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# ASEAN's Digital Payment Revolution: A New Frontier for Regional Integration

Nur M. Adhi Purwanto and Ying Xu

SIP/2026/013

IMF Selected Issues Papers are prepared by IMF staff as background documentation for periodic consultations with member countries. It is based on the information available at the time it was completed on January 26, 2026. This paper is also published separately as IMF Country Report No 26/042.

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**Prepared by Nur M. Adhi Purwanto and Ying Xu**

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**ABSTRACT:** This study takes stock of recent developments on digital payments in Thailand and ASEAN more broadly, explores the drivers and the potential benefits, analyzes the factors underlying the frequency of digital payment usage, and discusses the relevant policy considerations. ASEAN countries have made significant progress in developing domestic and cross-border digital payments, in line with initiatives to improve regional financial integration. This analysis provides preliminary evidence of potential benefits of advancing regional payment connectivity by increasing local currency usage to strengthen financial resilience and reduce vulnerabilities to external shocks.

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SELECTED ISSUES PAPERS

# **ASEAN's Digital Payment Revolution: A New Frontier for Regional Integration**

Thailand

Prepared by Nur M. Adhi Purwanto and Ying Xu<sup>1</sup>

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# THAILAND

## SELECTED ISSUES

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# ASEAN'S DIGITAL PAYMENT REVOLUTION: A NEW FRONTIER FOR REGIONAL INTEGRATION

## A. Introduction

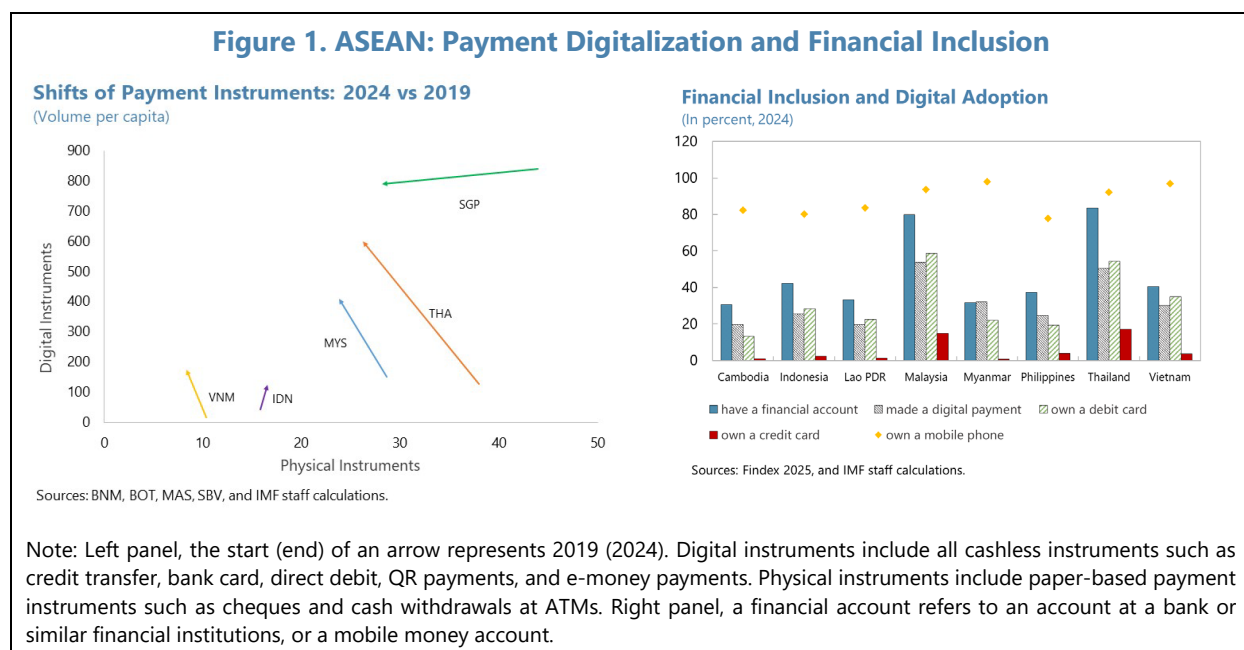
**1. Digitalization has been reshaping the payment infrastructure and supporting productivity by enhancing its efficiency and inclusiveness, while also introducing new challenges to financial sector stability in ASEAN.** By enabling faster, cheaper, and more secure transfers, digital payments lower frictions, supporting the growth of e-commerce and small enterprises (Patnam and Yao, 2020). Digitization can enhance tax compliance and transparency, strengthening public revenues. Further, digital payments can foster financial inclusion by expanding access to financial services for underserved populations, promoting inclusive growth, and supporting the transition towards a more productive economy (Demirgüç-Kunt et al., 2022). Increased reliance on digital platforms, however, also introduces operational and cyber risks. While a system with multiple providers creates fragmentation and raises concerns of interoperability, the concentration of payment services among dominant providers could pose systemic risks (Copestake et al., 2025). Understanding these dynamics is essential for designing policies that harness efficiency gains without compromising stability in countries like Thailand.

**2. Cross-border digital payments can promote local currency usage and facilitate regional trade and financial integration among ASEAN countries.** Studies show that digitalization helps improve the efficiency of cross-border payments (He, 2021) and thus increases international trade (Cortes et al., 2024). The currency of cross-border payments has implications for international trade and financial stability. The value of services trade is more closely associated with US dollar exchange rates than with other bilateral exchange rates, as the use of the dominant currency pricing (such as the US dollar) is more extensive compared with local currency pricing, similar to what is observed in goods exports, though to a lesser extent (Li and Meleshchuk, 2024). Therefore, Thailand, whose service exports contribute significantly to economic growth, faces risks from US dollar exchange rate fluctuations. Although cross-border payments are currently dominated by the U.S. dollar and the euro (Perez-Saiz et al., 2023), there is increasing attention from policymakers on the potential for alternative currencies to play a role in a more fragmented world (Koosakul et al., 2024). Therefore, some new initiatives to use local currency for cross-border payments based on digital payment technology have been on the top list of the policy agenda in ASEAN countries. This study assesses the implications of digital retail local currency cross-border payments and presents some preliminary evidence of a reduction in vulnerabilities to external exchange rate shocks, supporting financial stability.

**3. Recent developments in digital cross-border payments in ASEAN have aligned with global and regional initiatives.** The G20 Roadmap for Enhancing Cross-border Payments serves as a framework to address long-standing frictions such as high costs, slow transaction speeds, limited accessibility, and a lack of transparency. In parallel with this global effort, the ASEAN region is at the forefront of implementing a regional response through its strategic initiatives, particularly the

ASEAN Regional Payment Connectivity (RPC) and the ASEAN Local Currency Transaction Framework (LCTF). The RPC aims to link national payment systems seamlessly, thereby creating a more integrated, efficient, and user-friendly cross-border payment ecosystem. Complementing this, the LCTF serves as an important pillar by promoting the use of local currencies for cross-border transactions, which contributes to the RPC's goals of reducing costs and speeding up transactions by eliminating reliance on third-party currencies and strengthens financial resilience.

