Innovation in Payments and Remittances

The changing competitive landscape in global money movement

September 2023

PCMI Payments & Commerce Market Intelligence

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With payments and commerce transcending borders, AMI evolved into PCMI, to support our clients across the globe.

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Global payments industry advisory group

30

years experience

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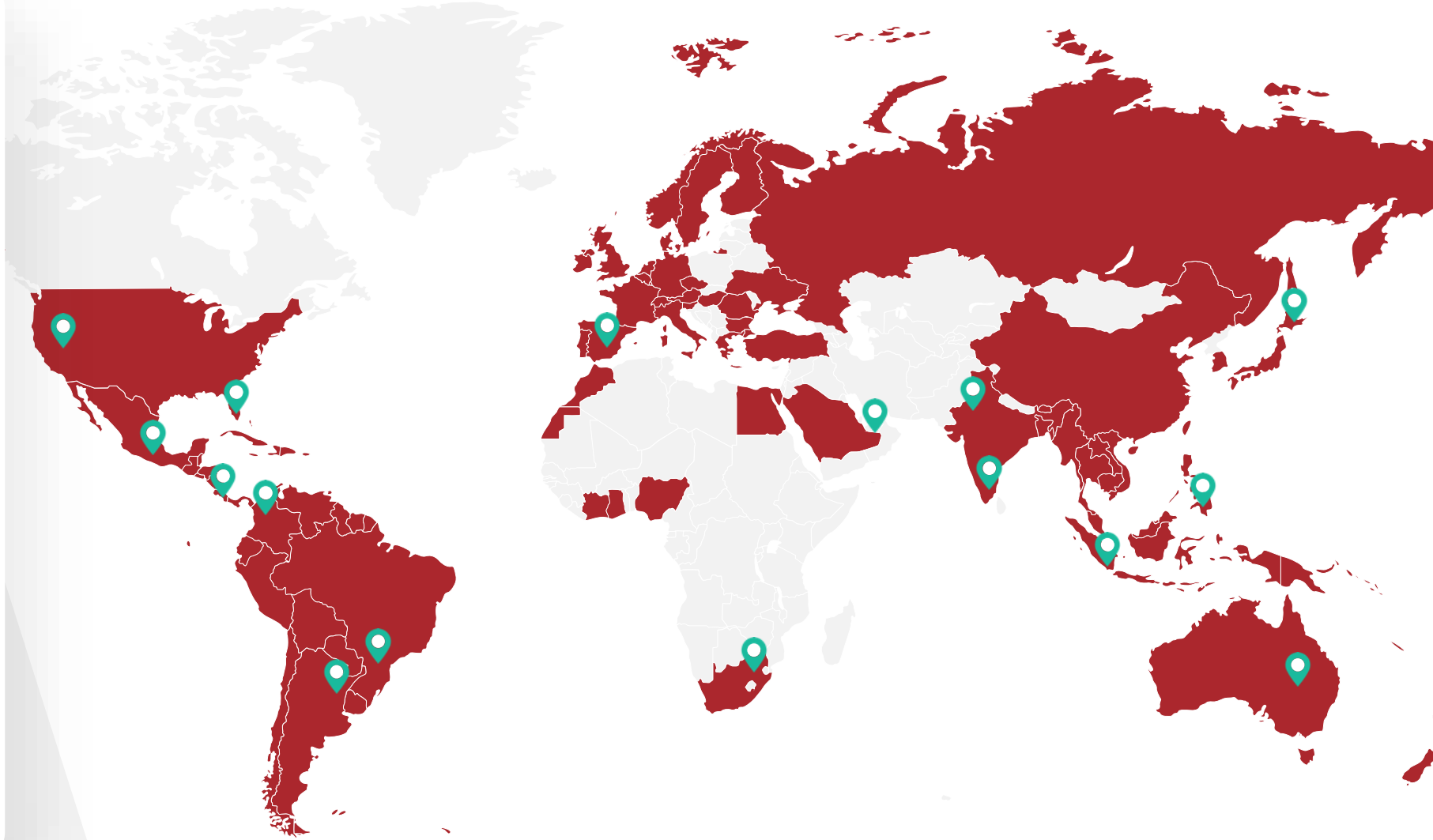

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The shifting tide of global remittances

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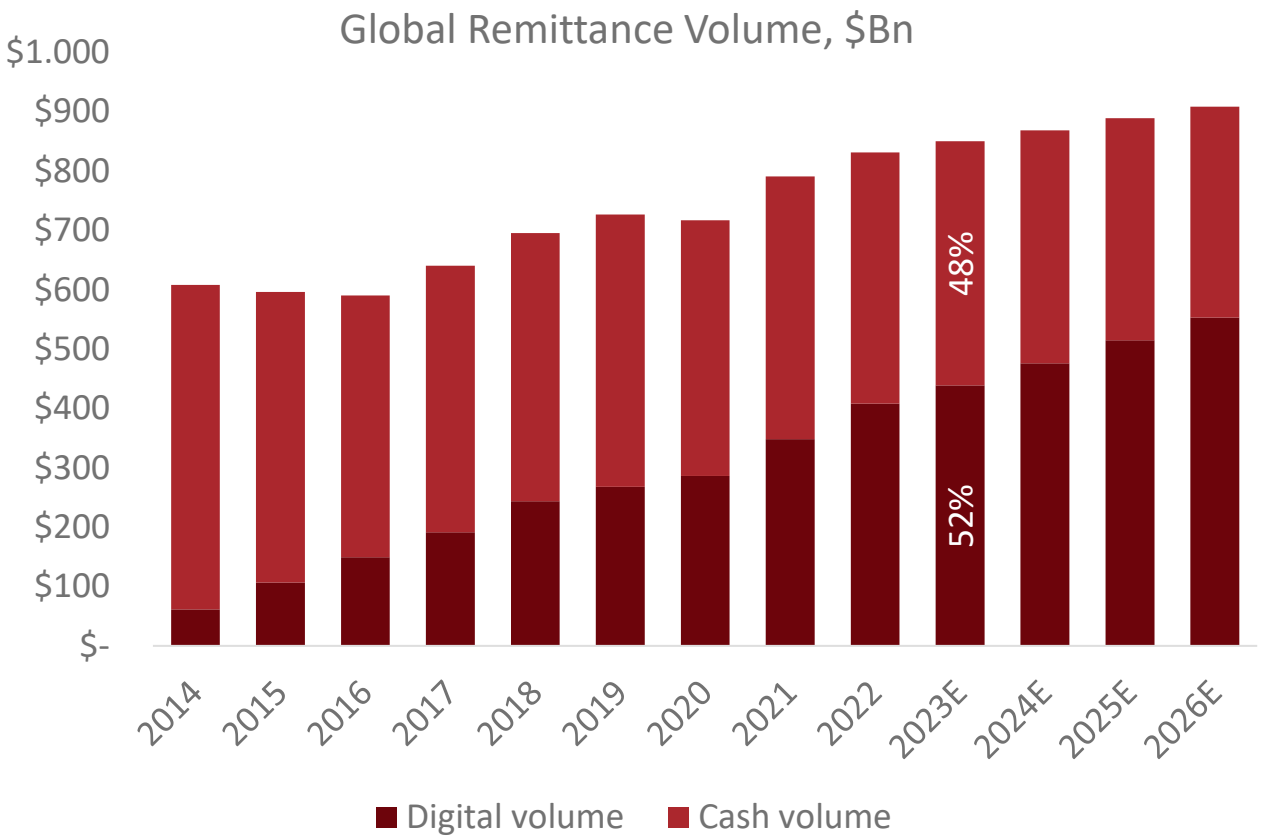
In 2023, digital remittances will exceed 50% of total volume

for the first time in history



$439 B Global digital remittances estimated transaction volume in **2023**

$412 B Global cash-based remittances estimated transaction volume in **2023**

8% CAGR Projected average growth rate for digital remittances (2022-2026)

