

**EXECUTIVE
BOARD
MEETING**

SM/23/60

March 6, 2023

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From: The Secretary
Subject: **El Salvador—Selected Issues**

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EL SALVADOR

SELECTED ISSUES

March 2, 2023

Approved By
**Western
Hemisphere
Department**

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BITCOIN AND FINANCIAL INCLUSION: A PRELIMINARY BALANCE

More than one year after implementation, the adoption of Bitcoin as official currency with legal tender status has thus far not led to visible improvements in financial inclusion. Despite the large use of public funds for subsidizing bitcoin transaction costs, acceptance and use by individuals and firms remains minimal. The project involves sizeable risks, including fiscal contingencies, consumer protection and governance issues, which could be magnified in the event of wider adoption and further fallout in crypto markets. Importantly, there is no evidence of any beneficial use case of Bitcoin for the unbanked population.

A. Introduction

1. In June 2021, President Bukele announced his intention to make El Salvador the first country to adopt Bitcoin as legal tender. He claimed that the adoption would “generate jobs and help provide financial inclusion to thousands outside the formal economy”. Shortly after, congress approved legislation granting legal tender status to Bitcoin alongside the US dollar. Although US dollar remains as the reference currency for accounting purposes, the law establishes the mandatory acceptance of Bitcoin as a mean of payment for good or services. It also requires the government to provide free and automatic convertibility mechanisms between Bitcoin and US dollar. After a three-month preparation period, the Bitcoin Law came into force on September 7, 2021.

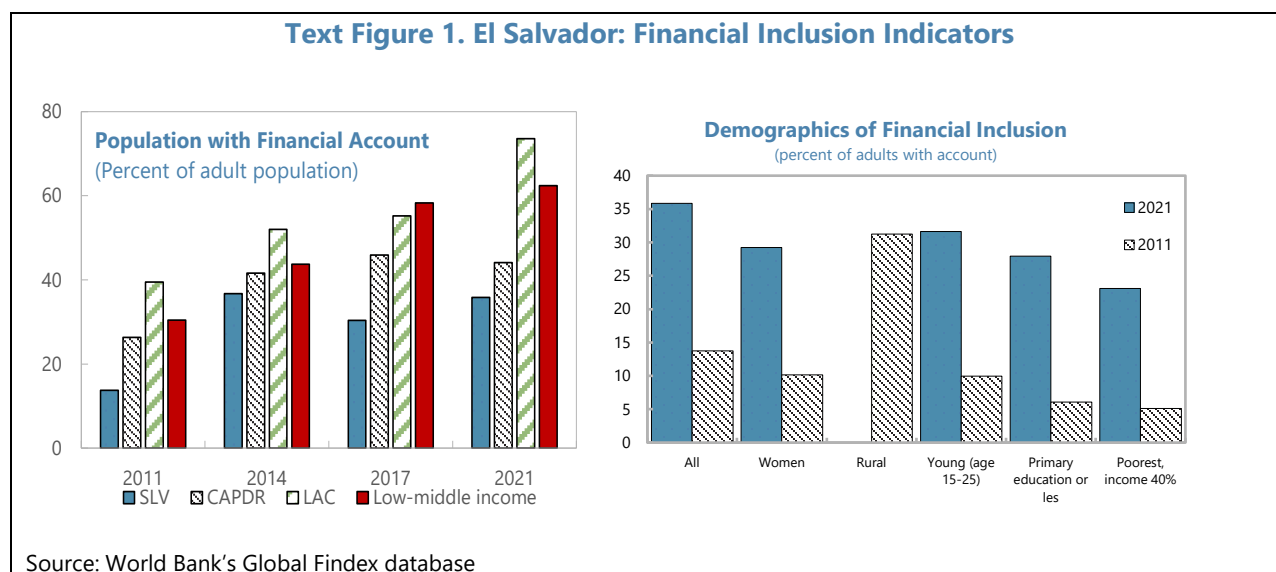
2. The authorities argued that Bitcoin would boost financial inclusion, attract investment, and foster economic growth. The preamble of the Bitcoin Law emphasized that “about 70 percent of the population does not have access to traditional financial services” and “facilitating financial inclusion is an obligation of the State”. It claimed that massifying the use of Bitcoin would expand options for payment, expediting transactions and making remittances (26 percent of GDP in 2021) easier, faster, and cheaper. Operating through a public e-wallet—*Chivo*, the Bitcoin project sought to serve and give access to the financial system to unbanked individuals and informal vendors. Finally, by providing a Bitcoin-friendly environment and tax exemption on capital gains derived from Bitcoin valuation profits, the project aimed to attract international tourists and crypto-entrepreneurs.

