataStream	Faulkender & Wang (2006)	Positive
Interest expenses	Interest expenses	Eikon DataStream	Faulkender & Wang (2006)	Positive
Leverage	Total equity over TA	Eikon DataStream	Faulkender & Wang (2006)	Negative
COVID-19	Covid-19 is also a dummy variable that takes the binary number 1	Binary number for 2020-2022	Benni (2021) & Sapulette et al. (2021).	Positive /Negative

	for Covid-19 period, and 0 otherwise.			
--	---------------------------------------	--	--	--

### 3. RESEARCH METHODOLOGY AND DATA

This section is presented to design research methodology and describe different sections of data and estimation.

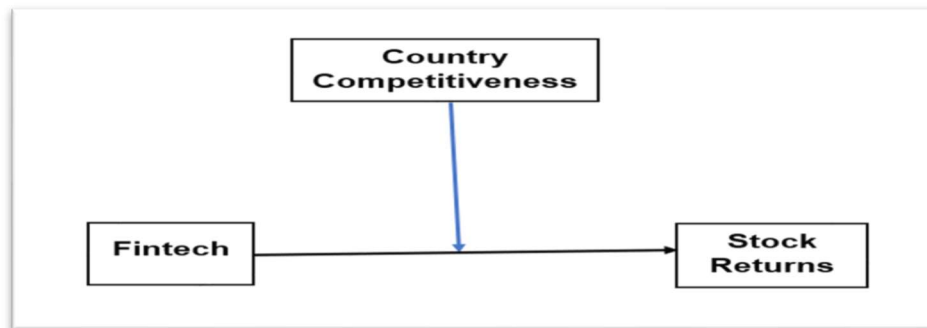


Figure 1: Research Framework Using Moderation

#### 3.1 Determination of Sample and Data

The research study selected banks that were considered financially sound and received fintech financing from fifteen Asian nations (India, China, Malaysia, Saudi Arabia, Thailand, UAE, Qatar, Jordan, Philippine, Indonesia, Taiwan, Hong Kong, Singapore, Japan, South Korea) and 7 banks from each country. Data for the research was gathered between 2016 and 2022. Fintech is the independent variable in this study, whereas nation competitiveness is the moderating factor and stock price is the dependent variable for the chosen Asian banks. Time series and cross-sectional data were also used in the data collection process. The study used a non-probability sampling strategy called purposive sampling, in which particular standards for sample selection were pre-established.

In this research, country competitiveness data has been obtained from IMD, which provides a measure of the Global Competitiveness Index. For this study, the final sample consists of data from IMD representing 15 countries in terms of their World Competitiveness Index scores.

#### 3.2 Variable Measurement

##### 3.2.1 Stock Returns (DV)

Several aspects of stock prices and the factors that influence them have been examined in earlier research. Similar to Zhuang and Zhang (2020), they examined how fintech events affected the

value of commercial bank stock. Li et al. (2017) used the Fama-French three-factor model to investigate the impact of fintech funding on stock performance. Asmarani and Wijaya (2020) used the same Fama-French three-factor model to analyze stock returns and fintech. Furthermore, Faulkender and Wang (2006) investigated cash holding in the context of corporate finance policy, evaluating stock returns (CAPM) using the Fama-French three-factor model. Thus, in the current research, stock prices have been assessed using the adjusted closing prices for the year that was observed, and stock returns (CAPM) have been analyzed using the Fama-French three-factor model. The study

$$E(R_i) = R_f + \beta_1 [E(R_m - R_f)] + \beta_2 E(SMB) + \beta_3 E(HML) \dots \dots \quad (i)$$

Here,  $R_i$  is the return on asset  $i$ ,  $R_f$  is the risk-free interest rate, and  $R_m$  is the return on the value-weighted market portfolio. SMB is the equal-weighted averages of the returns on the three small stock portfolios minus the three big stock portfolios. Similarly, HML is the average of return on a portfolio of high book-to-market equity stocks minus the average return on a portfolio of low book-to-market equity stocks, constructed to be neutral with respect to size.