**4. Within ASEAN, Thailand has been leading the transition towards cashless and digital payments both domestically and across borders.** The use of digital payment methods, such as bank cards, credit transfers, direct debits, and e-money, has increased and the number of payments made in cash and by cheque has declined throughout most ASEAN countries. While mobile phone ownership is generally high in ASEAN countries (over 80 percent), only about 20 percent have an e-money account<sup>1</sup>. In Thailand close to half of the adult population owns an e-money account<sup>2</sup>, outperforming its regional peers. In Thailand, the use of non-physical payments increased annually by more than 75 percent on average during 2019-24, including through the rapid adoption of digital platforms like PromptPay (Figure 1). About 80 percent of adults in Thailand own financial accounts, 55 percent own a debit card, and 50 percent have made digital payments.<sup>3</sup> Thailand has also been leading the progress in establishing bilateral and multilateral cross-border fast payment linkages with its regional counterparts (see Section B for more details).



**5. This study takes stock of recent developments on digital payments in Thailand and ASEAN more broadly, explores the drivers and the potential benefits, analyzes the factors**

<sup>1</sup> Source: World Bank Global Findex 2025 Database.

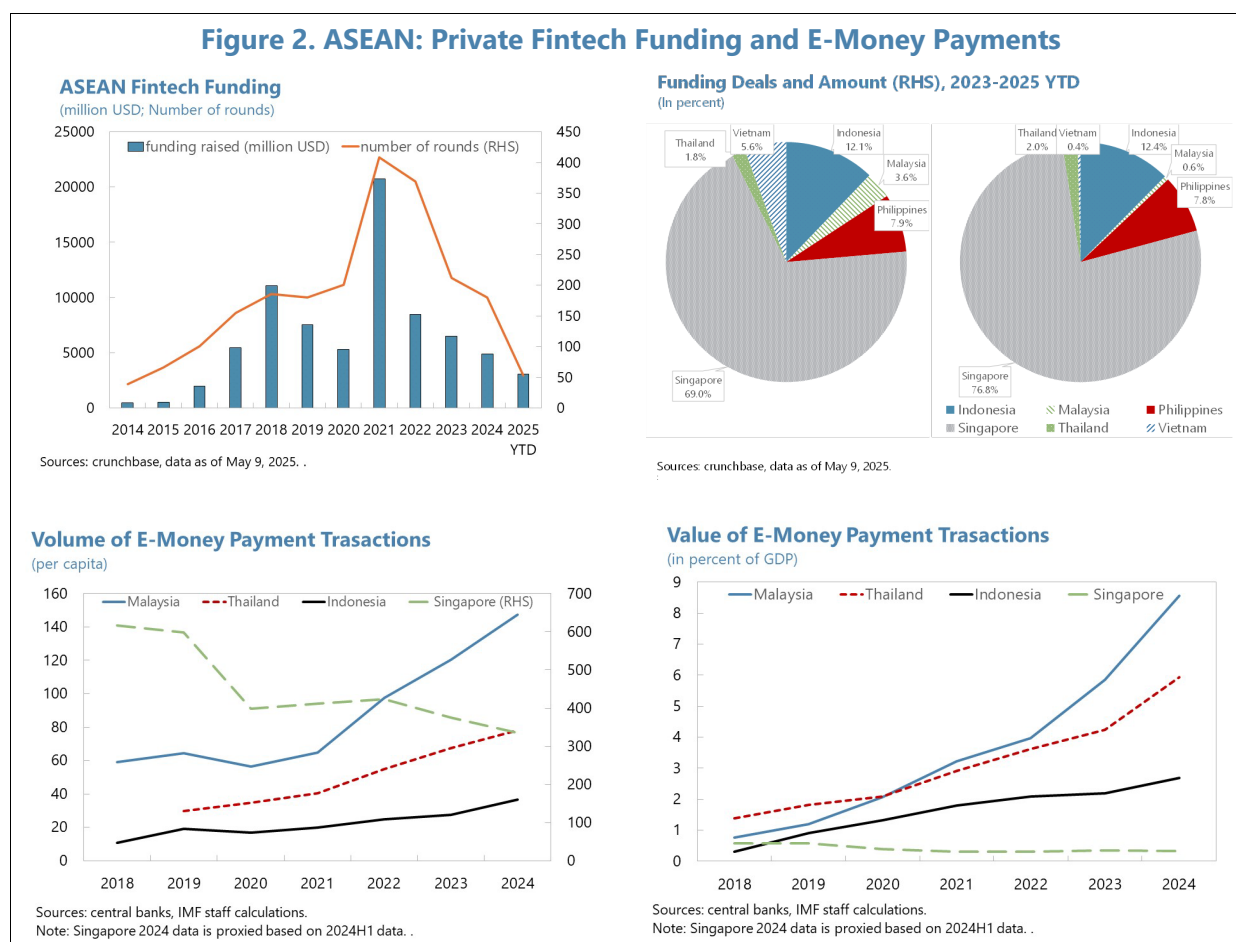
<sup>2</sup> Source: Ibid

<sup>3</sup> Source: Ibid

**underlying the frequency of digital payment usage and discusses some policy considerations.** The paper is structured as follows. Section B provides an overview and key developments of ASEAN digital payments, as well as risks. Section C explores potential drivers of local currency cross-border Quick Response (QR) payments in Thailand. Section D concludes with a discussion of policy considerations.

## B. Digital Payments in ASEAN










**6. Private sector fintech investments were at the forefront of the growth in digital payment services.** Fintech funding<sup>4</sup> to ASEAN countries surged since 2014, but has declined after peaking in 2021, partly driven by the Federal Reserve rate cycle as the cost of financing increased. Singapore is a key hub for private investment funding in the region, followed by the Philippines and Indonesia (Figure 2). Many startup companies in ASEAN have expanded their business to the fintech sector and provide digital payment options. As a result, e-money payments have grown remarkably in the past decade. For example, in Malaysia, the total value of the e-money payments accounted for more than 8 percent of the annual GDP. In Singapore, each person made about 300 transactions through e-money in 2024.



<sup>4</sup> Including but not limited to angel, pre-seed, seed, venture capital, private equity, debt financing, Initial Coin Offerings (ICO), and other types of private funding to fintech companies.