B. The Status of Financial Inclusion

3. El Salvador trails regional and economic peers in critical aspects of financial inclusion. Despite a significant improvement in the last decade, El Salvador still presents low levels of access and use of financial services. According to the World Bank Global Financial Inclusion database (Finindex), only 35¾ percent of adults have an account in a financial institution.¹ El Salvador ranks

¹ This includes financial institutions and mobile accounts. The 2022 *Encuesta Nacional de Acceso y Uso de Servicios Financieros* prepared by the BCR points to lower level of financial inclusion (28 percent), but the Finindex indicators are used here to facilitate country comparisons.

below the average in Latin America (73 $\frac{2}{3}$ percent) and in Central America (44 percent). It is also below the average of countries with similar income (51 $\frac{3}{4}$ percent).² Notably, female and minority groups have even lower levels of access to financial services.



4. While the majority of firms have financial accounts, few use banks to finance their business or facilitate digital payments. According to the National Survey of Financial Access for SMEs (2019), half of the firms find it difficult or very difficult to borrow from financial institutions, and only 29 percent of firms use banks to finance investments or working capital.³ The use of cashless payments, such as checks or debit and credit cards, is low, accounting for only 2 in 8 transactions performed by the smaller firms (under ten employees).

5. Predatory lending is widespread for small and vulnerable borrowers. According to a recent survey, 80 percent of small businesses depend on informal lenders to borrow small amounts to finance operating expenses.⁴ The loans are available instantly, without formal requirements. Principal and interest are usually repaid daily over a few weeks, so the borrower is often unaware of the extremely high annualized interest rate.⁵ Predatory lending is estimated to amount to \$617 million in 2022, equivalent to 3.6 percent of total bank loans.

² The income comparator group is built using countries with per capita GDP (PPP adjusted) 20 percent above and below the GDP of El Salvador.

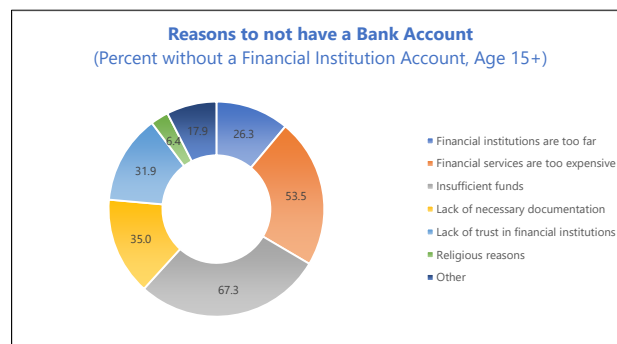
³ See: <https://www.bcr.gob.sv/bcrsite/uploaded/content/category/1153132213.pdf>.

⁴ Survey conducted by the Technological University of El Salvador (CIOPS) for ABANSA, Association of Private Banks. The field work was done in March 2022. See: <https://abansa.net/publicaciones/>.

⁵ It is estimated at 1,869 percent while the legal cap established in the law against usury is 82.7 percent.

6. Lack of resources and high costs are the main cited barriers to accessing financial services.

For those without a bank account (age 15+), the top five reasons cited are: (1) lack of sufficient funds; (2) cost; (3) lack of proper documentation; (4) lack of trust in financial institutions; and (5) distance to financial institutions (Findex 2021). Account ownership is higher among those more educated. Similarly, account ownership tends to be greater for those in the richest segments of the population, men, and older individuals.

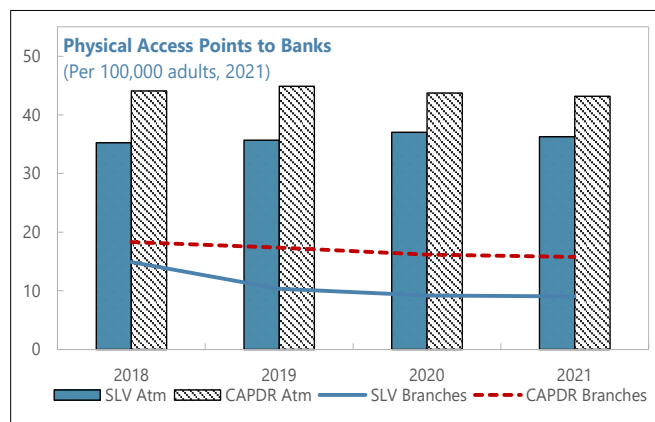


Source: World Bank's Global Findex

7. Low financial literacy, particularly around mobile money, is a key impediment. Only 52 percent of the unbanked Salvadorans could use a bank account without assistance, and only 3.2 percent of adults could use a mobile money account without help (Findex). The authorities have recently used their 2022 financial survey to calculate the OECD-INFE adult financial literacy index, obtaining a 11¾ score, an improvement *vis-à-vis* the 2016 survey (10¼). The index, which ranks from 1-21, measures three aspects of financial literacy: (i) knowledge; (ii) behavior; and (iii) attitude (OECD, 2020).