### 3.2.2 Fintech (IV)

The financial value of funding is one of the proxies used in numerous research on fintech as an independent variable. The proxy employed by Sapulette et al. (2021) was fintech financing. Fintech financing was utilized as a stand-in by Carlini et al. (2022). Fintech financing expressed in US dollars has been utilized as a stand-in in this study.

### 3.2.3 Country Competitiveness (Moderating Variable)

Stock performance may be impacted by the relationship between fintech and country competitiveness. Better stock returns are the result of fintech solutions' increased profitability (Zhuang & Zhang, 2020; Carlini et al., 2022; Li et al., 2017). Fintech financing stimulates investor confidence and improves market sentiment. When a country's competitiveness is supported, investors may become more enthusiastic and willing to increase their investment in a bank's shares. According to Senarathne and Long (2019), the banking sector's creative business strategies and the nation's competitiveness have a beneficial impact on stock performance. Considering the veracity of the aforementioned claim, the purpose of this study is to examine if national competitiveness influences the correlation between fintech and stock returns in the Asian banking sector.

### 3.2.4 Bank-Level Variables

Cash may give management the money they need to invest in non-monetary enterprises. Research on the cash holdings of corporations has demonstrated via empirical investigations that an increase in equity should be a prerequisite for every dollar added to cash reserves (Faulkender and Wang, 2006). Cash is used in this study as a proxy for a bank-specific variable. Earnings (EBIT) gauges

company attributes that might affect the firm's worth. EBIT was used by Faulkender and Wang (2006) to measure profits. Faulkender and Wang (2006) investigated whether a rising dividend should be a criterion for determining the worth of a dollar added to cash reserves. In line with the previously described study, dividends are controlled for in this analysis in order to examine bank-specific characteristics. High-leverage companies' equity worth decreases with each extra dollar of cash compared to a low-leverage company (Faulkender and Wang, 2006). Leverage was defined as total debt divided by total assets. A company's interest coverage has an impact on shareholder earnings distribution or investment decisions. According to Faulkender and Wang (2006), a company that exhibits good interest coverage has a lower percentage of its cash and cash flow allocated to debt, hence increasing its available money for distribution or investment.

### 3.2.5 Macro-Level Variables

Research suggests that macroeconomic conditions impact stock returns. Economic growth is found to have a beneficial impact on the stock price of commercial banks by Huy et al. (2020). According to Assefa et al. (2017), interest rates significantly lower stock returns. According to Mirzaei et al. (2013), greater inflation rates are associated with worse returns. Conversely, country-level data such as GDP, inflation, and interest rates lead to imbalanced data, which is why utilizing a dummy can yield accurate conclusions. Fu and Mishra (2020) discovered that the COVID-19 pandemic has resulted in noteworthy surges in digital financial applications. Benni (2021) concluded that the pandemic has expedited the financial digitization process. COVID-19 has been employed in this investigation as a

### 3.3 Regression Models

The panel data regression models applied in this study are under the following:

$$SR_{jt} = \alpha + \beta_1 FT_{jt} + \beta_2 Cash_{jt} + \beta_3 Earnings_{jt} + \beta_4 Div_{jt} + \beta_5 Lev_{jt} + \beta_6 TA_{jt} + \beta_7 GDPgrowth_{jt} + \beta_8 IRate_{jt} + \beta_9 MS_{jt} + \beta_{10} Covid_{jt} + \mu_{jt} \quad \dots (1)$$

The relationship between macroeconomic indicators and firm-level factors—more especially, how they affect firm growth—was studied by Manganello and Popov (2013). In a similar vein, Huay Huay Lee et al.'s study from 2022 sought to determine how the existence of more robust institutions influences financial development at higher levels, which in turn supports business expansion. Expanding on this idea, the current study aims to investigate the relationship between fintech, a firm-level indicator, and macroeconomic factors such as a nation's competitiveness in relation to how these factors affect banks' stock performance as shown by their stock returns.