**7. Central banks and monetary authorities play a crucial role in shaping the domestic digital payment landscape.** By developing fast payment systems<sup>5</sup> and establishing QR payment standards<sup>6</sup> to ensure interoperability, central banks provide catalysts for innovation and motivate the widespread adoption of digital payments. While all countries share the common objective of improving payment infrastructure, they have adopted different approaches. The Bank of Thailand launched PromptPay, a universal and low-cost real-time payment system that links bank accounts to national IDs or mobile phone numbers. The simplification in transaction processes has significantly boosted digital transactions. In addition, by building its own infrastructure, it can bypass traditional, more expensive payment channels, such as credit card networks. Similarly, Bank Indonesia introduced QRIS as a single national QR standard, to eliminate fragmentation and ensure all payment service providers and merchants could interoperate seamlessly, which has been crucial for widespread domestic adoption. By contrast, Vietnam has taken a more decentralized approach. While the State Bank of Vietnam supports the development of the national QR standard, VietQR, it has not mandated its use nationwide. This variation in approach reflects each nation's unique market structure and regulatory approach. Still, the overarching goal remains the same: to promote financial inclusion, enhance payment system efficiency, and reduce costs.

**Table 1. ASEAN: National Fast Payment Systems and QR Payment Standards**

	 Brunei Darussalam	 Cambodia	 Indonesia	 Lao P.D.R.	 Malaysia	 Myanmar	 Philippines	 Singapore	 Thailand	 Vietnam
<b>Fast Payment</b>	tarus	Bakong	BI-FAST	LAPNet	RPP (DuitNow)	CBM-NET2	InstaPay	FAST (PayNow)	PromptPay	NAPAS FastFund 247
<b>Year of launch</b>	2025	2020	2021	2019	2018	2020	2018	2017	2016	2021
<b>Transaction value as % GDP (2024)</b>	-	330%	40%	-	152	-	28%	14% (2023)	278%	27% (2023)
<b>Transaction volume per capita (2024)</b>	-	35	12	-	104	-	12	-	346	2 (2023)
<b>QR Standard</b>	tarusQR	KH QR	QRIS	Lao QR	DuitNowQR	MMQR	QR Ph	SGQR	Thai QR	VietQR
<b>Year of launch</b>	(pilot phase)	2022	2019	2020	2018	2025	2019	2018	2017	2021
<b>Transaction value as % GDP (2024)</b>	-	116%	3%	-	2%	-	1%	0.1%	0.5% (2020)	4%
<b>Transaction volume per capita (2024)</b>	-	37	22	-	26	-	2	15	0.5 (2020)	6

Source: Central Banks and IMF staff calculations

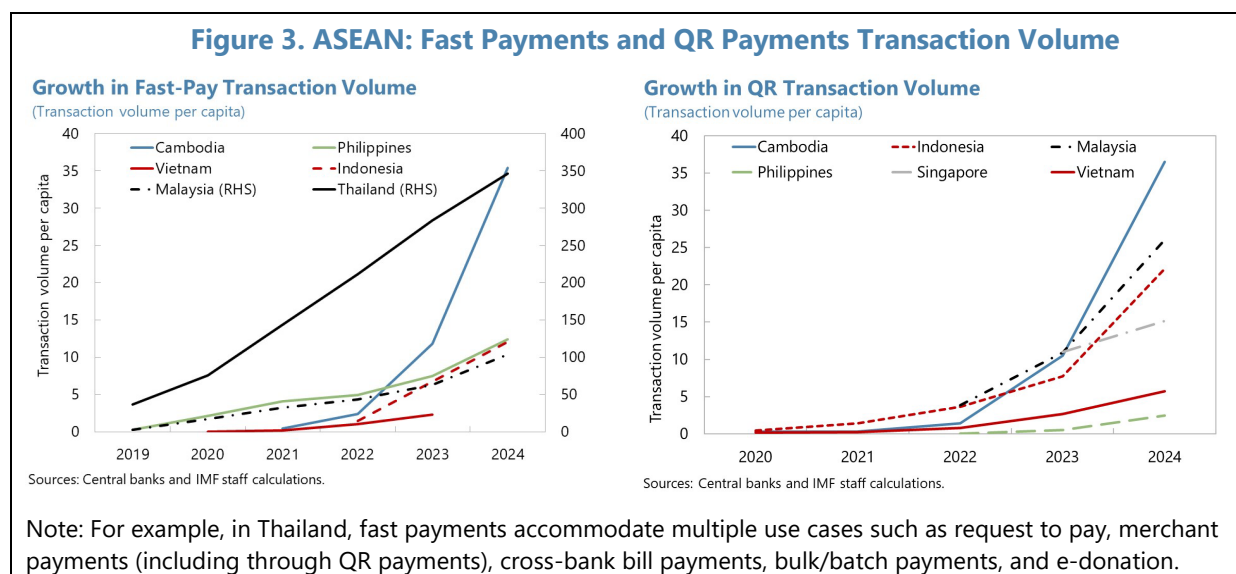
**8. The transformation of the digital payment landscape across ASEAN countries highlights the importance of striking a balance between allowing the private sector to innovate and finding an appropriate regulatory approach.** The active involvement of central

<sup>5</sup> Fast payment systems are digital infrastructures that enable instant fund transfers and settlements between accounts at any time.

<sup>6</sup> QR payment standards serve as common guidelines for using QR payment services.

banks and monetary authorities has fostered an environment conducive to the growth of innovative payment solutions, ensuring stability and reliability within the ecosystem. The private sector serves as the key engine for innovation, developing the applications and a wide range of services that drive consumer adoption. Building on the foundation of systems like Thailand's PromptPay and Indonesia's QRIS, private companies have developed applications that make digital payments widely accessible.<sup>7</sup> In Thailand, banks and private payment providers have utilized PromptPay's simplified ID system to develop user-friendly mobile applications that allow instant fund transfers to any bank account using just a mobile number. In Indonesia, fintech and e-commerce companies have integrated QRIS into their applications, enabling users to make seamless payments using a single standard.

**9. Domestic fast payments, including QR payments, have surged in ASEAN, especially over the past five years** (Figure 3). For example, in Thailand the average number of fast payment transactions through PromptPay rose more than eight-fold from below 40 per person per year to almost 350 during 2019-24. The usage of QR payments is relatively small as part of fast payments, but it presents huge potential given its significant growth. For example, in the Philippines, QR payments increased by 467 percent in volume and 372 percent in value in 2024 compared to 2023.

