

Rethinking the Power of Money

Essays by: Martin Chorzempa, Antonio Fatas,
Michael B. Greenwald, Logan Weber, Viola Llewellyn,
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GEOECONOMICS AND INDO-PACIFIC ENTERPRISE INITIATIVE
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Preface

When it comes to financial markets, the U.S. dollar remains the world's dominant currency, and with it comes the commanding presence of Washington in the global economy. Seismic shifts in the international order challenging U.S. dominance, however, are extending across well beyond the political and security realms, and impacting the financial sphere as well. While the dollar's strength and the influence of the United States in the financial sphere remains, the global financial order that Washington was instrumental in establishing is being challenged with the rise of digital money. Certainly, new technologies are enhancing efficiencies of financial transactions, but they are also leading to a reassessment about the power of money in its digital future.

In this collection of essays on rethinking the power and influence of digital money, the Wilson Center's Geoeconomics Initiative and the Digital Assets Forum seek to address how reimagining money could shape not only the global financial landscape, but also be part of the emerging new financial order worldwide. Digital money can lead to greater efficiencies in transactions, but the price to be paid can be high, ranging from data surveillance and to breach of privacy. The financial revolution that comes with digital money can lead to tremendous opportunities in emerging markets and greater access to capital, but the volatility of certain instruments cannot be ignored.

Assessing the risks and rewards of digital money can no longer be seen as the purview of central banks, but will have far-reaching political, social, and diplomatic as well as economic consequences. The goal of the following essays is to spark a debate on addressing those challenges as well as opportunities in some of the key markets in the world.

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Washington, D.C.

CHAPTER ONE

What China's embrace of digital currency means for the world

Martin Chorzempa is a senior fellow at the Peterson Institute for International Economics and author of *The Cashless Revolution*.



China has become one of the world's foremost innovators in the world of digital currency and finance, in many ways leapfrogging the United States. As recently as 2013, China's financial system was cash-based, low tech, and repressive—hardly a model for the future of finance.¹ Yet, in the blink of an eye, digital platforms took over payments and just about any transaction for daily life in China could be completed with a mobile phone only. Chinese people stopped carrying wallets, and even beggars went digital with QR codes hung around their necks for mobile donations.

In contrast, it is now the United States which still clings to paper checks and plastic cards. The flow of ideas in this world of financial technology, or fintech, from Silicon Valley to China has reversed, with U.S. tech titans such as Mark Zuckerberg and Elon Musk as well as major U.S. banks learning from China about what the future of finance could be. The benefits of China's digital finance and currency revolution accrue not only to its companies. They grant a form of soft power to the Chinese authorities too, showcasing their technical prowess and facilitating financial interconnection with the rest of the world.

Today, policymakers in Washington worry that China's financial innovations will empower attempts to internationalize its currency, eroding the dominant position of the U.S. dollar. China's Central Bank Digital Currency (CBDC), the eCNY, is already involved in experiments with other central banks aiming to trade directly with each other's currencies instead of going through the U.S. dollar. That in turn could reduce the potential reach of U.S. sanctions and blunt Washington's financial power. Other concerns include a scenario in which other countries adopt the eCNY for payments or that China will force U.S. companies to transact in eCNY, increasing Beijing's ability to surveil financial transactions and potentially impose sanctions of its own. Even if the United States can keep them out of its market, Chinese fintech companies and banks could also outcompete U.S. companies in other markets.

So far, the worst fears of U.S. policymakers have yet to pass, as geopolitics and struggles adapting to foreign markets has hampered attempts from Chinese fintech companies to become truly global players. Beijing's bet on CBDC faces other constraints that make it unlikely to dethrone the

¹ Chorzempa, Martin. 2022. *The Cashless Revolution*. New York: Public Affairs.

dollar in the near to medium term, which means that China will remain susceptible to US sanctions and still need access to dollars to transact with much of the world.

China's digital currency origins

China's digital finance revolution came not from state subsidies or its largely state-owned banks, but rather two private technology companies out of sheer necessity. Since few consumers had credit cards two decades ago, internet entrepreneurs Jack Ma and Pony Ma (who are not related but share the same surname) had to invent their own payment tools to collect from customers of their e-commerce, social media, and gaming businesses. The government then gave them space to expand those tools for paying online to apps for offline purchases such as taxis and restaurants, enabling people to pay for just about anything by scanning a QR code with their mobile phone. This all exists in the United States, but where Chinese fintech firms came up with truly innovative business models is in the creation of super apps.

Compared to their Chinese counterparts, big tech firms in the United States have done little in financial innovation. Instead, many small fintech startups tried to improve on small pieces of the bundle of services banks provide. Few have proven competitive, as managing one's financial life with a tangle of apps is not attractive to most consumers. Fintech in China, on the other hand, is based on big tech firms that have pursued the opposite approach. In one super app, they bundle together payments, lending, investing, insurance, and the like with ride hailing, online shopping, social media, gaming, food delivery, and much more. A U.S. consumer would need dozens of apps to approach the functionality of Tencent's WeChat.

This new bundle approach has enticed about one billion Chinese to dump cash and cards for the convenience of digital payments, which are now accepted by just about any merchant in China. Each area of finance and technology reinforced the others within the ecosystem the super apps built. Payment data for example from one part of the platform helped power credit scores that gave Chinese consumers access to credit they would previously only be able to get from costly loan sharks. China's super apps were so successful, however, that sources of future growth at home began to run out—everyone was already on

their apps. Flush with capital, rich in expertise, and with advanced technology, they set their eyes on brining Chinese fintech to the rest of the world.

Chinese Fintech Apps Struggle Abroad

Market leaders Ant Group and WeChat tried three main strategies for overseas expansion: recruiting merchants to accept them, directly recruiting foreign users, and investing in local fintech firms. Signing up merchants outside of China has already been quite successful, leading Alipay and WeChat to be accepted in over 50 other countries, potentially at millions of merchants. Before Covid quarantines effectively stopped Chinese, from traveling overseas, not accepting Alipay where Chinese tourists spent money was akin to “not offering air conditioning in a car,” in the words of one European payments executive. In Thailand, for example, one store rejected a U.S. credit card and instead accepted only Alipay or Thai Baht cash. In many countries, a single deal with payments providers like First Data and Ingenico that local businesses already use for software and point of sale hardware allows millions of merchants to easily accept Alipay or WeChat in their stores.

If the consumers, however, are Chinese, then the implications for U.S. national security, privacy, and other interests are limited. Though it is an overseas expansion, it is one that still focuses on the domestic market. Where it could matter is as a stepping stone in a strategy to reach foreign consumers. Payments systems tend to face a chicken and egg problem. Without consumers clamoring to use it, merchants will not bother supporting a new payment system, and if merchants do not accept it, consumers will not bother either. A plausible path for competing with companies like Visa and Mastercard could use Chinese consumers as the incentive to sign up U.S. merchants, and once that succeeds, then all the ingredients are in place to sign up consumers.