In this study, we employ a standard econometrics methodology in which non-interacted regression is calculated first and then interacted regression. To guarantee accurate results for renormalization, we first estimate a multiple regression model and then use the demeaned technique, as shown by Balli and Sorensen (2012). The relationships under investigation are then examined further by integrating the demeaned interaction variables into the same econometric model.

$$SR_{jt} = \alpha + \beta_1 FT_{jt} + \beta_2 Com_{jt} + \beta_3 FT*Com_{jt} + \beta_4 Cash_{jt} + \beta_5 Earnings_{jt} + \beta_6 Div_{jt} + \beta_7 Lev_{jt} + \beta_8 Iexp_{jt} + \beta_9 GDPgrowth_{jt} + \beta_{10} CPI_{jt} + \beta_{11} Covid_{jt} + \mu_{jt} \dots (2)$$

Where  $SR_{jt}$  denotes stock return, FT as fintech, Com as competitiveness, and FT\*Com as an interactive term, Cash as cash, Earnings as earnings, Div as dividend, Lev as leverage, Iexp as interest expense, GDPgrowth as real GDP growth, CPI, or consumer price index, Covid as a binary variable, j as the number of banks, t as a year,  $\alpha$  as the intercept,  $\beta_1$ – $\beta_{11}$  as slope parameters, and  $\mu$  as error, unobservable, or residual.

### 3.3.1 Raw Data Examination and Filter the Data

Table 2 demonstrates that the standard deviations of seven variables are relatively large: fintech, country competitiveness, cash, earnings, TA, interest expenditures, and money supply. The volatility has been reduced to less than one standard deviation by removing outliers with a non-graphical technique. STATA is used for both graphical and non-graphical approaches to finding outliers. After following the filtering of the raw data with a high standard deviation, there are only 583 observations in total.

Table 2: Descriptive Statistics (on raw data)

Variable	Obs.	Mean	Std. Dev	Min	Max
FT	644	255.100	1093.590	0.000	10700.000
Com	644	27.300	15.370	1.000	58.000
Cash	644	22795.270	91592.040	20.980	930268.400
Ebit	644	2548.380	6693.710	-901.840	65221.920
Div	644	0.104	0.1822	0.000	1.100
Lev	644	0.270	1.800	0.000	26.640
TA	644	593285.200	3609076.00	676.100	3.450
Iexp	644	7433.470	47672.270	7.690	552931.100
GDPgrowth	644	0.029	0.038	-0.090	0.080
CPI	644	0.021	0.020	-0.025	0.081
IRate	644	0.052	0.025	0.008	0.110
MS	644	6.200	2.120	14447.000	1.360



Covid	644	0.284	0.451	0.000	1.000
-------	-----	-------	-------	-------	-------

### 3.3.2 The Results of Diagnostic Check

The results are normal after doing the Fisher-type unit-root test, which is based on enhanced Dickey-Fuller tests (Islem 2017). When the VIF test is used to check for collinearity in this study, multicollinearity between the variables is not found. Table 6 displays the outcomes of the multicollinearity and normalcy tests.

Table 3: Diagnostic Check

	Unit-root test based on ADF test	VIF for multicollinearity	Breusch-Godfrey LM test for autocorrelation	Breusch-Godfrey LM test for heteroskedasticity	Endogeneity	FE model selection using Hausman
Model 1	Results are normal since $p < 0.05$	Range = 1.05-3.58	p-value = (0.275) Chi <sup>2</sup> = 1.188	p-value = (0.00) *** Chi <sup>2</sup> = 104.220	p-value = (0.300) Durbin = 0.298	p-value = (0.00) *** Chi <sup>2</sup> = 41.780
Model 2	Results are normal since $p < 0.05$	Range = 1.05-3.58	p-value = 0.198 Chi <sup>2</sup> = 1.656	p-value = (0.00) *** Chi <sup>2</sup> = 109.770	p-value = (0.501) Durbin = 0.499	p-value = (0.00) *** Chi <sup>2</sup> = 76.53

Regarding autocorrelation in Table 3 above, there is no indication of serial autocorrelation in the model, and the p-value in Models 1 and 2 is not significant. The result of the p-value is significant and shows that there is heteroskedasticity in models 1 and 2. The Durbin-Watson test was used in Table 6 above to look for endogeneity in cases when the variables are exogenous and the p-value is not significant. Therefore, models 1 and 2 do not have an endogeneity problem. Additionally, the fixed-effect model's application satisfies the Hausman test. Standard errors are resilient using the Stata program (Hoechle, 2007) when used to generate robust standard error estimates for a linear panel (fixed-effect) model in order to address the hetero problem.

