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Cross-border Regulatory and Supervisory Issues of Global Stablecoin Arrangements in EMDEs



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Table of Contents

| | |
|--|----|
| Executive summary | 5 |
| 1. Introduction | 7 |
| 2. Potential use cases and activities related to stablecoins in EMDEs | 8 |
| 2.1. Overview of data sources on usage of stablecoins in EMDEs | 9 |
| 2.2. Use cases and factors driving stablecoin activities in EMDEs..... | 10 |
| 2.3. Current levels of stablecoin activity in EMDEs | 13 |
| 3. Financial stability risks of foreign currency-pegged stablecoin uptake for EMDEs..... | 17 |
| 3.1. Financial stability risks common to all types of economies..... | 17 |
| 3.2. Significant financial stability risks specific to EMDEs | 18 |
| 4. Progress in implementing regulatory frameworks..... | 19 |
| 5. Implementation challenges for EMDEs..... | 22 |
| 5.1. Challenges common to all types of jurisdictions | 22 |
| 5.2. Challenges specific to EMDEs..... | 23 |
| 6. Considerations to address identified challenges | 25 |
| 6.1. Considerations to promote cross-border cooperation..... | 26 |
| 6.2. Technical assistance | 27 |
| 6.3. Addressing data gaps | 28 |
| 6.4. Listing requirements for offshore stablecoins | 28 |
| 6.5. Improving digital payments infrastructure | 29 |
| 6.6. Regulatory sandboxes | 30 |
| 7. Conclusions and next steps | 31 |

Executive summary

Global stablecoins (GSCs), which are stablecoins that could be widely used as a means of payment and/or store of value across multiple jurisdictions, could pose significant risks to financial stability. The collapse and de-peg of certain stablecoins since the outbreak of the crypto-asset market turmoil in 2022 highlights the potential fragility of stablecoins that are not adequately designed and regulated. Stablecoins also present concerns related to financial integrity, illicit finance, data privacy, cyber-security, consumer and investor protections, market integrity, fiscal stability, and macroeconomic stability. While these risks and challenges are global, some emerging market and developing economies (EMDEs) may be exposed to additional risks and challenges associated with GSC activities.

EMDEs may be exposed to macro-financial risks arising from the use of foreign currency-pegged GSCs, which can increase financial stability risks by destabilising financial flows and straining fiscal resources. EMDEs may face additional implementation challenges due to several factors. These factors include heightened risks associated with the prevalence of foreign-currency-pegged GSCs and a relatively higher level of activity related to stablecoins prior to the establishment of a comprehensive regulatory framework, as well as the extensive cross-border operations of foreign-currency pegged stablecoins. Some EMDEs face supervisory, regulatory, or enforcement resource constraints. In addition, a stablecoin may become systemic in an EMDE before reaching the threshold for becoming systemically important in the jurisdiction where the GSC is domiciled. An EMDE authority may not have the tools and adequate enforcement powers to comprehensively regulate a foreign-issued stablecoin which is already systemic in that EMDE but not considered systemic in the jurisdiction in which the stablecoin is domiciled. Implementation of the FSB High-level Recommendations for the Regulation, Supervision and Oversight of Global Stablecoin Arrangements (“GSC recommendations”)¹ and crypto-asset activities and markets² will help address some of these risks.

The data and conclusions of this report are based on the available data and should, therefore, be treated as preliminary given the known data gaps. However, two case studies based on public blockchain data and preliminary analysis submitted by select EMDE authorities suggest a relatively higher level of interest in, and activities related to stablecoins in EMDEs compared to advanced economies (AEs). There are heterogenous reasons for this that include i) a perceived preference for US dollar (USD)-pegged stablecoins as a store of value in countries with high inflation, currency devaluation, or the presence of CFMs; ii) liquidity benefits to take speculative positions in various crypto-assets against USD-pegged stablecoins as opposed to other trading pairs; and iii) in limited cases, facilitation of cross-border payments and remittances. The factors driving higher levels of activity related to stablecoins in EMDEs also vary depending on the macroeconomic and demographic factors of individual EMDE jurisdictions. The use of stablecoins being used for illicit finance activity, as has been reported, could factor into the levels of interest and activities as well.

¹ FSB (2023), *High-level recommendations for the regulation, supervision, and oversight of global stablecoin arrangements: final report*, July.

² FSB (2023), *High-level Recommendations for the Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets: Final report*, July.

A targeted policy and regulatory response may be necessary to address the cross-border risks of foreign currency-pegged stablecoins in EMDEs.³ Comprehensive supervisory and regulatory frameworks, consisting at least of implementation of the FSB's crypto-asset and GSC recommendations, along with other relevant international standards, will help address financial stability and financial integrity risks while supporting macroeconomic policies and addressing other risks. Comprehensive supervision and regulation include efficient and effective cross-border cooperation and information-sharing among both AE and EMDE authorities. EMDEs may consider taking additional measures that go beyond the global regulatory baseline to address specific risks, depending on their country-specific circumstances. These additional measures include technical assistance, addressing data gaps, listing requirements for offshore stablecoins, improving digital payments infrastructure, and regulatory sandboxes.

As EMDE authorities continue to make progress on the implementation of the FSB recommendations, the FSB will continue to explore whether any additional initiatives are needed to strengthen international cooperation to address the challenges identified in this report.

³ The IMF-FSB Synthesis Paper (2023) outlines the comprehensive policy response for crypto-assets, including stablecoins, necessary to address the risks of crypto-assets to macroeconomic and financial stability. To address macroeconomic risks, jurisdictions should safeguard monetary sovereignty and strengthen monetary policy frameworks, guard against excessive capital flow volatility and adopt unambiguous tax treatment of crypto-assets. Comprehensive regulatory and supervisory oversight of crypto-assets can help to address financial stability and financial integrity risks while supporting macroeconomic policies.

1. Introduction

In September 2023, the IMF and the FSB submitted to the G20 a paper to synthesise the IMF's and the FSB's (alongside Standard Setting Bodies', "SSBs") crypto-asset policy recommendations and standards.⁴ The paper concludes with an implementation roadmap, which includes specific steps to build institutional capacity beyond G20 jurisdictions. Consistent with the implementation roadmap, the FSB undertook work to explore how to address the unique cross-border financial stability risks of GSCs specific to EMDEs and to consider ways to enhance supervisory and regulatory cooperation.⁵ More specifically, this report explores potential factors driving the higher level of activities related to foreign currency-pegged stablecoins in EMDEs and their associated financial stability risks and regulatory challenges. As discussed further, data gaps present a significant challenge to observing factors driving the higher level of activities with confidence. Finally, the report discusses considerations for EMDEs to address the financial stability risks and regulatory challenges of foreign currency-pegged stablecoins in their jurisdictions.

Some market participants perceive existing stablecoins as substitutes for fiat currency in the crypto-asset ecosystem. However, they are not widely used outside crypto-asset markets.⁶ The current market for stablecoins is dominated by USD-pegged stablecoins,⁷ particularly the USD-pegged stablecoins Tether (USDT) and USD Coin (USDC). There are few stablecoins pegged to EMDE currencies. Where those do exist, their total market value and levels of activity appear to be limited compared to USDT and USDC. Furthermore, while a stablecoin's peg may be to a major reserve currency, the main elements of the SAs, such as issuance and redemption, governance (including over the custody of reserve assets), exchange, and custody of user tokens may be located in jurisdictions other than that issuing the reserve currency, including in offshore jurisdictions.⁸ For example, USDT is reportedly issued by a company incorporated in Hong Kong that is wholly owned by a company registered in British Virgin Islands, and uses banks located in the Bahamas to process stablecoin issuance and redemption and a custodian in the United States.⁹ Therefore, it appears that stablecoins typically engage in some level of cross-border operations.¹⁰ Section 2 of this report describes some use cases that could be occurring in EMDEs and levels of activity related to stablecoins in EMDEs, while noting significant data gaps. The remaining sections describe the risks, implementation challenges, and considerations for EMDEs when confronted with GSCs or stablecoins that could become GSCs.

⁴ IMF and FSB (2023), *IMF-FSB Synthesis Paper: Policy for Crypto-Assets*, September.

⁵ In addition to the membership of the FSB, The Central Bank of the United Arab Emirates, the Securities Commission of the Bahamas, the Central Bank of Malaysia, and the Central Bank of Thailand contributed to this report.

⁶ FSB (2022), *Review of the FSB High-level Recommendations of the Regulation, Supervision and Oversight of "Global Stablecoin" Arrangements. Consultative report*, October.

⁷ As of 8 May 2024, 99.31% of fiat pegged stablecoin supply on the Ethereum blockchain reference USD. See <https://www.theblock.co/data/stablecoins/non-usd-pegged/share-of-fiat-backed-stablecoin-supply-in-usd-by-currency>.

⁸ The term "offshore" in this paper refers to jurisdictions that are classified as offshore financial centres. These are countries or jurisdictions that provide financial services to nonresidents on a scale that is incommensurate with the size and the financing of its domestic economy.

⁹ The description is based on various public sources. The governance structure and the registration locations of USDT have not been confirmed by any public authority.

¹⁰ For the purpose of this report, when an EMDE is using a foreign currency-pegged stablecoin, it is considered cross-border, regardless of whether the transaction itself is cross-border, because the entities within the stablecoin arrangement are often located in jurisdictions different from the EMDE.

Data gaps prevent regulatory authorities from understanding the degree and nature of stablecoin uses in EMDEs, and from conducting a comprehensive identification or analysis of the factors that might be driving stablecoin activities in EMDEs. This report uses a combination of publicly available commercial reports that use blockchain data and case studies of two EMDEs' domestic markets. Some observations are presented for the purpose of this report and may not be readily extended to all other EMDEs nor to AEs, whose market structure, use cases, and factors driving activities may be different.