This leads to the second method for overseas expansion: gaining overseas users. If successful, it would have far more wide-reaching implications than acceptance for Chinese tourists. National security concerns in foreign markets and trouble adapting to a different environment have, however, plagued most of these attempts. Alipay tried to create a global payment network, including users in the United States and around the world by buying MoneyGram, a

US-based money transfer service, but the US Treasury department blocked the deal in 2018 by invoking potential threats to national security. Reportedly, it was concerned about data privacy issues, especially because members of the US military often use MoneyGram to transfer money back home. Alipay seems to have abandoned attempts to gain U.S. users, recognizing that U.S. regulatory authorities were not receptive.

WeChat, on the other hand, has made headway in other markets, including South Africa, Brazil, and India. After an initially strong showing in India, problems adapting to the market showed that the super app model, especially by a Chinese firm, may face trouble abroad. The super app used up too much memory as well as too much data for the Indian market with its less developed infrastructure and cheaper phones, while design features that Chinese found fun exposed Indian women to harassment. Rumors that the Indian government was going to shut the app down for being Chinese was the final straw, as user numbers plummeted.² WeChat wound up most of its India team in 2015. Since then, India's government has banned many of the most popular Chinese apps on national security grounds. In all of these markets, WhatsApp, the U.S. company now owned by Meta, has beaten WeChat to become the main messaging platform, and WhatsApp offers payment services in both Brazil and India. It seems a U.S. tech firm is not seen a threat if it gathers these data and provides these services, but a Chinese is.

The main exception to the limited success at recruiting overseas users is merchants, but instead of accepting payments with QR codes, it is paying for the massive imports that countries buy from China. Kenyans, for example can use WeChat Pay directly with M-Pesa, which is particularly useful for small businesses making small orders directly with sellers in China.³

The third way they have expanded abroad is through investments in local fintech companies. Tencent has concentrated in Latin America, for example investing in Argentinian fintech wallet Uala. Ant Group, which runs Alipay, has major investments in financial and fintech firms in Britain, India, Thailand, Indonesia, the Philippines, and many other countries. Many

2 Shaikh, Shadma. 2018. How WeChat Faded Into the Silence in India. *Factor Daily*. 8 October. <https://archive.factoraily.com/how-wechat-faded-into-the-silence-in-india/>.

3 Ndungu, Kevin. 2021. You can now send money from M-Pesa to WeChat through Family Bank. *MobiTrends* <https://mobitrends.co.ke/mpesa-to-wechat/>

of these partnerships go beyond pure finance. After its investment in India's PayTM, it convinced PayTM to adopt QR codes for payment and helped infuse its technical expertise, sent around 20 staff every week to work on risk and data management from Ant headquarters in Hangzhou, China.⁴

The implications of a portfolio of financial investments are limited, but it would be a major step towards a stronger global presence for Chinese fintech if it could link its investees' digital wallets into a new payments network or even buy them up and rebrand them as Alipay users. At one point it referred to its investees as local versions of Alipay, but it has not managed to link them together. China's tensions with countries like India have created major geopolitical headwinds for such a strategy as well.

To date, Chinese fintech's attempt to expand overseas have been far less successful than one would expect considering their domestic strength. U.S. companies have retained their strong global role so far both in high finance and in tech, as WhatsApp has headed off the competitive threat posed by WeChat. Tencent and Ant Group now have many troubles at home a well, with a less friendly regulatory environment that is squeezing their profits and adding large regulatory burdens. They thus have less resources available for overseas operations, and attempts to assert more government control over these firms will add to the geopolitical headwinds. Now it is hard to make the case that Chinese big tech firms could resist government data request on foreign users of their platforms. Nevertheless, Washington cannot be complacent. As China continues to grow and the companies continue to learn, they could become more competitive in the future.

Outlook for State-Backed Digital Currency

While China's private fintech companies have had limited success outside of the country, a new state-backed digital currency could be different. The rise of Bitcoin in China in 2013 convinced China's central bank that it needed to harness similar technologies for its own purposes. That led it to commit to launch a central bank-issued digital currency in early 2016, back when Federal Reserve officials either said nothing or issued mostly negative statements about

⁴ You, Xi. "Alipay"

CBDC. China's efforts to build what it calls the eCNY have now reached over a quarter billion users in a massive pilot program. How Chinese people pay domestically does not change their capacity to reach foreign policy goals, but there is an important international dimension.

Many Asian countries currently pay in dollars for 80 to 90 percent of their imports, and a large portion of investments occur in dollars as well—both of which make access to the U.S. currency essential.⁵ The dollar is often used as a “vehicle currency,” where for example a Korean firm buying from a Chinese firm will turn its won into U.S. dollars to pay the Chinese firm's bank, which converts those dollars into renminbi. There are good economic reasons for this: most trade between any currency is with the dollar, which makes it cheaper and easy to transact this way even with the extra step than it is to trade directly between the won and renminbi.

Wariness of relying excessively on the dollar for both geopolitical and economic reasons have led to efforts across Asia to build out systems that transact directly with local currencies.⁶ Nearly all major global central banks are experimenting with digital currencies, and most are considering both retail versions for domestic use and wholesale versions that could play a role in cross-border payments.⁷ In October, the People's Bank of China completed a pilot together with three other central banks and the multinational Bank for International Settlements called the Multiple CBDC Bridge (M-Bridge) to transact central bank digital currencies for cross-border transactions that would no longer need access to dollars, insulating them from US sanctions and monetary policy.

In an ideal world for Beijing, its first mover advantage as the most advanced CBDC developer of any major economy would lead future digital currencies issued by other central banks to coordinate first with China to ensure they

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- 5 Ito and Kawai. 2021. The Global Monetary System and Use of Regional Currencies in ASEAN+3. December. In *Redefining Strategic Routes to Financial Resilience in ASEAN+3*. ADB. https://aric.adb.org/pubs/resilientASEAN3/Redefining-Strategic-Routes-to-Financial-Resilience-in-ASEAN+3_CH3.pdf.
 - 6 Greene, Robert. 2022. Southeast Asia's Growing Interest in Non-dollar Financial Channels—and the Renminbi's Potential Role.” 22 August. Carnegie Endowment for International Peace. <https://carnegieendowment.org/2022/08/22/southeast-asia-s-growing-interest-in-non-dollar-financial-channels-and-renminbi-s-potential-role-pub-87731>.
 - 7 Anneke, Kosse and Ilaria Mattei. 2022. “Gaining momentum—Results of the 2021 BIS survey on central bank digital currencies.” Bank for International Settlements. 6 May. <https://www.bis.org/publ/bppdf/bispap125.htm>. (accessed 20 November 2022).

interoperate with the eCNY and conform to its standards. If projects like M-Bridge succeed, China may become the anchor of a new set of arrangements that do not need dollars. That could give it a leg up on the United States, which is only gradually warming up to the idea of new digital currencies and a latecomer to the CBDC game.

Digital Currency is No Killer App for China

Chinese fintech's limited success abroad is a stark reminder of the challenging geopolitical situation China faces. If its most successful companies are unable to attract users in foreign financial markets, in large part due to concerns about collecting sensitive data on people and firms outside of China, it is not clear how the central bank could be more successful. There are good reasons to be skeptical about the fearmongering around the eCNY. New cross-border CBDC payment systems like M-Bridge, while promising, are still in early stages, giving the US plenty of time to invest in creating its own CBDC if it looks necessary to maintain the dollar's competitiveness. The more Washington can do to improve the dollar-based payment system, including expanding access, the less room for improvement there is for new Chinese digital currency systems to exploit.