Source: Business Insider Intelligence estimates, Juniper Research, World Bank

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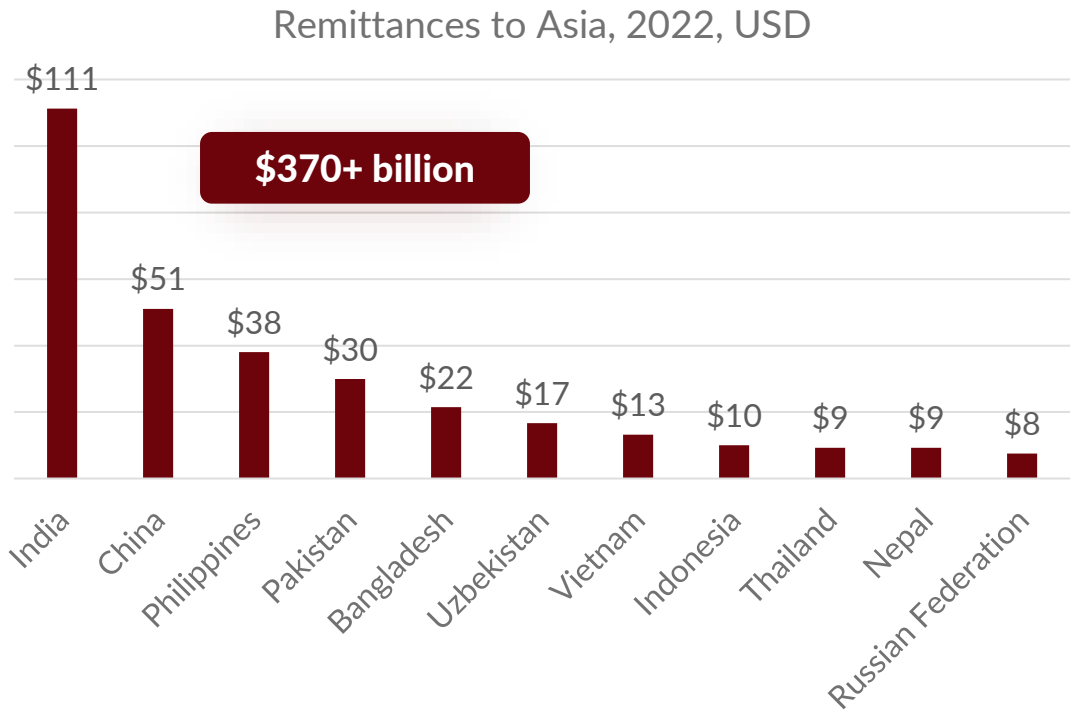
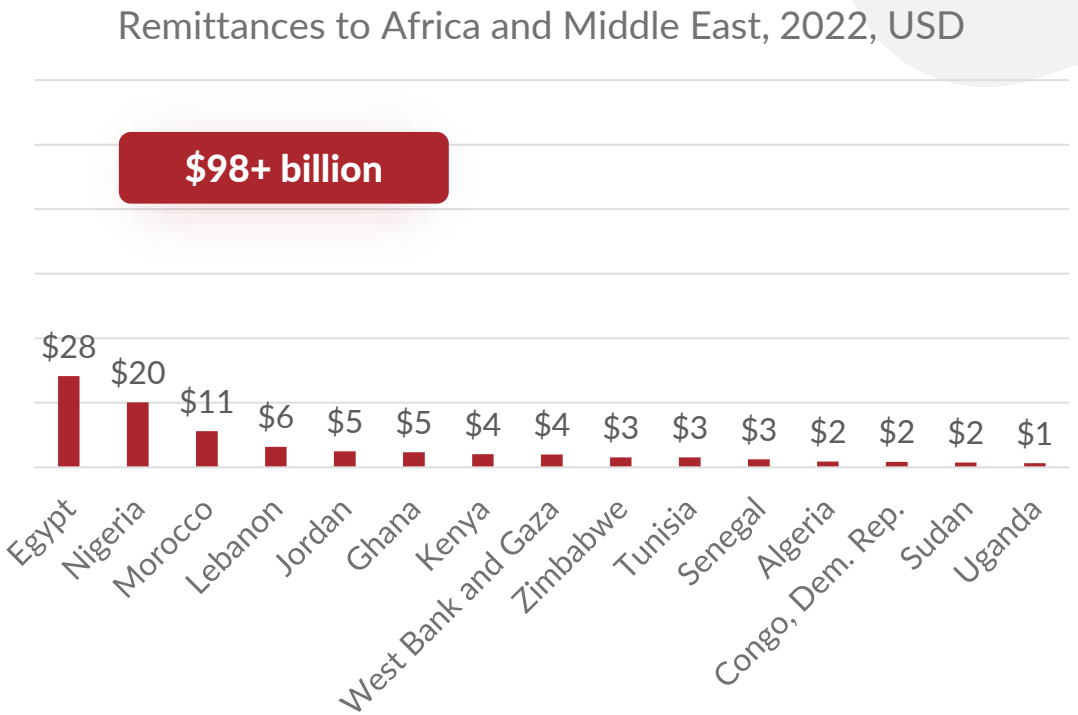
Over $470 bn in P2P remittances

sent to Asia and Africa





In 2022, remittance inflows grew **19%** growth in Central Asia, **12%** South Asia, and **0.7%** in East Asia and Pacific. Conversely, Sub-Saharan Africa reported a **6%** growth. Remittances declined **4%** in the Middle East and North Africa.

PCMI Source: World Bank

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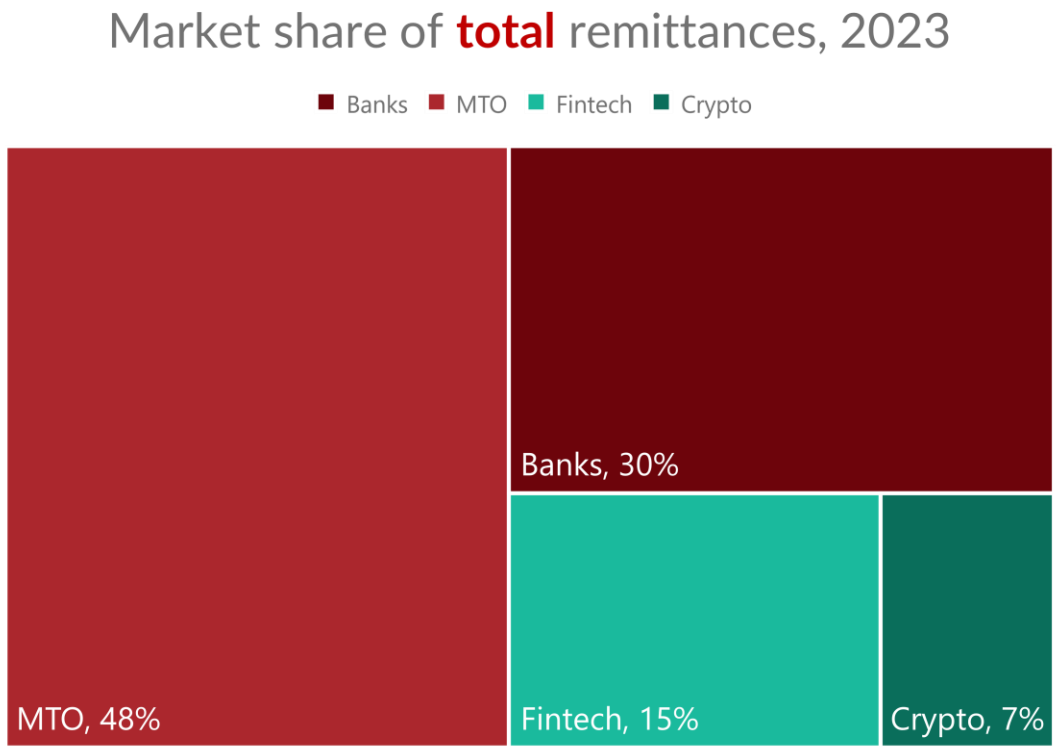
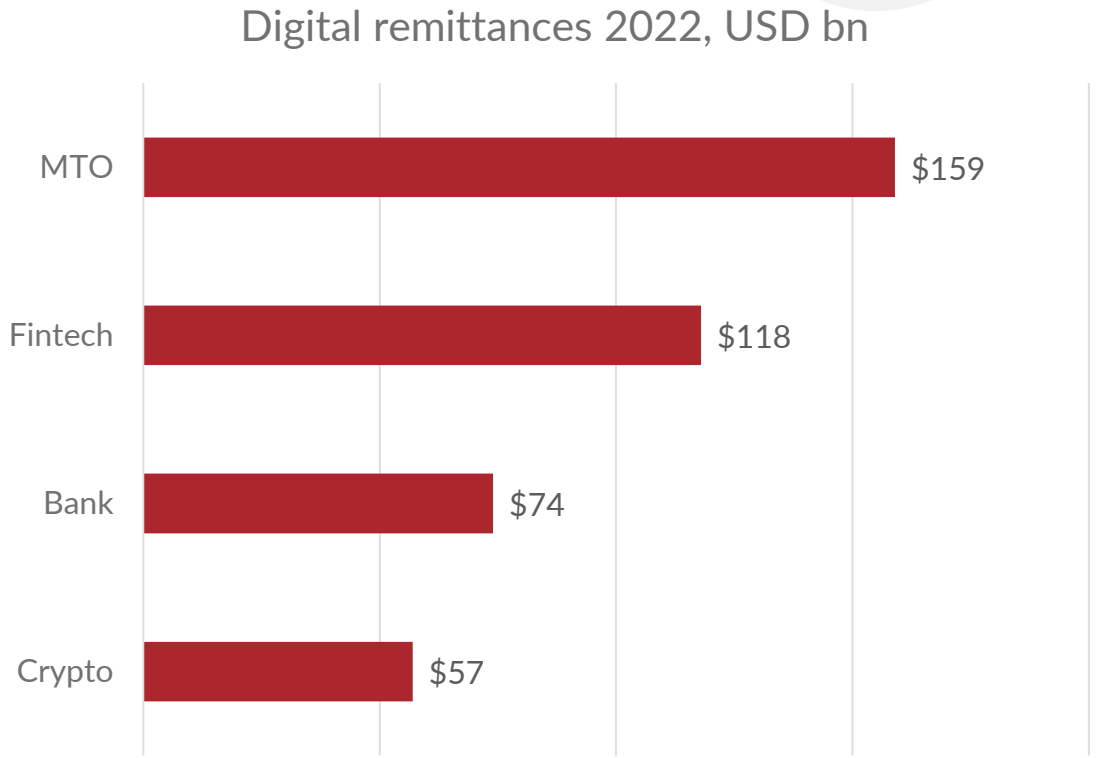
MTOs are keeping pace with the digital remittance trend,