**4. RESULTS AND DISCUSSION**

The most pertinent model for this research is the panel data regression model, which has been used since earlier investigations (Carlini et al., 2022). The findings of a panel data model, which includes the demeaned approach for renormalization, are shown in Table 7. The suitable panel data regression model (fixed-effect) utilizing modified CAPM is selected (Balli and Sorensen, 2012).

True model (interaction effect):  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \mu_{jt}$

Demeaned method:  $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 (X_1 - \bar{x}_1) * (X_2 - \bar{x}_2) + \mu_{jt}$

**Table 4: Simulation of Models**

Dependent Variable	Stock Return (CAPM)			
	Model 1 (FE)	Model 2a (FE) Individual Effect	Model 2b (FE) Interaction Effect	Model 2c (FE) Demeaned Method
logFT	1.169** (0.333)	0.037 (0.218)	3.84** (0.855)	-1.018** (0.228)
logCom		1.691** (0.452)	1.47** (0.170)	-0.025 (0.409)
logFT*logCom			3.634** (0.797)	
lnFT*lncom_demeaned				3.646** (0.796)
logCash	1.094 (1.204)	-1.050 (1.241)	-0.029 (0.503)	-0.019 (0.502)
logEarnings	-2.636** (0.693)	-1.032 (0.078)	-0.337 (0.208)	-0.340 (0.207)
Div	-0.205 (2.204)	0.637 (0.392)	1.054 (0.876)	1.079 (0.874)

logLev	-4.240 (1.693)	-0.163 (2.402)	-0.201 (0.085)	-0.200 (0.084)
logIexp	2.967 (0.968)	3.755** (0.023)	2.114** (0.478)	2.113** (0.476)
GDPgrowth	-2.884 (4.710)	8.327 (0.234)	5.710 (2.141)	5.731 (2.132)
CPI	-42.812 (14.10)	-2.285 (0.867)	-3.430 (2.825)	-3.439 (2.815)
Covid	-3.206*** (0.443)	0.279 (5.683)	-0.339 (0.194)	-0.339 (0.193)
Constant	-0.744 (1.745)	-5.735 (7.755)	-5.875 (0.981)	-0.339 (1.058)
Observations	583	583	583	583
R-squared	5.08	1.62	1.89	1.95
F—Statistics	8.92	14.98	105.30	106.06
P-value	0.04	0.02	0.00	0.00

Notes: Standard errors are in parentheses and p-values in square brackets.

\* p < 0.10; \*\* p < 0.05; \*\*\* p < 0.01 (two-tailed test).

#### 4.1 Interaction Effect

$b_2$  is the direct (or unconditional) marginal effect of FT funding, and it is constant across countries.  $b_3Com$  gives the effect of FT on stock returns (SR) conditional on country competitiveness. Since country competitiveness is a variable, this means that this effect is not constant across countries. We can find the level of country competitiveness, say  $Com^*$ , that will decline a total FT effect, solving for  $b_2 + b_3Com > 0$ .

Thus, we have

$$\partial SR / \partial FT = \beta_2 + \beta_3 Com = 3.84 + Com^* - 3.64 > 0 = 1.05 = \exp(1.05) = 2.85\%$$

## 4.2 Discussion

According to Table 4, the bank stock return will drop by 0.744 and 5.87 units in Models 1 and 2, respectively, if the value of the coefficient of each variable is taken as zero (0). Based on Table 7's findings, each variable may be stated as follows:

Fintech (FT) has a strongly positive impact on stock return; assuming other independent variables in the model stay constant, a 1% increase in FT investment will enhance the stock return by 1.16 and 3.84 units in models 1 and 2 (b). This is in line with the agency theory, which holds that banks have the authority to decide on fintech funding in order to ascertain the best stock price, which may then be evaluated by investors. Grieco (2017) finds that investing in innovations has a positive effect on higher stock returns in banks; Asmarani et al. (2020) finds that Fintech funding frequency and value have a positive impact on stock returns; Carlini et al. (2022) finds that innovation investment rounds using R&D as a proxy have good effects on stock returns. On the other hand, this study's cross-country research reveals a noteworthy impact of fintech financing value on stock performance.