8. Physical access to the banking system and internet penetration are also below regional peers.

Amidst the global trend toward digitalization and cost-efficiency, the number of bank branches has significantly dropped over the last years (9 per 100,000 adults) increasing the gap with other Central American countries (14.8). Over the same period, the number of ATMs remained flat. In the digital sphere, although mobile phone subscriptions are high, internet penetration, measured as the share of the population that uses the internet frequently, is lower than in Central America, at 48.6 versus 56.9 percent.⁶



Source: FAS, IMF

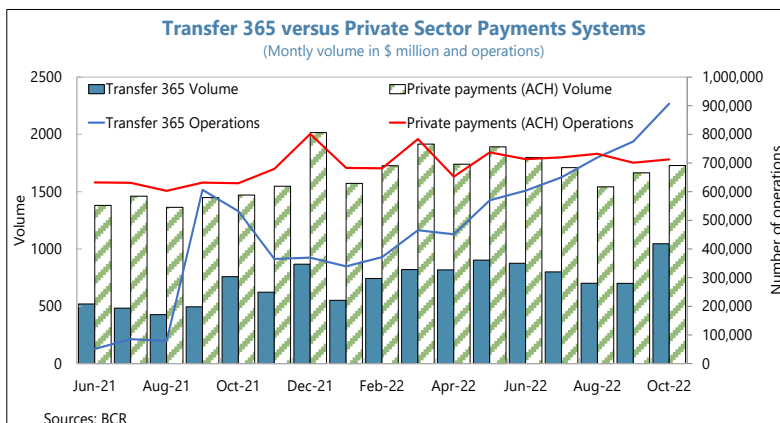
9. Efforts are underway to promote financial inclusion. In 2015, the Law to Facilitate Financial Inclusion regulated the electronic money and required banks to offer simplified accounts

⁶ According to the UN International Telecommunication Union. El Salvador had 146,2 mobile phone and 8,2 fixed broadband (high-speed internet) subscriptions per 100 inhabitants in 2021 (112,3 and 8,7 in Central America). In the same vein, the 2021 household survey shows that 97¼ percent of households has at least one mobile phone and the 2022 *Encuesta nacional de acceso y uso de servicios financieros* found that 68 percent of population has a smart mobile phone.

for the unserved population.⁷ In 2019, the National Council for Financial Inclusion and Education (an inter-agency body coordinated by the central bank) was created. The Council has prepared and approved a National Policy for Financial Inclusion (2021) and the National Strategy for Financial Education (2022). Bitcoin does not play a meaningful role in any of the strategies.

10. In 2021, the central bank launched a retail payments infrastructure (*Transfer365*) that is growing rapidly.

It enables free and near-instant retail payments by processing transactions between financial institutions' digital platforms. To achieve high interoperability and network externalities, all banks are required to join the payments system. Its growth has been remarkable since it was launched in June 2021, and it already processes more transactions than comparable private payment infrastructures. Its impact among the unbanked population is, however, limited, since clients need a bank or mobile money account to use *Transfer365*. The central bank is already exploring ways to stimulate the entry of non-bank digital payments



providers and thus extend *Transfer365* benefits to financially unserved population.

C. Bitcoin as Legal Tender: A Balance after One Year

11. The Bitcoin project has been built on two pillars: the legal tender status and the catalyst role of the government via *Chivo*. The Bitcoin law sought to introduce a bi-monetary system where the U.S. dollar and Bitcoin coexist as official currencies with legal tender status. All economic agents can express prices, pay taxes, and settle contracts in Bitcoin. Companies must accept payments in the cryptocurrency unless they lack the required technology. The Bitcoin law also states the exclusive role of the US dollar as currency for accounting purposes, which implies practical limitations to the use of Bitcoin for companies and the government. For example, the Treasury does not have accounts in Bitcoin, therefore all payments in Bitcoin are converted into dollar before being deposited in the Treasury account.

12. *Chivo* is the cornerstone of the government's Bitcoin strategy. *Chivo*, a public company, offers citizens and companies fully subsidized services to make payments, store value or exchange Bitcoins.⁸ Customers can operate in Bitcoins or in U.S. dollars. *Chivo* has 250 ATMs to facilitate the

⁷ Since then, only one electronic money institution operates in El Salvador, with limited market share. The Financial Inclusion Law has been modified in 2022 to further lighten the requirements, especially for small size accounts—below US\$1,095.