While many countries would be glad to diversify their payment options, few will want to turn to the renminbi outright instead of the dollar, especially because Beijing retains tough controls on capital flows that contrast starkly to the open door policy of the United States to using the dollar freely. Today, despite China's immense global trade and investment activity, the yuan is only used for about 2 percent of global payments, significantly less than even the Japanese yen and making little progress over the last few years.⁸

Looking ahead, there may be more companies in wide range of countries paying for their trade with China in yuan. Nevertheless, it would take a seismic event such as a massive overreach of U.S. sanctions that could tip the scales in favor of the yuan over the dollar, leading the renminbi to become a new regional vehicle currency that would give it even a fraction of the kind of influence the dollar enjoys today. So far, every time China has had to choose

8 SWIFT. 2022. RMB Tracker November 2022. <https://www.swift.com/our-solutions/compliance-and-shared-services/business-intelligence/renminbi/rmb-tracker/rmb-tracker-document-centre>.

between opening its currency, digital or not, and maintaining controls for stability at home, it has chosen the latter.

The prospect of the Belt and Road Initiative (BRI) as a mechanism to expand China's digital currency influence are also overblown. The BRI is facing serious resource constraints and a mountain of bad loans. Meanwhile, most of the BRI-related loans seem to be denominated in US dollars. If Beijing wanted to use its leverage as a creditor to increase the yuan's use abroad, it would have done so already through this channel. While China could mandate that countries trading with it pay in eCNY, giving it more visibility into transactions and forcing more companies to buy yuan, this hardball strategy could easily backfire by encouraging firms to do business elsewhere rather than comply with unfamiliar and potentially risky financial orders. The substance of transactions that do comply would not fundamentally change either: instead of having the Chinese exporter turn their dollars into renminbi, the foreign firm would need to do so, but many of those dollars are still being ultimately converted to renminbi today, and China's government can always get information about these transactions if it wanted to query its state-owned banks. On sanctions, using the eCNY, which is directly operated by the central bank, as a sanctions-busting tool would be a highly risky move, daring the US Treasury to sanction the Chinese central bank.

In short, leadership in digital currency has benefited China's economy and its citizens, but it has yet to play a major role in achieving its global geopolitical ambitions, like economic and financial competition with the United States. If the rest of the world moves to launch central bank digital currencies, China may have some first mover advantage, but it will take a great deal more than digital forms of heavily constrained yuan to take on the dollar's many entrenched advantages.

CHAPTER TWO

Prospects of Weaponizing Digital Money

Antonio Fatas is a Professor of Economics at INSEAD. He is also a Research Fellow at the Centre for Economic and Policy Research in London.



For decades, the U.S. dollar has been the world's preferred currency both for trade and financial transactions. To date, it has been the predominant global reserve currency and its importance goes well beyond the size of the U.S. economy.¹ Oftentimes, the influence of the U.S. dollar in international markets has been regarded as an unfair benefit to the United States both from an economic and geopolitical point of view.²

Two developments have emerged over the past 20 years to challenge the greenback's dominance, namely the Euro's launch and China's expansion. The launch of a common European currency uniting Europe in 1999

brought together a large economic area of countries with well-developed financial markets. Meanwhile, as China overtook Japan as the world's second largest economy in 2010, imagining an increasing role for the Chinese renminbi was only to be expected.³ Nonetheless, the U.S. dollar continued to dominate international trade and finance even as the global role of the US dollar weakened slightly in recent years.⁴

Yet there is a new development underway that is increasing speculation about the possible decline in the dollar's hegemony: the increasing role of digital forms of money combined with the possibility that central banks launch their own version of digital currencies, what is known as central bank digital currencies (CBDCs). Increased digitalization of money will no doubt impact the dollar's dominance as the foremost global currency, while CBDC projects in both China and the Euro area can also challenge the greenback's current dominance.

The dollar's rise as currency to the world

What makes a currency a good candidate for a global one? In many ways, becoming a dominant global currency require the same attributes for a

1 The US economy is the largest in the world and accounts for about 25% of world output at market exchange rates but the US dollar represents close to 60% of the world foreign reserves.

2 From an economic point of view this is sometimes called the exorbitant privilege (see, for example, <https://www.brookings.edu/blog/ben-bernanke/2016/01/07/the-dollars-international-role-an-exorbitant-privilege-2/>)

3 The Chinese economy is second to the US when measured at market exchange rates but it is already larger than the US when adjusted for PPP.

4 For example, today the US dollar represents about 60% of the foreign reserves held by central banks, down ten percentage points in the last two decades. See <https://www.imf.org/en/Blogs/Articles/2022/06/01/blog-dollar-dominance-and-the-rise-of-nontraditional-reserve-currencies>.

currency to be a good form of domestic money. Money is a medium of exchange, and assets denominated in its unit of account need to be liquid and perceived to be safe.

Safety in the value of the currency comes from a monetary policy framework that delivers stable inflation and a stable exchange rate. There are many currencies backed by central banks which establish stable and predictable inflation rates. But when currencies compete, their size and network effects matters, with size meaning both the size of the economy as well as its role in global trade in addition to the depth of its financial markets. When companies invoice their international trade in a given currency, they are more likely to borrow in that particular currency. Central banks are more likely to hold foreign reserves denominated in the currency in which international trade is being conducted. Meanwhile the presence of these reserves creates the necessary liquidity that reinforces the decision by companies to use it as an invoicing currency. All of this tends to play in favor of a winner-take-all outcome.

Historically, the central role of the U.S. dollar is associated with the increasing dominance of the U.S. economy in the 20th century, together with the Bretton Woods agreement which placed the dollar at the center of the international monetary system. U.S. businesses too dominated the world economy over the past decades. For instance, the U.S. stock market represents about half of total capitalization of stock markets worldwide, or twice as much as its share in terms of GDP. Another factor is the U.S. government debt, considered a safe asset, which is larger in absolute value than that of any other government. This combined with the open capital account that has prevailed in the United States for decades made its assets very liquid.⁵

Despite this apparently dominance, however, there are several reasons why the role of the U.S. dollar might be under additional pressure today. In addition to the diminishing role of the US economy as emerging markets outgrow advanced economies, there is also the potential for increasing geopolitical risks and even the possibility of deglobalization that could lead to a global economy separated into blocs.⁶ Increasing geopolitical risk can have an important effect

5 Gourinchas (2021) provides a great historical summary of the economic forces that drove the role of the US dollar in the global economy.