with fintechs not far behind





PCMI Source: World Bank; Western Union, PCMI calculations

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The digital remittance trend paves the way for

the emergence of new rails for x-border transactions

New technologies are becoming available to bolster—and compete with—existing remittance enablers

Real Time Payments schemes (RTPs)

UPI UNIFIED PAYMENTS INTERFACE

pix powered by Banco Central

CBDCs

DREX

Card networks

VISA Direct

mastercard SEND

Source: PCMI

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What is changing?

The emergence of domestic RTP schemes

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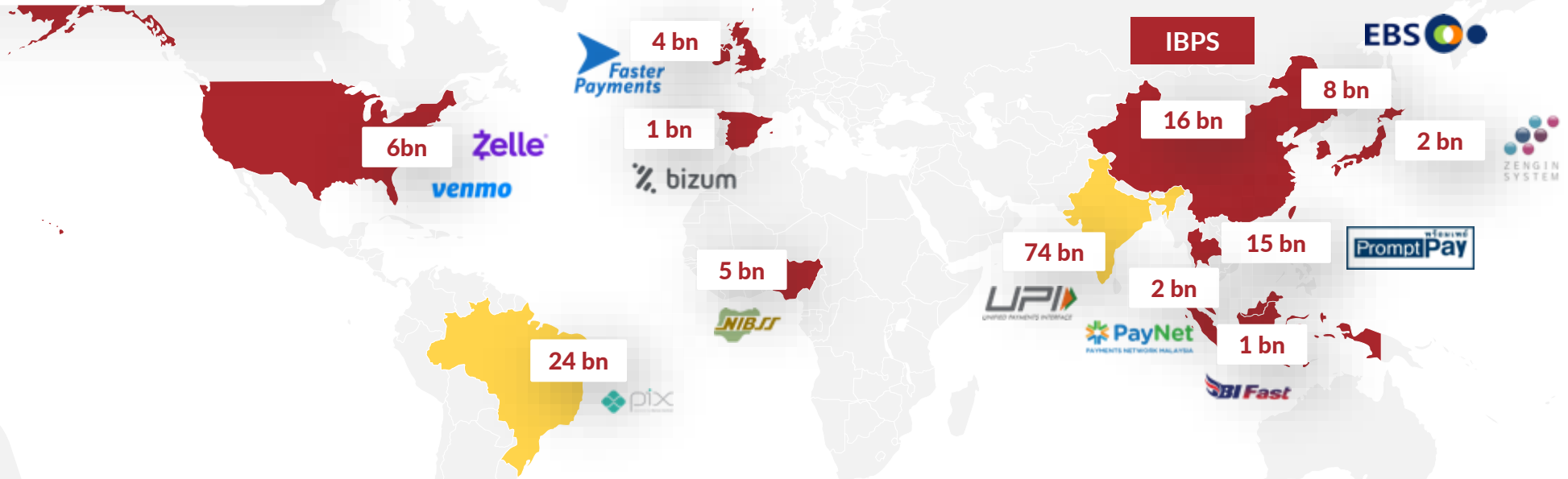
Real-time payment schemes

Top global cases

India and Brazil lead the pack, with a strong clusters in Asia trending toward xborder RTPs

Total 2022 instant payments transactions, #



Source: PCMI, central bank authorities, BIS and others

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PIX's rapid growth in Brazil showcases

the importance of RTPs in the country

$2.1 tn
trillion in transaction volume in 2022

High of
152 million
daily transactions, Sept 2023

2020
Year launched

81%
Adoption rate among consumers

Source: Central Bank of Brazil and IBGE

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In India, UPI is the absolute leader in

P2B and P2P payments

With low card penetration, India showcases how RTPs can disrupt the local payments ecosystem

Credit card penetration

5%

Debit card penetration

27%

Transaction volume (billion dollars USD)

	2020	2021	2022	2023
UPI YoY growth rate		112%	88%	56%
Cards YoY growth rate		7%	1%	-10%
UPI P2B	$85	$180	$340	$531
Cards POS	$67	$71	$72	$65