⁸ *Chivo* operates as a stock company. 100 percent of its capital is owned by the public sector. It is integrated into ETESAL, a subsidiary of the holding CEL (*Comisión Ejecutiva Hidroeléctrica del Río Lempa*).

entry and exit of U.S. dollars into the ecosystem, a service targeted at the unbanked population. Using second-layer technology to conduct faster and cheaper off-chain Bitcoin transactions, *Chivo* operates as a centralized intermediary exposing its users to credit and counterparty risks.⁹ Complaints about technical glitches and identity fraud have been frequent during the first year of services. Information about its governance, financial statements, and operations is not disclosed by the authorities.

13. A heavy investment has been made on the Bitcoin project. Despite tight fiscal space, the authorities invested about 0.7 percent of GDP on Bitcoin. This financed FIDEBITCOIN, a trust fund aimed to guarantee the dollar-bitcoin exchange for transactions in *Chivo* (which has been already depleted), and to fund the “*Bono Bitcoin*” (an allowance of US\$30 given in Bitcoins to every *Chivo* subscriber) and all *Chivo* operational and transactional costs, allowing *Chivo* to charge zero fees to its customers for all their transactions, including speculative dollar-bitcoin conversions. As of October 2022, based on public information, the authorities have purchased roughly 2,400

| Fiscal Cost of Bitcoin | | |
|-------------------------|--------------------|-------------------|
| | in US\$ million | Percent of GDP |
| Trust fund | 150 | 0.5 |
| Bitcoin bond | 30 | 0.1 |
| Cryptofriendly project | 23 | 0.1 |
| Total | 203 | 0.7 |
| Source: Decree 142/2021 | | |

Bitcoins, almost of them well above current prices, presumably leading to large losses in the value of the government’s Bitcoin portfolio. However, a detailed assessment of the portfolio value cannot be independently performed because: (i) it is not clear whether some of the Bitcoins purchased were distributed to customers for the *Bono Bitcoin*—and most consumers converted this allowance to dollars to cash it out; (ii) information on Bitcoin sales and the portfolio stocks is not publicly disclosed; and (iii) the financial statements of *Chivo* and FIDEBITCOIN are also not public.

14. Other crypto assets are also being promoted. In January 2023, a new Digital Assets Law was approved encouraging the adoption of other crypto assets and the development of crypto markets (see Box 5 in the El Salvador 2023 Article IV staff report). With the new law, any public or private issuer will be allowed to raise funding through public offerings of tokenized assets, which include any instrument that can be digitally transferred, e.g., debt, property, or cash-flows such as dividends. Thus, the law paves the way to the issuance of sovereign tokenized bonds.¹⁰

15. The Digital Assets Law creates a tailored legal environment primarily aimed at attracting crypto companies but lacks key requirements and safeguards. It exempts crypto

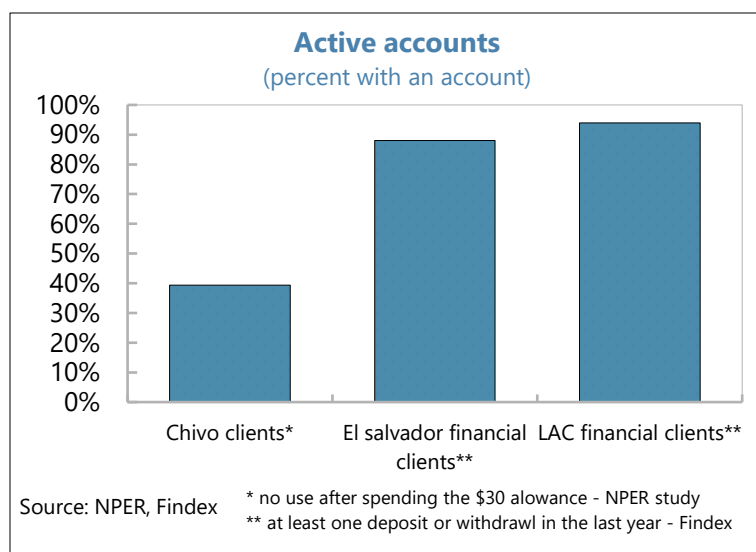
⁹ The Lightning Network reduces costs and scale issues by reducing the data to be recorded in the Blockchain for peer-to-peer transactions. It also exposes users to cyber and operational risks due to inherent limitations of the technology (the requirement for nodes to be online, the use of hops etc.) and the centralization of data, which does not benefit from the distributed nature of the underlying Blockchain.