Table 1: Top fiat pegged stablecoins by reference currency

| USD-pegged | | Euro-pegged | | Other fiat-pegged | |
|--------------------------------|--------------------|--------------------------------|--------------------|---------------------------------|--------------------|
| Name | Total Market Value | Name | Total Market Value | Name | Total Market Value |
| 1 Tether (USDT) | \$111,000mn | 1 STASIS EURO (EURS) | \$133mn | 1 Brazilian Digital Token (BRZ) | \$195mn |
| 2 USD Coin (USDC) | \$33,000mn | 2 EURC (EURC) | \$42mn | 2 BiLira (TRYB) | \$36mn |
| 3 DAI (DAI) | \$5,000mn | 3 Euro Tether (EURT) | \$39mn | 3 GYEN (GYEN) | \$14mn |
| 4 Other USD-pegged stablecoins | \$10,000mn | 4 Other EUR-pegged stablecoins | \$33mn | 4 Other fiat stablecoins | \$41mn |
| Total | \$159,000bn | Total | \$247mn | Total | \$286mn |

Source: CoinGecko, CoinMarketCap, as of 9 May 2024.

2. Potential use cases and activities related to stablecoins in EMDEs

Data gaps and challenges continue to prevent authorities from making more conclusive or empirical assessments of stablecoin activities. Still, a range of different data sources (such as public blockchain data,¹¹ Google Trends, Statista, and data gathered via APIs of various crypto-asset trading platforms¹²) preliminarily suggest a relatively higher level of interest and activity related to stablecoins in EMDEs compared to AEs. While data sources are inconsistent and yield divergent results in the levels of activity related to stablecoins in specific EMDEs, they suggest that most crypto-asset activities with an EMDE nexus are related to stablecoins. These sources suggest that foreign currency-pegged stablecoins represent a significant majority of stablecoin activity with an EMDE nexus, and that the top two USD-pegged stablecoins, USDT and USDC, hold a significant share of the stablecoin market in EMDEs, with very few non-USD-pegged foreign stablecoins or local currency-pegged stablecoins used in EMDEs.

¹¹ This includes data published by these sources and data in their published reports. The latter may result from an entity-based methodology to analyse public blockchain data or other public data sources.

¹² An Application Programming Interface (API) is a set of rules and tools that allows different software programs to interact with each other. In the context of crypto-asset markets, APIs provide a means for computer programs to retrieve data such as price and trading volume from crypto-asset trading platforms.

The main use case for stablecoins by wallets appearing to be owned by EMDE users may be related to USD exposure. The primary reasons for activities related to USD-pegged stablecoins in certain EMDEs may be related to i) a perceived preference for USD-pegged stablecoins as a store of value in countries with high inflation, currency devaluation, or the presence of CFMs; ii) liquidity benefits to take speculative positions in various crypto-assets against USD-pegged stablecoins;¹³ and iii) in limited cases, facilitating cross-border payments and remittances. The factors driving activities related to stablecoins in EMDEs may vary depending on the macroeconomic and demographic factors of individual EMDE jurisdictions.

Industry proponents claim that stablecoins offer a wide range of benefits, including cheaper and faster cross-border payments, increased financial inclusion, and greater portfolio diversification. Most stablecoins are issued on permissionless blockchains, which act as an open-source settlement layer that allows for programmable and interoperable financial architecture to be built on top of it. However, review of real use cases suggests that many of these purported benefits have not materialised, and stablecoins are also reported to have ties to uses related to illicit finance activity. Authorities should comprehensively assess the costs and benefits of stablecoins to inform policy decisions.

2.1. Overview of data sources on usage of stablecoins in EMDEs

There are a number of public blockchain data sources and commercial data providers within the stablecoin and broader crypto-asset market, whose data may be incomplete, unverified, and divergent, but which can provide some insights into transaction volumes and overall crypto-asset trends. Blockchain analytics firms and data sources provide certain transaction details, such as wallet addresses and other blockchain data, industry reported market prices and trading volumes, and other metrics. In certain cases, stablecoin arrangements and crypto-asset service providers may also make some disclosures.¹⁴ Commercial firms that specialise in analysing public blockchain data offer their services to the crypto-asset industry as well as to public authorities.

However, these data sources are not comprehensive due to the underlying limitations of public blockchain data and unavailability of related off-chain data. The pseudonymity of public blockchains makes identifying ultimate users or jurisdictions where activity is taking place more difficult or, in many cases, impossible. In addition, public blockchain data is difficult to interpret, its analysis requires specialised tools and skills, and it may include fake or manipulated transactions, thus rendering any results of analyses inconclusive and uncertain. Such data may also include wash trading or bot activities that largely inflate trading volumes, which may be prevalent for many stablecoins.¹⁵ For these reasons, the data and conclusions of this paper should be treated as preliminary, based on available data.

¹³ Speculative trading activity in crypto-assets is largely self-contained and has limited connections to the real economy both in AEs and EMDEs. Many intermediaries, particularly trading and lending platforms, have sought to grow rapidly by advertising high returns and investing in risky products provided by other intermediaries.

¹⁴ Depending on the jurisdiction where the stablecoin arrangement (SAs) or crypto-asset service provider (CASPs) is registered or licensed, disclosures may or may not be required by local regulations, may not be fully audited, and SAs and CASPs may be in non-compliance with disclosure requirements.

¹⁵ For example, a recent report by VISA suggested a large portion of stablecoin transactions are related to various inorganic activities. <https://visaonchainanalytics.com/transactions>

A more comprehensive analysis, which can provide a more holistic view of activities related to stablecoins, requires an examination of not just on-chain data: it necessitates combining on-chain data with off-chain data, which are often not available or incomplete. On-chain and off-chain data can include the type of data that is normally provided to authorities through confidential regulatory filings or supervisory monitoring, which may include details of on-chain and off-chain transactions, the issuers and holders of stablecoins (including geographic locations), and the purpose of a particular stablecoin transaction. However, this assumes that jurisdictions have frameworks that cover such data and that market participants are acting in compliance with those frameworks. Public blockchains are not substitutes for important supervisory information, such as information that relates to governance, financial positions, and risk management arrangements of the stablecoin issuers, other service providers and market participants. In many jurisdictions, additional data are becoming available through tax authorities, information gathering by supervisory authorities, disclosures and reporting by crypto-asset trading platforms, and foreign exchange reporting requirements. Implementation of the GSC recommendations, as well as the FATF and IOSCO recommendations, would further improve the availability of relevant information from compliant GSC issuers and, where applicable, other participants in GSC arrangements.

2.2. Use cases and factors driving stablecoin activities in EMDEs

Regarding the higher levels of activity related to stablecoins in EMDEs, existing reports do not identify a clear and decisive factor driving this trend. Macroeconomic and demographic factors could be playing a role. Macroeconomic factors include high inflation or currency devaluation that pose a challenge to domestic currency as a medium of exchange and a store of value (and the potential risk of CFMs circumvention), and the search for yield (using stablecoins as a perceived stable leg in speculative crypto-asset trading pairs or as collateral in crypto-asset lending and borrowing activities). Currencies of EMDEs in which crypto-asset activities are relatively higher (Türkiye, Thailand, Brazil, Indonesia, Russia, Ukraine) according to selected sources of public blockchain data exhibit significant trading volumes against the most traded USD stablecoin USDT (Graph 1, panel 2). Demographic factors may also be a driver of higher stablecoin activities in EMDEs. Relevant factors could include younger populations, which may be more technology savvy, and have greater access than older populations to the internet via mobile phones.

USD-pegged stablecoins may in some cases be more accessible as a vehicle to users in EMDEs to gain exposure to US dollar assets. BTG Dol, a USD-pegged stablecoin issued by a Brazilian investment bank is explicitly marketed as a store of value for Brazilian residents (Box 1). “Reserve”, a start-up launched in Venezuela in 2019 and in Argentina in 2021, offers a USD-pegged stablecoin Reserve Dollar (RSV) to users mainly located in Venezuela, Argentina, and Colombia. This service is marketed to its users as a way to protect against inflation in EMDEs, and to protect the value of remittances for Venezuelans living overseas amid the bolivar’s sharp depreciation.¹⁶

¹⁶ See Appendino et al. (2023) *Crypto Assets and CBDCs in Latin America and the Caribbean: Opportunities and Risks*, February.

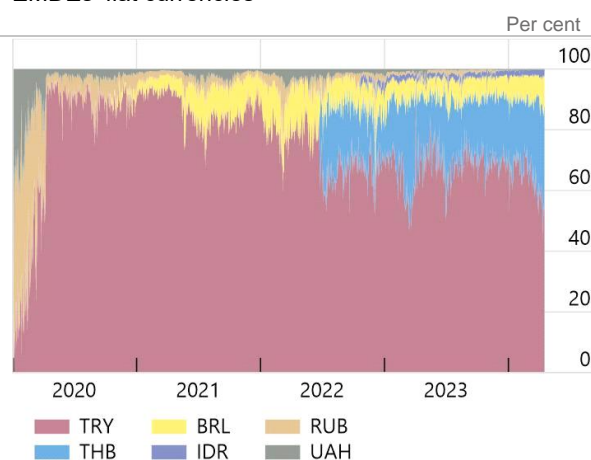
Tether trading volumes

Graph 1

Tether trading volumes vis-à-vis top 10 fiat currencies¹

| Currency | Trading volume (1Y, USD bn) |
|----------|-----------------------------|
| USD | 130.2 |
| EUR | 58.8 |
| TRY | 39.0 |
| THB | 12.7 |
| GBP | 5.4 |
| BRL | 4.2 |
| CHF | 1.2 |
| IDR | 1.1 |
| AUD | 1.0 |
| CAD | 0.4 |

Share of Tether trading volumes vis-à-vis top 6 EMDEs' fiat currencies



¹ As of 15 April 2024.

Sources: CCData; FSB calculations.

USD: U.S. Dollar; EUR: Euro; TRY: Turkish lira; THB: Thai baht; GBP: British pound; BRL: Brazilian real; CHF: Swiss franc; AUD: Australian dollar; IDR: Indonesian rupiah; CAD: Canadian dollar; RUB: Russian ruble; UAH: Ukrainian hryvnia.

Box 1: BTG Dol Stablecoin

Brazilian investment bank BTG Pactual launched BTG Dol, a USD-pegged stablecoin in April 2023. BTG Pactual is the largest investment bank in Latin America with more than \$260 billion of assets under management in 3Q2023 and a significant presence in the Brazilian retail sector.