The impact of country competitiveness (Com) on stock returns is favorable. If all other independent variables in the model stay constant, a one percent rise will result in a 1.47 unit increase in the bank stock return in model 2 (b). According to Senarathne and Long's (2019) empirical results, industry competition has little impact on stock returns. Nonetheless, our study finds that, when controlled, national competitiveness has a positive and substantial relationship with bank stock returns.

The moderation impact is significant and favorable, while the interaction term is significant in a negative way. This suggests that country competitiveness (FT\*Com) and fintech are important factors that together determine stock performance. The overall level of national competitiveness is 1.05, or 2.85%, meaning that a rise of 1 percent in national competitiveness will stimulate a 2.85 percent increase in the impact of fintech on bank stock returns. This data suggests that, under some conditions that need to be improved, such as national rankings, macroeconomic performance, government efficiency, including institutional framework and business legislation, and technological infrastructure in the nation, the competitiveness of the nation plays a significant role as a moderator for the banking industry to benefit from the fintech effect.

Similar to model 2(b), the additional result in model 2(c) reveals a coefficient of estimate of -3.646. Since the impact remains the same, the results are renormalized.

In models 1 and 2(b), cash positively affects stock returns, albeit the effect is small. In models 1 and 2(b), earnings have a negative effect on stock returns; this research's result contradicts the findings of other studies. In model 1, dividend (Div) has a negligible negative impact on stock returns; in model 2, however, it has a positive impact on stock returns (b). In both models, leverage has a negligible negative impact on stock returns. The results align with the previous investigation as well.

While CPI has negative connections with stock returns in both models, GDP has negligible positive and negative impacts in models 1 and 2(b). In model 2(b), a 1% increase in interest expenses will result in a 2.11 unit increase in stock returns if other independent variables in the model stay constant. In model 1, interest expenses have an insignificant positive effect. However, in model 2(b), interest expenses have a significant positive relationship with stock returns. The results are in line with earlier research (Faulkender & Wang, 2006). In model 1, Covid shows a substantial negative association with stock returns; in model 2, however, the relationship is positive but not statistically significant (b). In Model 1, a one-year rise in COVID will result in a 0.339 unit drop in stock returns, assuming that all other independent variables stay constant. Previous research (Fasanya et al., 2022) reveals that COVID has a negative and considerable impact on stock prices for every nation under consideration, whether in global scenarios or case-specific scenarios. The results of this study agree with those of earlier investigations.

## **5. CONCLUSION**

The study backs up fintech's beneficial effect on stock performance. According to the study, the association between fintech and stock returns is strengthened by country competitiveness, which has a significant moderating role. Investor assessments are favorable when fintech expenditure is high and a country ranks higher; this increases demand for shares and raises the company price. The creation of fintech apps has been greatly aided by fintech financing. But there are still issues facing the Asian banking sector, particularly in areas where cash is still widely used. These issues result in increased operating expenses and restricted access to stock markets. When this happens, investors' negative attitudes regarding the banks discourage them from making investments in the riskier asset, which negatively impacts stock performance. Increasing profitability and improving investor perception of Asian banks are two benefits of converting them into fintech businesses.

Since Fintech has emerged, investors have been able to increase their trust in banks, which has increased demand for Fintech and made banks more competitive in the rapidly expanding Fintech-based banking sector. This has increased profitability and improved stock performance for banks. Therefore, given some variables that need to be significantly improved, such macroeconomic performance, government efficiency, company efficiency, and technical infrastructure, country competitiveness plays a crucial role in affecting the influence of fintech on stock performance. Consequently, banks are able to maintain their competitiveness in the market, raise additional capital for fintech companies, and boost investor sentiment in the stock market. The study contributes to the body of literature and offers insightful information on the advantages of fintech for investors, stakeholders in the banking sector, and policymakers. Because Fintech was a novel technology in 2016, there was no data accessible before that year, which limits the research.

