



**JOURNAL OF
INTERNATIONAL STUDIES**

<https://e-journal.uum.edu.my/index.php/jis>

How to cite this article:

Selvarajan, S. K. (2026). The role of policy responses in driving digital financing during COVID-19: Evidence from selected Asian countries. *Journal of International Studies*, 22(2), 203-219. <https://doi.org/10.32890/jis2026.22.2.11>

**THE ROLE OF GOVERNMENT POLICY RESPONSES
IN DRIVING DIGITAL FINANCING DURING COVID-19:
EVIDENCE FROM SELECTED ASIAN COUNTRIES**

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Received: 2/6/2025

Revised: 29/4/2026

Accepted: 6/5/2026

Published: 31/8/2026

ABSTRACT

The COVID-19 pandemic imposed severe economic strain on emerging economies worldwide while simultaneously accelerating the adoption of digital financing as governments sought ways to sustain financial activity during lockdowns. However, in developing countries, this rapid digital transformation required deliberate government support. This study examines how government policy responses shaped digital financing adoption during the pandemic across four Asian economies: Malaysia, Thailand, India, and Pakistan. Using a random effects model and monthly panel data covering the period from January to December 2020, the study disaggregates government policy responses into distinct policy dimensions. The results show that overall government policy responses exert a positive and statistically significant effect on digital financing adoption. Income support and loan moratorium policies have a direct positive effect on digital financing adoption, whereas containment and closure measures have no statistically significant effect. Cross-country comparisons reveal meaningful variation in policy design and implementation. These findings demonstrate that not all forms of government intervention are equally effective; rather, the type of policy support determines its impact on digital financing adoption. The study offers policy recommendations for strengthening digital finance ecosystems in developing economies beyond periods of crisis.

Keywords: Asia, COVID-19, pandemic, digital financing, government support.

JEL classifications: O1, O38, G29.

INTRODUCTION

The COVID-19 pandemic spread rapidly across the world, placing unprecedented strain on global economies. As a global health emergency of historic scale, its effects extended well beyond the immediate crisis period, reshaping financial systems, government policy frameworks, and economic behaviour across emerging markets. Due to globalization, its potential impact on emerging markets was even greater, as it placed significant downward pressure on their healthcare systems, trade, and financial markets. Economists have distinguished this crisis from the 2008 Global Financial Crisis (GFC). While the GFC affected global financial markets, with its effects spilling over into the real economy due to the interconnectedness of countries, the COVID-19 crisis began as a global health emergency and produced cascading effects on economic output, human welfare, and financial sector stability.

To protect lives, governments imposed lockdowns to curb the spread of the virus, restricted cross-border movement, closed schools and offices, and prohibited public gatherings. These measures brought economic activity to a near standstill, generating deep uncertainty over human casualties and economic disruption (OECD, 2020; Roubini, 2020). Due to limited social interaction resulting from social distancing measures, economic activity declined substantially (Arner et al., 2020). Furthermore, the liquidity pressures experienced by various economic actors triggered a chain reaction of insolvencies and bankruptcies, sending shockwaves through the global financial market (Wójcik & Ioannou, 2020).

One consequence of the pandemic was the accelerated adoption of digital financing. Lockdown policies created a push factor for various sectors to embrace digital platforms for day-to-day financial activity. Digital financing offered several advantages that encouraged this shift, including reducing queuing and manual paperwork (Manyika et al., 2016), lowering operational costs for banks, and stimulating service innovation. With digital banking, reliance on physical cash circulation also declined significantly. The World Health Organization noted that the virus could be transmitted through the handling of coins and banknotes. Consequently, the use of mobile money emerged as a practical measure to reduce this risk (Selvarajan, 2020). The pandemic also triggered an upsurge of new fintech players and expanded the use of digital platforms across Asia. Mobile banking, once adopted primarily for convenience, became a necessity as payment behaviours shifted rapidly. However, in developing countries, this accelerated digital transformation requires government support. Direct government intervention is necessary to facilitate supportive policies and establish a sound regulatory environment (Ozili, 2018). Support is needed for digital access infrastructure, consumer protection frameworks and the integration of traditional banks with non-bank financial service providers (FSPs) (Asian Development Bank, 2017). The rapid shift towards digital finance during the crisis was not without obstacles, as structural challenges and the risks associated with accelerated digitisation persisted well beyond the pandemic period.

Despite growing recognition of the role of digital financing during the pandemic, limited empirical attention has been paid to how specific types of government policy responses shaped fintech adoption in developing Asian economies. Most existing studies examine digital financing adoption from a demand-side or technology acceptance perspective without systematically disaggregating the policy instruments involved. This gap motivates the present study. Accordingly, this paper examines the role of policy responses and government support in driving digital financing adoption during COVID-19 across selected Asian countries. Asia is chosen as the focus because the region represents a diverse mix of emerging markets, with countries at different stages of development. The findings provide policymakers with an evidence base for designing more targeted interventions to advance digital financial inclusion, both during crises and beyond.