6 See Arslanalp, Eichengreen, and Simpson-Bell (2022) for an analysis of the drivers behind the decline of the US dollar dominance.

on the attractiveness of a particular currency, as we are witnessing today with the sanctions associated to the Russia invasion of Ukraine. The control that the United States exercises over U.S. dollar-denominated transactions and the possibility of politically motivated sanctions can change the perception of liquidity of the U.S. dollar relative to other currencies. Russia has been increasing the share of the Chinese renminbi in its foreign reserves and recently it has started invoicing in rubles.⁷

Authoritarian regimes in particular are expected to continue looking for alternatives to diversify away from the U.S. dollar and the political constraints it poses. Assuming that is the case then the Euro is unlikely to be a good option, as Western Europe is likely to be in sync with the United States in future potential conflicts. The Chinese renminbi, on the other hand, is a more natural candidate because it is more likely to deviate from U.S. sanctions, not to mention the fact that the Chinese economy's importance is growing stronger. Yet there are several factors that hamper its growth. Chinese financial markets do not yet provide the necessary liquidity that the world needs. In addition, the restrictions on capital flows are inconsistent with the notion of a global liquid asset pool. While the Chinese government has expressed its objective to liberalize capital flows, the speed at which it has happened has been disappointing. And, of course, countries that are Washington's natural political allies are unlikely to replace it with the Chinese renminbi.⁸

Nonetheless, there is clearly a momentum for the renminbi to increase its influence in global trade, though less so in capital flows. Given the prominence of the Chinese economy, it will be easy to see an increasing role in invoicing in renminbi. Even if there is limited openness in the capital account, the Chinese central bank could continue developing a system of global payments that combined with the creation of swap lines with other central banks would provide the necessary infrastructure for its growth. In this scenario, the renminbi would not replace the U.S. dollar but it would move the global economy towards a multicurrency structure, at least when it comes to international trade.⁹

7 See <https://warontherocks.com/2022/09/what-does-the-weaponization-of-global-finance-mean-for-u-s-dollar-dominance/>

8 See <https://cepr.org/voxeu/columns/rise-renminbi-international-currency-historical-precedents>.

9 See Eichengreen, Macaire, Mehl, Monnet and Naef (2022) for a detailed analysis of this scenario.

Digital money reassess the global payment system

As challenges to the dollar's dominance rise, new forms of digital money are also being presented as a revolution in the way we money. Domestically, some of these assets are seen as a disruption to the traditional financial institutions. At the international level, the fact that some forms of digital money are easier to move across borders and can bypass capital controls in some cases, could open the door for larger capital flows which in turn can result in a wider set of choices for global currencies. In addition, as central banks start launching their own digital currencies (CBDCs), new currencies can be weaponized and increase geopolitical tensions.

Bear in mind, though, that digital money is not a new concept. The use of credit cards, online banking or, more recently, mobile payments has slowly moved economies away from a physical medium of exchange to a digital one. Still, the infrastructure of payments remains under the control of central banks, with the increasing digitalization being mostly driven by traditional financial institutions. Even in regions where new players have managed to become dominant, for example in China where BigTech companies now dominate digital payments, these players still rely on the central bank for the settlement process. The same is true in other parts of the world where so-called neobanks were seen as disruptors but are now slowly converging to the business model of traditional banks.

The impact new forms of money have on global payment systems is not apparent. Private forms of digital money such as digital wallets including WeChat and Venmo can create and control closed-loop networks of domestic payments, but they cannot have a significant impact on the use of a currency abroad. Private digital money face regulatory limitations for foreigners to access digital wallets, and they also have to rely on the traditional institutions, including the central bank, to settle payments outside of their networks.¹⁰

¹⁰ Cryptocurrencies, in theory, can bypass some of these restrictions. But their instability and difficulty to provide a stable and reliable means of payments have limited their development. In addition, if say Bitcoin were to become a global reserve currency, it would not strengthen the power of any particular country.

The rise of CBDC and new monetary power

Historically, central banks have been managing a digital version of their currencies in the form of reserves of commercial banks at the central banks which are used to settle payments. Nonetheless, many central banks believe that they need to go beyond what they do today for several reasons. First, physical cash is disappearing worldwide. Should there be a point when electronic payments become the default and cash is no longer accepted, it would mean that there would be no public form of money available and that the private sector would be in total control of the payment system. At the same time, central banks feel the need to have an alternative to existing private forms of digital payments to improve on the efficiency of the system, provide resilience and avoid the possibility of monopoly power by big players (for example BigTech firms in China).

When it comes to complementing or improving the current payment infrastructure, central banks can focus on wholesale or retail CBDC. In wholesale CBDC, central banks open up access to their balance sheet to an increasing number of institutions. This can help make the payment market more competitive and efficient, but it would not address the first concern, namely the need for a digital equivalent of cash. In order to do that they would need to create a *retail CBDC* system where there would be access for all including individuals.

Many central banks are either planning for or currently running projects for retail CBDC.¹¹ The Chinese central bank has already run a pilot for it, while the European Central Bank has produced a series of documents and is working on a variety of technical solutions.¹²

But if retail CBDC were to happen, just how much of a difference would it make in the domestic payment system remains debatable. As for the impact of using CBDC as a global currency, the result will ultimately depend on the details. Domestically, the fundamental challenge will be the acceptance of CBDC as a means of payments and will require consumers to see it as competitive relative to the current private infrastructure. Central banks are

11 See <https://www.bis.org/about/bisih/topics/cbdc.htm>

12 See Fullerton and Norman (2022) for a description of the Digital Yuan project and https://www.ecb.europa.eu/paym/digital_euro/html/index.en.html for details on the Digital Euro project.

not yet ready for this fight, and they do not plan to replicate the full payment infrastructure. So far, most are thinking of relying on what is called the hybrid model of CBDC where private payment providers will facilitate access to the new digital currency.¹³ In practice this means that while an individual will have access to the liability side of the central bank balance sheet, its use as a means of payment will still require the private payment infrastructure. In this environment, CBDC is unlikely to displace current forms of digital money. In addition, the central banks will have a hard time achieving other goals such as financial inclusion or resilience or improved competitiveness given the dependence on the private sector.¹⁴

Meanwhile, the future of CBDC taking off as a global currency will depend on a number of factors CBDC will need to be available to foreigners as a global currency, and most central banks have not made up their mind on this issue in part because . issues such as privacy or regulatory conditions for CBDC have not been resolved . Today foreigners can have access to physical cash, but it is very difficult for them to have access to private digital versions of the currency held at bank accounts because in most countries regulations imposes residency requirements to open a bank account.

The real question is one of regulation. So long as the current regulatory environment remains unchanged, CBDC will do very little to increase the global use of a currency. It is possible that small CBDC balances are provided to foreigners in a way that resembles cash (anonymous, without KYC requirements and possibly available for offline use). This could be useful to help tourists execute certain payments, but it will have limited impact on the global use of a currency.

The only area where CBDC could make a substantial difference is if it leads to a rethinking of the current infrastructure of cross-border payments. Currently, access to payments in a foreign currency requires the use of correspondent banks that have direct access to the respective central banks. The creation of CBDC could potentially become an opportunity to standardize national payment systems and create an infrastructure of cross-

13 See Auer, Raphael, and Rainer Böhme (2021) for details of the architecture that central banks are considering for CBDC.