Source: RBI, The Times of India

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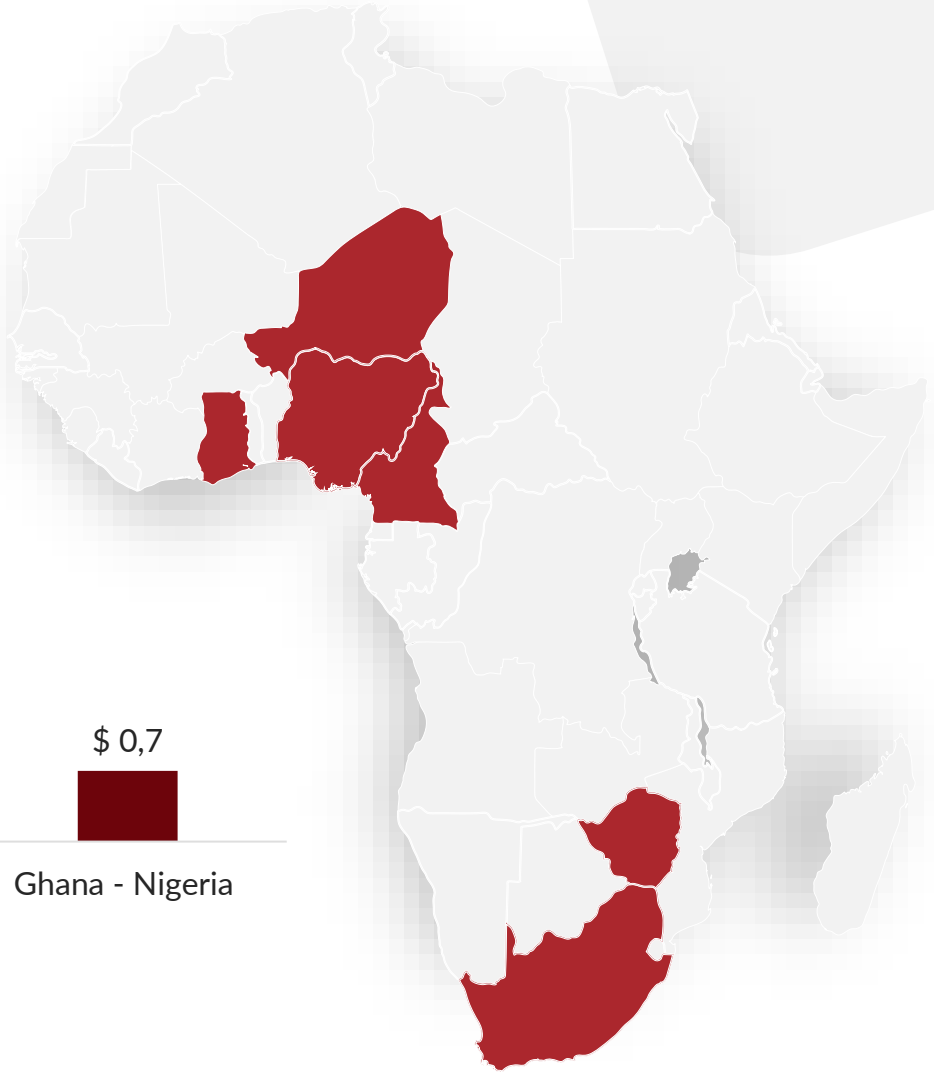
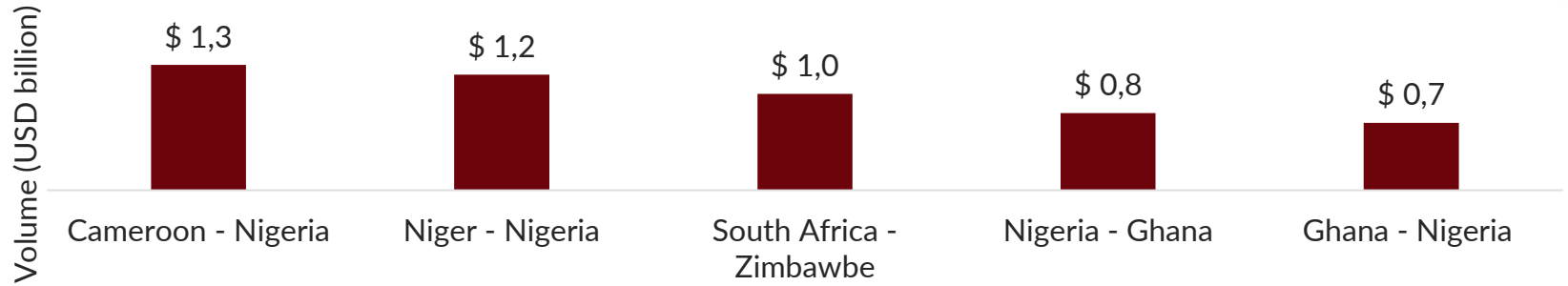
Largest intra-Africa remittances corridors

$19.4

Remittances sent intra-Africa (USD billion)



Intra-African remittances corridors



Source: Remitscope, World Bank

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Regional RTP initiatives

rising in Africa

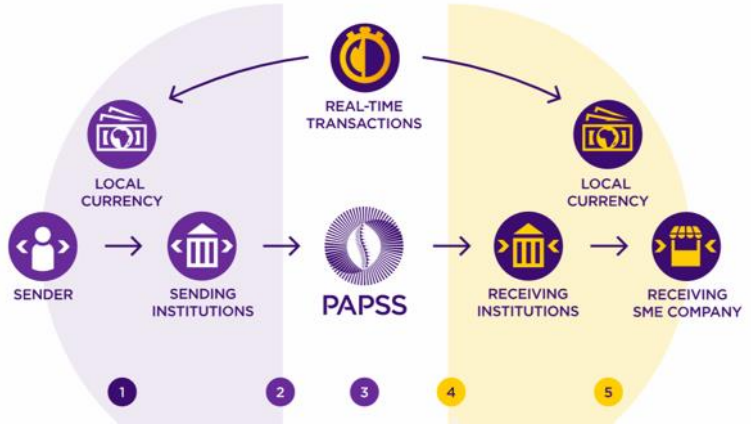
Africa is experiencing an increase in regional real-time payment infrastructure enabling instant account-to-account transactions

PAPSS
Pan-African Payment & Settlement System

A centralized payment, clearing and settlement system for intra-African trade payments developed by the Africa Export-Import Bank (Afreximbank)

1	Adopted as the payment and settlement system to support the African Continental Free Trade Area (AFCFTA)
2	Recognizes over **41 currencies** and enables instant, diaspora payments in local currencies between African markets
3	Nigeria and Ghana concluded the first successful transaction in October 2022 (currently in pilot test)
4	It will save Africa an estimated **$5bn** in x-border transaction costs every year
5	Six central banks and 36 commercial banks are live on the system as of June 2022.

Transactions using PAPSS



- An originator issues a payment instruction in their local currency to their bank or payment service provider
- The payment instruction is sent to PAPSS
- PAPSS validates the payment instruction
- The payment instruction is forwarded to the beneficiary´s bank or PSP
- The beneficiary´s bank clears the funds to the beneficiary in their local currency

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Source: McKinsey & Company; PAPSS

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Regional RTP initiatives

rising in Africa

Other multi-country RTPs are being developed in the continent but haven't gained traction yet

GIMAC

- GIMAC Pay is a cross-domain RTP in Central Africa
- Live in 2020
- Available in Cameroon, the Central African Republic, Chad, Equatorial Guinea, Gabon, and the Republic of the Congo.
- Africa's first regional RTP, providing interoperability across channels

TCIB
CROSS-BORDER PAYMENTS MADE EASY

- Transactions Cleared on an Immediate Basis (TCIB) is an interoperable RTP in the South African Development Community (SADC) region
- It enables cross-border payments in real-time.
- Live in 2021
- Available in Angola, Botswana, Comoros, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe

PCMI Source: AfricaNenda

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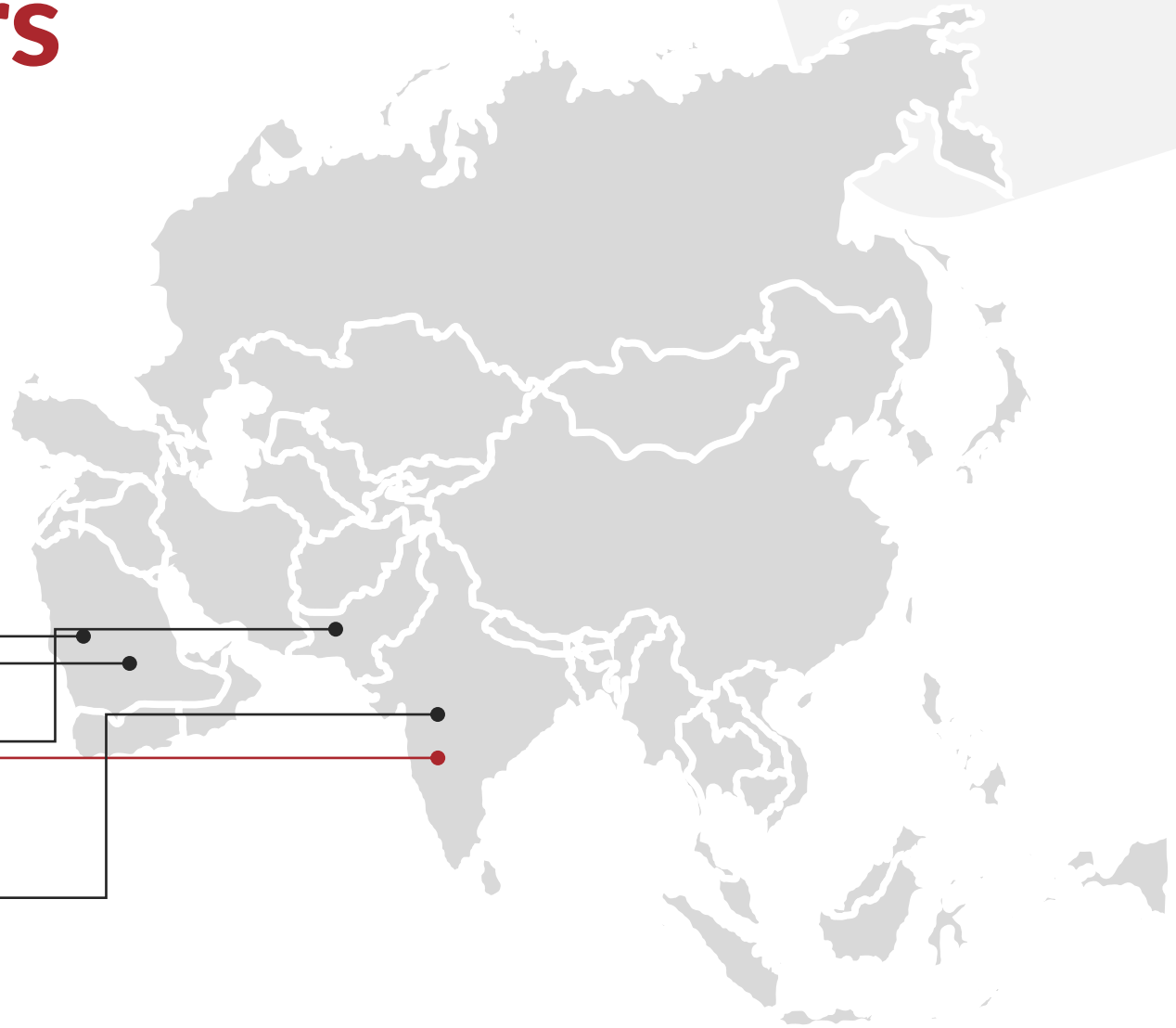
Largest remittances