### **5.1 Future Research**

With a primary focus on Fintech proxy measures, this research study established the foundation for comprehending an underlying link through the use of secondary data, econometric models, and

quantitative analysis. This should be expanded upon in future research by adding a variety of Fintech metrics, growing the dataset, and examining the effects on the banking sector.

## REFERENCES

- Al-Dwiry, M., Al-Eitan, G. N., & Amira, W. (2022). Factors affecting stock price: Evidence from commercial banks in the developing market. *Journal of Governance and Regulation*, 11(4, special issue), 339-346. <https://doi.org/10.22495/jgrv11i4siart14>
- Assefa, T. A., Esqueda, O. A., & Mollick, A. V. (2017). Stock returns and interest rates around the world: A panel data approach. *Journal of Economics and Business*, 89, 20-35. <https://doi.org/10.1016/j.jeconbus.2016.10.001>
- Asmarani, S. C., & Wijaya, C. (2020). Effects of Fintech on stock return: Evidence from retail banks listed in Indonesia stock exchange. *The Journal of Asian Finance, Economics and Business*, 7(7), 95-104. <https://doi.org/10.13106/jafeb.2020.vol7.no7.095>
- Ashrafi, A., & Zareravasan, A. (2022). An ambidextrous approach on the business analytics-competitive advantage relationship: Exploring the moderating role of business analytics strategy. *Technological Forecasting and Social Change*, 179, 121665. <https://doi.org/10.1016/j.techfore.2022.121665>
- Balli, H. O., & Sørensen, B. E. (2012). Interaction effects in econometrics. *Empirical Economics*, 45(1), 583-603. <https://doi.org/10.1007/s00181-012-0604-2>
- Benni, N. (2021). Digital Finance and Inclusion in the Time of COVID-19: Lessons, Experiences and Proposals. <https://doi.org/10.4060/cb2109en>
- Carlini, F., Del Gaudio, B. L., Porzio, C., & Previtali, D. (2022). Banks, FinTech and stock returns. *Finance Research Letters*, 45, 102252. <https://doi.org/10.1016/j.frl.2021.102252>
- CB Insights (2023). Retrieved February 10, 2022 from <https://www.cbinsights.com/>
- Countries. (2023). World Bank Open Data | Data. <https://data.worldbank.org/country>
- Crunchbase (2023). Retrieved January 10, 2023 from <https://www.crunchbase.com/>
- Fasanya, I., Periola, O., & Adetokunbo, A. (2022). On the effects of COVID-19 pandemic on stock prices: An imminent global threat. *Quality & Quantity*, 57(3), 2231-2248. <https://doi.org/10.1007/s11135-022-01455-0>
- Faulkender, M., & Wang, R. (2006). Corporate financial policy and the value of cash. *The Journal of Finance*, 61(4), 1957-1990. <https://doi.org/10.1111/j.1540-6261.2006.00894.x>
- Fu, J., & Mishra, M. (2022). Fintech in the time of COVID-19: Technological adoption during