¹⁰ In November 2021, the authorities’ announced the Volcano bonds, a 10-year instruments that would offer a 6½ percent coupon and a “Bitcoin dividend” functional to an increasing Bitcoin price. Half of bond proceedings would be invested in Bitcoin and the other half would be used for infrastructure including the development of “Bitcoin city”.

assets that function as typical securities from the traditional securities market regime. The new framework departs from existing private law rules and raise concerns in terms of regulatory actions replacing such rules. It also raises public finance management concerns (see Box 5 in the El Salvador 2023 Article IV staff report). The law includes the tax exemption for all crypto asset transactions, including public offerings, interests, and capital gains. All firms dealing with digital assets, including crypto services providers, issuers, and blockchain participants will be also tax exempted.

16. Despite its official currency status, data on the use of Bitcoin has not been disclosed. Nevertheless, multiple evidence shows that its use and penetration in the economy is minimal.

- A NBER survey found that most registered users downloaded *Chivo* only to cash the \$30 allowance and 60 percent of them did not make any other transaction (Alvarez and others, 2022).¹¹ This suggests a much lower number of active customers (40 percent, six months after the launch of *Chivo*) than in traditional financial institutions.



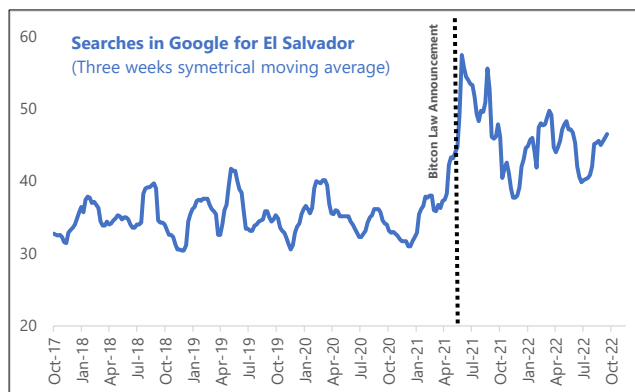
- The October 2022 "*Encuesta Dinámica Empresarial*" from FUSADES registered that 97¾ percent of business have not made even one sale in Bitcoin. NBER and Chamber of Commerce and Industry surveys show similar results. Despite the lack of adoption, there is no evidence that the authorities are actively enforcing Bitcoin's legal tender status or sanctioning non-complaint firms.
- A survey by the *Instituto Universitario de Opinión Pública* reported that 66 percent of the population considers Bitcoin a failed project and 77 percent believes that further public funds should not be used to support Bitcoin.¹²
- Consistent with aforementioned surveys, official data from the central bank reports that, on average during the last year, only 1¾ percent of the remittances were transferred using a crypto wallet.

¹¹ Face-to-face survey spanning 1,800 households during February 2022.

¹² Instituto Universitario de Opinión Publica (UCA) El Salvador, September 2022.

17. Despite its insignificant economic use, Bitcoin has increased the global visibility of El Salvador. Data from the Google trends dataset confirms a structural break in searches for El

Salvador in June 2021. It also confirms “Bitcoin law” as a breakout, even outperforming internet searches about President Bukele. Interest mainly originated from the Western Hemisphere, with some interest from Europe.¹³ The authorities argued that Bitcoin has been pivotal in the recent tourism boom, but this claim is difficult to verify. The increase in tourism may also be related to a hike in tourists’ arrivals as COVID restrictions faded, and a well designed and implemented plan to make El Salvador a tourist hub for the surfer’s community.

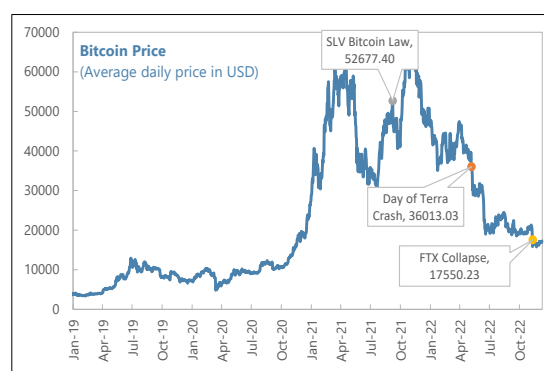


D. Bitcoin and Financial Inclusion

18. The adoption of Bitcoin as legal tender has not led to progress in financial inclusion so far. Neither public subsidies nor the legal tender status have overcome the two fundamental limitations of unbacked crypto assets for being use as a medium of exchange and, therefore, as a gateway to financial inclusion: the extreme price volatility and the absence of a public authority able and capable to intervene and prevent episodes of illiquidity, market abuse or fraud.