BTG Dol is explicitly marketed as a product to gain exposure to the US dollar. BTG Pactual's website and marketing materials claim BTG Dol can allow clients to diversify portfolios by dollarising their wealth with simplified taxation, lower costs, immediate liquidity, and a secure and innovative solution for holding assets in US dollars while eliminating the need for an overseas bank account. The stablecoin's whitepaper specifically emphasises that "allocating to dollar-denominated stablecoins can be an effective way for residents of developing countries to hedge against their country's inflation and maintain their purchasing power, especially when their country's fiat currency is unstable and prone to significant fluctuations. Therefore, the objective is to reduce the exposure of your wealth to the risks of your country's economy."¹⁷

BTG Pactual claims the stablecoin is backed "by US dollars or low-risk, highly liquid US dollar investments, kept in segregated accounts with the sole purpose of ensuring/controlling the maintenance of token backing."

This stablecoin can be accessed through Mynt, BTG Pactual's crypto-asset platform, and BTG Pactual's traditional bank channels. Currently, users can only use BTG Dol as a store of value in their accounts and cannot transfer BTG Dol outside of the Mynt app. However, BTG Pactual has stated the initial launch of the stablecoin will include limited features, with more features added over time.

The BTG Dol stablecoin raises cross-border regulatory and supervisory challenges. The design of the stablecoin is inherently cross-border with users primarily located in Brazil, the reserve assets

¹⁷ See [here](#).

denominated in U.S dollars, and other aspects of the stablecoin arrangements located in different jurisdictions (e.g., issuance and custody).

According to a survey by Statista, about one-third of central banks surveyed reported that stablecoins have potential uses in EMDEs beyond speculative trading, for example in cross-border payments.¹⁸ The use of stablecoins in cross-border payments (such as remittances) could present opportunities, but also a number of challenges. Analysis from the Committee on Payments and Market Infrastructures (CPMI) reveals that even if an SA is considered properly designed and well-regulated and could help to address specific cross-border payment frictions, it may not necessarily have a positive impact on cross-border payments as the drawbacks could outweigh any potential benefits.¹⁹ For example, properly designed and well-regulated stablecoins still present challenges related to competition, consumer and investor protection, market integrity, data privacy, and anti-money laundering (AML)/combatting the financing of terrorism (CFT), and they could lead to a more fragmented or fragile monetary system and impair financial stability.

The usage and offering of digital remittance services²⁰ has increased over time, as monitored by the World Bank initiative Remittances Prices Worldwide (RPW),²¹ constituting approximately one third of the remittances services monitored by the database in 2023.²² As of Q2 2023, RPW records the Global Average cost for sending remittances at 6.2%, whereas the Global SmaRT Average was recorded at 3.6%.²³ Both cost indicators are above United Nations Sustainable Development Goal (UN SDGs) and G20 targets.²⁴ Digital remittances are 1.6 percentage points cheaper than cash-based remittances and they require a transaction account.²⁵ These analyses do not provide data on the contribution of stablecoins to digital remittances. It is likely that stablecoins have a de minimus contribution or are not even used for remittances. However, the increasing demand of digital remittance services may provide potential scenarios where stablecoins can provide a new payment channel in EMDEs.

Depending on design, SAs may help address other purported frictions affecting cross-border payments – or create new frictions. The use of stablecoins has equivocal implications on the frictions that characterise international remittances. Stablecoins may alter remittances' fee structure depending on the remittance model. In the end-to-end model, users may incur buying/cash-in fees, transfer/network fees and withdrawal/cash-out fees. Price fluctuations or other events may result in financial losses for stablecoin holders and, in the event of foreign currency-pegged stablecoins, users may be exposed to adverse FX movements. Remittance

¹⁸ See Statista (2022), Use of stablecoins as a payments method outside the crypto ecosystem according to central banks worldwide in 2022, October.

¹⁹ See CPMI (2023) Considerations for the use of stablecoin arrangements in cross-border payments.

²⁰ In the context of the World Bank report, a digital remittance is a remittance that must be sent via a payment instrument in an online or self-assisted manner, and received into a transaction account, i.e. bank account, transaction account maintained at a non-bank deposit taking institution (e.g., a post office), mobile money or e-money account.

²¹ See World Bank (2023) Remittances Prices Worldwide – Quarterly Analysis of trends in cost of remittances services.

²² In 2011, digital remittance services were around 25% of the services included in RPW.

²³ SmaRT aims to reflect the cost that a savvy consumer with access to sufficiently complete information could pay to transfer remittances in each corridor. For more information, consult <https://remittanceprices.worldbank.org/>.

²⁴ Three percent for the Global Average and no corridor above five percent by 2030.

²⁵ Stablecoin based services are not included in the RPW database because stablecoins/crypto-based remittances services do not have a sufficiently large market share to be included in RPW (RPW methodology covers services offered by regulated providers which have a market share of 1% or larger in each corridor).

senders and recipients in the end-to-end model may not have access to complete or consolidated information on the total cost of the transaction and opportunity cost of holding stablecoins.

Industry participants claim SAs could make cross-border payments more accessible to end users by expanding the set of payment options.²⁶ In practice, expanding access by remittance recipients in developing countries may require robust and secure “cash-in/cash-out” functions through physical agent networks. It is also unclear whether SAs could help mitigate other challenges to acquiring transaction accounts, such as lack of ID, poor connectivity, and sparse coverage of access points.²⁷

2.3. Current levels of stablecoin activity in EMDEs

Due to the data gaps mentioned above, it can be challenging to determine the actual level of activity related to stablecoins across jurisdictions. Overall, public data from Chainalysis, Google Trends, Statista and via APIs of various crypto-asset trading platforms suggest a relatively higher level of activity related to stablecoins in EMDEs as compared to AEs. While there are innate challenges with identifying the geographic locations of users, a range of different, albeit untested and novel, methodologies indicate higher levels of activity related to stablecoins in some EMDEs compared to the major AEs (except the United States).

Using crypto-asset activity as a proxy for stablecoin activities, and according to Chainalysis, 9 out of the top 10 jurisdictions where crypto-asset services are most heavily used are EMDEs (Graph 2). The Statista survey indicates countries with the highest percentage of users that own or have used crypto-assets are also EMDEs (Graph 2).²⁸ While Chainalysis and the Statista survey both indicate EMDEs exhibit higher levels of activity related to crypto-assets as compared to AEs, there are important differences due to methodological challenges and data gaps. Other data analyses identify a significant share of crypto-asset activity originating from crypto-asset trading platforms based outside of major AE jurisdictions, including in the Seychelles and the British Virgin Islands.²⁹ Given that more than 99% of all stablecoins in circulation by total market value are pegged to the USD, it is likely that the majority of stablecoin activity in EMDEs relates to USD pegged stablecoins (which are inherently cross-border from an EMDE perspective, notwithstanding that the SAs may have the majority of their operations also in EMDEs).

Despite the ‘crypto winter’ in 2022, crypto-asset usage has not reduced substantially and has even increased in some EMDEs.³⁰ Lower middle-income countries have seen the largest rebound since the crypto winter, with one industry report indicating that Nigeria, Saudi Arabia, and Vietnam all experienced year-on-year growth of approximately 10% between June 2022 and June 2023.

²⁶ CPMI, “Considerations for the use of stablecoin arrangements in cross-border payments”, October 2023.

²⁷ See World Bank, Bank for International Settlements, “[What Does Digital Money Mean for Emerging Market and Developing Economies](#)”, 2022.

²⁸ See Chainalysis, [2023 Geography of Cryptocurrency Report](#), October 2023.

²⁹ See BIS Innovation Hub, [Project Atlas](#), 4 October 2023; and Crystalblockchain, [Geography of Transactions](#), 2021.

³⁰ See Chainalysis, [2023 Geography of Cryptocurrency Report](#), October 2023.

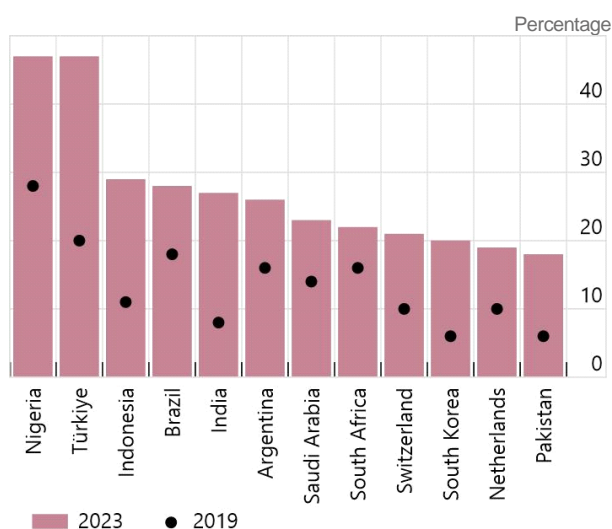
Crypto-assets activity

Graph 2

Global Crypto-assets Adoption Index as of 2023* (Chainalysis)

Statista survey: crypto-assets use¹

| Country | FSB/RCG Member | Chainalysis Overall index ranking |
|---------------|----------------|-----------------------------------|
| India | FSB | 1 |
| Nigeria | RCG | 2 |
| Vietnam | RCG | 3 |
| United States | FSB | 4 |
| Ukraine | RCG | 5 |
| Philippines | RCG | 6 |
| Indonesia | FSB | 7 |
| Pakistan | RCG | 8 |
| Brazil | FSB | 9 |
| Thailand | RCG | 10 |



¹ Share of respondents who indicated they either owned or used crypto-assets from 2019 to 2023. Survey conducted in 56 countries. 12,000 or 2,000 respondents per year depending on whether the country has brands included in the Statista Global Survey.

* The Chainalysis Crypto Adoption Index ranks 154 countries based on countries usage of different types of crypto-asset services. Rankings are weighted by characteristics like population size and purchasing power. The overall index ranking is the geometric mean of each rank across the five activity services.

Sources: Chainalysis; Statista.