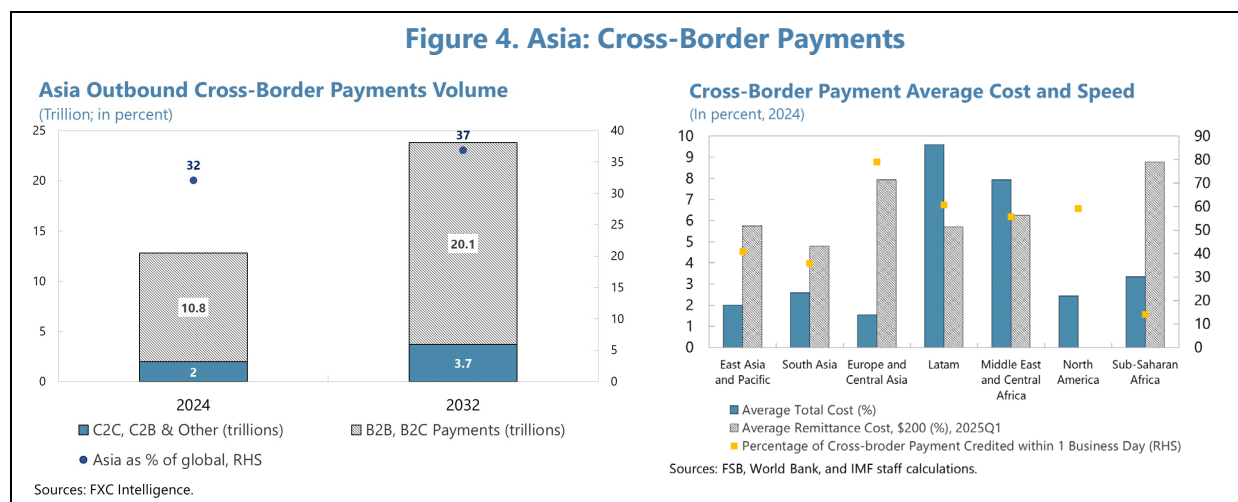


**10. Following the development in domestic payments, cross-border payments in Asia have great potential but require further improvements.** Asia accounted for 32 percent of global cross-border payments in 2024 and is expected to account for 37 percent in 2032<sup>8</sup>. During this period, the total volume of cross-border payments in Asia is expected to almost double from 12.8 billion in 2024 to 23.8 billion in 2032 (Figure 4). Compared with other regions, the average cost of cross-border payments in Asia is relatively low. Especially in East Asia and Pacific economies, the

<sup>7</sup> Please see Copestake et al (2025) for further discussion on the impact of interoperability on digital payment usage.

<sup>8</sup> Source: FXC Intelligence.

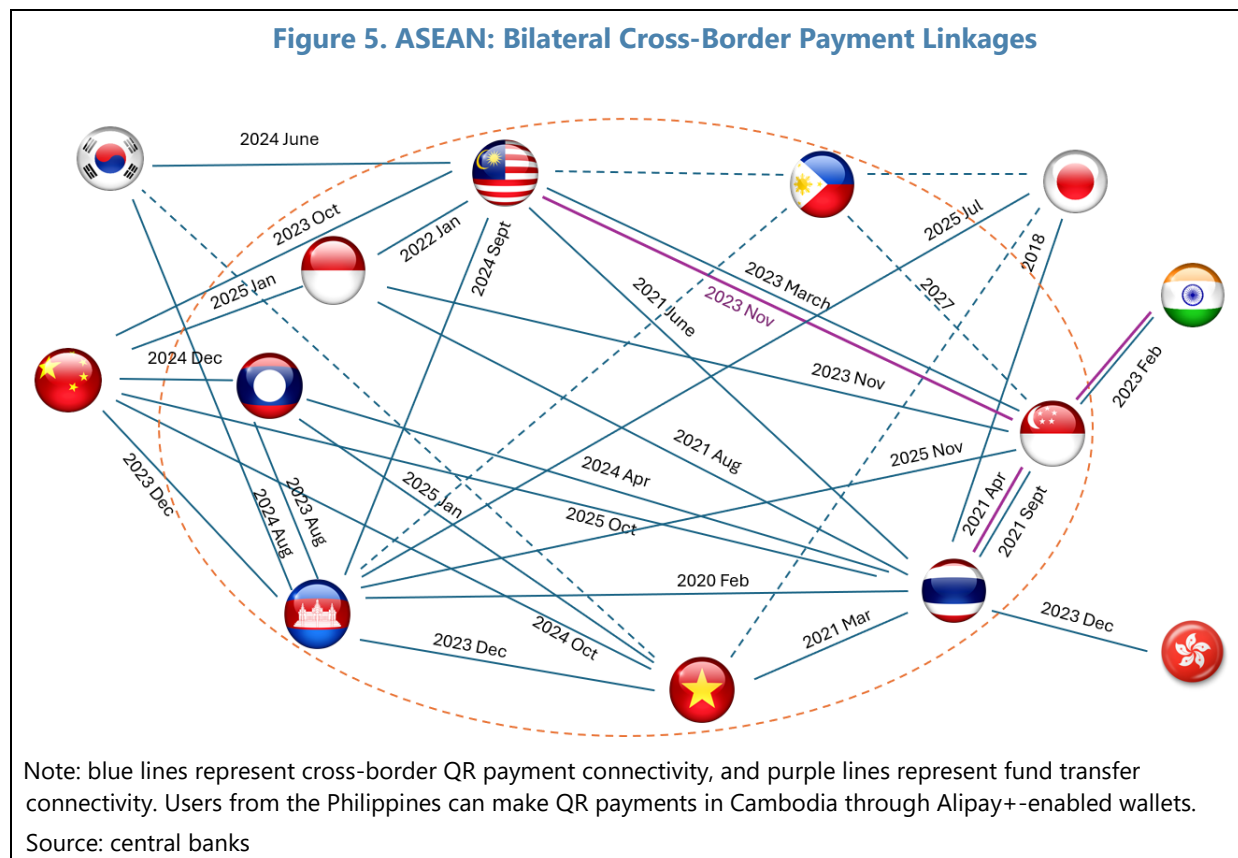
average cost of remittances declined from 6.7 percent in 2021Q1<sup>9</sup> to 5.8 percent in 2025Q1<sup>9</sup>, largely driven by the low cost of digital payments. However, the speed of payments in Asia lags behind other regions. For example, the percentage of cross-border payments credited within one business day in Asia is far below that in most other regions, likely related to reliance on multiple correspondent banks and other intermediaries, compliance checks, and other factors (FSB, 2021; Freischlad, 2025).



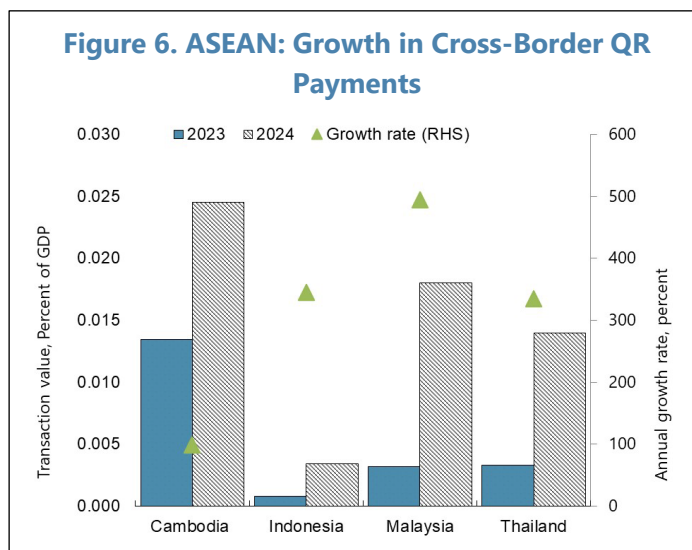
**11. To reduce costs and make payments real-time, ASEAN countries established multiple bilateral cross-border payment linkages, building on existing domestic fast payment and QR payment systems** (Figure 5). There are two types of linkages. The first and most common is the QR payment connectivity (blue lines), which allows travelers to make real-time payments to a merchant in another country by scanning a QR code. A second type is the fund transfer connectivity (purple lines), which facilitates instant remittances and fund transfers across borders between individuals using simple identifiers like a mobile phone number or a national ID. Thailand is one of the first movers in linking digital payments across borders. In 2018, Thailand established its first QR payment linkage with Japan, and later with eight other economies. In April 2021, Singapore and Thailand established the first cross-border fund transfer connectivity. Later, Singapore also established cross-border fund transfer connectivity with India and Malaysia separately. The Philippines has been behind its regional peers somewhat in establishing cross-border payment linkages, but it is planning to cooperate with Japan, Malaysia, and Singapore in the coming years.

