



# POLICY BRIEF

## No. 100

JUNE 2022

### KEY POINTS

- During the pandemic, the use of cryptocurrencies increased globally at an unprecedented pace, reinforcing a trend already under way
- The benefits that cryptocurrencies may bring to some individuals and financial institutions are overshadowed by the risks and costs they entail, particularly in developing countries
- The global reach of private digital currencies makes national regulatory responses challenging but developing countries are not left without choices; policy options for curbing such risks and costs are proposed in this policy brief

## All that glitters is not gold: The high cost of leaving cryptocurrencies unregulated

The global use of cryptocurrencies increased exponentially during the coronavirus disease (COVID-19) pandemic. Such private digital currencies have become particularly prevalent in developing countries, entailing considerable risks and costs regarding national monetary sovereignty, policy space and macroeconomic stability. In this policy brief, UNCTAD examines such risks and costs, reasons for the uptake of cryptocurrencies in developing countries and the current regulatory landscape. Three policy recommendations that developing countries may consider in this regard are ensuring financial regulation; restricting advertisements related to cryptocurrencies; and providing a safe, reliable and affordable public payment system adapted to the digital era, such as a central bank digital currency or fast retail payment system.

### Introduction

Cryptocurrencies can serve as financial assets. Advocates state that cryptocurrencies, or private digital currencies, have the potential to emancipate citizens from bank conglomerates and State control, while promoting financial inclusion. This potential is mainly based on the use of the underlying technology, namely, distributed ledger technology, of which blockchain is a subset.



Such technology provides the means to use networks of connected computers to verify peer-to-peer private transactions. To ensure the integrity of the ledger in the absence of a central authority, the nodes on the network, or digital miners, confirm the records and are rewarded through remuneration in cryptocurrencies.

Since 2009, when the first decentralized cryptocurrency was created, a complex and rapidly evolving cryptocurrency ecosystem has emerged. At present, there are over 19,000 cryptocurrencies, compared with 1,500 in 2018.<sup>1</sup> Countless service providers help keep this system operational, of which the most important are decentralized finance platforms, crypto-exchanges and digital wallet applications. The former, which is based on distributed ledger technology, provides cryptocurrency lending, trading and investment without reliance on traditional financial intermediaries.<sup>2</sup> Crypto-exchanges enable the conversion of cryptocurrencies to sovereign currencies and digital wallets store private digital currencies on behalf of users.

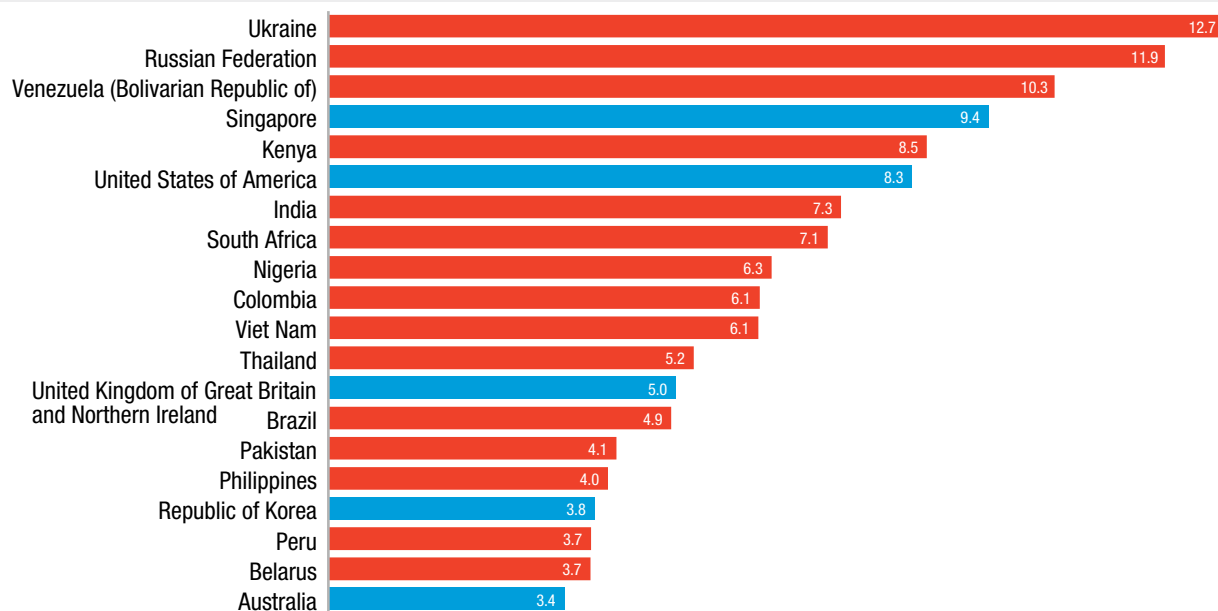
Another important component of the cryptocurrency ecosystem is stablecoins. This new class of cryptocurrency aims to maintain a stable price relative to a sovereign currency, or a basket of currencies, by holding financial assets as collateral. However, increasing profitability might be an incentive for stablecoin issuers to hold risky assets. A decrease in the value of such assets, or an undercollateralization of stablecoins, would result in issuers lacking the means to pay holders. Yet compared with a decrease in the value of cryptocurrencies, resulting in financial losses to holders, a more serious matter would be a drop in the price of stablecoin collaterals, which could require a public bailout, with taxpayers ultimately paying the costs. As of May 2022, several stablecoins are no longer pegged to the United States dollar. This has provoked anxiety among holders of cryptocurrencies and resulted in market turmoil associated with a significant sell-off.<sup>3</sup>

A systemic crisis was not triggered – this time!