Data gaps remain a significant concern for public sector authorities, largely due to gaps in how existing reporting frameworks apply to crypto-assets, or, in some cases, due to market participants acting in non-compliance with existing applicable frameworks. The data from private sector blockchain analytics firms can provide a useful tool for authorities although supervisors should understand limitations, which may be significant in some cases. Public sector data collection can assist in trying to fill these gaps, though the currently operational reported data sets have their own limitations. For example, public sector data collected in large EMDEs, including Brazil and Argentina, suggests a lower level of transaction volumes than those reported by public blockchain analysis firms. Developments by global bodies like Project Atlas, currently in a proof-of-concept phase, from the Bank for International Settlements may also be tools to help better inform regulatory authorities. Overall, the absence of quality data underscores the importance of authorities addressing gaps in their reporting frameworks, or enforcing areas of non-compliance so crypto-asset activity is as transparent as similar activity in traditional finance.

The differences in transaction volumes between commercial data providers and public sector sources could be due to methodological differences as well as the broader scope of data collection by commercial data providers that analyse all public blockchain data compared to public sector sources, which primarily include registered entities and reported transactions. To a certain extent, these available data sources indicate that stablecoins are the predominant type of crypto-asset in terms of proportion of transaction volumes where at least one side of a trading pair is a stablecoin.

Two case studies based on public blockchain data and preliminary analysis by some EMDE authorities suggest a relatively higher level of interest in and level of activity related to stablecoins in EMDEs compared to AEs.

Brazil

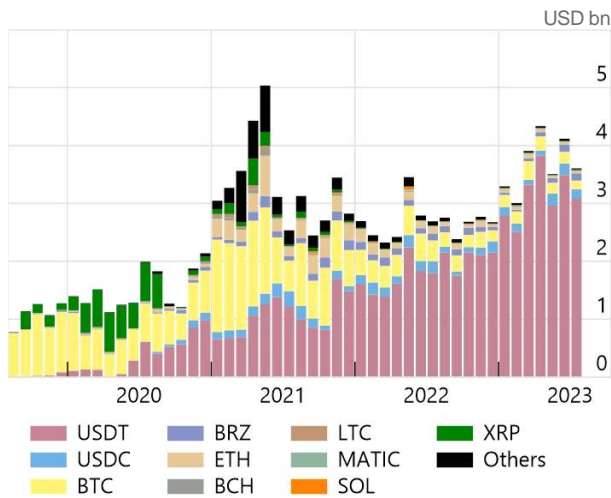
In Brazil, where the regulation of crypto-assets has not yet come into force, the Central Bank of Brazil measures the volume of crypto-asset flows between Brazil and the rest of the world through its International Transaction Reporting System (ITRS). The ITRS captures all foreign exchange (FX) transactions, including those performed to buy and sell crypto-assets abroad. The Central Bank of Brazil estimates net imports of \$8.3bn of crypto-assets from July 2022 to June 2023. In addition, the Federal Revenue Service of Brazil (RFB) has been collecting crypto-asset data since 2019 from users (taxpayers) and crypto-asset trading platforms headquartered in Brazil. RFB registered \$38.1 billion worth of transactions between July 2022 and June 2023, with stablecoins representing 93% of the total volume (85% of which in turn comes from USDT alone). The RFB data also suggests growing levels of activity related to stablecoins, as the number of legal and natural persons who reported ownership of stablecoins and crypto-assets has increased over the same period by 178% and 114%, respectively. Chainalysis estimates that the value of crypto-assets received by Brazil from July 2022 to June 2023 is greater than US\$ 80 billion, of which more than 60% are stablecoins. The same report indicates that USDT is the most-purchased crypto-asset with the Brazilian Real on crypto-asset trading platforms with more than 50% of the orderbook.

Brazilian Federal Tax Revenue Service transaction reporting on crypto-assets

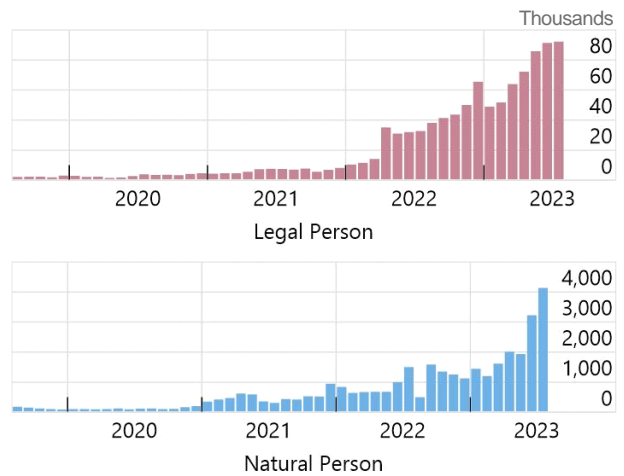
The 10 most traded crypto-assets and the number of taxpayers

Graph 3

10 most traded crypto-assets reported by taxpayers



Number of taxpayers reporting crypto-asset transactions



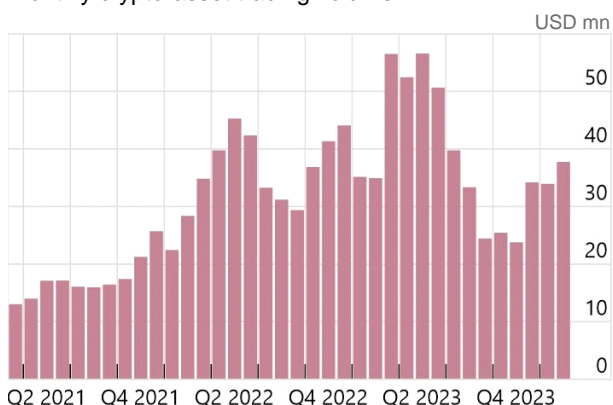
Source: Brazilian Federal Revenue Service, available at <https://www.gov.br/receitafederal/pt-br/assuntos/orientacao-tributaria/declaracoes-e-demonstrativos/criptoativos> (the exchange rate USD/BRL was 4.9 on 23 November 2023).

Argentina

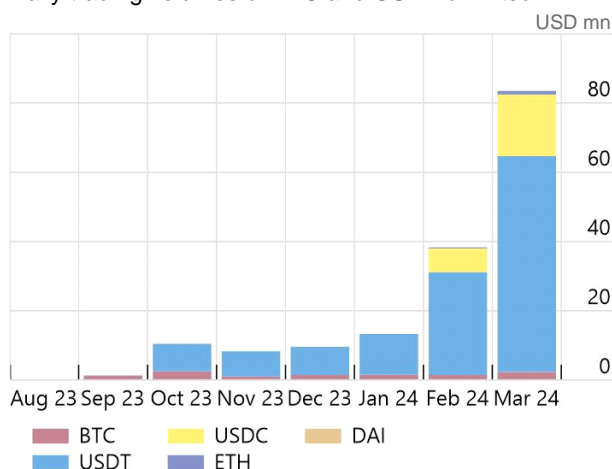
In Argentina, regulatory changes are underway to address deficiencies in collecting and reporting data on crypto-asset activities. A recently issued regulation establishes a registry of crypto-asset service providers for AML/CFT purposes. While data limitations currently exist, estimates by the Central Bank provide insights into the trading volume of crypto-asset trading platforms. The data show an increase in the level of transactions, reaching a maximum of close to \$55 million per month by the end of 2023. Public data from one of the largest crypto-asset trading platforms in Argentina, Bitso, reports the vast majority of trading volume activity is related to the stablecoin USDT.³¹

³¹ In that same vein, for a comparison of Latin American economies, see [Crypto Landscape in Latin America: Report H2 2023](#). Additionally, data from the public API of another large trading platform in Argentina, Binance, confirms similar results, highlighting the predominance of USDT in trading volumes.

Monthly crypto-asset trading volume¹



Daily trading volumes of BTC and USDT on Bitso



¹ Based on a preliminary research constructed by Central Bank estimates of transactions possibly associated with crypto-assets. Includes stablecoins.

Sources: Central Bank estimates; Bitso.

3. Financial stability risks of foreign currency-pegged stablecoin uptake for EMDEs

3.1. Financial stability risks common to all types of economies

Stablecoins could pose risks to macroeconomic and financial stability, as well as risks to financial integrity, consumer and investor protection, and market integrity. In some instances, these risks are exacerbated by market participants’ non-compliance with existing laws. Like other financial activities, these risks can interact with and reinforce each other. The IMF-FSB synthesis paper provides a comprehensive outline of the risks of crypto-assets, including stablecoins.³² This section describes the financial stability risks that are relevant for foreign currency-pegged stablecoins, as well as additional risks significant for EMDEs such as risks to monetary policy implementation and to the balance of payments.

Stablecoins could pose financial stability risks through wealth effects, payment system disruption, financial institution exposures, and confidence effects.³³ At a micro-prudential level, the functions and activities of stablecoins also pose market, credit, liquidity, and operational risks that are common to all types of financial activities. An SA requires some features to help maintain a stable value relative to the reference assets, facilitating the stablecoin to be used as a medium of exchange and a store of value. But these features can also make a stablecoin susceptible to large price movements and runs, causing losses to the users. At a macroeconomic level, were

³² See IMF and FSB (2023) Synthesis paper: policies for crypto-assets. See section 2 “implications of crypto-assets” for a comprehensive discussion of the macroeconomic, financial stability, and other risks of stablecoins.

³³ For additional discussion of the potential risks to financial stability from a GSC, see section 2.1 in FSB (2020) *High-level recommendations for the regulation, supervision and oversight of global stablecoin arrangements: final report*, July.

the crypto-asset ecosystem to become more interconnected with the traditional financial system, a failure or distress to key stablecoin participants might create challenges to financial stability.

All users of fiat-referenced GSCs must have the confidence that their GSC holdings are redeemable in a timely manner at the reference value and, for single fiat-currency based GSCs, at par into fiat. Any legal claim that does not guarantee to all users' timely redemption at par into fiat for single fiat-currency based GSCs increases the vulnerability of the GSC to a loss of confidence and associated funding and liquidity risks, which could in turn heighten the prospects for systemic risk. The GSC recommendations, particularly GSC recommendation 9, address these risks. However, if foreign currency-pegged stablecoins operate from jurisdictions that do not enforce regulations consistent with the FSB high-level recommendations, then GSCs may be susceptible to a sudden loss in confidence and the risk of a run on the issuer or underlying assets.