THE CONTEXT

General Overview of COVID-19 and Its Impact on the Global Economy

The COVID-19 outbreak originated in Wuhan, China, where early reports indicated that the virus was transmitted from animals to humans. The first reported case presented symptoms in December 2019. At the time of writing (February 2021), there had been over 113 million reported cases globally, with approximately 2.5 million deaths. The economic impact was vast, complex, and evolving, presenting unprecedented challenges for households, businesses, governments, and institutions alike.

Table 1 reports COVID-19 statistics for selected Asian countries. India recorded the highest number of cases in the region, followed by Indonesia and Pakistan. Interestingly, China, despite being the origin of the outbreak and home to the world's largest population, reported relatively low case numbers by this point. With approximately 59.76% of the world's population residing in Asia, countries in the region faced a relatively higher risk of virus transmission than those in other regions.

Table 1

COVID-19 Statistics (as of 26 February 2020)

Rank	Country	Total cases	Total deaths	Population
2	India	11,063,038	156,861	1,388,864,178
18	Indonesia	1,314,634	35,518	275,411,610
30	Pakistan	575,941	12,772	223,678,725
31	Philippines	568,680	12,201	110,531,750
37	Japan	428,553	7,647	126,222,058
45	Malaysia	293,698	1,100	32,636,369
74	Myanmar	141,841	3,198	54,648,366
84	China	89,877	4,636	1,439,323,776
114	Thailand	25,764	83	69,914,766

Source. Worldometer (2021).

Unlike the 1997 Asian financial crisis or the 2008 GFC, which were triggered by failures in the financial sector, COVID-19 originated as a health crisis that produced spillover effects across multiple sectors of the economy (Ozili & Arun, 2020). Policy responses aimed to save lives while mitigating the effects of prolonged economic contraction. The International Monetary Fund (IMF) downgraded its 2020 global growth projection, reflecting mounting uncertainty amid nationwide lockdowns, declining trade and rising inequality. Investor fear triggered a sharp decline in global stock markets, with an estimated USD 6 trillion loss in wealth recorded during the final week of February 2020 (Ozili, 2020). Travel restrictions further disrupted tourism-dependent businesses across the region. In response, governments introduced various fiscal stimulus packages, including loan moratoriums, financial grants and social welfare payments.

COVID-19 Impact on Asia

The pandemic produced varying degrees of economic disruption across Asian economies. South Asian economies were among the hardest hit. India experienced rising unemployment as key sectors,

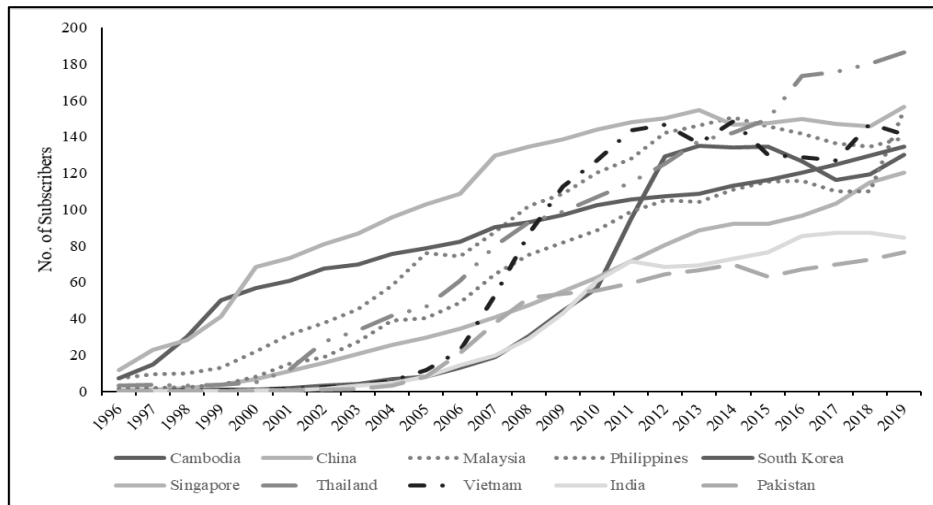
particularly textiles and tourism, contracted sharply (Sidhu et al., 2020; Haralayya, 2021). Tourism accounts for 9.2% of India's GDP (Chaudhary et al., 2020), and the suspension of hotel and flight operations resulted in substantial income losses. Similarly, Pakistan experienced severe economic strain, with exports declining by over 50%. As textiles constitute Pakistan's primary export sector, suppressed global demand weakened both the country's currency and financial market stability (Shafi et al., 2020).