### Digital currencies in developing countries: Why so alluring?

The cryptocurrency ecosystem expanded by 2,300 per cent between September 2019 and June 2021, particularly in developing countries.<sup>4</sup> According to some estimates of digital currency ownership, in 2021, 15 of the top 20 economies in this field were emerging market and developing economies (see figure).

**Digital currency ownership as share of population: Top 20 economies, 2021**  
(Percentage)



Source: UNCTAD, based on data from <https://triple-a.io/crypto-ownership/>.

Note: The classification of economies (blue, advanced economies; red, emerging and market economies) is based on that in International Monetary Fund, 2020, *World Economic Outlook: A Long and Difficult Ascent* (Washington, D.C.).

<sup>1</sup> See <https://www.cnn.com/2022/06/03/cryptocurrency-industry-focus-regulation-stablecoins-market-crash.html>.  
Note: All websites referred to in footnotes were accessed in June 2022.

<sup>2</sup> Bank for International Settlements, 2021, Quarterly review, available at [https://www.bis.org/publ/qtrpdf/r\\_qt2112b.htm](https://www.bis.org/publ/qtrpdf/r_qt2112b.htm).

<sup>3</sup> *The New York Times*, 2022, Cryptocurrencies melt down in a "perfect storm" of fear and panic, 12 May.

<sup>4</sup> See <https://blog.chainalysis.com/reports/2021-global-crypto-adoption-index/>.



There are two main reasons for the increased use of cryptocurrencies in developing countries during the pandemic. First, the use of cryptocurrencies was an attractive channel, in terms of price and speed, through which to send remittances. During the pandemic, the already high costs of traditional remittance services rose even higher during lockdown periods due to related disruptions.<sup>5</sup> Second, cryptocurrencies, as part of financial investments and speculation, are mainly held by middle-income individuals in developing countries and, particularly in countries facing currency depreciation and rising inflation (triggered or accentuated by the COVID-19 crisis), cryptocurrencies have been perceived as a way to protect household savings.<sup>6</sup>

Regardless of the reason for the use of cryptocurrencies, crypto-exchanges play a crucial role in enabling their broader deployment. Such exchanges function as clearinghouses, intermediating conversions between cryptocurrencies and sovereign currencies. Currently, there are over 450 crypto-exchanges that, in May 2021, reached a combined peak of \$500 billion in daily trades, equivalent to the maximum daily trading achieved on Nasdaq, the second-largest stock exchange worldwide, in January 2022.<sup>7</sup> The largest crypto-exchange, which has 28 million users, reached a record level of daily trading in November 2021, at \$76 billion.<sup>8</sup>

## Who bears the costs?

The returns from cryptocurrency trading and holding are, as with other speculative trades, highly individual. On balance, they are overshadowed by the risks and costs they pose in developing countries. There are several reasons to be cautious.

First, the use of cryptocurrencies may lead to financial instability risks. If prices plunge, monetary authorities may need to step in to restore financial stability. Importantly, in developing countries, the use of cryptocurrencies provides a new channel for illicit financial flows.<sup>9</sup>

Second, the use of cryptocurrencies undermines the effectiveness of capital controls, an essential instrument in developing countries with which to curb the build up of macroeconomic and financial vulnerabilities, as well as to increase policy space.<sup>10</sup>

Finally, if left unchecked, cryptocurrencies may become a widespread means of payment and even replace domestic currencies unofficially (a process called cryptoization), which could jeopardize the monetary sovereignty of countries.<sup>11</sup> The use of stablecoins poses the greatest risks in developing countries with unmet demand for reserve currencies. For example, the turmoil in May 2022 prompted a flight to higher quality stablecoins that publish audited holdings of their backings. The International Monetary Fund has expressed concerns with regard to the risks of using cryptocurrencies as legal tender.<sup>12</sup>

The Central African Republic and El Salvador have officially adopted the cryptocurrency bitcoin as legal tender, in April 2022 and September 2021, respectively.<sup>13</sup>

## Regulatory responses under way

Policymakers worldwide have begun to regulate cryptocurrencies. In 2019, the announcement by a major social media platform regarding the planned launch of a supranational stablecoin led to responses from regulators in developed countries. The scale of the platform, with over 2.5 billion active users, combined with its aim to become a global payment provider, raised concerns about the need for a potential public bailout in case of failure. In addition, the entry of a large technology company into the payment services sector was perceived as posing a risk to data privacy and consumer protection.<sup>14</sup> The regulatory response led to a downgrading in the plans of the social media platform, from a global stablecoin to a more modest application, namely, provision of a digital wallet with a limited geographical availability.

The announcement also served as a wake-up call among central banks, several of which began to discuss the provision of public alternatives to private digital currencies. Central bank digital currencies are high on the agendas of most monetary authorities. Such currencies have already been introduced in a few developing countries, such as Bahamas, and many others are advancing on pilot projects, such as China, or are researching the design of such currencies.<sup>15</sup>

<sup>5</sup> See <https://blogs.worldbank.org/psd/ebb-and-flow-remittances-year-pandemic> and <https://foreignpolicy.com/2021/09/28/future-of-money-cryptocurrency-blockchain-finance-regulations-sanctions-stablecoins-china>.

<sup>6</sup> See, for example, with regard to Türkiye, <https://www.ft.com/content/02194361-a5b9-4bf0-9147-f36ba7759cf1>.

<sup>7</sup> UNCTAD calculations, based on data from <https://www.statista.com/>.

<sup>8</sup> See <https://www.coinmarketcap.com/rankings/exchanges>.

<sup>9</sup> See UNCTAD, 2022, *The cost of doing too little, too late: How cryptocurrencies can undermine domestic resource mobilization in developing countries*, Policy brief No. 102.

<sup>10</sup> UNCTAD, 2019, *Trade and Development Report, 2019: Financing a Global Green New Deal* (United Nations publication, Sales No. E.19.II.D.15, Geneva).