<sup>9</sup> Cost of sending \$200, source: World Bank Remittance Prices Worldwide database.

**Figure 5. ASEAN: Bilateral Cross-Border Payment Linkages**



**12. While still small in value and volume, QR cross-border payments in ASEAN countries have shown a significant surge in growth.** Take 2024, for example, the QR payments in Thailand increased by more than 300 percent, and in Malaysia by 550 percent compared with 2023 (Figure 6). The potential for continued growth is still substantial, particularly given the increasing number of intra-ASEAN tourists, which in 2023 accounted for 42 percent of total visitors, up from 36 percent in 2019. With tourism accounting for 8 percent of the region's GDP and 12 percent of employment in 2023, the expanded use of these payment systems could have a significant positive effect on the region's economy, especially in the service sector.



**13. The significant progress in domestic and cross-border digital payments has been a catalyst for financial inclusion, creating substantial momentum for the development of small and medium-sized enterprises (SMEs).** By moving away from cash, SMEs gain access to a range of benefits, including improved business efficiency through faster payment processing and reduced

costs. Furthermore, the adoption of digital payment allows SMEs to establish a digital financial footprint. A Bank of Thailand survey found that 96 percent of SMEs had adopted digital payments accounting for over two-thirds of their payment value. These transactions provide a valuable source of data—such as sales history and cash flow patterns—that financial institutions can use to assess creditworthiness, helping small businesses that lack traditional credit history or collateral<sup>10</sup>. Moreover, cross-border digital payment systems are directly benefiting SMEs by enabling them to expand their market reach beyond the domestic market. By utilizing the PromptPay-PayNow linkage between Thailand and Singapore, an SME in Bangkok, for instance, can sell to a customer in Singapore and receive payment almost instantly at a low cost, without needing to navigate complex international banking procedures.

**14. Despite the many advantages, the rapid adoption of digital payments in ASEAN has also introduced significant financial crime and money laundering risks.** The problem is particularly acute in cross-border transactions, where criminals exploit regulatory inconsistencies and the speed of instant payments to move funds quickly across borders, through micro-structuring (small, deliberate transactions designed to evade regulatory reporting thresholds), identity theft, and the use of mule accounts. These risks are particularly significant due to the prevalence of scam centers and other transnational criminal operations originating from high-risk countries.

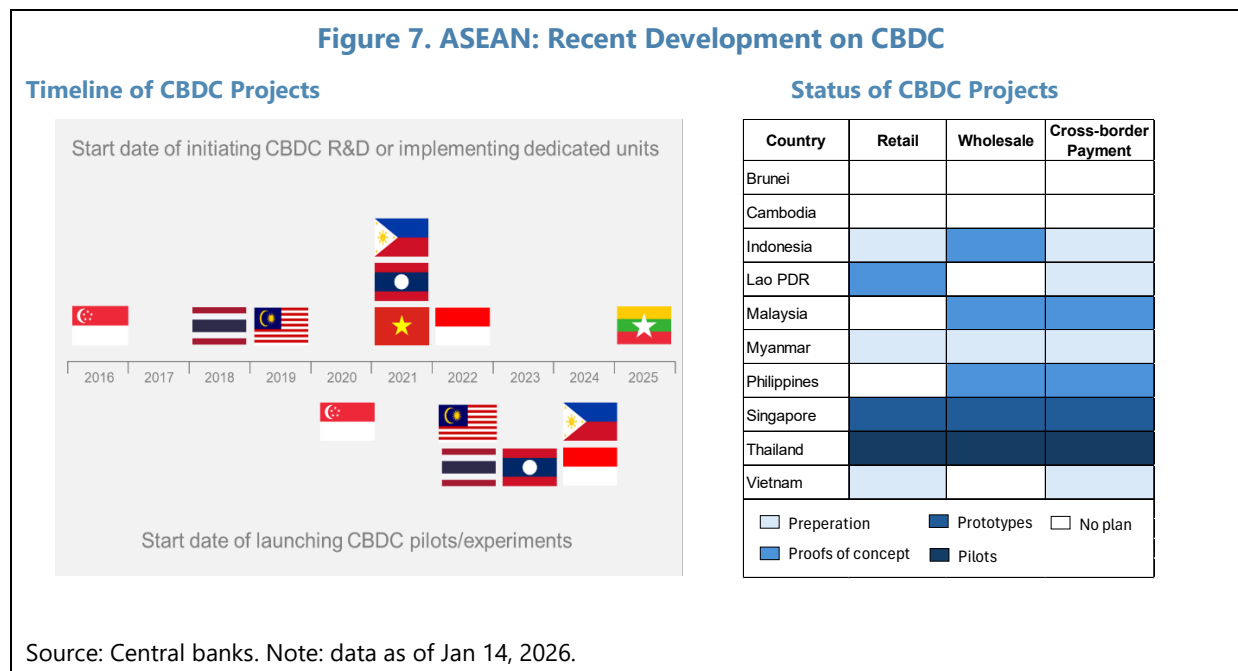
**15. In addition, the multiple linkages in the current bilateral cross-border payment arrangements resulted in a highly fragmented system, making interoperability between systems and jurisdictions difficult to achieve.** Building up bilateral linkages with each individual partner jurisdiction involves prolonged processes and replicates resource-consuming processes for each additional linkage. Efficiencies could be captured with an alternative approach to resolving interoperability issues in cross-border payments.

**16. Project Nexus is a noteworthy initiative that offers a multilateral approach to improving cross-border fast payments.** It is a collaboration among the BIS Innovation Hub and Bank of Thailand, Bank Negara Malaysia, Bangko Sentral ng Pilipinas, the Monetary Authority of Singapore, and the Reserve Bank of India. Unlike the traditional bilateral linkages, the project employs a standardized blueprint to connect multiple domestic fast payment systems through a single, central hub. This hub-and-spoke model significantly simplifies the infrastructure required for regional and global payment connections. The project had a successful proof of concept completed in 2022 and a comprehensive blueprint announced in July 2024. The recent incorporation of Nexus Global Payments in Singapore marks a significant transition towards operationalizing the scheme, which is aiming to go-live by 2027.