Furthermore, activities related to stablecoins issued by an offshore SA can pose illicit finance concerns and risks to consumers and investors, including concerns related to compliance with rules governing AML and CFT and proliferation of weapons of mass destruction. Effective implementation of the Financial Action Task Force's Recommendation 15 about new technologies can mitigate some of these risks.³⁴

3.2. Significant financial stability risks specific to EMDEs

Beyond these risks applicable to all types of economies, widespread activities related to foreign currency-pegged stablecoins may disproportionately affect EMDEs.³⁵ Widespread use of foreign currency-pegged stablecoins in EMDEs could undermine the effectiveness of monetary policy, circumvent CFMs, strain fiscal resources and threaten financial stability. Macroeconomic instability can increase financial stability risks by destabilising financial flows and straining fiscal resources.

Widespread foreign currency-pegged stablecoin activity could threaten monetary sovereignty through currency substitution. The risk of a foreign currency-pegged stablecoin displacing a domestic currency for domestic transactions ("cryptoisation") is particularly pertinent for those EMDEs with high inflation, unstable currencies, and weak monetary frameworks. In an economy with high inflation and large exchange rate movements, residents might prefer a stablecoin that is pegged to (or perceived to be backed by) a more stable foreign currency as a store of value over the domestic currency.

Widespread activity related to foreign-currency stablecoins in EMDEs may also reduce monetary policy effectiveness. Monetary policy transmission might weaken if local firms and households prefer to save and invest in stablecoins that are not pegged to the domestic fiat currency or to use them as a medium of exchange. In addition, if the use of stablecoins for pricing goods and services became common in an economy, domestic prices may become more volatile due to any price movement of the currency to which the stablecoin is pegged.

³⁴ FATF (2021) *Update guidance for a risk-based approach for virtual assets and virtual asset service providers*.

³⁵ IMF and FSB (2023) *IMF-FSB Synthesis paper: Policies for crypto-assets*.

Increasing foreign currency-pegged stablecoin usage may also make CFMs less effective. Cross-border stablecoin transactions may be conducted anonymously. Even for those stablecoins that are traded and held through regulated crypto-asset trading platforms or wallets, their issuers may not be obligated to comply with FX regulations and CFMs if those platforms or wallet-services providers are domiciled in a foreign jurisdiction. That might complicate EMDE authorities' efforts in CFM enforcement. Even if existing CFMs remains effective, the authorities may need to enhance the measures to cope with the increasing gross capital flows. In addition, foreign currency-pegged stablecoins may create challenges to the "level playing field" principle with regard to traditional FX service providers such as banks. In line with that principle, the provision of FX services related to foreign currency-pegged stablecoins should be consistent with the FX regulations applicable to domestic players.

It should be noted that, currently, these macro-financial risks facing EMDEs remain small due to the low levels of activity and limited interconnections with the traditional financial system, according to available information. However, several structural characteristics of some EMDEs such as a large population working overseas, a larger share of the population being unbanked than in AEs, and having high inflation and unstable currencies, could further boost levels of activity significantly within a short time. Consequently, although macro-financial risks facing EMDEs are relatively small at this juncture, EMDE authorities are expected to strengthen stablecoin regulations to prevent the build-up of vulnerabilities.

4. Progress in implementing regulatory frameworks

EMDEs are making progress to regulate stablecoins. They have adopted a range of different approaches, including applying, clarifying, or amending existing rules, or developing new and bespoke frameworks. These regulatory initiatives help bring stablecoin activities inside the regulatory perimeter.

The FSB conducted a survey in January 2024 on the implementation status and challenges related to crypto-asset activities. The survey received 73 responses from 24 FSB members and 49 non-FSB members participating through the FSB's Regional Consultative Groups (RCGs).

The survey results show that while some EMDEs are making progress to implement regulations, most face challenges that may delay their implementation relative to AEs. On average, EMDEs' existing regulations are less likely to cover stablecoin arrangements compared to AEs (see graph 5, panel 1). Furthermore, more EMDEs than AEs have yet to define a plan to develop a regulatory framework for SAs (graph 5, panel 2). The survey results suggest that on average, EMDEs more likely need regulatory or legislative action to bring SAs under comprehensive regulation and supervision, and they are taking longer to develop new or revised regulatory frameworks for stablecoins compared to AEs.

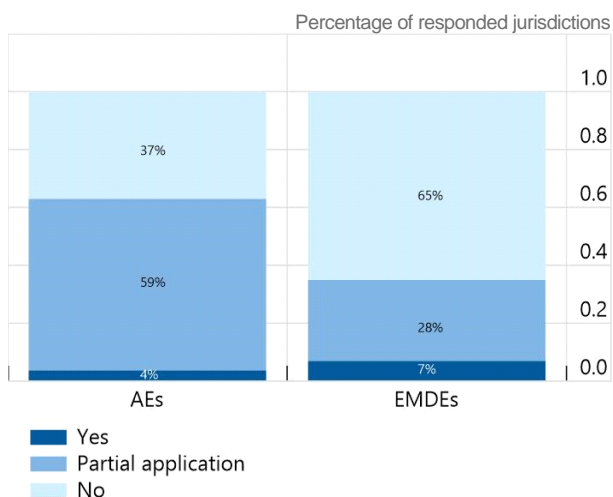
Nonetheless, many EMDEs are making progress to apply existing regulations or develop new frameworks to bring stablecoins under regulation. For example, South Africa has passed a declaration to define crypto-assets as a financial product under the Financial Advisory and Intermediary Services (FAIS) Act, which has the effect that financial advice and intermediary services provided in relation to crypto assets is regulated under the FAIS Act. The definition of crypto assets used for purposes of the FAIS Act Declaration is wide and includes all forms of crypto assets, including stablecoins.

Current status of existing regulations and plans to formulate new rules*

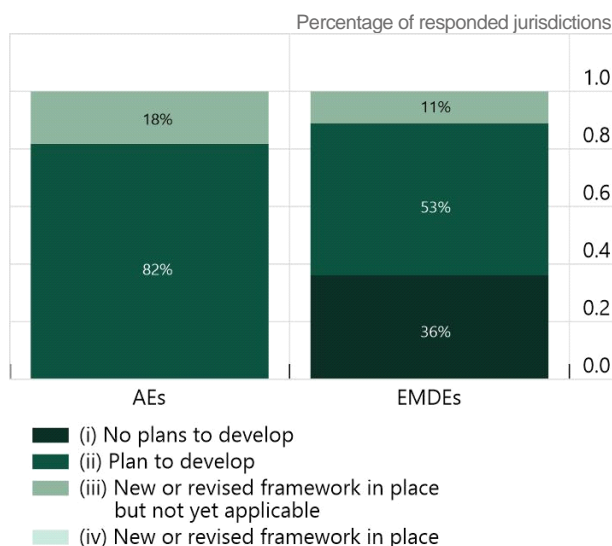
For advanced economies and emerging market and developing economies

Graph 5

A. Existing regulations consistent with FSB high-level recommendations for GSCs



B. Plans to revise existing or develop new rules



* (i) No plans to develop a new or revised regulatory framework for crypto-assets or plan has not been decided; (ii) Plan to develop a new or revised regulatory framework for crypto-assets, and work on the new or revised regulatory framework has started; (iii) New or revised regulatory framework in place but not yet applicable; and (iv) New or revised regulatory framework in place and applicable.

** Classification according to IMF's World Economic Outlook Country Composition, AEs include Euro area, G7, Other advanced economies (advanced economies excluding G7 and Euro area), European Union, and ASEAN-5. EMDEs include Emerging and Developing Asia, Emerging and Developing Europe, Latin America and the Caribbean, Middle East and Central Asia, and Sub-Saharan Africa.

*** Combined EU responses for AEs include Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, Netherlands, Portugal, Spain, and Sweden.

Source: FSB Survey

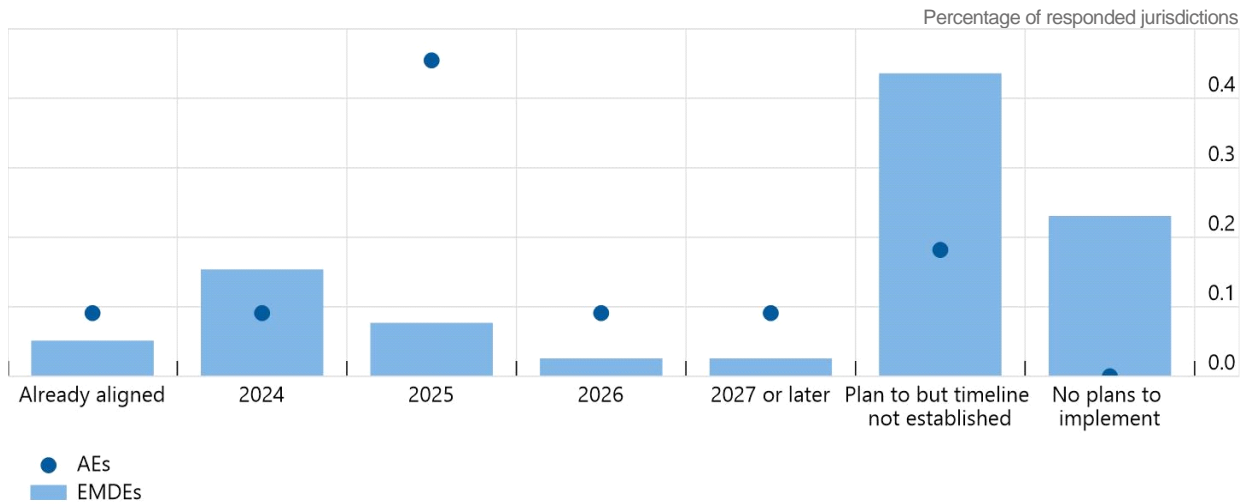
While a larger percentage of EMDEs reported that they expect to reach alignment with the GSC recommendations by 2024 (graph 6)³⁶, a significant portion of EMDEs have not yet established a timeline to implement a regulatory framework for SAs. Some EMDE jurisdictions have established plans that provide clarity on regulatory powers and mandates assigned to relevant authorities. Such powers may be concentrated in one single authority or shared among different ones responsible for respective functions or regulatory objectives, including payment, financial markets, prudential, conduct, or AML/CFT. For example, the Central Bank of Brazil was assigned the mandate to regulate/supervise all crypto-asset service providers, while other authorities responsible for tax, AML/CFT, market integrity, and investor protection will continue to regulate service providers when their activities fall within their respective mandates. In Thailand, the Securities and Exchange Commission of Thailand regulates the public offering of digital tokens and digital asset businesses such as operating a digital asset exchange, while the Bank of Thailand regulates payment systems and payment services.