<sup>11</sup> See <https://www.imf.org/en/Publications/GFSR/Issues/2021/10/12/global-financial-stability-report-october-2021>.

<sup>12</sup> See <https://www.imf.org/en/News/Articles/2022/01/25/pr2213-el-salvador-imf-executive-board-concludes-2021-article-iv-consultation>.

<sup>13</sup> See <https://www.ft.com/content/fbf9aef0-453f-4e61-bd83-ff2b2bc92221> and <https://www.bbc.com/news/world-africa-61248809>.

<sup>14</sup> See <https://www.project-syndicate.org/commentary/facebook-libra-diem-failure-lessons-for-digital-currencies-by-katharina-pistor-2021-05>.

<sup>15</sup> See <https://www.atlanticcouncil.org/cbdctracker/>.



Developing countries have also launched regulatory responses to cryptocurrencies.<sup>16</sup> As at November 2021, 41 countries, compared with 15 in 2018, had prohibited banks and other financial institutions from dealing in cryptocurrencies or banned crypto-exchanges from offering services to individuals and enterprises. Nine developing countries, namely, Algeria, Bangladesh, China, Egypt, Iraq, Morocco, Nepal, Qatar and Tunisia, have banned cryptocurrencies outright. Several others have imposed income taxes on capital gains arising from cryptocurrency trading. Finally, crypto-exchanges are becoming subject to national anti-money laundering and anti-terrorist financing laws in jurisdictions such as Australia, Bahamas, Greece, Romania, the Philippines and Uzbekistan.

## Policy recommendations

Despite recent regulatory responses, cryptocurrencies remain in a legal grey area in most developing countries. The cryptocurrency ecosystem is global by nature and many of its components (decentralized finance platforms, crypto-exchanges, digital wallet providers and stablecoin issuers) are outside the jurisdictions of States, making cryptocurrency regulation a challenge. Accordingly, key regulatory responses to mitigate the global risks posed by cryptocurrencies need to come from developed countries, in which most of these providers have their headquarters.<sup>17</sup>

Developing countries may have less room to manoeuvre, yet the regulation of cryptocurrencies is possible. The following policies, among others, have the potential to curb the further spread of the risks of cryptocurrencies and stablecoins:

- (a) Ensuring comprehensive financial regulation, through the following actions:
  - Require the mandatory registration of crypto-exchanges and digital wallets and make the use of cryptocurrencies less attractive, for example by charging entry fees for crypto-exchanges and digital wallets and/or imposing financial transaction taxes on cryptocurrency trading;
  - Ban regulated financial institutions from holding stablecoins and cryptocurrencies or offering related products to clients;
  - Regulate decentralized finance (such finance may, in fact, not be fully decentralized, given its central management and ownership, which form an entry point for regulation<sup>18</sup>);
- (b) Restricting or prohibiting the advertisement of crypto-exchanges and digital wallets in public spaces and on social media. This new type of virtual, and often disguised, advertisement requires policymakers to expand the scope of regulation beyond traditional media. This is an urgent need in terms of consumer protection in countries with low levels of financial literacy, as even limited exposure to cryptocurrencies may lead to significant losses;
- (c) Creating a public payment system to serve as a public good, such as a central bank digital currency. In the light of the regulatory and technological complexity of central bank digital currencies and the urgent need to provide safe, reliable and affordable payment systems, authorities could also examine other possibilities, including fast retail payment systems.

There is no one-size-fits-all policy response to the increase in the use of cryptocurrencies among developing countries. Countries need to tailor recommended policies, considering the particular features of national financial systems, regulatory infrastructures and enforcement capacity. Moreover, with regard to financial regulation, policymakers should bear in mind that the cryptocurrency ecosystem is constantly evolving. Public authorities therefore need to adopt a forward-looking, holistic and innovative approach, taking advantage of traditional financial regulatory authorities but also adding new collaborators, such as telecommunications, advertising, cybersecurity, competition and data protection authorities. Doing too little or taking action too late will lead to higher costs in the future.

<sup>16</sup> See <https://www.loc.gov/item/2021687419/>.

<sup>17</sup> See <https://www.ft.com/content/669fd346-13ff-4c7b-9597-f829b1ad567d>.

<sup>18</sup> Bank for International Settlements, 2021.

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# POLICY BRIEF

## No. 101

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### KEY POINTS

- To mitigate the financial stability and security-related risks of cryptocurrencies, monetary authorities should provide digital payment options, to ensure that national payment systems function as a public good in the digital era.
- In cases where digital payment streams are not readily available to households, monetary authorities should carefully consider the implementation of a central bank digital currency or fast retail payment system, depending on national capabilities and needs.

## Public payment systems in the digital era: Responding to the financial stability and security-related risks of cryptocurrencies

The digital era is leading to many changes in the payment system landscape, some of which threaten monetary stability and security in developing countries. To ensure that payment systems function as a public good, monetary authorities should carefully consider the implementation of a central bank digital currency. Depending on national capabilities and needs, and the challenges of creating such a currency, authorities could alternatively create a fast retail payment system. Moreover, given the risk of accentuating the digital divide in developing countries, authorities should maintain the issuance and distribution of cash.

### Introduction

During the pandemic, and with the growing use of digital rather than cash-based payments, the use of cryptocurrencies has increased globally, particularly in developing countries.<sup>1</sup> This raises issues about financial consumer protection and, moreover, the market turbulence with regard to cryptocurrencies in 2022 indicates that, if left unchecked, such private digital currencies can have broader implications and jeopardize the stability and security of monetary systems, shrink policy space and even harm macroeconomic stability.<sup>2</sup>

<sup>1</sup> See UNCTAD, 2022a, All that glitters is not gold: The high cost of leaving cryptocurrencies unregulated, Policy brief No. 100.