Southeast Asian economies fared comparatively better, owing in part to their swift public health responses (United Nations, 2020). Member countries announced lockdowns within 17 days of confirming 50 COVID-19 cases (United Nations, 2020). Most countries disbursed reliefs through cash payments, financial grants and tax rebates. Nevertheless, economic losses could not be avoided entirely. Vulnerable population groups frequently fell outside the reach of formal government measures and social protection programmes. According to the IMF, government consumption and investment represented the only demand-side component to expand in Asia in 2020, highlighting the region's heavy reliance on fiscal stimulus during the crisis (International Financial Corporation, 2020). Economic recoveries was expected to be gradual for several reasons. Lockdowns led to substantial economic contractions in countries heavily dependent on contact-intensive industries, such as tourism. Informal workers, who constituted a large share of the Asian workforce, were largely excluded from social protection policies and formal healthcare programmes. Additionally, fiscal constraints limited governments' capacity to sustain prolonged support for private sector recovery (International Financial Corporation, 2020).

The Rise of Digital Financing

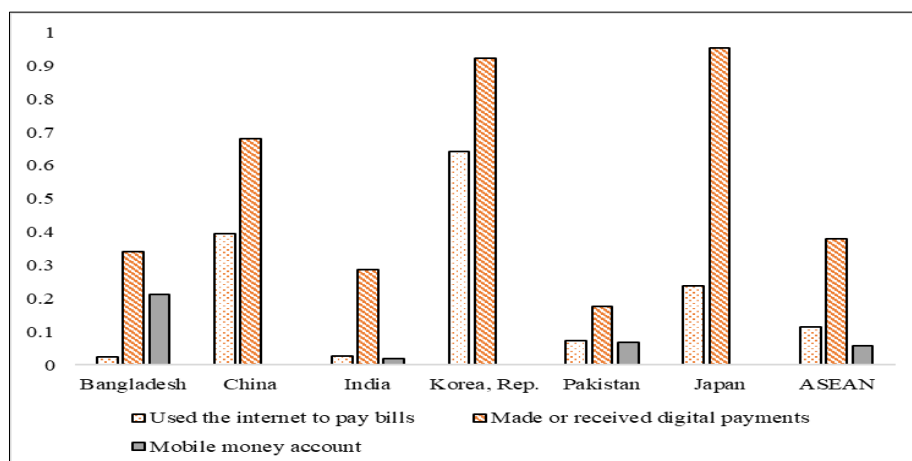
Digital financing has gained considerable significance in recent years, particularly for its potential to reduce poverty and support economic growth. Policymakers worldwide have committed to strengthening access to and the use of digital financing. Fintech promotes financial inclusion in several ways: it expands access for vulnerable groups, streamlines customer identification and verification, reduces intermediation costs between banks and financial services providers (FSPs), and supports financial market stability during economic downturns (Ozili, 2018; Shaikh & Amin, 2025). Where geographical barriers restrict access to conventional financial services, digital financing provides a viable alternative. Africa and Asia have recorded considerable progress in digital financing adoption over the past decade (Wyman, 2017). Digital financing encompasses mobile wallets accessed via mobile phones and online transfers conducted through digital platforms.

In Asia, digital innovation has fundamentally transformed financial service delivery, particularly for underserved populations, women, and small and medium-sized enterprises (SMEs). The fintech industry is expanding across most Asian countries, as traditional branch-based banking models have proven insufficient for last-mile service distribution. By 2017, 84% of South Korean consumers preferred fintech for payment services, while 39% used it for portfolio management (PwC, 2017). In Japan, mobile banking platforms have improved investment and savings behaviour among younger consumers. Figure 1 presents teledensity levels (measured as mobile subscriptions per 100 people) for selected Asian countries from 1996 onwards, illustrating the steady growth of the digital banking environment.

Figure 1*Teledensity of Selected Asian Countries*

Source. World Development Indicators.

Figure 2 presents digital finance indicators across Asian sub-regions, including mobile money accounts, internet-based payments, and digital payment transfers. East Asian countries have advanced most rapidly, followed by Southeast Asia and South Asia. China, for instance, incorporated digital financing into its financial inclusion policy in 2017, driving fintech expansion across sectors and supporting the growth of small and medium-sized enterprises (SMEs) (Yang & Zhang, 2020). Southeast Asia's relatively lower adoption levels reflect the uneven development of the financial ecosystem between the ASEAN-6 and the CLMV countries. A cash-based culture, weak financial infrastructure, and dependence on informal financing have hindered digital transformation in the Cambodia, Laos, Myanmar and Vietnam (CLMV) economies (Zen & Regen, 2014). In South Asia, low digital literacy and inadequate financial infrastructure have constrained digital financing adoption (Rana et al., 2019). Despite India's Aadhaar digital identity programme, urban-rural disparities persist, compounded by high levels of digital illiteracy and gender inequalities among low-income populations.