19. Bitcoin is not a plausible alternative to cash for the unbanked population. With a daily volatility averaging 4 percent and an annualized price volatility at 81 percent in 2021,¹⁴ Bitcoin cannot address the unbanked population needs. As a result:

- Bitcoin is not an effective means of payment or short-term store of value. Its use cases and value-added for daily transactions, such as peer-to-peer or utility payments, is nil. Expressing prices or contractual obligations is unsuitable for companies, also considering the mandate to maintain the US dollar as reference currency for accounting purposes.
- While Bitcoin can be used as an investment, such use is marginal for the unbanked population (67 percent cite lack of funds as the main reason for not opening a bank account). Moreover, the



¹³ In the Goggle trends terminology, breakout refers to a search term that has grown more than 5,000 percent.

¹⁴ Sources: Statista Digital Market Outlook and CoinMarketCap.

authorities should not encourage speculative investments among uninformed clients, especially in assets with no intrinsic value or official backing.¹⁵

- Even among the risk-tolerant investors, other economic uses of bitcoin are limited by the lack of network benefits. The largest population group, those without a bank account or any appetite for Bitcoin risk, will not use Bitcoin in their day-to-day activities either to pay for goods and services or to borrow small amounts of money. Interestingly, this group is also not using *Chivo* in U.S. dollars, probably discouraged by two impediments: (i) the inconvenience of relying on a limited network of ATMs to switch from cash to *Chivo* balances; and (ii) the surrounding climate of distrust, exacerbated by *Chivo's* technical issues and lack of transparency.

20. Most *Chivo's* transactions appear to be dollar-bitcoin conversions, which are free for customers and thus incentivize speculation. Like everywhere else, consumers in El Salvador buy, hold or sale Bitcoins as a speculative investment rather than use them as a medium of exchange.¹⁶ So far, the amount of sales paid in Bitcoins is marginal (NBER survey estimates a 4.9 percent) and around 80 percent of companies directly report not accepting Bitcoins. Currency trading to make tax-exempted gains is therefore the predominant use of *Chivo*, which, rather than a means of payment, operates as a fully subsidized exchange platform for the benefit of the banked and risk-seeking population.

21. Bitcoin and *Chivo* expose consumers to substantial risks. According to a recent study on global crypto trading published by the Bank for International Settlements, around three quarters of retail investors have lost money on their investment in cryptocurrencies.¹⁷ However, market risk is not the only threat. Consumers are also exposed to counterparty, market abuse and operational risks. First, illiquidity or bankruptcy of Bitcoin providers can inflict more losses than those due to changes in market price. To mitigate this risk, *Chivo* as well as all Bitcoin providers need liquid assets—booked at fair value and properly segregated—to safeguard client funds. The lack of disclosure so far of *Chivo's* financial information raises concerns as it prevents a proper assessment of its balance sheet. Second, transparency in price formation, notably on the applicable exchange rates, is paramount to avoiding abusive practices in a monopolistic market.¹⁸ Finally, operational risks are sizeable: cyber and AML/CFT risks, and fraud and illicit activities are prevalent among Bitcoin service providers. Technical glitches have been common during *Chivo's* deployment, with customers reporting identity theft and failures to settle transactions.

¹⁵ The crash in Bitcoin prices since the spring of 2022 (three quarters of the value vanished) illustrates the extreme markets risk that retail investors face.

¹⁶ At the global level, most Bitcoin transactions are for trading and speculative purposes, with 75 percent of real Bitcoin transactions linked to exchanges or exchange-like entities since 2015 (Makarov and Schoare, 2022).

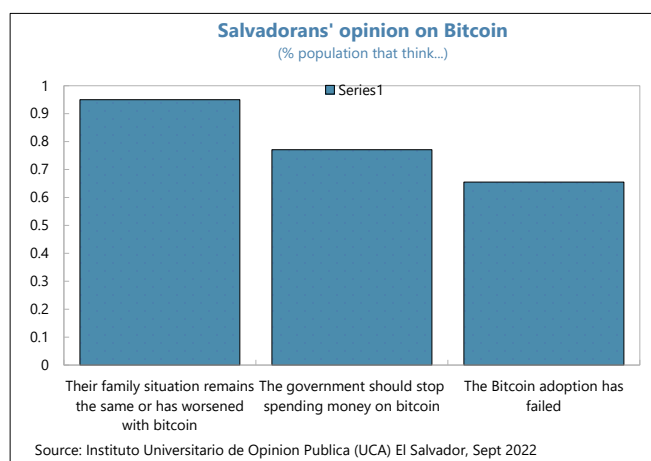
¹⁷ BIS working paper on “Crypto trading and Bitcoin prices: evidence from a new database of retail adoption”. See: <https://www.bis.org/publ/work1049.htm>.