<sup>2</sup> See UNCTAD, 2022b, Financial consumer protection, including financial education and literacy, TD/B/C.I/CPLP/29, Geneva, 6 May; and <https://www.ft.com/content/5887ef43-d43a-4608-a1ac-aacc99f076b9>.

Note: All websites referred to in footnotes were accessed in June 2022.



However, curbing the spread of cryptocurrencies is not an easy task. Besides implementing comprehensive financial regulations targeted directly at cryptocurrencies and crypto-exchanges and restricting advertising related to cryptocurrencies, as recommended by UNCTAD, policymakers need to ensure that the domestic payment system in the digital era serves as a public good. The best national payment systems provide stability, safety, efficiency, affordability and integrity; and protect privacy.<sup>3</sup>

To harness the opportunities and minimize the risks of digitalization in developing countries, authorities need to consider creating a digital version of a national payment system in the light of social and economic realities.<sup>4</sup> In this policy brief, two options are addressed that could help developing countries achieve this goal, namely, central bank digital currencies and fast retail payment systems.

## Central bank digital currencies

A central bank digital currency is a digital representation of a sovereign currency, which is backed, issued and controlled by a national monetary authority.<sup>5</sup> Until recently, there was no direct connection between monetary authorities and citizens. Access to payment options relied on intermediaries, such as commercial banks. Through the use of a central bank digital currency, citizens can have direct access to a currency and related payment options backed by a central bank.

The technological advantages of a central bank digital currency include a high processing speed, lower costs and the potential for financial inclusion. The latter is also associated with private digital currencies. To a great extent, the use of a central bank digital currency has been a response to risks related to cryptocurrencies, including following the digital currency proposal of a major digital platform and the increasing importance of private payment providers in some countries. For example, in China, Alipay and Wechat Pay make up 90 per cent of the mobile payment sector and, in Kenya, M-Pesa makes up 98.9 per cent.<sup>6</sup> As at December 2021, three projects with regard to such currencies had been launched by Bahamas, Nigeria and the Eastern Caribbean Central Bank, the monetary authority for Antigua and Barbuda, Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Anguilla and Montserrat. Worldwide, 15 economies are in the pilot stage of issuing a central bank digital currency and 67 economies are exploring the benefits and drawbacks of issuing such a currency.<sup>7</sup> The risk of data breaches or abuse by public authorities requires a careful approach and much depends on the design (box 1), yet the use of a central bank digital currency can help avoid the risk of the monetary exploitation of personal data by private digital payment providers.<sup>8</sup> Moreover, for consumers, the use of such a currency should be costless, as the monetary authority bears the costs of launch and operation, as with the use of cash at present.

### Box 1 Nigeria: Finding a balance between inclusiveness and the restriction of illicit transactions

The design of a central bank digital currency involves trade-offs. Such a currency should be universally accessible, yet mechanisms are necessary to prevent its use in illicit financial transactions, such as tax evasion and money laundering. Use of a central bank digital currency may be appealing for the sake of financial inclusion yet, as accounts are anonymous, illegal transactions are thereby potentially facilitated. Implementation of an account-based central bank digital currency, with each wallet linked to a person, would better help control illicit transactions, but might risk excluding undocumented populations.

To minimize this trade-off, in Nigeria, the Central Bank has designed wallet categories. Currently, the electronic naira currency is provided only to people with a bank account and, therefore, in possession of an identification document. The Central Bank plans to expand access to this currency to anyone with a mobile telephone, which would include undocumented populations. To minimize the risk of illicit transactions, accounts linked to identification documents are permitted to hold higher values, of up to ₦5 million (around \$12,000) and anonymous accounts are limited to lower values, of up to ₦120,000 (around \$300). Such graduated access should be a temporary solution, however, with authorities reducing barriers to citizens in accessing the payment system, including through the universal provision of identification documents.

Source: Bank for International Settlements, 2021a. See <https://enaira.gov.ng/>.

<sup>3</sup> See UNCTAD, 2022a; and Bank for International Settlements, 2001, Core principles for systemically important payment systems, available at <https://www.bis.org/cpmi/publ/d43.htm>.

<sup>4</sup> See United Nations, 2019, The age of digital interdependence: Report of the United Nations Secretary-General's High-level Panel on Digital Cooperation, available at <https://digitallibrary.un.org/record/3865925?ln=en>.

<sup>5</sup> See International Monetary Fund, 2022, Behind the scenes of central bank digital currency, Fin[ancial] Tech[nology] Note No. 4.

<sup>6</sup> F Restoy, 2022, The digital disruption: The role of regulation, available at <https://www.bis.org/speeches/sp220128.htm>; Kenya, Communications Authority, 2019, Statistics reports for financial year 2019–2020, available at <https://www.ca.go.ke/consumers/industry-research-statistics/statistics>.

<sup>7</sup> See <https://www.atlanticcouncil.org/cbdctracker>.

<sup>8</sup> See Bank for International Settlements, 2021a, CBDCs[Central bank digital currencies]: An opportunity for the monetary system, available at <https://www.bis.org/publ/arpdf/ar2021e3.htm>; and Bank for International Settlements, 2021b, Fintech[Financial technology] and payments: Regulating digital payment services and e[lectronic] money, available at <https://www.bis.org/fsi/publ/insights33.htm>.



Several design alternatives are under discussion, including on whether the underlying technology of a central bank digital currency should be distributed ledger technology. Consensus regarding the superiority of the latter in supporting a central bank digital currency has not yet been reached, for example because, as noted in some studies, its use can compromise the speed of payments.<sup>9</sup>

The Bank for International Settlements has highlighted the risks of financial disintermediation and a flight to safety from commercial bank deposits to central bank digital currencies since, during times of financial turmoil, people may perceive central bank digital currencies as safer than commercial bank deposits and prefer to hold balances in the former.<sup>10</sup> However, as commercial banks have access to central bank liquidity, such risks are relatively low, and can be managed. Moreover, authorities could set a cap on central bank digital currency accounts and refrain from paying interest on them, to further mitigate such risks.