³⁶ It should be noted that in many jurisdictions which plan to formulate new laws on stablecoins, the bills need to be passed by the legislative bodies such as congress or parliament. Regulatory and supervisory authorities, in most cases, do not have control over the process of legislation and cannot give a commitment of its future timeline.

Expected time to reach alignment with FSB’s GSC recommendations

Measured by effective date of rules, at year ends*

Graph 6



* Combined EU responses for AEs include Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, Netherlands, Portugal, Spain, and Sweden.

Source: FSB Survey

Similar to AEs, most EMDEs appear to prioritise the application of AML/CFT regulatory requirements, evidenced by Graph 7. However, EMDEs remain behind AEs with only 32% of EMDEs currently applying AML/CFT requirements to stablecoins, compared to 56% for AEs. For both EMDEs and AEs, regulatory requirements related to financial stability risks (prudential requirements, governance, recovery and resolution planning, operational resilience, etc.) apply in fewer than 10% of jurisdictions.

Licensing and registration are important measures to regulate stablecoins when combined with supervision and enforcement. Some jurisdictions have passed regulation that requires service providers or issuers related to stablecoins to be either licensed or registered with the supervisory authority. In the UAE, for example, licensing is required for issuers of Dirham Payment Tokens, defined as Dirham-pegged stablecoins used for payments, while issuers of foreign payment tokens located outside of the UAE are subject to registration.

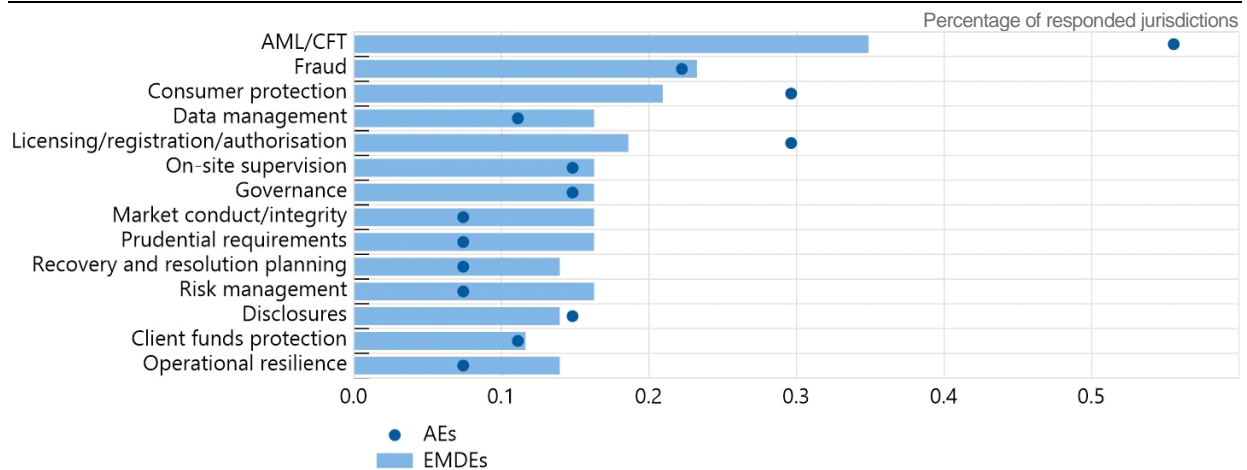
EMDEs are also taking steps to consider detailed requirements on key components of a stablecoin arrangement in line with the FSB recommendations. For example, the Central Bank of the United Arab Emirates’ (CBUAE’s) draft regulation sets out requirements on reserve assets, including the requirement to hold reserve assets in cash in an escrow account, initial and ongoing capital requirement for issuers, and specific requirements on the composition and credit quality of reserve assets.

Some EMDEs are still conducting risk assessments or considering how best to prioritise different policy objectives (i.e., AML/CFT, fraud, market integrity, investor protection, financial stability).

Regulatory requirements currently applied to stablecoin arrangements

In advanced economies and emerging market and developing economies

Graph 7



Source: FSB Survey

5. Implementation challenges for EMDEs

5.1. Challenges common to all types of jurisdictions

At the current nascent stage of regulating stablecoin activities, there exist several common implementation challenges for jurisdictional authorities. They include:

- **Data gaps.** Many stablecoin activities involve intermediaries that conduct a portion of transactions off-chain, which makes it more difficult for public authorities to obtain data. The preliminary stage of regulation and supervision, and the non-compliance of many service providers, exacerbates data gap challenges. Besides, Section 2.1 of this report highlights the limitations of public blockchain data for regulatory and supervisory purposes. Data availability is constrained by the lack of specific user data on public blockchains, which limits the quality of analysis that is solely based on public blockchain data (the most common form of analysis employed currently).
- **Cross-border cooperation and information sharing.** Stablecoin activities and the broader crypto-asset ecosystem are inherently cross-border, as users can potentially access most crypto-asset service providers included in stablecoin arrangements from any jurisdiction with an internet connection. Given likely different jurisdictional approaches to the regulation, supervision, and oversight of stablecoin arrangements, participating authorities would benefit from cooperation and information sharing to fulfil their respective regulatory, supervisory and oversight mandates. However, the extensive cross-border operation of stablecoins presents regulatory cooperation and information sharing challenges for all jurisdictions.
- **Inconsistent implementation progress.** When jurisdictions lag in implementation, or some jurisdictions are reluctant to regulate stablecoins, or face challenges to enforce applicable laws, issuers and service providers may be tempted to incorporate their activities in and operate from 'lightly' regulated places, often in EMDEs, which will raise additional challenges for other jurisdictions with a robust regulatory framework.

Currently, many stablecoin activities are not adequately regulated or are in non-compliance with existing regulations.

5.2. Challenges specific to EMDEs

While the challenges described above are global and affect all types of economies, EMDEs face additional regulatory and supervisory challenges. In some jurisdictions, this may be because of a higher level of stablecoin activities. This section describes the factors that can amplify regulatory challenges for EMDEs.

5.2.1. Capacity and resource constraints

Stablecoins apply new technology and introduce new business models. For EMDEs, development and implementation of a comprehensive regulatory framework in response may require intensive resource investment and capacity development.

First, EMDEs generally may have challenges hiring or retaining staff with adequate expertise needed to regulate stablecoins. Effective enforcement and supervision require a combination of skills – judgement, analysis, and a good sense of temporal and jurisdictional context.³⁷ Authorities should have adequate staff to achieve a full understanding of essential functional features of an SA (i.e., including issuance, custody, infrastructure, exchange and trade, and reserve asset management), as well as its associated technical features (i.e., including the infrastructure layer, the asset layer, and the application layer).³⁸ In particular, technological expertise is indispensable in assessing the infrastructure that aims at ensuring operational resilience and cyber security.³⁹ Capacity to analyse on-chain and off-chain data, when available, may also require staff with a strong technology background, as well as specialised tools and data. However, some EMDE authorities may not have a readily available pool of experts within their current staff to meet these expectations. It is also difficult for authorities, within a short timeframe as required by fast market evolution, to recruit experts with solid knowledge and expertise to entirely cover these aspects, due to budget or other limitations.

Second, EMDE authorities may have difficulties clearly defining and allocating regulatory mandates in response to the evolving market structures and products such as stablecoins. Authorities also need to enhance domestic coordination among themselves to address issues associated with the cross-sectoral feature of stablecoins, including coordination among securities, payments, banking, and foreign exchange (capital controls) regulatory authorities. As stablecoin arrangements bring about new business models, some EMDEs need to respond by either redefining existing mandates of authorities, or establishing new mechanisms to ensure regulatory architecture can properly capture those activities. In some cases, stablecoins may be used in ways (circumvention of capital controls, illicit finance) that are different from the operators' stated purpose, further exacerbating these difficulties.

³⁷ Adrian et al (2023) *Good Supervision Revisited: Lessons from the field*, September.

³⁸ See Bains (2022) *Blockchain consensus mechanisms: a primer for supervisors*, January.

³⁹ Consultative Group of Directors of Financial Stability, *Financial stability risks from crypto-assets in emerging market economies*, BIS Paper No. 138 – accessed 18 November 2023.

Third, stablecoin arrangements may combine multiple functions and concentrate activities in a single intermediary or group of affiliated entities. This means EMDE authorities may need more experience regulating larger firms with complex structures. However, given their financial systems may be smaller and less complex than those of AEs,⁴⁰ some EMDE authorities may face exacerbated resource constraints in this context.

5.2.2. *Challenges from foreign currency-pegged stablecoins*

The very high share of stablecoins pegged to USD or other reserve currencies increases regulatory challenges for EMDEs in their monitoring and enforcement of foreign currency regulations and CFMs. For these purposes, EMDE authorities may need to collect more granular stablecoin activity data classified by geographical location related to cross-border flows or if stablecoins were to become widely used for payment purposes. They may also need to identify the persons holding assets and accounts, as well as participants in financial transactions. However, as the current availability of information for stablecoin activities largely falls short of the demand of EMDE authorities, their enforcement of regulation in this area may be weakened or even become ineffective, leading to higher financial stability risks as long as this information remains unavailable.

5.2.3. *Challenges from cross-border operations*

In traditional finance, authorities have in place various arrangements to manage the cross-border operations and risks of financial institutions. EMDE financial systems are more likely to include a larger share of global financial institutions that often set up local subsidiaries or otherwise provide financial products and services in their jurisdictions. For EMDEs, effective cross-border cooperation arrangements involving more traditional financial institutions sometimes rely on a clearly identifiable authority in the jurisdiction where the financial institution is domiciled that is capable and willing to fulfil its role as the primary competent regulatory and supervisory authority for the financial institution at the group level. In these cases, EMDE authorities can manage the level of cross-border activities in proportion to their regulatory capacity through licensing or other market access measures as well as coordination with the authority of the jurisdiction where the GSC is domiciled.