intra-Asian corridors

1	UAE - India	$16 B
2	Saudi Arabia - India	$12 B
3	Saudi Arabia - Pakistan	$5 B
4	UAE - Pakistan	$4 B
5	Qatar - India	$3 B



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Source: WorldBank; PCMI

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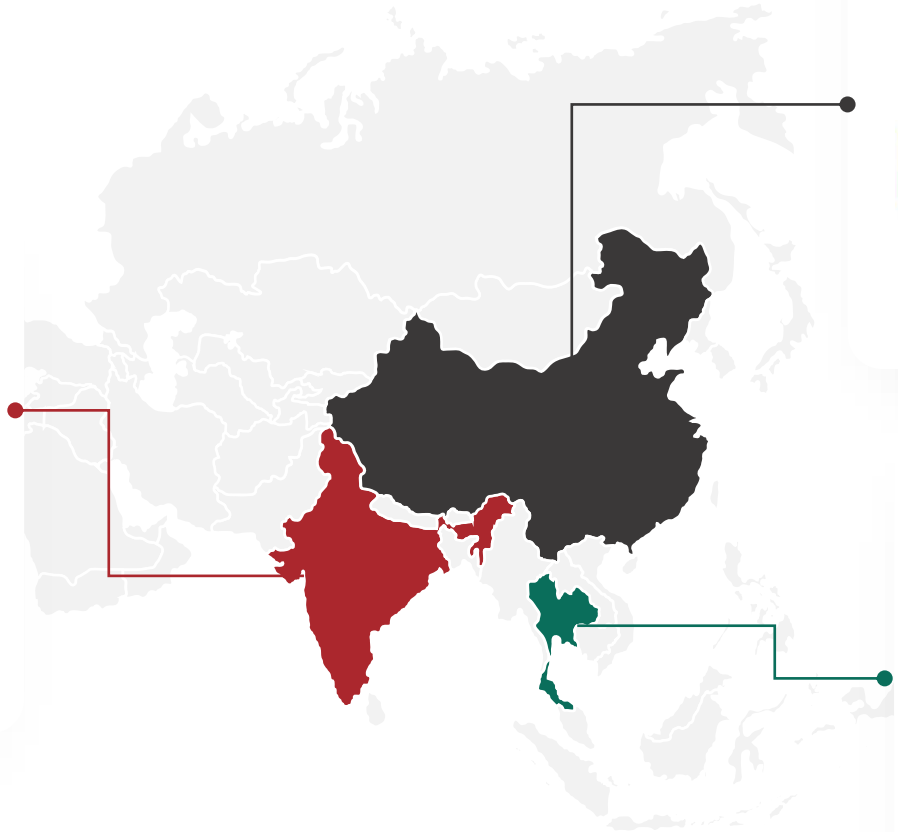
Asia RTP schemes are

strong and consolidated

Asia stars:
India and Thailand



IBPS

- **CHINA** Internet Banking Payment System (PBoC)
- Over 15 billion transactions/year, real-time used for transfers, mostly for funding wallets and higher ticket values.
- Superapps with instant payments are Alipay, over 700 million users (face ID for payments available > o,5bn used)
- WeChat, >1.2 billion users (online too)
- E-CNY threat - Central Bank to Push for Universal Digital Payment QR Codes
- Social e-commerce, TikTok (400mn users), Instagram challenging Alibaba/AliExpress

UPI

- Launched in **India** 2016
- 200 million users
- Over 380 banks+psp participants (21 in 2016)
- 74 bn transactions in 2022, 90% growth vs 2021
- Over $1.5 trillion in 2022. 170% growth vs 2021
- 96% of transaction made by PhonePe, GooglePay and PayTM

PromptPay

- Launched in **Thailand** in 2017. Over 60mn users (80% penetration)
- All banks are participants
- 15 bn transactions in 2022, 44% growth vs 2021
- Over $1.3 trillion in 2022. 30% growth vs 2021
- Central Bank app QR

PCMI Source: PCMI

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RTPs in Asia showcase huge potential

in x-border and remittances

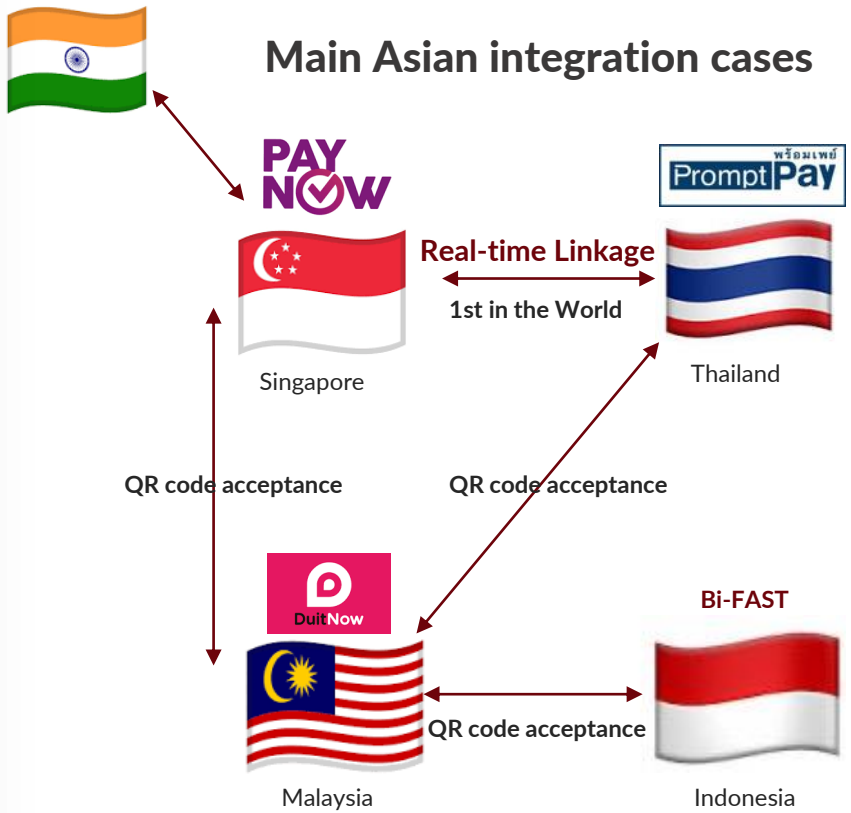
India UPI for xborder

Massive inbound and outbound remittance market

Countries already accepting UPI for x-border transactions:

- United Kingdom
- France
- Malaysia
- UAE
- Bhutan
- Oman
- Nepal

Main Asian integration cases



Card-powered xborder

Promptpay and PayNow were developed by **Vocalink,** a subsidiary of card-issuing **Mastercard**