Despite the advantages of a central bank digital currency in maintaining financial stability and security, launching such a currency is not a simple task. A lack of human and financial resources is one of the most significant barriers.<sup>11</sup> Moreover, in some cases, a central bank digital currency would require a revised legal framework. Given such challenges, monetary authorities must carefully weigh the pros and cons of implementing a central bank digital currency. A fast retail payment system might be a practical alternative.

## Fast retail payment systems

A fast retail payment system is an electronic payment scheme that allows for the processing of small-value (retail) transactions in real time.<sup>12</sup> Such a system was first introduced in the Republic of Korea in 2001. Since then, over 60 jurisdictions have launched or are planning to implement a similar system. There are different frameworks in place but, in most cases, central banks have taken on three crucial roles, namely, as designers, overseers and operators. If well designed, overseen and operated by a central bank, a fast retail payment system can meet the requirements of a digital payment system, but may fall short in terms of financial inclusion, as it requires intermediaries to offer accounts to users.

The advantage of a fast retail payment system, compared with other payment streams, is that it may be provided at no cost or a low cost. The use of an alias (taxpayer identification number, telephone number or email address) can be used to identify the payee instead of a bank account number. This makes access to fast payments easier and reinforces the safety and integrity of the system, as it helps to reduce fraudulent activity and payment to an incorrect payee.

Yet a fast retail payment system operated by a profit-seeking private institution carries considerable risk unless it is strictly supervised. Moreover, to ensure liquidity, the monetary authority will need to implement special arrangements that enable participants to access central bank liquidity when necessary.<sup>13</sup>

In choosing between a central bank digital currency and a fast retail payment system to address risks related to cryptocurrencies, policymakers need to consider the structural features of the domestic financial system. In countries in which financial inclusion levels are already high, or in which financial institutions can successfully extend transaction accounts to the population, a fast retail payment system can serve as a system that has some of the advantages of a central bank digital currency (box 2). A country may opt to launch a fast retail payment system and then develop a central bank digital currency, yet it should be noted that a successfully implemented fast retail payment system reduces the necessity of developing the latter.

## Policy recommendations

One way to contain the expansion of cryptocurrencies in developing countries is through the provision of a domestic digital payment system operated by the monetary authority.<sup>14</sup> Technological capacity, human and financial resources, structural features of domestic financial systems (i.e. whether there is a public commercial bank) and levels of financial inclusion and access to communications technology are all important factors in selecting a digital payment system.

Moreover, while there are pressures on countries to initiate a digital payment system as soon as possible, doing so requires a strategic approach that takes into account the digital divide. In developing countries, two significant barriers related to the creation of a central bank digital currency or a fast retail payment system are linked to the digital divide.

<sup>9</sup> See Bank for International Settlements, 2020, The technology of retail central bank digital currency, available at [https://www.bis.org/publ/qtrpdf/r\\_qt2003j.htm](https://www.bis.org/publ/qtrpdf/r_qt2003j.htm); and Bank for International Settlements, 2021c, Distributed ledgers and the governance of money, available at <https://www.bis.org/publ/work924.htm>.

<sup>10</sup> See Bank for International Settlements, 2021d, Central bank digital currencies: Financial stability implications, Report No. 4.

<sup>11</sup> International Monetary Fund, 2022.

<sup>12</sup> See Bank for International Settlements, 2021e, Developments in retail fast payments and implications for RTGS[real-time gross settlement] systems, available at <https://www.bis.org/cpmi/publ/d201.htm>.

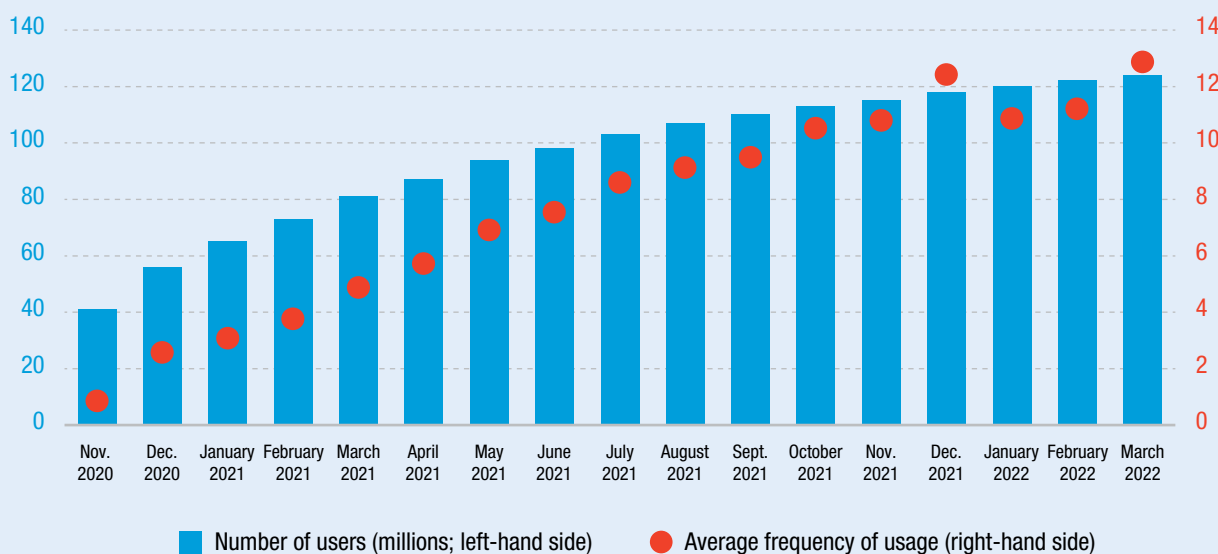
<sup>13</sup> Bank for International Settlements, 2014, Non-banks in retail payments, available at <https://www.bis.org/cpmi/publ/d118.htm>.