14 For a longer presentation of these arguments, see <https://cepr.org/voxeu/columns/conflict-between-cbdc-goals-and-design-choices>

border payments that is much more efficient than the current outdated, slow and expensive system. That in turn would make it easier for companies to price and operate in foreign currencies, boosting the importance of currencies such as the renminbi that are likely to grow as trade increases. But this scenario is more about the regulatory and technology environment than about CBDC per se. In fact, some of these developments could involve private institutions and can take place without issuing a retail CBDC. For example, if central banks were to provide direct access to their balance sheet to institutions that specialize in cross-border payments and these institutions were allowed to manage large account balances, holdings of foreign currencies could be as frictionless as holdings of domestic currency. This is already happening in some jurisdictions but at a slow speed because of the conservative approach by central banks and regulators.¹⁵

Innovations in digital money, including the possibility of central banks issuing retail CBDCs, is seen by some as a potential inflection point in the competitive landscape among the largest currencies. That scenario, however, is unlikely. The historical dominance of the U.S. dollar is likely to remain in place and challenges to its position will come not from the rise of digital currencies, but elsewhere. The expansion of the Chinese economy in international trade will remain the biggest source of competition for the dollar's prominence. This combined with the additional cross-border payment systems that the Chinese central bank is facilitating and the reality of increasing geopolitical tensions that are likely to lead the world separated into blocs are the true forces that will slowly boost the role of the renminbi. Digital developments, such as CBDC can, at best, be part of the technology solutions that facilitate these changes. But they will certainly not be the catalyst for the changes.

15 For example, Wise has today direct access to the balance sheet of the Bank of England. Wise is allowed to operate in many jurisdictions and offer multi-currency accounts. But it faces regulation about the size of those accounts. Another example, although one that failed, was the project by Facebook to create a global currency (Libra) later replaced by the idea of creating private versions of local currencies (called Diem). This project was suggesting the use of CBDCs as the backbone of their own private digital currency. CBDC in this example could have facilitated the launch of private digital currencies available through one of the largest global social networks.

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CHAPTER THREE

Reimagining the power of money through digital currencies

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The international economy is beginning to fracture around the emergence of new digital assets, increased interest in a financial system less dependent on the US dollar, and the human values that these changes represent. Currencies are at the heart of the global economy as they represent a shared medium of exchange that acts as an enabler or disabler of economic relationships. Ultimately, they have the power to shape the global economy and, in turn, geopolitics. With Russia's invasion of Ukraine, unilateral U.S. sanctions, and China's ambitions to develop alternative frameworks for the global financial system, a post-SWIFT era is emerging. While the volume of international trade remains high despite recent disruptions, the rallying cry for a basket of currencies approach to dealing with debt instruments, trade, cross-border settlement, and the global economy is also increasing. Over the past century the dollar has been the center of the globalized economy, yet US allies and adversaries alike have been stepping up efforts to circumvent an American-centric system that is capable of putting holds on cross-border money transfers¹ in times of crisis.

Challenges to the U.S. dollar's prominence

The current economic landscape is evolving rapidly with the emergence of various fiat currencies, central bank digital currencies (CBDCs), and cryptocurrencies, each of which representing a set of goals or priorities set forth by the issuing body. For instance, the U.S. dollar is seen as a symbol of globalization, while Bitcoin represents hyper-globalization with a focus on decentralization and a sprinkle of revolution. China's digital yuan, meanwhile, represents an attempt to track purchases, collect data on consumers, and disconnect a sizable portion of the global economy from the greenback. Recent developments including the global pandemic, increased discomfort with a US-centric global economy, and implementation of economic sanctions have ignited isolationist sentiment across the world, leading to the fracturing of interests, values, and leadership. If unchecked, this trend could create an economy that is based on a basket of currencies rather than one that hinges primarily on the performance of the U.S. dollar and is ultimately led by

¹ <https://time.com/6153951/swift-sanctions-russia/>

Washington. At the same time, the growing pains of crypto have not deterred decentralized finance and creator economy from pursuing a privacy-based system that sometimes operates outside of the purview of governments, which explains in part the rise of Monero, Horizen, Railgun, Dash, ZCash, and other so-called privacy coins.

Most significant in the realm of CBDCs is China's continued push to implement their digital yuan that logged over \$8 billion in transactions in the second half of 2021 and continued to grow throughout 2022. These advancements have still not been met with serious pushback from the international community. The digital yuan was used to log over \$315,000² in transactions/day during the 2022 Beijing Winter Olympics, is now available to use on WeChat³, and has a non-existent degree of anonymity since 'all phone numbers must be tied to an ID number.' Their project has also recently gained more credibility following a six week test⁴, 'which ended late last month, (and was) part of m-Bridge—a project that pilots cross-border payments in digital currencies issued by central banks of China, Hong Kong, Thailand and United Arab Emirates. China's digital currency, or e-CNY, was the most issued, and actively transacted token in the \$22 million pilot that used CBDCs to settle cross-border trades, a Bank of International Settlement (BIS) report showed.' This is yet another step in the Chinese effort to internationalize the Chinese digital yuan.

The outlook for stablecoins

Stablecoins are meant to be exactly that: stable. A stablecoin is designed to maintain a fixed value over time and it is pegged to a specific government-issued currency—often the U.S. dollar. Stablecoins are used to keep assets invested in digital financial systems without converting into fiat currency, benefitting from some aspects of the market while reducing volatility. They are also a way for crypto-forward companies to complete transactions with one another without having to wait for the settlement of wire or ACH payments.

2 <https://www.reuters.com/technology/around-300-mln-digital-yuan-used-every-day-olympics-pboc-official-says-2022-02-15/>

3 <https://www.china-briefing.com/news/china-launches-digital-yuan-app-what-you-need-to-know/>

4 <https://www.asiafinancial.com/chinese-banks-test-digital-yuan-for-cross-border-settlements>

With this expectation of stability, the crash of stablecoin Terra/Luna in early 2022 and the recent collapse of FTX have sent shockwaves across the industry, eroding credibility and decreasing overall trust in decentralized institutions and projects—\$1.6 billion and up to \$2 billion in losses, respectively. What made Terra’s case unique was its algorithmic-calibrated peg.⁵ In theory, Terra’s value was supposed to be maintained via programmed smart contracts that would automatically sell or buy a “sister” coin called Luna. While Terra’s approach proved vulnerable to a death spiral, it is worth noting that other stablecoins, such as USDC and Paxos, are in fact, backed by hard assets on a 1:1 basis. As noted by MoonPay, a crypto money service business, “USDC is often described as a safer stablecoin since Centre makes a greater effort to comply with audits and governmental regulation, and has more transparent, fully-backed reserves.” Terra’s crash will bring about further regulatory scrutiny, but stablecoins are expected to continue playing a significant role in the world of currency.

Even though it is not directly related to the viability of stablecoins writ large, it is also necessary to mention the recent fall of the FTX exchange, as well as its sister hedge fund, Alameda Research. While there is much reporting coming out now on the situation and the full details are still coming to light, FTX’s collapse is a major setback for cryptocurrencies, including stablecoins. When a traumatic event like this occurs and many people lose money, trust and confidence is also lost in the underlying systems. While the concept and utility of stablecoins differs from that of a cryptocurrency like BNB token (Binance), stablecoins still require liquidity outlets that exchanges like FTX provide. The fallout from FTX’s demise has been dramatic and years of trust building will be required before confidence and growth in stablecoins and crypto can return.