VOCALINK mastercard

PCMI Source: PCMI

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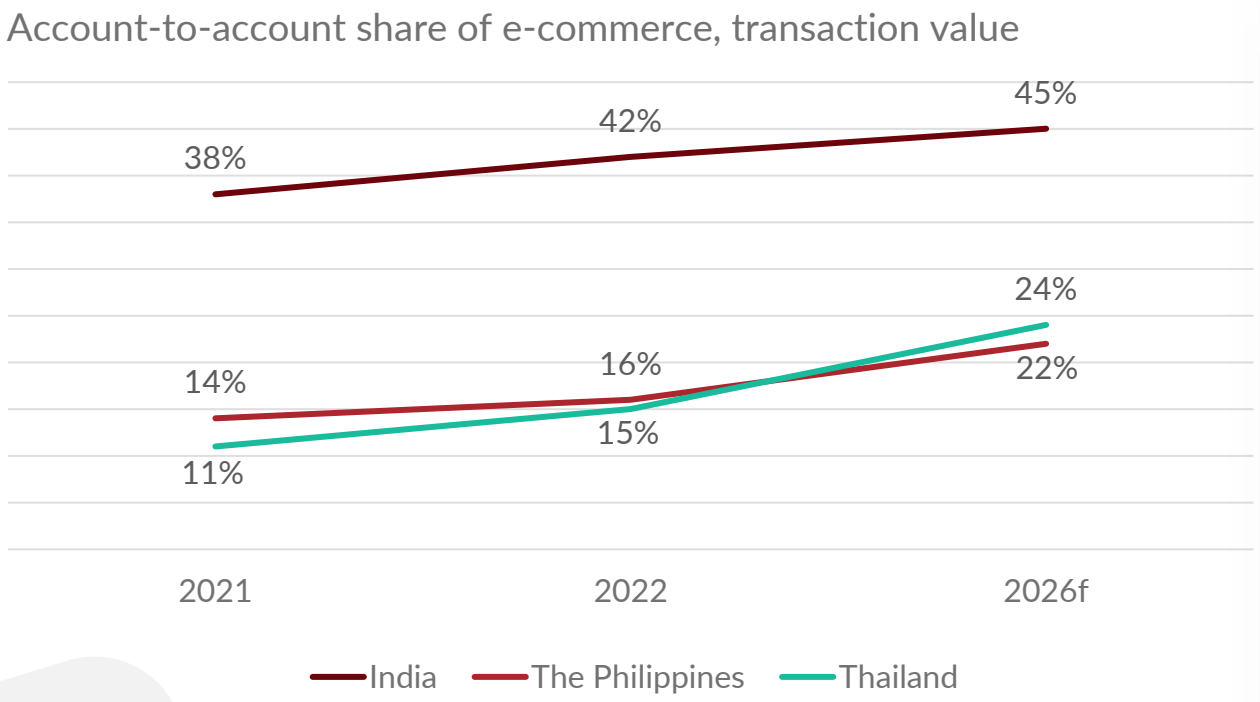
RTPs also show potential for

x-border payments in e-commerce

The rise of RTP is fueling A2A payments and x-border commerce across APAC



UPI and PPRO strike alliance to enable global e-commerce payments through UPI

- PPRO is a UK-based digital payments infrastructure provider, which powers a vast PSP and merchant network
- The partnership will help users shop in international stores using Indian Rupees via UPI.
- This will provide a seamless and secure payment experience to Indian consumers who make cross-border purchases

Source: FIS Global Payment Report 2023

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The role of fintech, blockchain-based solutions and CBDCs

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Fintech and blockchain-based solutions

are rising in Africa

Motivated to bring services to reduce costs in the most expensive global remittance market

Local fintech making it easier for Africans to send and receive money

	Country	Launched	Products
LemFi	UK	2020	• Multi-currency account • International transfers (20 countries) • Money request
eversend 0.5%-1.5% transaction fees	Uganda	2019	• Multi-currency wallet • International transfers • Virtual debit card
nala	Tanzania	2019	• X-border payments from UK, USA, and the EU to Africa

8.5% Average sending and receiving remittance fee in Africa (the **most expensive region to send money**)

Blockchain-based solutions enable cheaper transfers

Nigerian company Flutterwave launched two remittance corridors between Europe and Africa on the Stellar blockchain

Flutterwave

Stellar

CoinCorner and Bitnob teamed up to send remittances between the U.K. and Europe to Africa via Bitcoin Lightning Network

CoinCorner

bitnob

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Source: WorldBank, companies' website, Bloomberg

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CBDCs for x-border transactions:

What are Central Banks doing?

Despite having uneven progress on a global level, some CBDCs are trying to develop cross-border capabilities. The end of SWIFT?

Drex, Central Bank of Brazil CBDC

- Itau, one of the largest banks in Brazil, proposed the use of DREX to **facilitate x-border transfers between Brazil and Colombia** in a pilot test.
- Currency holders in Brazil and Colombia could exchange their currencies directly with each other instead of through correspondent banking

Digital Rupee, India

- Several national Indian banks have introduced **interoperability of UPI and Digital Rupee** (*Sep 2023*)
- Users can now use Digital Rupee to pay across any UPI QR Code.
- Indian CBDC (still in pilot phase) aims for cross-border trade with partner countries

THE DIGITAL DOLLAR PROJECT

Western Union

- The Digital Dollar Project (DDP) is a nonprofit organization created to encourage research on the potential advantages and challenges of a U.S. CBDC.
- The DPP conducted a pilot study with Western Union to evaluate the potential benefits of CBDCs for cross-border remittances using a DLT (distributed ledger technology) platform.
- Key benefits highlighted in the study: **1. Optimized cost; 2. Enhanced Customer Experience; 3. Improved visibility**

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Source: The Digital Dollar Project; The Economic Times

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Project mBridge:

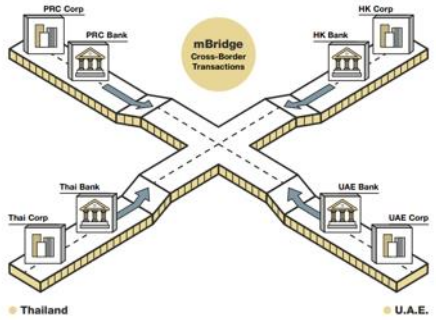
connecting economies through CBDCs

Digital Yuan took the scene and showed promising results in the largest cross-border pilot test to date using CBDCs

China
Digital Yuan

China's digital yuan (e-CNY) was the most issued and actively transacted token in the test as part of the **m-Bridge** project (October 2022)

m-Bridge pilots cross-border payments in digital currencies issued by central banks of China, Hong Kong, Thailand and United Arab Emirates.



China's top five state banks participated in the pilot, **settling the CBDCs on behalf of their corporate clients.**

The m-Bridge project aims to build a common platform for efficient, low-cost digital payment to promote global trade

PCMI Source: Reuters

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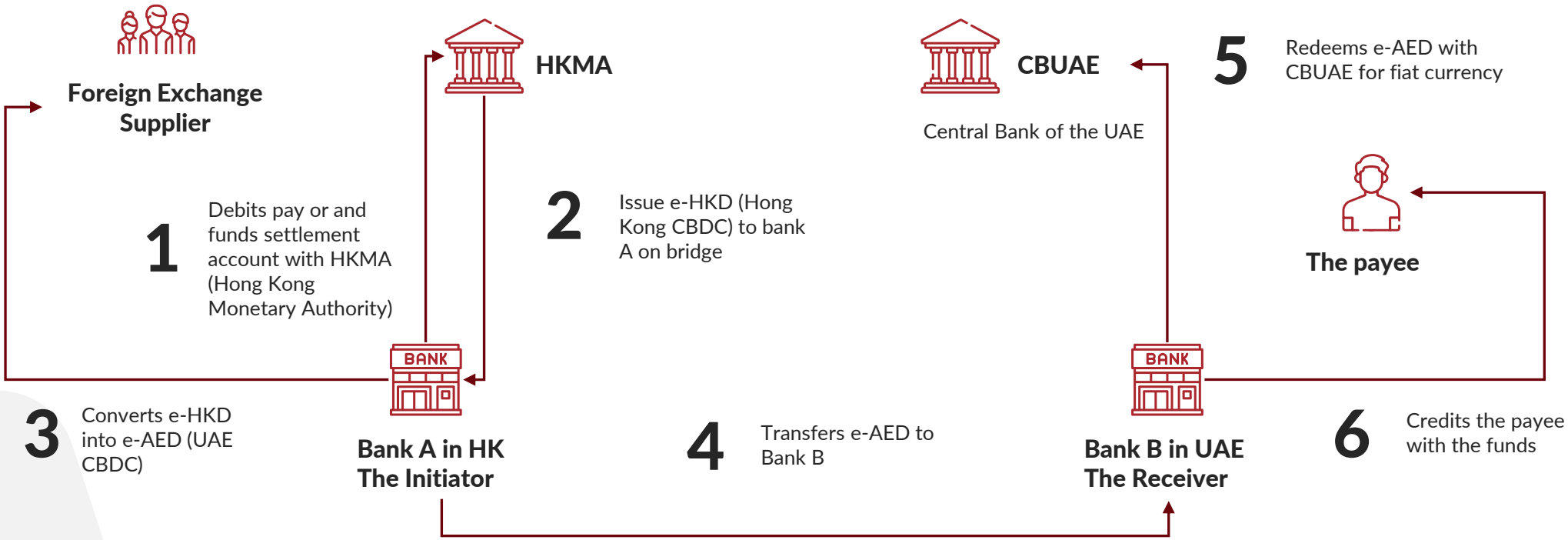
Project mBridge:

connecting economies through CBDC

E-AED (Dirham) and e-HKD (Hong Kong Dollar): Cross-Border transactions with CBDCs explained