Figure 2*Digital Financing in Asia, 2017*

Source. World Development Indicators.

While the potential of digital financing to drive economic development is well documented (Shaikh et al., 2017; Ozili, 2018; Pradhan, 2019), significant gaps remain between its availability and actual adoption. Fintech has reshaped business operations, but poorly managed digital disruption carries risks to financial stability, particularly through securitisation processes, where insufficient data transparency can undermine systemic resilience (Dermine, 2016; Wyman, 2017). These tensions between opportunity and risk frame the policy challenge addressed in this study.

LITERATURE REVIEW

A growing body of literature has examined the complex factors influencing digital banking adoption (Alalwan et al., 2018; Kapoor et al., 2015; Shareef et al., 2018). Previous studies on digital financing adoption have drawn heavily on the Technology Acceptance Model (TAM) (Davis, 1989), which operates at the individual level by examining perceived usefulness and perceived ease of use as determinants of technology uptake (Alalwan et al., 2018; Shareef et al., 2018). However, TAM does not account for policy-level determinants of adoption. It cannot explain why different government responses produce different fintech adoption outcomes across countries. Institutional Theory addresses this limitation by examining how macro-level regulatory and policy structures shape financial system behaviour.

This study therefore draws on Institutional Theory, which holds that formal institutions including laws, regulations, and government policies, shape the environment within which economic actors operate and make decisions (North, 1990; Scott, 1995). From this perspective, digital financing adoption is not determined solely by individual technology acceptance, but also by the broader institutional conditions that governments create. Regulatory frameworks, fiscal stimulus measures, and policy incentives constitute the formal institutional context that either enables or constrains fintech adoption at the national level (DiMaggio & Powell, 1983).

Institutional Theory is particularly well suited to cross-country comparative studies, as it accounts for variations in adoption outcomes across different regulatory and policy environments (North, 1990). In the context of COVID-19, governments across Asia deployed distinct policy instruments, such as income support, loan moratoriums, and mobility restrictions. Each instrument carries different implications for digital financing activity. Institutional Theory provides the analytical lens through which these policy differences can be systematically examined and compared across the selected countries.

Beyond individual-level determinants, the institutional environment plays a critical role in shaping digital financing adoption. The success of internet banking is largely contingent on secure operations supported by government policy (Zhou, 2011). Nguyen et al. (2020) and Kaur et al. (2021) demonstrate that digital banks differ from traditional banks in terms of product design, service offerings, and regulatory procedures. These differences are not incidental. Rather, they reflect the distinct institutional frameworks within which digital and traditional banks operate, underscoring the need for government policies to keep pace with fintech development (Shaikh & Amin, 2025).

This institutional dimension becomes particularly salient during crisis periods (Ansell et al., 2025). Although still emerging, the literature on digital financing during the pandemic identifies several channels through which fintech supported financial stability. First, concerns about virus transmission through banknotes and coins accelerated the shift toward digital payments (Gardner, 2020; Al-Qudah

et al., 2024). In India, government directives facilitated access to digital payment systems across several states, encouraging businesses to conduct transactions through digital platforms (Pandey & Pal, 2020). These policy-driven measures stimulated a surge in digital payments and encouraged further innovation in payment technologies. Second, digital financing played a critical role in the distribution of government assistance. As lockdowns and mobility restrictions increased unemployment, governments, private organisations, and non-governmental organisations (NGOs) disbursed financial aid through payment applications and digital transfer mechanisms to minimise physical contact (Pollach et al., 2005). In several countries, mobile payment service providers expanded their offerings during the crisis (Aker et al., 2016). Companies such as Vodafone, Safaricom, and Orange facilitated remittance transfers and government relief disbursements, demonstrating how institutional support and private sector responses operated together (Pandey & Pal 2020; Wachanga, 2015).

Methodologically, quantitative approaches dominate the digital financing literature, with most studies focusing on individual-level survey data (Amin, 2016; Chaouali et al., 2017; Sharma et al., 2020). However, country-level empirical analysis of digital financing adoption during crisis periods remains scarce. This study addresses this gap by examining the effects of disaggregated government policy responses on digital financing adoption across four Asian economies during the COVID-19 pandemic. In doing so, it contributes to the literature on institutional policy design and fintech development in emerging markets.