The fracturing in currency markets

The network infrastructure being built in the world of cryptocurrency is more than just “magic internet money” (not to be confused with ticker MIM, Magic Internet Money). Rather, cryptocurrencies have durable value and their native

5 <https://decrypt.co/resources/what-is-terra-algorithmic-stablecoin-protocol-explained>

tokens will find a permanent place among other currencies of the world. The basket of currencies resulting from evolutions in fiat currency, stablecoins, CBDCs, popular Layer 1 networks, and some Layer 2 networks, will bring diversification to the U.S. dollar-centric world economy. While G7 economies (and other trade partners) will need to figure out how to innovate the SWIFT payments system to incorporate CBDCs⁶ and increase interoperability of blockchains for cross-border transactions, their forays into the space mean that they are already exploring the benefits of this new financial technology.

As diversification in currencies occurs, the U.S. dollar will face increasing competition especially in the face of some of the recent developments in China's CBDC. This pressure is compounded with the reduction of dollar reserves in partner nations and the wavering trust in a US-centric financial system.

Authoritarian countries like China, Russia, and Iran will continue to seek ways to evade an international trade system that transacts in the U.S. dollar, which will lead to a fracturing of the current global system along ethical and value-based lines. In this new world there may be a decline in heavy trading with China amongst rules-based industrialized countries, and instead the move to a more limited and targeted collaboration with East Asia. Meanwhile, following Russian sanctions, India, the European Union, and others are conducting dollar stress tests to ensure the U.S. cannot put them in the crosshairs of strategic competition as it has done with Russia. U.S. policymakers are learning that the use of financial war has consequences and in a world with financial alternatives, even centuries-old partners may be incentivized to make a shift.

6 <https://www.finextra.com/blogposting/23195/swift-and-cbdc-projects-successful-experiments>

CHAPTER FOUR

Can digital currencies jump-start Africa's economies?

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Much has been made about the risks and rewards of digital currencies. For the emerging economies of Africa, though, the question is whether digital currencies can create new economic opportunities, especially in harnessing the potential of the African Continental Free Trade Zone.

The use of stablecoins, tokens and other payment cryptocurrencies have been explored across Africa as well as the Middle East as means to combatting liquidity challenges, currency devaluation, asset value erosion, and fraudulent remittances. They are, after all, systemic challenges in most emerging markets.

The status of CBDC and blockchain in Africa today

Much of Africa has adopted a “wait and see” approach to crypto, with only a handful including Nigeria and Kenya taking the lead to explore acceptable regulatory frameworks for crypto-currencies and digital assets. Whilst this top layer is grinding its way through to conclusion, Cameroon, Senegal, Ivory Coast, and other nations have seen the rise of a growing cohort of young tech savvy groups operating independently who are emulating western crypto traders. Their inspiration comes from day trading and the platforms which provide up-to-the minute trading information and quick settlement.

Digital solutions that leverage blockchain and offer alternatives to centralized and traditional systems have a particular allure for Africa. They are seen not to be at the mercy of traditional trust-based systems that rely on regulators who balance the need to provide security for consumers and protect the fragile fiat economy.

Africa’s innovative approach to smartphone technology is a good indicator of the continent’s readiness to adapt the opportunities presented by digital currencies. Access to opportunity is fast becoming just as critical as access to finance, and with the required infrastructure as well as the Digital solutions and APPs that can regulate and digitize multiple services simultaneously via smartphones, geography is now less of a hindrance. The use of blockchain and CBDCs offer an opportunity to disrupt key financial services such as payments, remittances, access to finance, funding, as well as notary and registry services. These are the bastions that central banks and regulators are stumbling over.

Decentralization is at the heart of digital currencies. Africa's financial landscape, however, differs significantly from the rest of the world. The continent's financial system started out as a manual, socially vetted process driven by the need for compliance, trust, transparency and speed. It does not at first blush seem compatible to the digital-first process worldwide. Community-led liquidity pools such as Saccos in East Africa, Gameyas in Egypt, Tontines in West Africa and Njanghis in Cameroon have been almost immune to digital disruption. But decentralized finance is now being adopted rapidly by small businesses across Africa. Businesses motivated by growth and profitability cobble solutions together on an "intrapreneurial" basis; this has been the case on the continent.

A small cashew nut business in Ivory Coast, for instance, has adapted to financial innovation for efficiency and profit by converting manual receipts to digital receipts at warehouses, and listing them on private or public Blockchains as well as commodity exchanges. This allows that business to be part of the value chain contracts with global off-takers. Through direct knowledge of global commodity prices as well as access to soil and weather evaluations needed for insurance and pricing, farmers are able to organize capital to plug the cash flow gap whilst waiting for final contracts to pay out. Small businesses in Africa have thus acquired the ability to choose how to engage in global and continental business.

CBDCs and stablecoins, coupled with the appropriate regulatory oversight could open up access to capital and lead to greater financial transparency. Hopes too are high that financial innovation could push back against fraud and corruption.

The financial health of the continent could be improved too. Bank portfolios often trail poor performing loans on their balance sheet which skews the economic outlook for Africa's banking system because debt cannot be easily moved. CBDCs, stable coins and a correctly implemented DeFI structure would go a long way to creating secondary markets to unlock liquidity. Decentralization provides yield generation and healthy liquidity pools for secondary investment and sector development. It also offers borrowers better financing options for opportunities neglected by traditional lending and capital sources.

New opportunities abound in Africa

CBDCs and stablecoins are gateway offerings to non-volatile and non-speculative financial products that fully leverage smart contracts, and can help reach underserved small businesses. Multiple blockchain solutions already existing in Africa could help regional businesses. Nigeria, for instance, is developing a roadmap for the adoption of blockchain technology in public administration and payments on a national scale. The Nigerian Exchange stated it will use blockchain for settling trade transactions.¹ Meanwhile, the government of Nigeria together with Binance and Talent City are planning to establish a domestic digital economic zone. There is speculation too that ExxonMobil will start a pilot program of selling excess natural gas to crypto mining rigs in Nigeria and other countries.

Meanwhile in 2018, Ghana partnered with IBM to create a Blockchain Land Administration System.² Simultaneously, they are also piloting their CBDC solution. With land being the primary choice of collateral for lending, these solutions will go a long way to addressing fraudulent land titles and theft.

In East Africa, Tanzania's Central Bank is looking to legalize and regulate digital currencies, with the Tanzanian Central Bank Governor publicly stating that CBDCs are a safer alternative to cryptocurrencies and the country is now on its way to issuing its own digital currency. This could be a way for Francophone African nations to reduce the impact of devaluation and post-colonial strangleholds on their economies.

In Uganda, the Central Bank weighed the issuance of a CBDC and followed in the footsteps of Nigeria by welcoming firms into their regulatory sandbox to allow for crypto innovation to take place in a controlled regulated setting.

Ethiopia too has become an adopter. Cardano partnered with the Ethiopian Ministry of Education to build a blockchain-based universal student credentialing system that would benefit around 5 million students. In August 2022, the Ethiopian government announced legislative changes that will position the Information Network Security Administration (INSA), an agency in charge of Ethiopia's cyberspace security, as the main certifying body

1 Article published by Business Insider Africa.

2 2019 Paper published by the OECD Global Anti-Corruption & Integrity Forum.