Wholesale CBDC cross-border payment of a transaction from Hong Kong to UAE



Source: TABInsight

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Card-based money movement empowering wallets

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Visa Direct

How does VISA Direct work?

Visa Direct offers real-time push payment* capabilities that utilize Visa's global payment system.

Banks, businesses, and consumers can use the Visa network to send money to over one billion eligible Visa card accounts.

Use cases:

- **P2P payments:** remittances, paying bills, account transfer.
- **Funds disbursement:** refunds, rebates, payouts, loan distributions.

PCMI Source: VISA

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Visa Direct

main integrations to date

Since 2021, VISA Direct has achieved important integrations with major players in the remittances market

Remitly announces Visa Direct integration (*May 2021*)

Remitly's customers can now send money internationally directly to bank accounts by providing their recipient's name and 16-digit Visa debit card number.

Thunes integrates with Visa Direct's network (*Oct 2022*)

Thunes is a x-border payment infrastructure company

The integration will add more than 1.5 billion new endpoints to Visa Direct's network

Paysend expands its services with Visa Direct (*Feb 2022*)

The integration allows U.S. and U.K. customers to send funds to eligible Visa cards in 107 and 114 countries, respectively.

MoneyGram expands real-time P2P digital payments with Visa Direct (*Jan 2021*)

The integration allows MoneyGram users to send funds to eligible Visa debit cards in 25 countries in Europe.

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Source: Remitly, TechCrunch, PRnewswire, Paysend

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Mastercard Send

How does Mastercard Send work?

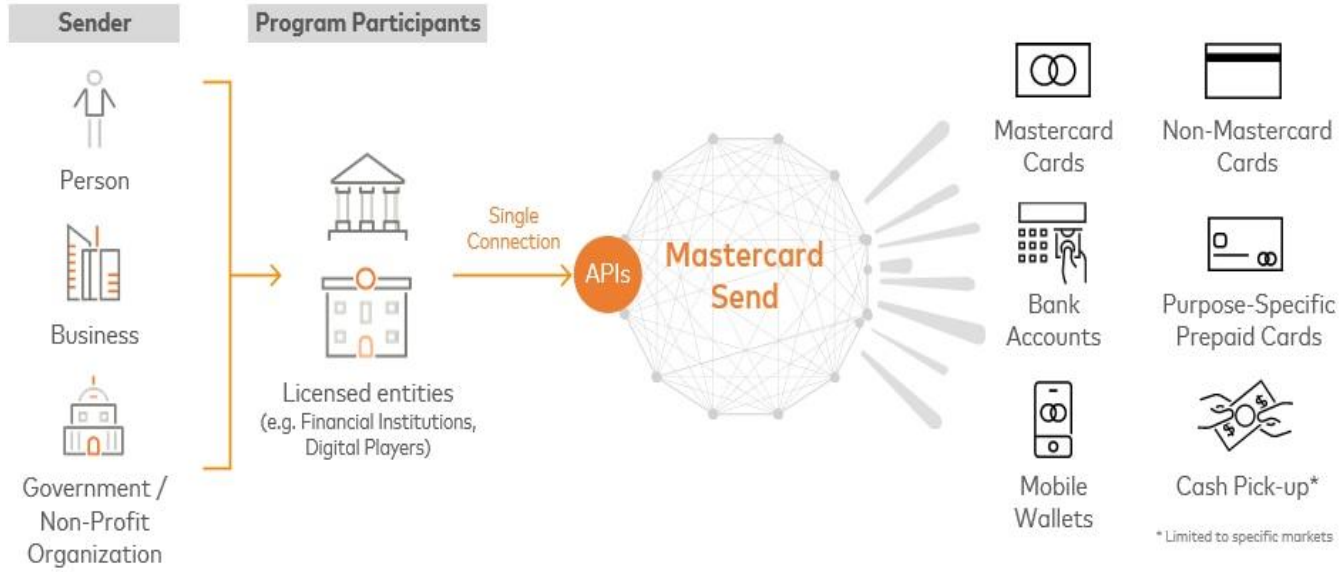
MastercardSend platform enables secure, near real-time payment transfers to and from billions of card, bank, and digital accounts globally.

Use cases:

P2P transfers: Person to person payments account to account (A2A) cross border transfers

Disbursement: Insurance claim payouts; On-demand wages/payouts; Rapid merchant settlement; Government/humanitarian aid

Gaming & Gambling payments: Gaming repay (winnings)



Source: Mastercard

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Mastercard Send

main integrations to date

Mastercard has also achieved significant recent integrations

Checkout.com to power instant money transfers in APAC via Mastercard Send (*March 2023*)

Starting in Australia, Hong Kong and Singapur, Checkout.com announced that Mastercard Send service will be available to customers, offering near instantaneous pay-out capabilities.

Nuvei integrates Mastercard Send for instant payouts within FX industry (*August 2023*)

This integration will enable the provision of early instant payout capabilities to online trading platforms and investors for users in the APAC region.

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Source: Mastercard

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Where is cash still strong?

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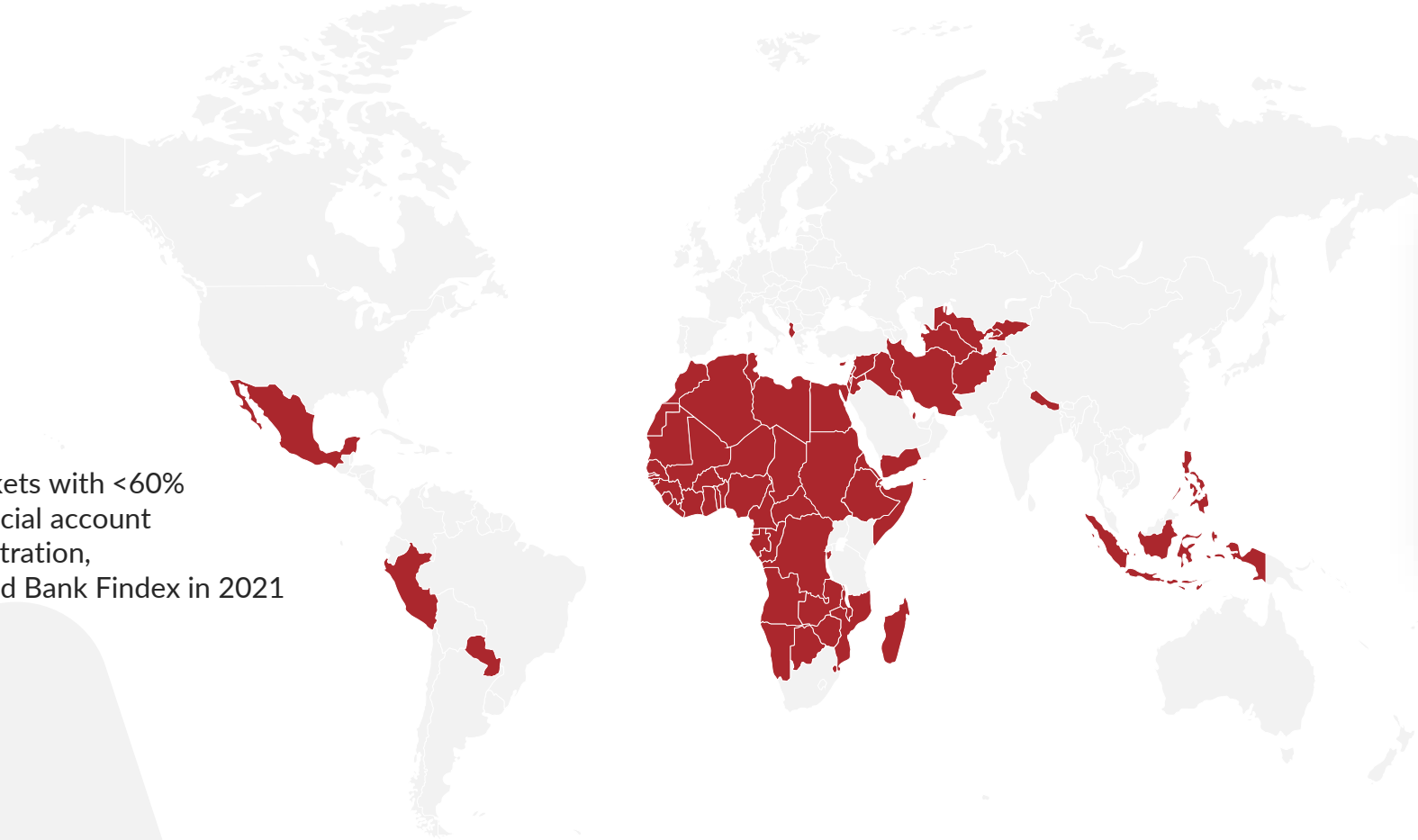
Account penetration is a proxy for cash usage