METHODOLOGY

Data Sources

This study employs panel data to estimate the impact government policy responses to COVID-19 on digital financing adoption. Data were collected from multiple sources across two Asian sub-regions: South Asia and Southeast Asia. The four countries selected for analysis are India, Malaysia, Pakistan, and Thailand. The selection of these countries is justified on several grounds. First, India and Pakistan recorded among the highest COVID-19 case counts in Asia during 2020, making them important cases for examining the relationship between crisis severity and policy responses. Second, Malaysia and Thailand represent Southeast Asian economies with relatively more developed fintech ecosystems, providing a meaningful contrast to their South Asian counterparts. Together, the four countries offer variation in institutional capacity, stages of development, and policy approaches. These conditions align well with the comparative institutional analysis undertaken in this study. Data availability further constrained the sample, as panel data were not available for many other Asian economies. The study covers the period from January to December 2020. This time frame was selected because it captures the first full year of the pandemic, during which governments designed, implemented, and adjusted their primary policy responses. Restricting the analysis to 2020 ensures that the findings reflect acute crisis-period policy effects rather than longer-term recovery dynamics.

Government policy responses during the pandemic are measured using the Oxford COVID-19 Government Response Tracker (OxCGRT). To assess the robustness of the findings, this study employs three indices: the Government Response Index, the Stringency Index, and the Economic Support Index. Each index is constructed by averaging its component indicators. The Government Response Index comprises 15 indicators covering containment and closure measures, economic policies, and health system policies. The Stringency Index consists of nine indicators related to containment, closure, and health system policies. The Economic Support Index captures income support and debt relief measures

directed at citizens. All indicators are reported daily by Hale et al. (2020), and monthly figures for all sample countries were derived by calculating moving averages. Descriptions of the government response indices are presented in Table 2.

Table 2

Indices for Government Response, Stringency and Economic Support

Dimension	Indicator	Description	Government response index	Stringency index	Economic support index
Containment and Closure	School closures	Nationwide closure of schools	√	√	
	Workplace closures	Nationwide closure of offices and workplaces	√	√	
	Public event cancellations	Cancellation of public events	√	√	
	Restrictions on gatherings	Restrictions on social gatherings	√	√	
	Public transport	Shutdown of public transport services	√	√	
	Stay at home	Nationwide stay-at-home orders	√	√	
	Restricted movements	Restrictions on internal movement between cities	√	√	
	International travel controls	Restrictions on international travel	√	√	
Economic Support	Income support	Government provision of direct cash payments to unemployed individuals	√		√
	Debt/contract relief	Government measures to defer or freeze financial obligations for households	√		√
Health System Policies	Public information campaigns	Presence of public information campaigns	√	√	
	Testing policy	Government policy on who has access to testing	√		
	Contact tracing	Government policy on contact tracing following a positive COVID-19 diagnosis	√		
	Facial Coverings	Policies on the use of face masks outside the home	√		
	Vaccination Policy	Policies on vaccine delivery	√		

Source: Hale et al. (2020).

The value of mobile banking transactions (MBV) is used as a proxy for digital financing adoption and serves as the dependent variable in this study. MBV data were obtained from the central banks of each sample country. For each country, the data are reported monthly in national currencies and converted into US dollars. The number of new active COVID-19 cases is used to measure infectivity levels across the sample countries (Hasell et al., 2020).

Two control variables are included in the analysis. The first is the Human Development Index (HDI), which controls the level of economic development, and encompasses three dimensions: longevity, knowledge, and income (Eren et al., 2014; Van, 2017). Longevity is measured by life expectancy at birth; knowledge is captured through the education index, comprising expected years of schooling and mean years of schooling, and the standard of living is measured by Gross National Income (GNI) per capita (UNDP, 2015). The second control variable is monthly government expenditure. Government expenditure data were obtained from the Ministry of Finance of each sample country, while HDI data were sourced from the United Nations Development Programme (UNDP) database.

Econometric Specification

To capture the effects of digital financing usage during the pandemic, this study employs a panel data approach, as it allows for the control of individual heterogeneity and reduces estimation bias (Wooldridge, 2002). The relatively short study period supports the use of a panel dataset comprising four countries with monthly observations for 2020. To examine the relationship between government policy responses and digital financing, this study applies the Generalized Least Square (GLS) random effects model. Equation (1) specifies the econometric relationship between digital financing and the variables included in the study.

$$\begin{aligned} \ln MBV_{it} &= \alpha_0 + \alpha_1 \ln GovRes_{it} + \alpha_2 \ln COVID_{it} + \alpha_3 HDI_{it} + \alpha_4 \ln GE_{it} + \varepsilon_{it} \\ \varepsilon_{it} &= \lambda_i + u_{it} \end{aligned} \quad (1)$$