“to regulate and control cryptographic products and their transactions” to pave the way for their legal use.

It is Kenya, though, that undoubtedly led the way with Mpesa. The country launched multiple blockchain powered solutions in key areas including voting and social housing. Kenya's Central Bank Governor Patrick Njoroge, has been upfront about seeking to introduce a regulatory framework for crypto, which could potentially be the model for the rest of Africa.

Many African governments have turned back on their initial opposition to crypto and are starting to look for a way forward as it pertains to regulatory clarity and adoption. Consumers have certainly been eager to adopt the technology in the wake of the pandemic

Most small businesses in Africa are looking to tap into the value chain of trade or are trying to access global and domestic suppliers. In the past, controlling the levers of these drivers was completely out of the hands of small businesses, leaving them to the mercies and vagrancies of supply and demand, and currency dynamics.

The above data demonstrates the opportunity for using CBDCs and Blockchain in offering disruptive solutions that can elevate pressures and help with creating more opportunities for MSMEs to start operations again.

With the African Free Trade Agreement in place and global supply chain problems on the rise, opportunities for disruption at the continental level relies heavily on payments, remittances, trade finance, logistics, export/import operations, and the like. Regulatory transparency will be key for the technology to be adopted.

Should enterprise blockchain solutions start emerging within individual countries over the next few years, how well they resolve cross-border interoperability will be a significant challenge. Regulating crypto adoption locally will be the first step towards having a working policy regionally. Regulators have been setting up Regional Working groups by Central Banks and Capital Markets Regulators across the continent in order to work together in coming up with regulations that fit the requirements at hand, but that's for the use of blockchain and smart contracts on a general basis.

Digital Currencies, blockchain and other distributed forms of value creation are the vehicle for efficiency as well as the interoperability needed for cross border trade and investment. Growth and gains from the application

Crypto adoption

Country	Avg. GDP pre-pandemic	GDP 2021	% of MSMEs to GDP	% of Unbanked People	Is Crypto-currency used by the general population?
Egypt	262.84 B	404.14 B	Circa. 80%	Circa. 70%	Yes
Morocco	145.26 B	132.73 B	Circa. 90%	Circa. 71%	Yes
Tunisia	42.19 B	46.84 B	Circa. 40%	Circa. 63%	Yes
Nigeria	65.35 B	77.59 B	Circa. 50%	Circa. 60%	Yes
Ghana	407.02 B	77.59 B	Circa. 60%	Circa. 70%	Yes
Cameroon	38.58 B	45.24 B	Circa. 36%	Circa. 80%	Yes
Tanzania	57.15 B	67.78 B	Circa. 30%	Circa. 77%	Yes
Uganda	33.01 B	40.43 B	Circa. 75%	Circa. 40%	Yes
Ethiopia	87.32 B	111.27 B		Circa. 65%	Yes
Kenya	91.54 B	110.35 B	Circa. 3%	Circa. 44%	Yes

The GDP data shows the overall GDP (pre-Covid and post-Covid), there needs to be a more in-depth look at each economy to derive the effects of Crypto/Blockchain-Friendly policies on GDP growth

Crypto and CBCE development

Country	CBDC Project Status	Legal status of Crypto-currencies	Do Banks accept digital currencies?
Egypt	Inactive	Absolute Ban	No
Morocco	Research	Progressive	No
Tunisia	Research	Absolute Ban	No
Nigeria	Launched	Progressive	No
Ghana	Pilot	Progressive	No
Cameroon	N/A	Progressive	No
Tanzania	Research	Absolute Ban	No
Uganda	Research	Progressive	No
Ethiopia	N/A	Progressive	No
Kenya	Research	Progressive	No

of digital currencies will become a challenge if criminal statutes and legal frameworks to deal with cybercrime and digital theft are not addressed properly at the same time.

CHAPTER FIVE

Latin America's digital currency challenge

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The digital revolution of the 21st century has altered the landscape of the financial sector. Digital currencies in particular have led to a seismic shift in banking, and Latin America is at the forefront of developing a new financial structure. Implementation of new services and applications have come to alter the status quo of the traditional financial system, together with the development of new technologies and a favorable context for the development of innovation. At the same time, the path to financial digitalization is accelerating, especially following the global pandemic.

Cash still prevails in Latin America, but the trend is progressively changing. According to the World Bank, 42 percent of Latin American adults make digital payments to retailers, and 11 percent have done so in response to the pandemic. Technological advancements and new forms of digital money led to a boom among users, particularly among the younger generations.

Cryptocurrencies too have impacted a significant portion of the Latin American population over the past five years. As a digital, encrypted, decentralized medium of exchange based on blockchain technology, cryptocurrencies have brought several advantages over the use of fiat money that have enabled them to gain traction among consumers rapidly in recent years. As a result of this, a new way of using and comprehending money has arisen.

There are a number of reasons why cryptocurrencies have made headway in Latin America in particular. According to a report by Chainalysis in October 2022, there are two key-use cases driving crypto adoption in the region, namely storing value and sending remittances.

Indeed in April 2022, the IMF found that the combined inflation rate of the five largest regional economies—Brazil, Chile, Colombia, México, and Perú—had surpassed 8 percent, a 15-year high. Venezuela and Argentina, however, fared worse. In 2022, the two countries faced accumulative inflation rates of 142.6 percent and 76.6 percent, respectively, which means that their fiat currencies have already lost around half of their value within the last twelve months. As a result, stablecoins—or cryptocurrencies that are designed to stay pegged to the price of fiat currencies including the U.S. dollar—are popular in the most inflation-ravaged countries in Latin America.

Remittance payments are also a significant use case for cryptocurrencies in Latin America. Despite accounting for just 8 percent of the world's population, Latin America received 20 percent of its total remittance volume

in 2021, and over the last decade, inbound remittances to the region more than doubled¹. Yet remittance fees for Latin Americans have remained high through the use of traditional payments rails. Blockchain technology has emerged as an alternative in the remittances market, enabling cheaper and faster cross-border money movement using cryptocurrencies, without geographic restrictions and at very low per-transaction costs.

As such, cryptocurrencies are having a significant market penetration. In Argentina, which has moved forward in crypto adoption, the country is facing persistent inflation and monetary volatility, has numerous restrictions on the movement of capital inflows and outflows, and the ability to purchase foreign currency is extremely limited for most of the population. Despite the 2022 crypto crash, there are approximately 37 to 52 million crypto consumers in Latin America, or 15 to 18 percent of digitized consumers in the region².

There are other advantages to cryptocurrencies enabled by blockchain technology, including the lack of intermediaries, as transactions are carried out in a decentralized fashion. Since every transaction is registered on the blockchain and shared across thousands of computers throughout the globe, it is possible to track and trace the movements of cryptocurrencies.