<sup>14</sup> See UNCTAD, 2022a.

**Box 2 Brazil: Harnessing the architecture of the domestic financial system to implement a fast retail payment system**

The Central Bank of Brazil launched the fast retail payment system Pix in November 2020. The system, owned and operated by the central bank and implemented after over two years of development, is accessible to anyone holding a transaction account at a bank or other intermediary. Pix provides a number of advantages, including that it is faster and cheaper than other payment alternatives in Brazil; 99 per cent of payments are completed within 0.6 seconds and there are no fees for individual transfers. The number of users increased from 40 million in November 2020 to 128 million in March 2022, representing two thirds of the adult population. Moreover, the monthly frequency of usage also expanded, from 5 times per person in March 2021 to over 12 times per person in March 2022 (see figure).

**Pix: Number of users and average frequency of usage**



Source: UNCTAD calculations, based on data from the Central Bank of Brazil.

Financial inclusion in Brazil has benefited from the presence of State-owned universal banks that offer transaction accounts to low-income households. This feature of the national financial system, combined with the use of Pix, helps ensure that most of the population benefits from a digital payment system.

Source: Central Bank of Brazil, 2022, Pix, available at <https://www.bcb.gov.br/estabilidadefinanceira/pix>.

First, in poorer countries, a lack of personal identification documentation excludes people, particularly women, rural populations and migrants, from owning a bank account. For this reason, public authorities should coordinate efforts to make identification documents universally accessible.

Second, low-income households, compared with other income groups, have lower levels of access to mobile telephones and the Internet. In this context, public authorities should maintain the issuance and distribution of cash, as phasing out its use will accentuate the digital divide.

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# POLICY BRIEF

## No. 102

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### KEY POINTS

- Financing for development requires that developing countries staunch leakages of financial resources, including leakages through a new channel – cryptocurrencies.
- The international community needs to act fast and launch a comprehensive global cryptoregulation and information-sharing system.

## The cost of doing too little too late: How cryptocurrencies can undermine domestic resource mobilization in developing countries

Financing for development requires that countries simultaneously mobilize resources from various sources while tackling financial leakages. This policy brief discusses how cryptocurrencies have become a new channel undermining domestic resource mobilization in developing countries. While cryptocurrencies can facilitate remittances, these same digital technologies may also enable tax evasion or avoidance through offshore flows whose ownership is not easily identifiable. In this way, they may curb the effectiveness of capital controls, a key instrument for developing countries to preserve their policy and fiscal space and macroeconomic stability. This policy brief recommends policies to reduce the financial leakages from cryptocurrencies. Given the global nature of cryptocurrencies, it highlights the importance and urgency of international cooperation regarding cryptocurrency tax treatments, regulation and information sharing as well as of redesigning capital controls to take account of the decentralized, borderless and pseudonymous features of cryptocurrencies.

## Introduction

Developing countries face significant mobilization challenges to promote structural transformation and sustainable development while achieving the 2030 Agenda for Sustainable Development. According to UNCTAD estimates before the war in Ukraine,<sup>1</sup> developing countries need around US\$3 trillion per year from 2020 to 2025 – to close their financing gaps. Financing for development requires a two-pronged approach. On the one hand, developing countries need to mobilize additional resources from several domains: international and domestic, public and private. On the other hand, they need to tackle financial leakages.

Two crucial channels drain resources from developing countries: illicit financial flows and persistent net financial outflows.<sup>2</sup> These channels erode tax revenues, shrinking developing countries' fiscal space and capacity to provide essential public services and infrastructure. Moreover, they broaden the external financing needs of developing countries, leaving these countries on a debt treadmill. The emergence and the popularity of cryptocurrencies in developing countries has been associated with facilitating remittances and financial inclusion.<sup>3</sup> This policy brief addresses how cryptocurrencies can undermine domestic resource mobilization in developing countries.

## Illicit financial flows: Old problem, new channels

At their broadest, illicit financial flows are defined as “financial flows that are illicit in origin, transfer or use, that reflect an exchange of value and that cross country borders”.<sup>4</sup> Illicit financial flows not only include resources that originate from criminal activities (e.g. drug dealing, or trafficking in people) or for illicit activities (e.g. financing terrorism), but also to transfer income and profits legally generated but illicitly transferred abroad to avoid or evade taxes. It is estimated that illicit tax and commercial practices by multinational enterprises and wealthy individuals account for up to two thirds of total illicit financial flows.<sup>5</sup> According to this source, in 2021 alone, close to US\$500 billion were lost in tax revenues worldwide due to cross-border tax abuse by multinational enterprises and individuals. These lost resources, which, for example, would be sufficient to vaccinate the global population more than three times, harm low-income countries most, as they have fewer options to mobilize resources.

Since the 2008 global financial crisis, several measures to reduce commercial and tax-motivated illicit financial flows, through trade mispricing, financial instruments or use of shell companies, have been undertaken at the multilateral and national levels.<sup>6</sup> However, these efforts do not include cryptocurrencies, which have become a new channel for tax-motivated illicit financial flows.

While attention has been given to the attractiveness and potential use of cryptocurrencies for criminal activities,<sup>7</sup> estimates suggest that this represents a relatively small share of cryptotransactions, showing that less than 10 per cent of total transactions in Bitcoin could be attributed to criminal activity in 2020.<sup>8</sup> But from the point of view of financing for development, cryptocurrencies remain problematic even when not related to criminal activity as the erosion of the tax base and the undermining of capital controls are crucial problems for developing countries (see below).