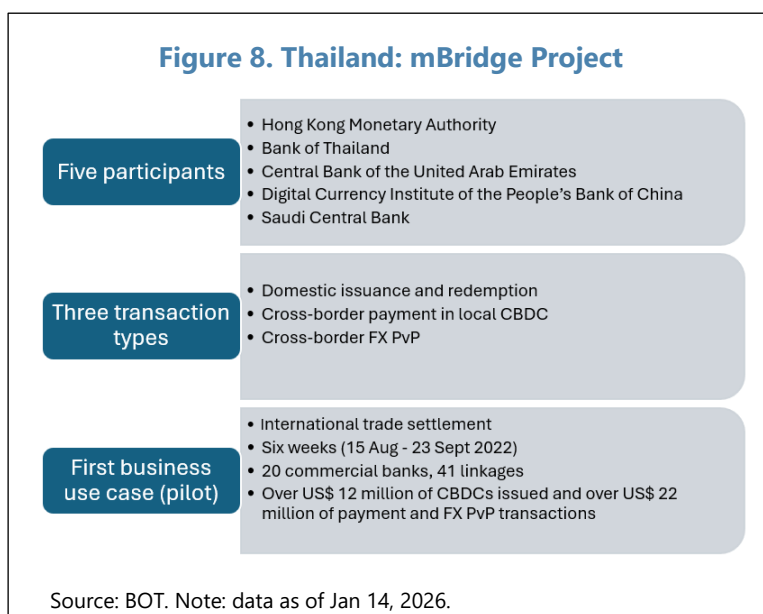
**17. Many ASEAN central banks are also exploring central bank digital currencies (CBDCs) for cross-border payments, though most initiatives are still in early stages.** Following Singapore's lead in 2016, a majority of ASEAN countries have launched their own CBDC research

<sup>10</sup> For example, in August 2023, Bank of Thailand introduced PromptBiz, which provides service to support businesses, especially SMEs to access finance by using trade transactions from the PromptBiz system as supplement documents for applying invoice factoring or other sources of financing.

over the past decade. Since 2020, several have moved beyond research to launch experiments and pilots. While no ASEAN country has yet officially launched CBDC for public use, most of these projects have considered cross-border payments as a key use case. Among ASEAN countries, Singapore and Thailand are currently the most advanced in their development stage, while other countries are still in the preparation or proof-of-concept or earlier exploratory stages.

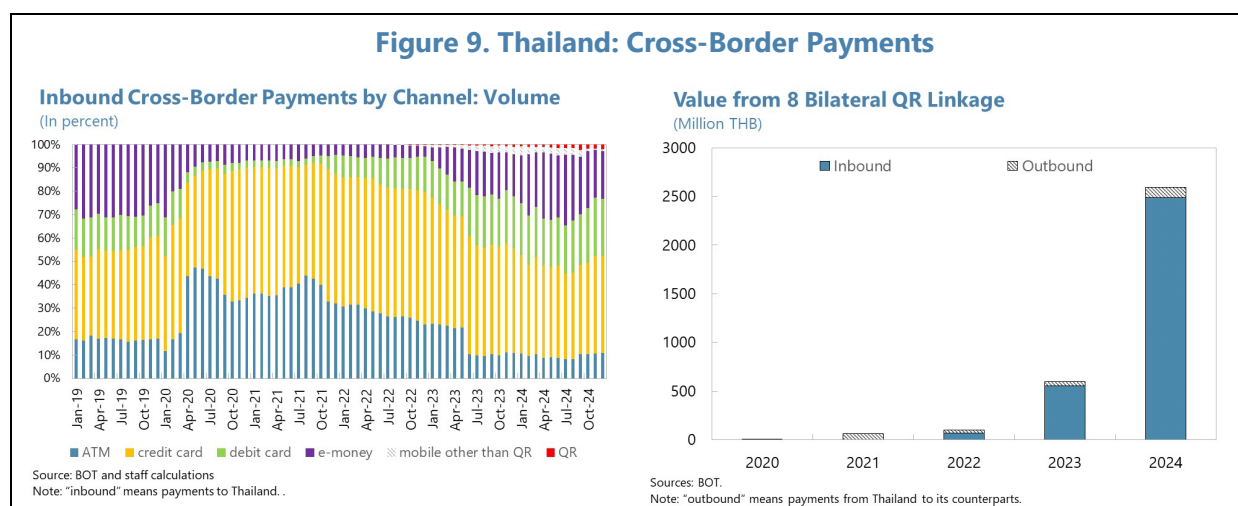


**18. Project mBridge, for example, is a multilateral initiative aimed at improving cross-border payments by utilizing wholesale CBDC.** This project is a collaboration among the Bank of Thailand, the Central Bank of the United Arab Emirates, the Digital Currency Institute of the People's Bank of China, the Saudi Central Bank, and the Hong Kong Monetary Authority. A six-week pilot conducted in 2022 involved 20 commercial banks across four jurisdictions, successfully executing over 160 real-value transactions, demonstrating the platform's ability to facilitate real-time, peer-to-peer payments and foreign exchange transactions. The project reached its Minimum Viable Product (MVP) stage in mid-2024. At this stage, ongoing development and enhancements continue while participating jurisdictions conduct the real-value transactions on mBridge platform, subject to their own condition and preparedness.