¹⁸ As of December 2020, the top 1000 investors control about 3 million bitcoins (15.6 percent of total bitcoins) and the top 10,000 investors own around 5 million bitcoins (26 percent); Makarov, Igor and Schoar, Antoinette (2022).

22. *Chivo* has not contributed to the promotion of digital operations so far, presumably weighed down by the negative sentiment towards Bitcoin.

Although *Chivo* users can operate exclusively in US dollars at no cost, few do it, even to send or receive remittances. This suggests that attitudinal reasons, such as informality, data privacy concerns, mistrust, or negative sentiments about Bitcoin weigh heavily in the low use of *Chivo*. Popular disapproval of Bitcoin is strong, with 95 percent saying Bitcoin has not improved their economic situation and 77 percent saying the government should stop spending on Bitcoin.

In general, behavioral motives might play a larger role in financial inclusion than other demand-side barriers, such as cost or accessibility.



E. Conclusions and Recommendations

23. El Salvador's economy can benefit from policies to facilitate access to financial services, enhance financial literacy and lower the cost of remittances. Given the large degree of informality, boosting financial inclusion has the potential to open markets for families, smooth consumption, invest in human capital and ultimately move them from the shadow to the formal economy. Given the country's dependence on remittances, the use of digital money (which is different from Bitcoin or other crypto assets) has potential to reduce fees and speed up the flow of remittances in the benefit of the 26 percent of households depending on remittances from the Salvadorean diaspora.^{19, 20}

24. However, the Bitcoin adoption as legal tender has not contributed to promote financial inclusion and digital remittances. The evidence is conclusive, the use of Bitcoin is minimal, and the cost-benefit is largely unfavorable. While boosting financial inclusion should be a priority, the intrinsic volatility of a crypto asset discourages its use for regular customers. Even if Bitcoin were considered a long-term financial investment, it is not clear why El Salvador should concentrate its limited resources in a very risky asset, hoping for high returns in the long term.

25. Instead, Bitcoin is being used for high-risk investments, far from the needs of the unbanked population. Under current circumstances, Bitcoin does not satisfy the minimal requirements to operate as a currency nor has the capacity to facilitate fast and cheap payments for those excluded from the formal financial system. The evidence shows that it is being used as

¹⁹ 2021 Household Survey.

²⁰ Carare and others (2022) have identified large potential from the use of digital money to reduce remittances fees that are higher in the CAPDR region compared to other remittances-dependent regions of the world. Idiosyncratic factors such as high informality—where cash preference is well documented—can explain the difficulties to expand the use of digital money among remittances recipients.

short-term speculative asset for those with funds and interest in operating in the crypto market. However, authorities should not encourage speculative investments among unformed clients, particularly in assets with no intrinsic value or official backing.

26. Increased transparency and accountability over the functioning of Bitcoin is imperative. The authorities need to urgently disclose data on Bitcoin’s use as official currency, on the governance and activity indicators of *Chivo*, including its financial reports and operations, and the Bitcoin transactions conducted on behalf of the government with taxpayers’ money. More importantly, to safeguard the assets from all users, *Chivo* needs to clarify what type of reserve assets it has to back up its liabilities and which mechanisms are in place to segregate them in case of insolvency.²¹

27. *Chivo* should become a self-funded business, better regulated, and supervised. *Chivo* should be regulated by the central bank and its client’s funds should be strictly segregated from *Chivo*’s own funds. The corporate governance controls, accountability and transparency practices should be strengthened in line with financial industry practices. Public subsidies should end and any future attempt to use *Chivo* as a financial inclusion tool should entail its transformation into a profitable business, operating only in U.S. dollars, and focused on micro-payments for unbanked clients.

28. That said, other international initiatives are being successful in promoting digital payments as a gateway to financial inclusion (Box 1). Mobile money is bringing fast and cheap digital payments to millions of unbanked people in sub-Saharan Africa. Some authorities (e.g., India and Brazil) are forcing interoperability across digital payment providers, so that small, fast, and low-cost transactions become universally available also in informal sectors.