## Tax havens version 2.0

Tax havens are jurisdictions where foreign earnings are typically not subject to taxation (or minimally so) and the anonymity of account holders is maintained. In the last 10 years, tax authorities and Governments have collaborated to encourage regulated banks to deliver information about account holders in order to protect the tax base and domestic resource mobilization.<sup>9</sup>

Cryptocurrencies share all the characteristics of traditional tax havens – the pseudonymity of accounts, and insufficient fiscal oversight or weak enforcement. The key difference is that international transfers of cryptocurrencies do not rely on banks or related legal and accounting services. Instead, cryptocurrency transactions are often channelled through unregulated cryptoexchanges. Hence, cryptocurrencies are under-regulated, enabling individuals to bypass tax authorities' efforts to address offshore tax evasion. In effect, cryptocurrencies can serve as tax havens version 2.0 or super tax havens.<sup>10</sup>

<sup>1</sup> Given the impact of the conflict in Ukraine on the cost of food, finance and finance, financing gaps are expected to be larger than \$3 trillion per year. See UNCTAD, 2022, Financing for development: Mobilizing sustainable development finance beyond COVID-19, TD/B/EFD/5/2, Geneva, 11 January.

<sup>2</sup> UNCTAD, 2020, Topsy-turvy world: Net transfer of resources from poor to rich countries, Policy Brief No. 78.

<sup>3</sup> See UNCTAD Policy Brief Nos. 100 and 101, available at <https://unctad.org/publications>.

<sup>4</sup> For a definition of illicit financial flows, see UNCTAD, 2021, Methodological guidelines to measure tax and commercial illicit financial flows. Version 2.16. For an overview of issues concerning illicit financial flows, see <https://unctad.org/meeting/intergovernmental-group-experts-financing-development-first-session>.

<sup>5</sup> Tax Justice Network, 2021, *The State of Tax Justice 2021*.

<sup>6</sup> UNCTAD, 2019, *Trade and Development Report 2019: Financing a Green New Deal* (United Nations publication, Sales No. E.19.II.D.15, Geneva).

<sup>7</sup> See, for instance, <https://www.europol.europa.eu/cms/sites/default/files/documents/Europol%20Spotlight%20-%20Cryptocurrencies%20-%20Tracing%20the%20evolution%20of%20criminal%20finances.pdf> and [https://www.ucl.ac.uk/jill-dando-institute/sites/jill-dando-institute/files/ucl\\_cryptocurrencies\\_and\\_future\\_crime\\_policy\\_briefing\\_feb2021\\_compressed\\_1.pdf](https://www.ucl.ac.uk/jill-dando-institute/sites/jill-dando-institute/files/ucl_cryptocurrencies_and_future_crime_policy_briefing_feb2021_compressed_1.pdf).

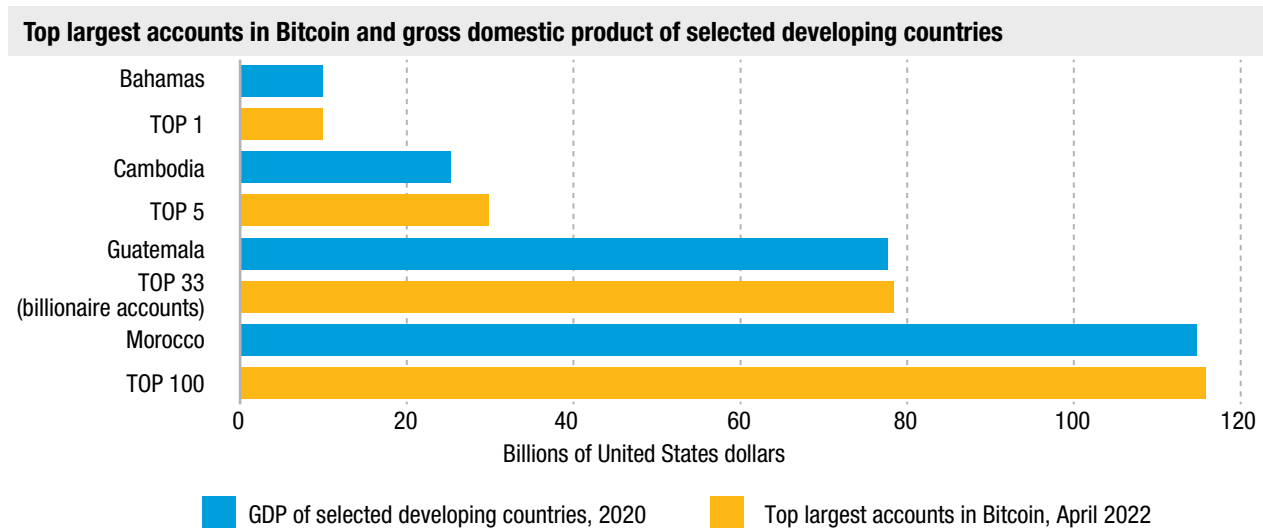
<sup>8</sup> Financial Action Task Force, 2021, *Second 12-Month Review of Revised FATF Standards - Virtual Assets and VASPs*, Paris, available at <https://www.fatf-gafi.org/publications/fatfrecommendations/documents/second-12-month-review-virtual-assets-vasps.html>.

<sup>9</sup> Marian O, 2013, Are cryptocurrencies super tax havens? *Michigan Law Review First Impressions*, 28, vol. 112; and Alm J et al., 2020, New technologies and the evolution of tax compliance, University of California, Legal Studies Research Paper Series No. 2020-42.

<sup>10</sup> Ibid.