Where $\ln MBV_{it}$ represents the value of mobile banking transaction and serves as the dependent variable of the model. $\ln GovRes_{it}$ denotes the government response to COVID-19, while $\ln COVID_{it}$ represents the number of reported new COVID-19 cases. The control variables HDI_{it} and $\ln GE_{it}$ represent the Human Development Index (HDI) and government expenditure, respectively. All variables are expressed in natural logarithms except the HDI. ε_{it} is a composite error term that accounts for country-specific heterogeneity. u_{it} is assumed to be independently and identically distributed (i.i.d.), while λ_i captures the individual-specific effect, which is time-invariant. Under the random effects model, λ_i the individual-specific effect is treated as random. This model is appropriate when the observations represent a sample rather than the entire population (Law, 2018). The GLS random effects model further assumes that the country-specific effect is uncorrelated with the independent variables (Webel, 2011).

This study also examines the relationship between digital financing and COVID-19 policy responses, by decomposing the dimensions of government response. A second equation incorporates two additional indicators, namely the Stringency Index and Economic Support Index, as shown in Equation (2).

$$\begin{aligned} \ln MBV_{it} &= \alpha_0 + \alpha_1 \ln Strinx_{it} + \alpha_2 \ln GoSup_{it} + \alpha_3 \ln COVID_{it} + \alpha_4 HDI_{it} \\ &+ \alpha_5 \ln GE_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

Where $InStrinx_{it}$ and $InGoSup_{it}$ represent the natural logarithms of the Stringency Index and the Economic Support Index, respectively, capturing the distinct effect of these government interventions on digital financing during the pandemic.

RESULTS AND DISCUSSION

The descriptive statistics for the dataset are presented in Table 3. The standard deviations of mobile banking value, the Stringency Index, the Government Index, the Economic Support Index, and confirmed COVID-19 cases indicate considerable variation around their respective means. This variation across countries and over time strengthens the rationale for examining whether government policy responses and COVID-19 severity jointly influence digital financing adoption.

Table 3

Descriptive Statistics

Indicator	Unit of measurement	Mean	Std Dev	Min	Max
Mobile Banking	US\$ million	46.741	43.903	0.983	123.341
Stringency	Scaled from 0 to 100	54.719	24.956	0.001	98.642
Government Response	Scaled from 0 to 100	53.419	23.016	0.001	86.01
Government Support	Scaled from 0 to 100	57.342	34.468	0.001	100
Confirmed cases	Number of cases	7394.072	18907.73	0	86818.93
HDI	Scaled from 0 to 10	0.696	0.101	0.56	0.81
Government Expenditure	US\$ million	37952.25	72938.14	-708.94	289200.8

Table 4 presents the correlations among the variables. All three policy response indicators are positively correlated with mobile banking value. The Government Response Index and the Economic Support Index exhibit stronger correlations with mobile banking value than the Stringency Index, with correlation coefficients of 0.21 and 0.19 respectively, compared with 0.14 for the Stringency Index. This preliminary evidence suggests that government response measures, particularly economic support measures, are more closely associated with digital financing activity than containment measures alone. Among the control variables, government expenditure shows the strongest correlation with mobile banking value, followed by HDI. The negative correlation between confirmed COVID-19 cases and mobile banking value is consistent with the expectation that rising infection rates dampened economic activity, including digital transactions.

Table 4

Correlation Matrix

	MBV	GoRes	GoSup	Strinx	CCS	HDI	GE
MBV	1						
GoRes	0.212	1					
GoSup	0.197	0.818	1				
Strinx	0.139	0.962	0.665	1			
CCS	-0.092	0.573	0.008	0.634	1		
HDI	0.428	0.124	0.448	0.031	-0.552	1	
GE	0.731	0.194	-0.281	0.178	0.473	0.004	1

Note. MBV = Mobile banking value; GoRes = Government response index; GoSup = Government support index; Strinx = Stringency index; CCS= Confirmed COVID-19 cases; HDI= Human development index; GE= Government expenditure.

Table 5 presents the GLS random effects estimation results for both models. Although pooled ordinary least squares (POLS) and fixed effects estimations were also conducted, the Breusch-Pagan Lagrange Multiplier (BP-LM) test and the Hausman test confirmed that the random effects model was the most appropriate specification. Model 1 examines the aggregate effect of government policy responses on mobile banking value. Model 2 disaggregates government intervention into the Stringency Index and the Economic Support Index to isolate their distinct effects. Although the data cover only the acute crisis period of 2020, the policy implications of these findings remain relevant to ongoing efforts to advance digital financing across emerging Asian economies.