and indicates a cash-based strategy

Over 60 world markets have <60% financial account penetration



Markets with <60% financial account penetration, World Bank Findex in 2021

- These represent markets where cash is still culturally predominant
- Many are large markets with massive digital opportunity, i.e. Cameroon, Nigeria, Indonesia

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Source: World Bank Findex Report 2021

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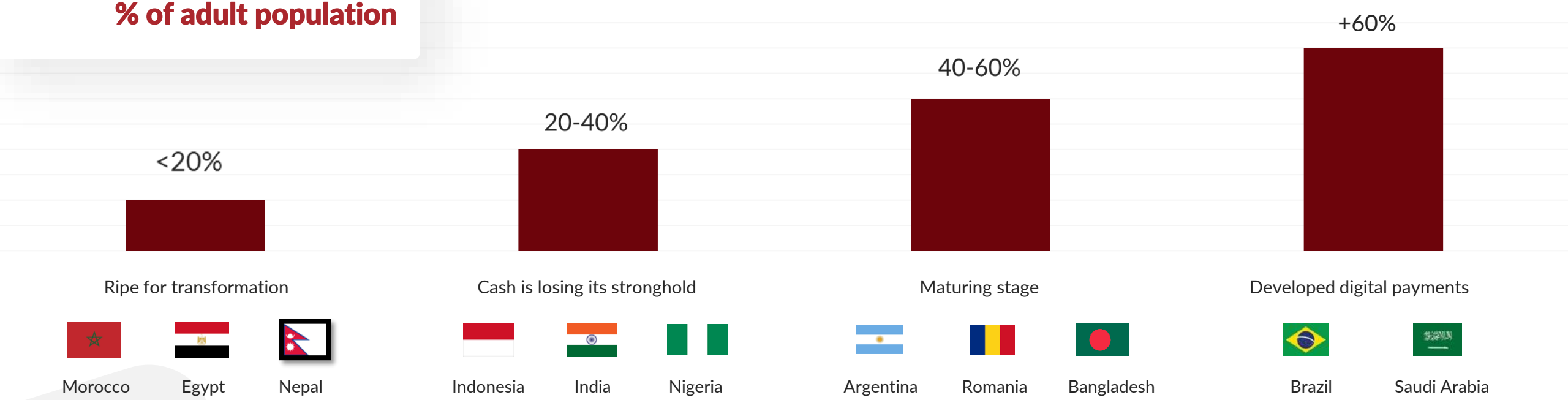
Understanding digital payment maturity around the world

Made a digital payment,
% of adult population



Source: World Bank Findex Report 2021

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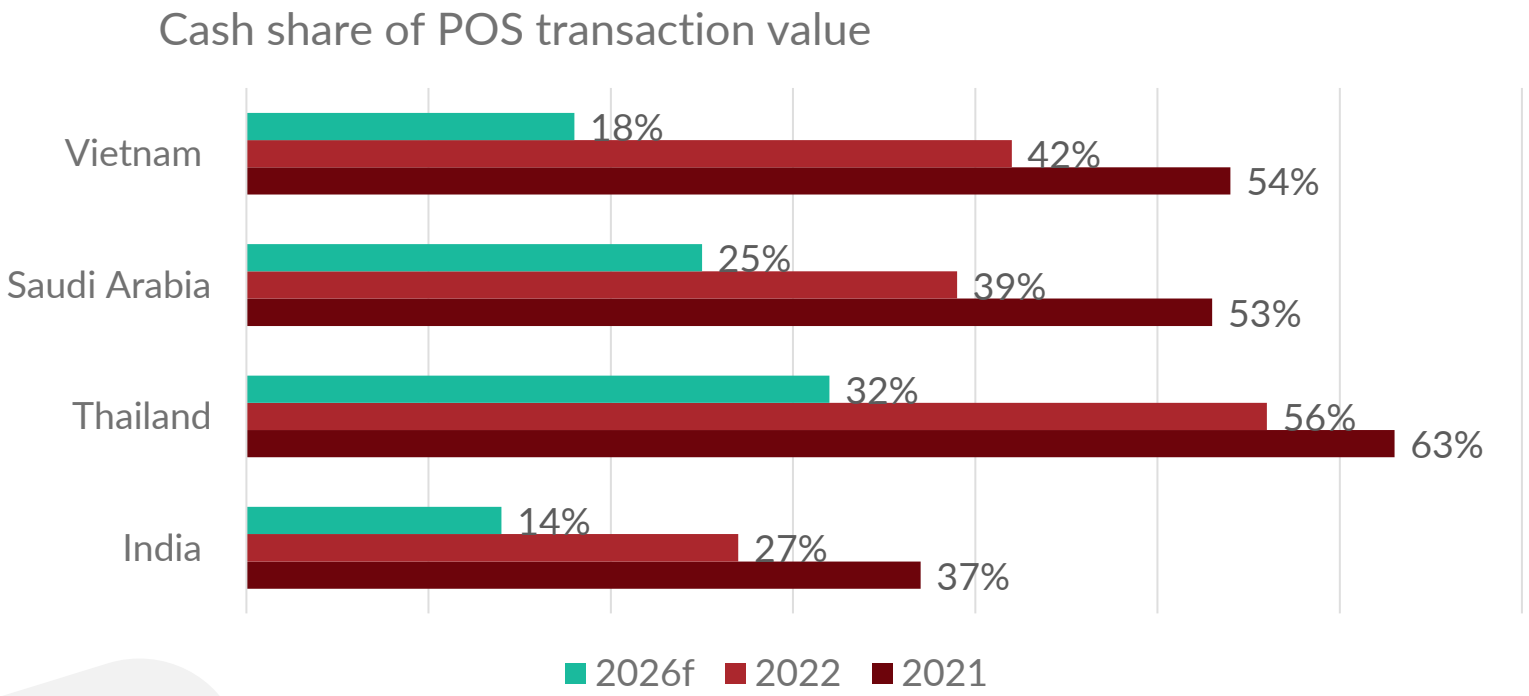
Cash's decline
takes different paths



Digital wallet Driven

BayanPay

Saudi Arabia

momo

Vietnam

RTP Driven

PromptPay

Thailand

UPI

India

Source: FIS Global Payment Report 2023

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Final thoughts

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1 We are headed toward an environment in which governments are not only payment system regulators, but direct competitors. **Expensive payment rails are on their way out**

2 This sets the foundation for the widespread deployment of CBDCs. In the long-term, this may disintermediate SWIFT, other xborder payment rails and even crypto. **Banks and fintechs should prepare for CBDC enablement**

3 The remittance industry is in a race to the bottom, and so far, there is very little business model innovation. **Industry practitioners must find new ways to add value**

4 In the short-term, there is still massive opportunity to solve age-old problems of cost, long settlement time and poor user experience. **Mainstream digital solutions still have a long runway**

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