Cryptocurrencies have quickly attracted the interest of wealthy individuals and firms. Taking Bitcoin as an example (the first cryptocurrency among the existing 19 thousand),<sup>11</sup> over 80,000 Bitcoin accounts (referred to as “addresses”) hold a balance of at least \$1 million. While some of these accounts may belong to trading platforms, others pertain to wealthy individuals and firms. As the figure below shows, the size of the largest Bitcoin account (as at April 2022) is equivalent to the 2022 gross domestic product (GDP) of the Bahamas, and together the biggest 33 Bitcoin accounts with over \$1 billion each correspond to the GDP of Guatemala (US\$78 billion in 2020). The top richest 100 Bitcoin addresses account together for US\$115 billion, equivalent to the GDP of Morocco (US\$114 billion in 2020) and greater than the GDP of 135 individual countries.



Source: bitinfocharts.com and World Economic Outlook database of the International Monetary Fund.

Balances kept in cryptocurrencies are essentially untaxed. Despite recent regulatory tightening in developed countries (67 jurisdictions applied tax laws on cryptocurrencies by November 2021),<sup>12</sup> most developing countries do not have tax regulation on cryptocurrencies, including with regards to the legal status of these private digital currencies. Moreover, even in countries where tax regulation exists, its efficacy is not assured as the lack of a universally agreed approach to cryptocurrency tax treatments creates a patchwork system that is prone to regulatory arbitrage. Finally, users of cryptocurrency have little or no incentive to report their holdings. The underlying reason is the current lack of a third-party tax reporting system (i.e. through banks), which has been identified as a highly effective tool to increase tax declaration compliance.<sup>13</sup> Contrary to the widely held view that cryptocurrencies are not intermediated, but function using automated protocols,<sup>14</sup> there are countless service providers, including cryptoexchanges, digital wallets, and decentralized finance (DeFi) platforms, that enable the use and holding of cryptocurrencies. Once regulated, these service providers could contribute to improved tax reporting.

### Cryptocurrencies undermine capital controls

The popularity of cryptocurrencies in developing countries, including among middle-class households (see UNCTAD Policy Brief No. 100), means that the use of these digital assets is not limited to wealthy individuals. In cases of political or macroeconomic instability, a broad range of households could potentially use cryptocurrencies as a hedge against exchange rate and inflation risk<sup>15</sup> and as a channel for capital flight. This situation is potentially damaging in developing countries which typically rely on the use of capital controls to deal with the draining of domestic resources through capital flight. As long advocated by UNCTAD, capital controls are also a key instrument for developing countries to prevent the boom-bust cycles of international capital flows and to broaden policy space.<sup>16</sup>

The decentralized, borderless and pseudonymous features of cryptocurrencies pose challenges for the effectiveness of capital controls for three main reasons. First, capital controls work through regulated intermediaries that are required to verify the nature

<sup>11</sup> See <https://coinmarketcap.com>.

<sup>12</sup> Law Library of Congress, 2021, Regulation of cryptocurrency around the world, November update, Washington, D.C., available at <https://www.loc.gov/item/2021687419/>.

<sup>13</sup> Lederman L and Dugan J, 2020, Information Matters in Tax Enforcement. *Brigham Young University Law Review*, Volume 145.

<sup>14</sup> Aramonte S and Wenqian H 2021 DeFi risks and the decentralization illusion. *BIS Quarterly Review*, December, available at [https://www.bis.org/publ/qtrpdf/r\\_qt2112b.htm](https://www.bis.org/publ/qtrpdf/r_qt2112b.htm).

<sup>15</sup> International Monetary Fund, 2022, Capital flow management measures in the digital age: Challenges of crypto assets. Fintech Note, 2002/005. May.

<sup>16</sup> See UNCTAD, 2014, *Trade and Development Report, 2014: Global Governance and Policy Space for Development* (United Nations publication, Sales No. e.14.ii.D.4, New York and Geneva).



of transactions and to identify transacting parties. Second, in many countries the legal status of cryptocurrencies is often unclear, and regulatory bodies may currently not have a mandate to regulate these transactions and cryptoexchanges, e-wallet providers and DeFi platforms. Third, supervision and enforcement of these cryptoservices providers are more difficult since they operate cross-border.<sup>17</sup> Bitcoin, for example, was used to circumvent Chinese capital controls prior to the country's ban on cryptocurrencies. Moreover, cryptocurrency miners are usually remunerated in cryptocurrencies while their mining costs (particularly energy) are incurred in domestic currency, thus enabling capital outflows.

## Recommended policies

While not exhaustive, the following policies provide the potential to halt the financial leakages via cryptocurrencies:

1. To improve taxpayer compliance rates and combat tax evasion, tax authorities should clearly define the legal status of cryptocurrencies and require cryptoexchanges, e-wallet providers and DeFi platforms to report gross inflows and outflows on all business and personal accounts.
2. Given the fast-evolving nature of cryptocurrencies and their ecosystem, countries urgently need to agree and implement a global tax cryptocurrency regulation that considers the needs and challenges of developing countries and gives them adequate representation.
3. Apart from global tax coordination, a comprehensive system of information sharing on cryptocurrency holding and trading is necessary, such as through a common reporting standard. Such measures would support countries to detect evasion of capital controls and enforce taxes.

These three recommended policies are also crucial to the effectiveness of two other initiatives:

4. Although cryptocurrencies may facilitate remittances, given the negative socioeconomic impact these private digital currencies bring about, countries should consider imposing higher taxes on them in comparison to other financial assets to discourage holding and transacting cryptocurrencies.
5. Countries should redesign their capital controls to include flows channelled through cryptocurrencies. Alternatives include imposing financial tax on cryptocurrency trading and limiting the amount of individual transactions on cryptoexchanges. Moreover, central bank digital currencies could be designed to allow for the functioning of capital controls. Without adapting to new digital alternatives, the effectiveness of these controls may be undermined.

<sup>17</sup> International Monetary Fund, 2022.

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