- crises. *Journal of Financial Intermediation*, 50, 100945. <https://doi.org/10.1016/j.jfi.2021.100945>
- Grieco, D. (2017). Innovation and stock market performance: A model with ambiguity-averse agents. *Journal of Evolutionary Economics*, 28(2), 287-303. <https://doi.org/10.1007/s00191-017-0537-1>
- Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *The Stata Journal: Promoting communications on statistics and Stata*, 7(3), 281-312. <https://doi.org/10.1177/1536867x0700700301>
- Huay Huay Lee, Siong Hook Law, Lee Chin, & W. N. W Azman-Saini. (2022). Effects of financial development and institutions on firm in Malaysia. *International Journal of Business and Society*, 23(1), 35-53. <https://doi.org/10.33736/ijbs.4597.2022>
- Huy, D. T., Dat, P. M., & Anh, P. T. (2020). Building and econometric model of selected factors' impact on stock price: A case study. *Journal of Security and Sustainability Issues*, 9(M). [https://doi.org/10.9770/jssi.2020.9.m\(7\)](https://doi.org/10.9770/jssi.2020.9.m(7))
- IMF world economic outlook (2013). Retrieved April 23, 2023 from <https://doi.org/10.5089/9798400226946.081>
- Islem, K. (2017). How to choose between panel unit root tests? Retrieved from: [https://www.researchgate.net/post/How\\_to\\_choose\\_between\\_panel\\_unit\\_root\\_tests/58e26626eea398d2f15b878/citation/download](https://www.researchgate.net/post/How_to_choose_between_panel_unit_root_tests/58e26626eea398d2f15b878/citation/download)
- Linder, S., & Foss, N. J. (2015). Agency theory. *International Encyclopaedia of the Social & Behavioural Sciences*, 344-350. <https://doi.org/10.1016/b978-0-08-097086-8.73038-8>
- Li, Y., Spigt, R., & Swinkels, L. (2017). The impact of Fintech start-up on incumbent retail banks' share prices. *Financial Innovation*, 3(1). <https://doi.org/10.1186/s40854-017-0076-7>
- Manganelli, S., & Popov, A. (2013). Financial dependence, global growth opportunities, and growth revisited. *Economics Letters*, 120(1), 123-125. <https://doi.org/10.1016/j.econlet.2013.04.001>
- Mirzaei, A., Moore, T., & Liu, G. (2013). Does market structure matter on banks' profitability and stability? Emerging vs. advanced economies. *Journal of Banking & Finance*, 37(8), 2920-2937. <https://doi.org/10.1016/j.jbankfin.2013.04.031>
- Milosevic-Avdalovic, S. (2018). The impact of firm specific factors on the stock prices: Empirical evidence from Belgrade stock exchange. *Industrija*, 46(2), 7-20. <https://doi.org/10.5937/industrija46-15271>

- Nguyen, T. P., & NGHIEM, S. H. (2017). The effects of competition on efficiency: The Vietnamese banking industry experience. *The Singapore Economic Review*, 65(06), 1507-1536. <https://doi.org/10.1142/s0217590817500114>
- Ono Tarsono. (2021). The effect of debt equity ratio, return on equity, net profit margin on stock prices. *International Journal of Social Science*, 1(4), 393-398. <https://doi.org/10.53625/ijss.v1i4.716>
- Sapulette, M. S., Effendi, N., & Santoso, T. (2021). Fintech, banks, and the COVID-19 pandemic: Evidence from Indonesia. *Buletin Ekonomi Moneter dan Perbankan*, 24(4), 559-588. <https://doi.org/10.21098/bemp.v24i4.1470>
- Senarathne, C. W., & Long, W. (2019). Industry competition and common stock returns. *Management Sciences*, 24(3), 24-35. <https://doi.org/10.15611/ms.2019.3.04>
- Sutanto, Eddy Madiono and Sudarsono, David (2018). Empirical analysis of firm resources in the banking industry in Indonesia: A resource - based view. Retrieved April 25, 2022 from <https://repository.petra.ac.id/18047/>
- Tokhtamysh, T., Yaholnytskyi, O., & Hranko, K. (2020). Analysis of the impact of fintech development on foreign direct investments. *Economic scope*. <https://doi.org/10.32782/2224-6282/159-5>
- Wang, X., Cao, Y., Feng, Z., Lu, M., & Shan, Y. (2023). Local FinTech development and stock price crash risk. *Finance Research Letters*, 53 doi:10.1016/j.frl.2023.103644
- Wang, X., Han, R., & Zheng, M. (2023). Competitive strategy and stock market liquidity: A natural language processing approach. *Information Technology and Management*. <https://doi.org/10.1007/s10799-023-00401-2>
- World competitiveness – IMD business school for management and leadership courses. (2023, June 19). IMD business school for management and leadership courses. Retrieved April 10, 2023 from <https://www.imd.org/centers/wcc/world-competitiveness-center/rankings/world-competitiveness-ranking/2023/>
- Zhu, G., Hu, W., Che, S., & Yang, D. (2020). Stock price volatility, equity balance and corporate M&A. *2020 39th Chinese Control Conference (CCC)*. <https://doi.org/10.23919/ccc50068.2020.9188929>
- Zhuang, Y., & Zhang, T. (2020). Research on the impact of Fintech event on Chinese commercial banks' stock price. *International Journal of Wireless and Mobile Computing*, 18(3), 289. <https://doi.org/10.1504/ijwmc.2020.10028076>