Table 5

Results of GLS Random Effect Estimation (Dependent variable: Mobile Banking Value)

Variable	Model 1 Government Intervention= Government Response	Model 2 Government Intervention= Stringency and Government Support Index
In GoRes	1.261*** (0.342)	
In Strinx	-	0.206 (0.592)
In GoSup	-	1.356*** (0.513)
In CCS	-0.292*** (0.058)	-0.311*** (0.061)
HDI	2.515* (1.521)	0.284 (1.56)
In GE	1.114*** (0.094)	1.191*** (0.087)
Constant	-12.782*** (1.642)	-13.252*** (0.571)
Observations	48	48
N	4	4
Within Variance	0.021	0.015
Between Variance	0.901	0.966

Notes. GoRes = Government response index; GoSup = Government support index; Strinx = Stringency index; CCS= Confirmed COVID-19 cases; HDI= Human development index; GE= Government expenditure. All indicators except HDI are reported in logarithmic form. All models are estimated using the random effect GLS estimation. The standard errors are reported in parentheses. P-values. ***, ** and * indicate significance at 1%, 5% and 10% levels, respectively.

Model 1 shows that the Government Response Index is a positive and statistically significant determinant of mobile banking value ($\beta = 1.261$). This finding indicates that a broader and more comprehensive government response to the pandemic was associated with higher digital financing activity. From an institutional perspective, this result is consistent with North (1990), who argues that formal institutional responses create the enabling conditions for shifts in economic behaviour. When governments signal active intervention through a combination of containment, economic support, and health measures, economic actors adapt their financial behaviour accordingly. This finding aligns with Razumovskaia et al. (2020), who demonstrate that comprehensive crisis supports measures stimulate economic activity during periods of acute uncertainty. It also supports Zhou (2011), who argues that government policy support is a critical precondition for the success of internet banking. Digital financing remains unevenly distributed across Asian economies, with persistent gaps in access and usage among low-income households and underserved communities. The findings of this study suggest that deliberate government policy, rather than market forces alone, constitutes the primary institutional

lever for narrowing these gaps. Governments that maintain active digital financing policy frameworks in the post-pandemic period are better positioned to sustain the adoption gains achieved during the crisis.

The disaggregated analysis in Model 2 provides greater analytical perspective. The economic support index is positive and statistically significant, while the stringency index is positive but insignificant. This distinction is critical. It reveals that the positive effect observed in Model 1 is driven primarily by economic support measures (specifically income support and loan moratoriums), rather than by containment and closure policies. Institutionally, income support and moratorium policies operate as direct financial enablers. By providing households and businesses with liquidity during crisis, these measures sustained the capacity for economic transactions (Kaewpitoon, 2025). As physical cash use became impractical under lockdown conditions, digital platforms became the primary channel through which this liquidity circulated, driving mobile banking adoption. This mechanism is consistent with Ozili (2018), who identifies government policy as a key enabler of financial inclusion through digital channels. OECD (2020) similarly notes that many SMEs faced severe revenue shortfalls during lockdowns and lacked sufficient reserves to sustain operations without government assistance. Income support and moratorium relief therefore served a dual function; stabilising household finances while simultaneously channelling economic activity through digital platforms. The coefficient for economic support ($\beta = 1.356$) exceeds that of the aggregate government response index ($\beta = 1.261$), suggesting that targeted financial relief has a stronger marginal effect on digital financing adoption than broader policy bundles. This finding extends beyond the crisis period and has direct implications for ongoing policy design in emerging economies. As Asian governments reevaluate their post-pandemic fiscal frameworks, evidence from this study argues against the premature withdrawal of digital financing support. Financial vulnerability remains elevated among low-income households and informal workers across the region (Asian Development Bank [ADB], 2024). Sustaining targeted financial relief mechanisms, even outside crisis conditions, may therefore represent an effective long-term strategy for deepening digital financial inclusion among underserved populations.

Confirmed COVID-19 cases are negative and statistically significant determinants of mobile banking value across both models. This finding warrants careful interpretation. Severe outbreaks suppress consumer confidence, reduce business activity, and generate uncertainty that constrains spending across all channels, including digital ones (Ozili & Arun, 2020). The net effect on digital financing adoption therefore depends on the relative strength of policy support in offsetting the economic drag of the pandemic. This dynamic varies across the four sample countries. This finding also remains relevant beyond the COVID-19 pandemic. Future public health emergencies, climate-induced economic disruptions, or geopolitical shocks may produce similar patterns of economic contraction. The evidence from this study suggests that, in such scenarios, governments cannot rely on crisis severity alone to encourage populations to adopt digital financial platforms (Elbahnasawy et al., 2025). Active policy support, particularly income protection and debt relief, remains necessary to sustain digital financing activity when broader economic conditions deteriorate.