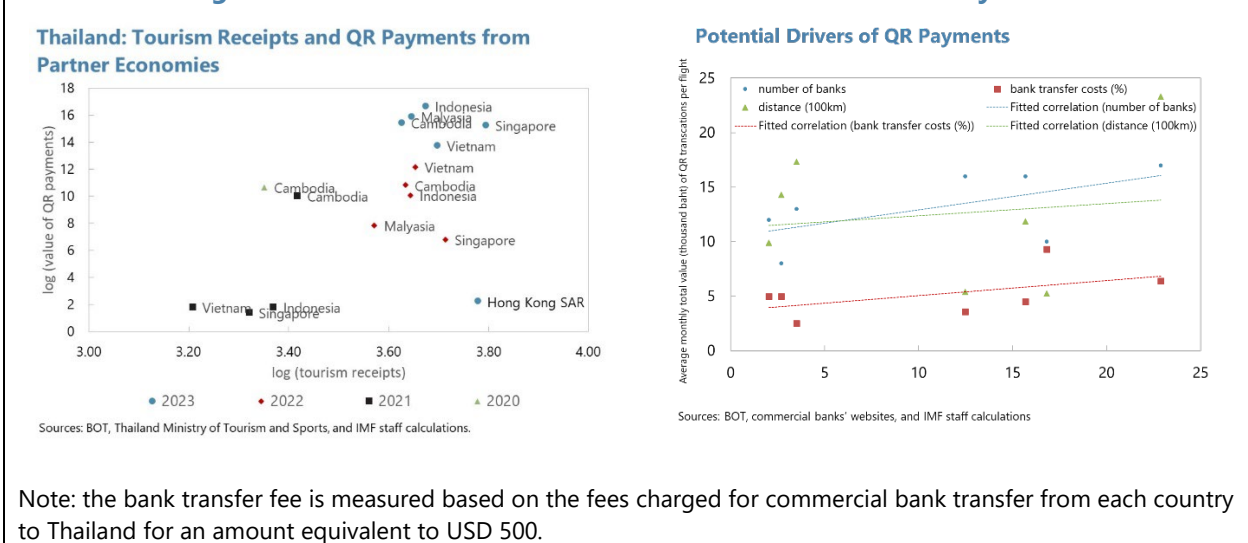


## C. Empirical Analysis: Case of Thailand

**19. In Thailand, QR payments remain a small portion of total cross-border payments, but their growth has been significant.** Among inbound cross-border payments to Thailand, the share of cross-border ATM withdrawals has been declining in recent years, suggesting a decline in cash usage, and remains lower compared with the pre-pandemic level. Credit card and debit card payments, on average, account for about 60 percent of total payments, and the rest are digital payments, including e-money, as well as the very recent emergence of QR payments through bilateral cross-border fast payment linkages. Though QR payments remain relatively small both in terms of value and volume, compared to other types of payments, their growth has been substantial. For example, the inbound payments through all seven QR linkages in 2024 were about five times that in 2023.



**20. In each bilateral linkage cross-border QR payments are positively correlated with tourism receipts, commercial bank transfer fees, and the number of banks participating in each bilateral linkage.** Increases in QR payments from partner economies are associated with an increase in tourism receipts from that specific economy. In addition, economies with higher relative transfer costs of traditional commercial bank channels have higher QR transactions as users take advantage of lower costs. The number of participating financial institutions varies across individual bilateral linkages. Data show that linkages with a higher number of participating banks are associated with higher QR transactions. Economies that are geographically further away from Thailand seem to have higher QR transactions in Thailand. Due to data availability these relationships could not be quantified in an econometric model.

**Figure 10. Thailand: Potential Drivers of Cross-Border QR Payments**

## 21. An econometric model is used to estimate the effect of FX depreciation, FX volatility and alternative channels of payments on the volume and value of cross-border QR payments.

A dataset provided by the Bank of Thailand covers payments from seven economies, including Cambodia, Hong Kong SAR, Indonesia, Laos, Malaysia, Singapore, and Vietnam, to Thailand, for the period of 2020–2024 at the monthly aggregate level, thus covering 60 months with a total of 420 observations, both by volume and value. The model explains the volume and value of cross-border QR payments at the bilateral economy pair level with a number of explanatory variables: (i) Foreign exchange risk ( $FX\_vol_{it}$ ) is measured first as the volatility of local currency<sup>11</sup> against the US dollar, and second as the volatility of local currency against the Thai Baht. This specification allows assessing the relative effects arising from cross-border payments for traditional bank cards, which use the US dollar to settle payments across local currencies, and from QR payments, which are settled directly in local currencies; (ii) Monthly depreciation of the local currency against the Dollar and the Baht ( $FX\_g_{it}$ ); (iii) Country-specific time-varying factors, including the number of tourists visiting Thailand from each of the seven economies, approximated by the number of flights in each month ( $flight_{it}$ ), and the number of months ( $Month_{it}$ ) the linkage has been established to account for its familiarity; (iv) The level of financial inclusiveness from the IMF financial access survey that includes the number of commercial bank branches ( $Commer\_bank_{iT}$ ) and the number of credit cards ( $Credit\_card_{iT}$ ) in each partner economy. Macroeconomic indicators ( $C_{iT}$ ) such as GDP and CPI from the latest IMF WEO database are included in the model below:

$$QR_{it} = \beta_1 Month_{it} + \beta_2 flight_{it} + \beta_3 FX\_vol_{it} + \beta_4 FX\_g_{it} + \beta_5 Commer\_bank_{iT} + \beta_6 Credit\_card_{iT} + C_{iT} + \varepsilon_{it}$$

where  $i$  represents the economy that has bilateral linkage with Thailand,  $t$  represents month, and  $T$  represents year as some variables only have annual frequency.

<sup>11</sup> Local currency is the payer's home currency, and in this analysis, it is limited to one of the currencies from the seven counterparts of Thailand's bilateral linkages. For example, if a tourist from Indonesia visits Thailand and uses QR payments in Thailand, the local currency this tourist will pay is Indonesia Rupiah.

**22. The empirical analysis provides preliminary evidence that higher local currency-USD volatility could lead to higher cross-border QR payments, which are settled in local currency.**

The increase in the value of QR payments resulting from increases in USD volatility is statistically significant (Table 2, columns 1 to 3)<sup>12</sup>. This effect also affects the volume of QR payments but is less statistically significant. Higher local currency-THB volatility does not appear to affect cross-border QR payments. This result suggests that QR payments help reduce FX risk and provide more transparency about the local currency cost of payments in real-time by avoiding USD fluctuations. By contrast, credit or debit cards usually take a few days to settle through the correspondent banking network. During this time the payer has to bear the FX risk, which increases when the USD volatility is higher. This analysis thus provides some preliminary evidence of potential benefits of advancing regional payment connectivity by increasing local currency usage to strengthen financial resilience and reduce vulnerabilities to external shocks.

**23. A depreciation of the local currency leads to lower QR payments, likely driven by overall lower spending.** The coefficients of the local currency depreciation against the US dollar and the Thai Baht are negative for both transaction values and volumes. When expenditures are more expensive in Thailand relatively to local currencies, payments, including QR, are reduced.

**24. The results also suggest QR payments may play a role as a substitute for traditional banking and card payments.** The estimated coefficients for the number of commercial bank branches and the number of credit cards are both negative in most regressions. This suggests that when users have less access to traditional banking services in their home country, they are more likely to make QR payments. Similarly, when users have fewer credit cards to make payments, they are more likely to pay through QR when they visit Thailand.

**Table 2. Thailand: Estimated Coefficients on the Drivers of Cross-Border QR Payments**

	(1)	(2)	(3)	(4)	(5)	(6)
	Log	Log	Log	Log	Log	Log
	(value)	(value)	(value)	(volume)	(volume)	(volume)
Local currency-USD volatility	82.43***	35.06*	56.25**	7.168	3.118	19.26*
Local currency- THB volatility	0.852	2.939	5.345	2.356	0.422	2.587
Local currency-USD depreciation	-0.264***	-0.317***	-0.208**	-0.126**	-0.215***	-0.133**
Local currency- THB depreciation	-0.142	-0.160	-0.179*	-0.132**	-0.107*	-0.129**
Number of commercial bank branches	0.00653	-1.966***	-1.615***	-0.0159	-0.977***	-0.771***
Number of credit card	-0.182***	0.173	0.217	-0.0989***	-0.358***	-0.292***
Month of implementation	0.111***	0.240***	0.0691*	0.0442**	0.186***	0.0689***
Log (number of flight)	0.961***	1.432***	1.062***	0.478***	0.806***	0.576***
C	4.936***	-20.71	-14.43	1.398*	-0.346	-0.614
Year FE	Y		Y	Y		Y
Country FE		Y	Y		Y	Y
N	420	420	420	420	420	420
R <sup>2</sup>	0.76	0.77	0.80	0.81	0.78	0.83

Note: Standard errors in parentheses\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

<sup>12</sup> Results remain robust when currency depreciations are excluded, as well as when volatilities against the USD and THB are included separately in the model.