Some SAs present higher challenges for EMDEs to manage cross-border cooperation. SAs may consist of several components, including issuance, custody, infrastructure, exchange and trade, and reserve asset management.⁴¹ SAs may choose to organise themselves in opaque ways spreading the components, as well as their operations, books and records, and employees, over several jurisdictions. In some cases, existing stablecoin operations are concentrated in a few geographical locations in AEs and a small number of EMDEs.⁴² Some have chosen to locate key parts of their businesses in EMDEs, potentially in an effort to evade effective regulatory

⁴⁰ For example, among jurisdictions that are home to G-SIBs, only one jurisdiction is an EMDE. <https://www.fsb.org/wp-content/uploads/P271123.pdf>.

⁴¹ FSB (2020), *Regulation, Supervision and Oversight of “Global Stablecoin” Arrangements: Final Report and High-Level Recommendations*, October.

⁴² Section 1 of this report notes that USDT is reportedly issued by a company incorporated in Hong Kong that is wholly owned by a company registered in British Virgin Islands. However, the determination of its home jurisdiction remains uncertain due to inadequate disclosure.

oversight. In addition, most SAs do not seek to establish local subsidiaries or obtain licenses in every jurisdiction where they offer their products. Considering the current gaps in data and information and the resource constraints, most EMDEs may have greater difficulty satisfying regulatory expectations and face higher cross-border regulatory challenges than they have in regulating traditional finance.

Also, inconsistent implementation across jurisdictions increases challenges for EMDEs. Lack of consistent implementation of the GSC Recommendations can lead to the existence of 'regulation-light' jurisdictions. Stablecoin issuers and operators of other components of a SA may choose to engage in regulatory arbitrage by placing themselves in regulation-light jurisdictions. Further, some EMDEs may adopt an accommodative view of stablecoins as a perceived opportunity to bolster their financial systems. This may incentivise a "race to the bottom", where more jurisdictions opt for weaker regulatory standards, potentially leading to migration of more activities to regulation-free or -regulation-light jurisdictions. In such cases, when activities originate from a jurisdiction with weaker regulation but can be easily accessed by users in other jurisdictions, it is more difficult for other jurisdictions to enforce their respective regulations.

Last, a stablecoin may become systemic in an EMDE with a relatively smaller financial system, before it becomes a GSC, or is identified as systemic in its jurisdiction of issuance. This may also raise unique cross-border regulatory and supervisory challenges for EMDEs.

6. Considerations to address identified challenges

As stated in the IMF-FSB Synthesis paper, a comprehensive policy and regulatory response to stablecoins and the broader crypto-asset ecosystem, combined with robust and well-resourced supervision, is necessary to address the risks of GSCs, especially the cross-border risks that foreign currency-pegged stablecoins pose to EMDEs. Comprehensive regulatory and supervisory oversight of stablecoins can help to address financial stability and financial integrity risks while supporting macroeconomic policies. Regulation and supervision of licensed or registered stablecoin issuers and service providers can support the functioning of CFMs, fiscal and tax policies, and financial integrity requirements. For example, regulation and supervision of SAs and appropriate reporting requirements may reduce data gaps, which are particularly important for CFMs that rely on monitoring of cross-border transactions and capital flows. Considering the close interaction between macro-economic and financial stability, it is also important that EMDEs have in place strong measures to ensure stable macro-economic fundamentals.⁴³

In addition to the implementation of the recommendations issued by the FSB and other international SSBs, EMDE authorities may want to adopt additional measures tailored to their country-specific circumstances, especially if faced with elevated macro-financial risks from stablecoins.

⁴³ IMF-FSB (2023), *IMF-FSB Synthesis Paper: Policies for Crypto-Assets*, Section 3.1, September.

6.1. Considerations to promote cross-border cooperation

The FSB high-level recommendations encourage authorities to cooperate and coordinate with each other, both domestically and internationally, and to foster efficient and effective communication and information sharing to support each other in fulfilling their mandates. Authorities may choose to leverage existing cooperation and information sharing arrangements, such as supervisory colleges, fora, networks, memoranda of understanding (MoUs), or other ad-hoc arrangements. They may also consider flexible arrangements in response to the cross-sectoral issues related to stablecoins and other related activities. Such ad hoc meetings or arrangements might assist in combating regulatory arbitrage.

In addition, the FSB's *Key design considerations for cooperation arrangements*⁴⁴ specifies, among other things, that membership of cooperation arrangements should consider the unique foreign exchange and capital account requirements in some EMDE jurisdictions if a GSC were to be widely used as a means of payment.

The FSB is now taking forward initiatives to promote implementation of its two sets of high-level recommendations beyond its members, through engagement with a wider set of jurisdictions via Regional Consultative Groups (RCGs) and other platforms. EMDE authorities, especially those not represented at the FSB, are encouraged to actively participate in these initiatives to assist their own cross-border regulatory cooperation mandates.

EMDEs may have greater needs for the establishment of cross-border and cross-sectoral cooperation arrangements before a stablecoin becomes systemic in the jurisdiction it is issued from, or at a global level, due to the stablecoin's potential to be widely used in EMDEs. In these cases, authorities in jurisdictions that host stablecoin issuers may choose to proactively seek to establish bilateral or multilateral cooperation arrangements with authorities in relevant issuers' jurisdictions. Where appropriate, adoption of regional cooperation agreements could help expand cooperation between the regional members.

Given that effective oversight of stablecoins will often involve sharing of information on a cross-border and cross-sectoral basis, authorities in both EMDEs and AEs may consider ways to address any legal barriers or requirements in their jurisdictions that would limit such sharing. EMDE authorities may have to engage on a cross-border basis with authorities outside their existing sectoral information sharing arrangements, where relationships may be less common and less defined. For example, a central bank in one jurisdiction may seek to cooperate or coordinate and share information with a securities regulator in another jurisdiction.

Where appropriate, membership of cross-border cooperation arrangements should potentially be open to EMDEs, with the focus to consider EMDE jurisdictions if and when a GSC becomes widely used and/or generates significant macrofinancial and financial stability risks for those EMDEs. A cross-border cooperation arrangement may also address the data needs of EMDEs for foreign exchange trading and capital flows.

⁴⁴ See annex 1 in FSB (2023) High-level recommendations for the regulation, supervision and oversight of global stablecoin arrangements.

Where the home jurisdiction of a stablecoin issuer is not readily identifiable, EMDE authorities may consider forming domestic (between banking and securities regulators, for example) or regional supervisory colleges, or other arrangements, where regulators agree – informally or otherwise – to share information, subject to applicable legal requirements, on stablecoin arrangements. In addition to potential information sharing, the supervisory college members could agree to host as-needed meetings to discuss stablecoin issuers, activity, and regulatory approaches. Such ad hoc meetings could assist in combating regulatory arbitrage.

Finally, authorities may consider the extent to which mutual legal assistance treaties (MLATs) could be beneficial and appropriate to combat the negative effects of stablecoin activity. MLATs are binding treaties that allow jurisdictions to share information and other evidence, thus providing assurance that the jurisdiction can assist. As appropriate, MLATs could be considered in addition to other forms of information sharing agreements or arrangements.

To help foster efficient and effective communication and information sharing between authorities domestically and internationally, the FSB and other international organisations could facilitate discussions and promote engagement among regulatory and supervisory authorities. These discussions could focus on common areas related to SA risks, jurisdictional regulatory requirements, and cross-border cooperation.

6.2. Technical assistance

Some EMDE authorities have constraints on capacity, resources, and expertise that can create challenges for implementing the recommendations. These authorities may benefit from receiving technical assistance to help guide them through the implementation process to ensure risks from stablecoins are appropriately identified and mitigated. In addition, technical assistance can help promote the implementation of the FSB high-level recommendations and improve bilateral relationships among the jurisdictions receiving and providing the assistance.

Technical assistance can be high-level support provided to (and by) several authorities simultaneously, short webinars or seminars for multiple or single authorities, or in-depth bilateral assistance spanning several weeks or months depending on the level of support required. Technical assistance can be narrow (focusing on specific areas such as data collection, market monitoring, licensing, and supervision) or broad (providing comprehensive assistance across the implementation process). To ensure technical assistance is effective, targeted, and impactful, authorities should identify challenges, articulate these clearly, and ensure they have the capacity to absorb technical assistance. Often, challenges around the requesting process may include unclear objectives, a lack of measurable outcomes, and requests that do not reflect, or consider, jurisdictional differences (including demand, capabilities, and legislation).

International organisations, public bodies, private institutions, and some national regulatory authorities offer technical assistance on crypto-asset markets, including stablecoins. The IMF and the World Bank play an important role in delivering capacity development in the form of regional training courses and bilateral technical assistance open to their near universal membership.

Regional training courses are offered by the IMF across their capacity development centres and training institutions located globally. These week-long “Selected Issues in Fintech Regulation” courses cover several fintech regulation topics. Since the publication of the FSB recommendations

in 2023, the IMF has delivered seven training courses, reaching more than 230 supervisors from over 80 different institutions. As part of these training courses, topics include the regulation and supervision of crypto-assets, guided by global standards and recommendations. The FSB and IOSCO Secretariats have supported these courses by delivering sessions on their respective recommendations. The IMF has also delivered several bilateral technical assistance programs that provide more targeted support, such as providing legislative reviews,⁴⁵ and identifying areas to strengthen existing regulatory frameworks.⁴⁶ During the World Bank Global Payments Week 2023, a week-long capacity building program was organised, attended by 161 regulators representing 91 countries. It covered various aspects of financial innovation including dedicated coverage of crypto assets and stablecoins. One panel discussed regulatory and oversight issues in crypto-asset markets, with a specific focus on stablecoins.

6.3. Addressing data gaps

Implementation of the FSB's high-level recommendations, as well as the international standards developed by CPMI, IOSCO, BCBS, and FATF, should result in EMDE authorities having much more and better data. In addition, authorities might leverage other public sector data sources, such as AML/CFT, tax, and foreign currency reporting systems, in addition to the establishment of a dedicated reporting framework for firms involved in crypto-asset activities and stablecoin arrangements. Authorities can also utilise publicly available private sector data for crypto-assets and stablecoins, as well as data provided by private sector blockchain analytics firms with the understanding of its limitations and methodologies.⁴⁷ Such publicly available data can be a useful tool for both comparative reference and specific policy considerations.