The regression findings are further substantiated by cross-country evidence on policy implementation. Variations in digital financing outcomes across Malaysia, Thailand, India, and Pakistan reflect differences in institutional capacity and policy design. Malaysia and Thailand illustrate how targeted economic support translated into measurable gains in digital financing. Under Malaysia's Prihatin Economic Stimulus Package, the government provided a 50% matching grant for SMEs to digitalise their operations, alongside RM300 million allocated through Bank Negara Malaysia's Automation and Digitalisation Facility (ADF) for equipment, machinery, and IT solutions (Lim, 2021). These measures

directly reduced the cost of digital transformation for businesses, creating institutional conditions that supported growth in mobile banking. In Thailand, a three-year tax exemption was introduced for businesses adopting digital technologies (ASEAN Briefing, 2021). PromptPay, the Bank of Thailand's national mobile banking platform, recorded substantial increases in registrations and transaction volumes in 2020 (Bangkok Post, 2021). Together, Malaysia and Thailand demonstrate that embedding targeted digital support within broader stimulus packages can produce measurable gains in fintech adoption.

India and Pakistan present a more mixed institutional picture. India did not introduce a dedicated digitisation stimulus during the pandemic. However, the Digital India initiative, launched in 2015, had already established the foundational digital infrastructure that enabled the rapid adoption of digital payment systems when the crisis emerged (Pandey & Pal, 2020). This suggests that pre-existing institutional investment in digital infrastructure can substitute for crisis-specific policy, provided that the necessary infrastructure is sufficiently developed (Li, 2025). In Pakistan, the State Bank of Pakistan (SBP) instructed commercial banks to remove all charges on digital transactions in 2020, directly lowering barriers to mobile banking adoption. The National Payment System Strategy (NPSS), launched in November 2019, further supported the development of a safe and inclusive national payment infrastructure (SBP, 2021). Nevertheless, Pakistan's digital financing ecosystem remains constrained by structural challenges, including limited digital literacy and weak financial infrastructure, which short-term policy incentives alone cannot readily overcome. These country comparisons offer an important forward-looking lesson. Malaysia and Thailand have sustained relatively stronger digital financing ecosystems, in part because their crisis-period policies were embedded within longer-term digital transformation strategies. India's Aadhaar-linked financial infrastructure continues to expand digital access, while Pakistan continues to face challenges in narrowing its digital divide (ADB, 2024). This divergence reinforces the finding that the effectiveness of government policy in promoting digital financial inclusion depends not only on the policy instruments deployed during a crisis, but also on the strength of the institutional foundations established before and sustained after the crisis.

CONCLUSION

This study examines the impact of government policy responses on digital financing adoption across four Asian economies during the COVID-19 pandemic. The findings demonstrate that government intervention played a significant and positive role in driving mobile banking activity. When the Government Response Index is disaggregated, income support and loan moratorium policies emerge as the primary institutional drivers of digital financing adoption. By contrast, containment and closure measures, proxied by the Stringency Index, do not have a statistically significant direct effect. These findings confirm that the type of policy response matters. The cross-country evidence from Malaysia, Thailand, India, and Pakistan further illustrates that institutional capacity and pre-existing digital infrastructure shape the effectiveness of crisis-period policy. Countries with more developed fintech ecosystems and well-designed digital support measures translated government intervention into stronger digital financing gains. By contrast, countries with structural gaps in digital literacy and financial infrastructure faced greater constraints, even where supportive policies were in place. This divergence highlights that short-term policy incentives are necessary but insufficient without sustained long-term institutional investment. These findings carry several policy implications. First, policymakers designing crisis response packages should prioritise income support and debt relief not only for their welfare benefits but also for their capacity to stimulate digital financial activity. Second, the

effectiveness of such measures depends on the strength of the underlying digital infrastructure. Sustained investment in digital connectivity, financial literacy, and regulatory frameworks is therefore as important as crisis-specific interventions. The findings also support the institutionalisation of digital financing as a core component of financial policy in emerging Asian economies. As the region navigates post-pandemic fiscal consolidation, digital financing initiatives should be regarded as long-term investments rather than temporary expenditures. In emerging Asian economies, where informal workers, women, and low-income households remain excluded from formal financial systems, sustained commitment to digital financial inclusion remains central to inclusive economic development. This study is subject to several limitations. The sample is restricted to four countries and a single calendar year, which limits the generalisability of the findings across the broader Asian region and different crisis periods. Future research could extend the analysis to a larger cross-country sample, incorporate supply-side indicators of digital infrastructure, and examine the longer-term persistence of pandemic-era digital financing gains beyond the acute phase of the crisis.

ACKNOWLEDGMENT

This work was supported by funding from Universiti Malaya under Grant No. UMREG010-2025.

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