Nonetheless, the downside risks to cryptocurrencies cannot be ignored, even as it could benefit many users in Latin America. The risks of crypto are universal: price volatility has been an intrinsic characteristic in cryptocurrencies since their inception, and price variation is highly marked by market cycles. In addition, cryptocurrencies are not backed by a government or central bank. Unlike fiat currencies, such as the U.S. dollar, the value of a cryptocurrency is unrelated to commitments made by a government or central bank. Finally, a major point of contention in the current debate is the fact that anyone having a crypto wallet can conduct a transaction without first requiring permission from any authority or undertaking identity verification. This has raised the alarm of governments, since one of their top priorities is to prevent money laundering activities. The case of Ross William Ulbricht, owner and operator of “Silk Road”, a hidden website designed to enable its users to buy and sell illegal drugs and other unlawful goods and services anonymously using Bitcoin, is one of the most iconic examples of the illicit use

1 Americas Market Intelligence, 2022.

2 Americas Market Intelligence, November 2022.

of cryptocurrencies. It is estimated that approximately 173,991 Bitcoins were connected with the Silk Road case, which, at 2013's average Bitcoin exchange rate, were worth over \$33.6 million.³

In order to deal with the cryptocurrency risks, Latin American nations are focused on developing regulatory mechanisms for protection. Crypto regulation worldwide is varied, and Latin America is no exception. El Salvador is on one extreme of the spectrum, having passed a Bitcoin Law in 2021 and formally recognized the use of Bitcoin as legal tender. It is the archetypal example of the adoption of cryptocurrencies. The passing of this law was a clear manifest of the intention to incorporate cryptocurrencies into the traditional financial system, even though the outcomes to date in terms of adoption were not what the government of El Salvador had anticipated. After downloading and making their first Bitcoin transaction, only 10 percent of Chivo Wallet users, El Salvador's government-backed cryptocurrency payment app, continued to use it ⁴.

On the other hand, Ecuador has prohibited the use of cryptocurrencies as a means of payment, with the U.S. dollar the only authorized currency for the purchase and sale of goods and services. Similar to Ecuador, the Central Bank of Bolivia banned the use of crypto assets (digital or virtual currencies) at the end of 2020 because they do not qualify as legal tender. The two utterly opposed perspectives provide as a vivid illustration of the regulatory landscape for digital currencies in Latin America.

Brazil, Mexico, and Chile meanwhile have made progress in enacting their own laws that govern the use of crypto assets. The use of cryptocurrencies for operations carried out by financial institutions is regulated in Mexico through its Fintech Law; Brazil and Chile's regulations take a more global approach and define the range of activities for the major players in the industry. As for Argentina, Peru, and Colombia, they still lack a clear regulatory framework, and the goal of regulators regarding their stance on cryptocurrency is still ambiguous. As a very clear-cut case, Venezuela has adopted a policy of complete control on the movement of cryptocurrencies in the nation since 2017. So much so that it established SUNACRIP (National Superintendence of Crypto assets) in 2018 with the primary goal of regulating the creation,

3 FBI's New York Office, 2013.

4 The New York Times, September 2022.

issue, management, and operation of exchanges, financial services involving crypto assets, and other activities.

In addition to the efforts to promote cryptocurrency regulation and to clarify gray areas, governments' responses to the development and adoption of new technologies like blockchain and cryptocurrencies in the financial system are developing rapidly. The key fear of the major participants in the traditional financial system and its regulators is the lack of control over these new, privately generated forms of digital money. In an effort to develop their own type of digital currency, governments are working on the launching of Central Bank Digital Currencies (CBDCs) in reaction to this movement. The United States Federal Reserve defines CBDC as a digital liability of a central bank that is widely available to the general public.⁵ There are digital tokens that imitate cryptocurrencies but are issued by a central bank. Its primary feature is that they are tied to the value of the fiat currency of that country.

Differences between CBDCs and cryptocurrencies need to be made clear. The cornerstone of cryptocurrencies is essentially an alternative financial system in which they may or may not be regulated depending on the country in which they are issued. As for CBDCs, there are three main objectives namely: (i) to reduce the use of cash; (ii) to improve the current monetary policy instruments; (iii) to improve the functioning of the payment system, especially cross-border payments to reduce transaction costs, lack of transparency, and improve the speed of transactions.

The implementation of CBDCs poses a major challenge for states as it could facilitate large-scale payments by working with a system that uses a single infrastructure, capable of enabling the hosting of multiple CBDCs, while at the same time being connected to traditional payment systems. Interoperability becomes fundamental to the implementation of CBDCs, and how states work together to achieve this goal at a cross-border level will be a major challenge.

Unlike the case of cryptocurrencies, the approach of Latin American countries seems to be more homogeneous in the case of CBDCs. Although each country is at a different stage in the implementation of its CBDCs, the trend is clear. In particular, the Argentine government has issued a decree

5 Federal Reserve Board, November 2022.

in April 2022 authorizing the Central Bank to issue its own CBDC. This decree is limited to the creation of a regulatory framework but constitutes the first step towards the implementation of a CBDC pilot. The Central Bank of Chile, meanwhile, delayed its plans to implement its CBDC in order to conduct a better analysis of opportunities and risks. Being the first of its kind in the region, Venezuela represents the pioneer in terms of CBDCs in Latin America with the implementation of its sovereign digital currency, the Petro, in 2017. The Central Bank of Brazil has already issued the first units of its CBDC, the “digital real”, and the first tests are expected to start in early 2023. Mexico continues to make steady progress toward realizing the roadmap that would end in the issuing of its CBDC in 2024. Last but not least, two noteworthy cases are those of Montserrat, Dominica, Antigua and Barbuda, St. Kitts and Nevis, St. Vincent and the Grenadines, and Grenada, seven of the eight Eastern Caribbean Dollar-using countries that have adopted the use of the CBDC Diamond Cash, and the Bahamas in Central America, which introduced its own CBDC, the Sand Dollar, in 2020.

In the Latin American region, traditional financial system players are facing a structural dilemma. The fundamental questions that mainly banks and regulators keep asking themselves are these: what changes should be made to the current financial system to suit the recent emergence of new digitalization phenomena? Should the major participants in traditional financial systems include cryptocurrencies into existing organizational frameworks or should they maintain a binary system where in the conflict between CBDCs and cryptocurrencies will take center stage in this modern era?

There does not appear to be a clear answer to the question at the global level. The recent SWIFT system partnership with Chainlink (LINK) aiming to connect the international payment network with multiple blockchains so that traditional financial agents can access digital and traditional assets on the same network, is a clear example of attempts to integrate cryptocurrencies into the traditional system. While certain nations want to declare war on cryptocurrencies, other participants want to include them into the traditional financial system. In addition, since the various Latin American nations are still working toward a regulation that, despite being different in each country, seeks to meet the primary goal of establishing clear rules for all system components with the intention of ensuring user protection, the answer does

not appear to have a single voice. Everything seems to point to increased regulatory progress in cryptocurrencies over the next several years, especially in light of recent events like the bankruptcy of FTX exchange, the collapse of LUNA and TERRA project, and the bankruptcy of the crypto lending platform Celsius, one of the most important in the market.

Yet an increasing number of countries, especially in Latin America, are developing, testing, or contemplating the introduction of their own CBDCs. Whatever the case, there is no denying that Latin American users have benefited from the new digital money models and their advantages, which has led to a new paradigm shift in the supply of financial services.



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