## D. Conclusions and Policy Discussion

**25. ASEAN countries have made significant progress in developing domestic and cross-border digital payments.** This progress is aligned with global and regional initiatives and supported by coordination, supervision, and standardization from regulators, as well as investment and innovation from the private sector. The current web of bilateral cross-border arrangements is not scalable for a globally interconnected economy. As more countries join, the number of necessary connections grows exponentially. Building on its strong domestic digital payment infrastructure, Thailand, along with other ASEAN countries, is actively exploring multilateral approaches for cross-border payments. The move to a multilateral system will significantly enhance efficiency, interoperability and reduction in complexity.

**26. Leveraging digital payment data is essential for advancing financial inclusion, especially for SMEs.** In Thailand, this aligns with several ongoing initiatives, including: (i) "Your Data" project, which aims to give customers control over their data to enable them to access better financial services, (ii) the establishment of National Credit Guarantee Agency (NaCGA), an effort to overhaul the credit guarantee system by directly assessing the credit risk of borrowers using financial and non-financial data to help SMEs secure loans, and (iii) virtual banks, which are expected to use alternative data to assess creditworthiness of underserved groups. In addition, the authorities should also encourage SMEs to engage in regional trade, to utilize the existing digital cross-border payment arrangements, through awareness campaigns and incentives.

**27. Implementing robust oversight and reporting mechanisms is crucial for enhancing the trust and security of digital payments.** The authorities should ensure the risk-based application of AML/CFT measures by reporting entities, including simplified measures in lower-risk scenarios to promote financial inclusion and to allow for appropriate resource allocation to higher risk scenarios. To address the significant divergence in legal and regulatory frameworks across ASEAN, a push for greater harmonization of data protection laws is needed. Furthermore, collaboration between authorities and financial institutions is crucial for improving digital and financial literacy as well as defending against cybersecurity risks, particularly in educating the public on fraud prevention and providing comprehensive customer protection. Finally, a dedicated framework for enhancing cross-border supervisory and law enforcement and oversight coordination will facilitate rapid information sharing and help combat financial crime more effectively across the region.

**28. This analysis provides evidence of potential benefits of advancing regional payment connectivity by increasing local currency usage to strengthen financial resilience and reduce vulnerabilities to external shocks.** Although the use of cross-border QR payments still comprise a relatively small share of total cross-border payments, its significant growth in recent years stresses the importance of understanding the underlying drivers. The empirical analysis in this paper provides some preliminary evidence that the usage of cross-border QR payments is positively associated with higher volatility of the local currency against the US dollar. There is also evidence of QR payments as an alternative to traditional banking and credit card payments. In addition, there are possible positive correlations between QR payments and tourism receipts, the cost of traditional cross-border bank transfers, and the number of banks participating in the linkages.

**29. To promote trade integration through the use of cross-border QR payments, a few strategies could be used.** To take advantage of the considerable potential for further expansion in digital payments amid the rising number of intra-ASEAN tourists, governments could:

- **Provide widespread explanations to potential users of the low-cost and real-time nature of local currency settlement.** This strategy directly addresses the finding that these payments are used more frequently during periods of local currency volatility, positioning the service as a tool for financial resilience for tourists and other users. This messaging will resonate with travelers seeking to mitigate exchange rate risks and ensure transparent, predictable costs.
- **Actively encourage broader participation from banks and other financial institutions.** By expanding the network of participating banks and promoting the use of QR payments as a viable alternative to traditional banking and credit card systems, particularly for the unbanked and underbanked groups, the system's reach and utilization will increase.

## References

- Asian Development Bank. *Asian Economic Integration Report 2024: Decarbonizing Global Value Chains*. 2024.
- Bank for International Settlements. "Project mBridge: Connecting Economies Through CBDC." BIS Innovation Hub, October 26, 2022.
- Choo, Chiang Yong (Edmond), Prashant Pande, and Toàn Long Quách. *Powering Payments: The Role of Technology in ASEAN's Regional Payment Connectivity Initiative*. Singapore: ASEAN+3 Macroeconomic Research Office, 2025.
- Copetake, A., Kirti, M. D., and Peria, M. S. M. *Growing Retail Digital Payments: The Value of Interoperability*. International Monetary Fund, 2025.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., et al. *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*. World Bank Publications, 2022.
- Di Iorio, Alberto, Anneke Kosse, and Robert Szemere. *Tap, Click and Pay: How Digital Payments Seize the Day*. CPMI Brief no. 3. Basel, Switzerland: Bank for International Settlements, 2024.
- Financial Stability Board, *Targets for Addressing the Four Challenges of Cross-Border Payments*, October 2021
- Freischlad, Nadine. "Southeast Asia's Cross-Border Payment Push." *Finance & Development*, 2025.
- Frost, Jon, Priscilla Koo Wilkens, Anneke Kosse, Vatsala Shreeti, and Carolina Velásquez. "Fast Payments: Design and Adoption." *BIS Quarterly Review*. Bank for International Settlements, March 2024.
- He, D. "Digitalization of Cross-Border Payments." *China Economic Journal*, 2021, 14(1): 26–38.
- Koosakul, J., Zhang, M. L., and Zia, M. *Geopolitical Proximity and the Use of Global Currencies*. International Monetary Fund, 2024.
- Li, N., and Meleshchuk, S. *Bilateral Trade in Services and Exchange Rates: Evidence of Dominant Currency Pricing*. International Monetary Fund, 2024.
- Mariani, L. A., Cortes, G., and Sant'anna, V. P. "Unleashing International Trade through Financial Integration: Evidence from a Cross-Border Payment System." *ERSA Working Paper Series*, Working Paper 890, 2024.
- Patnam, Manasa, and Weijia Yao. "The Real Effects of Mobile Money: Evidence from a Large-Scale Fintech Expansion." *IMF Working Papers*, 2020/138, 2020.

Ong, Li Lian, Quách Toàn Long, Nguyễn Hoàng Nam, and Prashant Pande. "Expanding Local Currency Transactions in ASEAN+3 Cross-Border Payments." ASEAN+3 Macroeconomic Research Office, December 29, 2023.

Perez-Saiz, H., Zhang, M. L., and Iyer, R. *Currency Usage for Cross-Border Payments*. International Monetary Fund, 2023.