To address information/data gaps related to foreign currency-pegged stablecoins that are often domiciled in offshore jurisdictions, regulators in EMDEs may seek to use various forms of information sharing and other cross-border regulatory cooperation arrangements suggested in section 6.1. Participation in the discussions of the FSB and other international organisations and standard setters may also help develop a coordinated approach to close data gaps.

EMDEs may also enhance information sharing regarding the ownership and use of stablecoins, especially from the perspectives of capital flow and foreign exchange monitoring. As already stated, many EMDEs rely heavily on regulations governing capital and foreign exchange controls to ensure financial and monetary stability. To address this, jurisdictions with such requirements may consider, as appropriate, encouraging voluntary disclosures from individuals and institutions and establishing a reporting mechanism to gather valuable data.

6.4. Listing requirements for offshore stablecoins

To ensure all foreign currency-pegged stablecoins widely used in EMDEs are subject to comprehensive regulation, supervision, and oversight, EMDEs should ensure all stablecoins

⁴⁵ For example, see [Trinidad and Tobago: Technical Assistance Report–Technical Assistance on Fintech Regulation and Legislation \(imf.org\)](#).

⁴⁶ For example, see [Lao People's Democratic Republic: Technical Assistance Report-Regulation and Supervision of Crypto Assets](#).

⁴⁷ Ibid., JFSA/QUNIE(2023), [Joint Research on Analyzing Decentralized Financial System using On-Chain and Off-Chain Data](#)

approved for listing on crypto-asset trading platforms in their jurisdiction meet their domestic requirements, which should reflect implementation of the FSB high-level recommendations as well as other applicable international recommendations, such as those published by FATF and IOSCO. Market regulators of EMDEs may consider using available information sharing mechanisms, including, as appropriate, specific information-sharing arrangements between EMDE authorities and the relevant supervisory authorities of the foreign currency-pegged stablecoins that have been approved for listing on trading platforms. Central banks or other authorities responsible for supervision of the payments, monetary policy, and capital flow management may consider coordinating with authorities that are responsible for supervising crypto-asset trading platforms and the associated listing requirements to promote a consistent approach to foreign currency-pegged stablecoins in their jurisdiction.

6.5. Improving digital payments infrastructure

EMDE jurisdictions may improve domestic digital payments infrastructure to mitigate some of the factors that may contribute to stablecoin activities, such as potential use in domestic payments or “cryptoisation.” Advanced digital public infrastructure, such as digital identification systems, digital payments, and trusted data sharing, may help solve problems related to domestic payments or access to banking services. The World Bank recently launched Project FASTT⁴⁸ (Frictionless Affordable Safe Timely Transactions), focusing on the nexus of digital payments and financial inclusion, producing knowledge and providing technical and financing assistance for implementing Fast Payment Systems (FPS) – with active projects in 30 countries.

However, as there are various factors driving stablecoin activities, improving domestic payments infrastructure is not a comprehensive solution to the risks of stablecoin uptake. EMDEs need to carefully assess other factors related to their use as a store of value or speculative trading and consider targeted mitigating measures. Indeed, some EMDEs already have in place advanced payments infrastructure while also having high levels of crypto-asset activities.

Box 2: Improving digital payments in India, Brazil and Argentina

In India, the JAM (Jan Dhan-Aadhaar-Mobile) Trinity, the government of India’s initiative to link [Jan Dhan](#) accounts, mobile numbers and [Aadhaar](#) cards of Indians, integrated digital ID, mobile services, and bank accounts to reduce the cost of know-your-customer checks and significantly increased bank account ownership from 20% in 2008 to 80% in 2017-18. By 2020, more than 80% of India’s adult population had bank accounts, while over 50% were internet users (624 million), 32% had social media accounts (500 million), and 80% had mobile phone connections (1.1 billion) by 2021. This created favourable conditions⁴⁹ for the growth of mobile-based digital and fast payment systems, supported by public and private entities, under the central bank’s oversight. Systems like the Unified Payments Interface (UPI) in India offer real-time, secure, and efficient interbank transactions,⁵⁰ serving as a robust alternative to using stablecoins or crypto-assets for real economy payments.

In Brazil, the introduction of the local instant payment network (PIX) promoted financial inclusion, enabled the growth of small businesses, and increased the efficiency of the means of payment. Pix has

⁴⁸ <https://fastpayments.worldbank.org/>

⁴⁹ Additionally, India had one of the lowest mobile data costs globally among 233 countries.

⁵⁰ In 2021, India’s real-time UPI transactions crossed 48 Bn, which is 6.5 times of the combined volume of the world’s leading economies US, Canada, U.K., France, and Germany. By 2021, one third of Indian households used digital payments, and this included one out of four households in the poorest 40% of India.

become the main form of payment in the country and has reduced the share of cash withdrawals. The modernisation of FX regulation in Brazil, which focused on simplification of FX regulatory requirements and increasing efficiency, combined with improvements in digital and fast payments, contributed to mitigate the risks of foreign currency-pegged stablecoins.

In Argentina, electronic payment transactions surged in 2023, with a 20% increase in the combined usage of major electronic payment methods relative to GDP. The introduction of Transferencias 3.0 by the Central Bank aims to modernize payment transfers, fostering competition and reducing transaction costs for businesses. This initiative promotes financial inclusion and supports the country's transition towards a more advanced and efficient payment system.

6.6. Regulatory sandboxes

In some jurisdictions, approaches like sandboxes may support supervisory monitoring under certain conditions.⁵¹ Sandboxes may enable firms to test new technologies and business models with real consumers in a controlled environment. Where resources are available, and fintech developments are likely to have a considerable impact on existing regulation, sandboxes may allow authorities to monitor developments closely and may help them to get comfortable with new technologies and business models. Sandboxes, however, can be expensive and diverse in design, and require significant resources dedicated to supporting a small number of firms. They may not be appropriate in certain jurisdictions.

Box 3: The role of the Bank of Thailand's Regulatory Sandbox

Bank of Thailand (BOT)'s Regulatory Sandbox framework aims at promoting the development of financial technology and innovation to increase efficiency, enable financial inclusion, and better satisfy customer needs. The BOT launched the Regulatory Sandbox in 2016 to enable the experimentation of innovative financial products and services within a limited scope and well-defined space and duration. It allows the BOT to closely monitor relevant risks and put in place proper safeguards to limit the consequences of failure and maintain the safety and soundness of the financial systems.

Banks and financial service providers under the BOT's supervision are eligible to apply for the regulatory sandbox when they are interested in applying new technology and innovation in providing financial services under the BOT's regulations, or the financial services that could be developed to be the financial infrastructure or common standard in the financial sector. The BOT and sandbox participants collaborate to define a testing period (e.g., 6–12 months) and agree on key success indicators. If the sandbox participants achieve all key success indicators and requirements, they are allowed to exit the sandbox and launch the full scope of those products and services to the public. Moreover, the regulatory sandbox allows the BOT and the sandbox participants to test the viability of new financial services, and to share knowledge and experiences. This can benefit the BOT in the development of policy and regulatory frameworks.

Adopting the BOT regulatory sandbox framework for the use of stablecoins to facilitate the settlement in remittance businesses focuses on 5 main objectives:

- 1) Defined limited scope of service** – for example, stablecoin can be used only as a tool for settlement in back-end liquidity management process. Therefore, customer journey will be the same as traditional remittance services, but the customer will experience faster transaction speed, 24/7 availability, and lower transaction fee.

⁵¹ See IMF (2023) [Institutional Arrangements for Fintech Regulation: Supervisory Monitoring](#).

- 2) **Proven underlying technology** – stablecoins tested in the sandbox project must be able to prove its trustworthiness and reliability by such means as regularly sharing audit reports on reserve assets and demonstrating the ability to guarantee the value of the stablecoin.
- 3) **Defined key success indicators** – minimum goals that sandbox participants need to achieve on monthly basis during the testing period. Participants need to achieve all the indicators in order to exit the regulatory sandbox. For example, remittance transactions should be completed within specified time.
- 4) **Strong risk management** – For example, transaction limit per day and per account is defined and fully compliant with existing AML/CFT requirements. A business continuity plan is required to deal with stablecoin liquidity shortage or IT system failure.
- 5) **Proper customer protection process** – For example, customer support channels and procedures should be in place to resolve customer complaints within defined SLA.

Currently, the BOT is considering extending the scope of sandbox to cover more use cases related to stablecoins.

7. Conclusions and next steps

As identified throughout the report, EMDEs might be more exposed to financial stability risks associated with GSCs than AEs. In order to help address and mitigate these, the FSB will continue supporting initiatives with the aim of promoting the implementation of the FSB GSC recommendations, as well as the FATF, CPMI-IOSCO, and IOSCO recommendations. This includes continuing discussions at the FSB's RCGs and supporting technical assistance (e.g. from the IMF and World Bank) with specific sessions covering GSC recommendations. Technical assistance can support jurisdictions in building a timeline to develop a regulatory framework for SAs and identify specific challenges to implementing such a framework. This is in line with EMDE authorities' expectations to strengthen their stablecoin regulation to prevent the build-up of vulnerabilities.

The FSB may also consider engaging with relevant SSBs to consider how best to further cross-border cooperation arrangements for SAs, from which EMDEs can also benefit. In line with this, the FSB could engage with a wider set of jurisdictions and encourage them to participate in initiatives to assess their own cross-border regulatory cooperation mandates, as well as the possibility to open future cooperation arrangement membership to EMDEs, where appropriate, if and when a GSC generates significant financial stability risks to those jurisdictions. Further progress in implementation will also allow authorities to better leverage existing sectoral approaches to international cooperation, such as the IOSCO MMoU. The FSB could also facilitate a discussion with the SSBs of specific challenges covered in this report and identify venues for possible information-sharing among regulatory and supervisory authorities of both AE and EMDEs. Developing different paths for authorities to cooperate would further improve the availability of relevant information and improve availability of relevant data to respond to cross-sectoral issues. As EMDE authorities continue to make progress on implementation of the FSB recommendations, the FSB will continue to explore whether any additional initiatives are needed to strengthen international cooperation to address the challenges identified in this report.