29. In that vein, *Transfer365* is a promising initiative to improve the accessibility and convenience of retail payments, that should be expanded to the unbanked population. So far, its adoption has been a remarkable achievement, reaping rapid benefits in the form of free and fast payments between bank account holders. The BCR is already exploring ways to extend its benefits to cross-border payments in Central America²² and to reach the population without financial accounts (64 percent). Following the international experience (e.g., India), the natural progression of *Transfer365* would be the adoption of a mobile money strategy, through digital banking or through open Banking that allows third party entrants (small fintechs or large bigtechs) to offer payment

²¹ Amid the widespread fallout in crypto markets following the collapse of a major crypto exchange in November 2022, transparency about reserves has proven crucial. Compared to financial institutions, cryptocurrency companies are under-regulated and under-supervised. They lack safeguards to protect clients’ claims in case of bankruptcy or a safety net to mitigate the spillover effects of crypto-runs. Transparency, accountability, and strong corporate governance are therefore essential elements to provide some confidence to clients.

²² Within the G20 cross-border payments program the recent report “Exploring multilateral platforms for cross-border payments” (2023) provides a useful assessment of how multilateral platforms could bring improvements to the cross-border payments ecosystem. It was written by the Bank for International Settlements’ Committee on Payments and Market Infrastructures (CPMI) in collaboration with the BIS Innovation Hub, the International Monetary Fund (IMF) and the World Bank.

services. This strategy must strike the right balance between a tailored but secure regulatory space and encouraging business cases for offering payment services to the cash-only population.

Box 1. Digital Payments Initiatives for Financial Inclusion

Mobile money has made impressive gains for access to payment services, especially in sub-Saharan Africa. By using telecommunications networks to offer low-cost payment services, mobile payments platforms connect unbanked consumers with other consumers and merchants. They often rely on a network of agents to convert cash to mobile money and vice versa. The more consumers, merchants and cash agents participate, the more incentives for all parties to join and the greater the impact on financial inclusion.

In low-income countries, the number of mobile money accounts per 1,000 adults has grown by about 30 percent between 2019 and 2021 (Findex). But it is in sub-Saharan Africa where mobile money has progressed most. In 2021, 69 percent of adults in Kenya and 60 percent in Ghana had a mobile account, with more than 50 percent of adults using it two or more times a month in both countries.

Retail fast payment systems built on public infrastructures are also reaping excellent results. By providing key infrastructural support, such as digital identity, real-time settlement or instant retail payment systems, the authorities can accelerate the growth of digital payments.

In India, after the widespread of a biometric ID (Aadhar has today 1.3 billion users, 90% of the Indian population), the central bank launched in 2016 the Unified Payment Interface (UPI), a retail payment system. UPI has since fostered the proliferation of Fintech firms that provide highly convenient payment services for retailers, including street vendors and small merchants. Thanks in large part to the success of UPI-based payments, 78 percent of Indian adults have an account in 2021, compared to one third a decade ago.

In November 2020, *Brazil* launched Pix, an instant payment system operated by the central bank that ensures interoperability across payment providers. The largest banks (36 entities with more than 500,000 transaction accounts) are obliged to participate, and there is other 773 voluntary members. Pix operates instant payments at zero cost for individuals and at low cost for payment providers (BRL 0.01 per 10 transactions). Pix has now the largest market share among payment instruments, and it serves 100 million users (60 percent of the adult population), 50 million of whom had not made any account-to-account transfers in the 12 months prior to Pix's launch.

Retail Central Bank Digital Currencies (CBDCs) could potentially enhance financial inclusion. CBDCs have similar technical advantages to unbacked crypto alternatives, but are also central bank liabilities with the monetary policy implications and benefits of fiat currencies—namely, the official backstop and the price stability objective. Central banks can also offer robust security to instill trust with unbanked populations and make digital payments available in environments with limited internet connectivity. In addition, by fostering interoperability among private payment providers (bank and non-bank) and leveraging existing payment instruments such as ATM networks, mobile money, payment cards, etc., CBDCs could drive convenience and efficiency for unbanked population.

Retail CBDCs are being explored in at least 80 jurisdictions, with financial inclusion cited as one of the main drivers of central bank interest. Three countries have already deployed retail CBDC beyond the testing and pilot phases: the Bahamas, Jamaica, and Nigeria. In China the e-Renminbi is advancing rapidly and could drive digitalization and financial inclusion.

References

- Alvarez, Fernando, and others., 2022. Are Cryptocurrencies Currencies? Bitcoin as Legal Tender in El Salvador. NBER Working Papers 29968. National Bureau of Economic Research, Cambridge, Massachusetts.
- Ardic, Oya, and others, 2022. The journey so far: making cross-border remittances work for financial inclusion. FSI Insights on policy implementation, No 43. Financial Stability Institute, Basel.
- Auer, Raphael, and others, 2022. Crypto trading and Bitcoin prices: evidence from a new database of retail adoption. BIS Working Papers No 1049. Bank for International Settlements, Basel.
- Banco Central de Reserva, 2022. Encuesta Nacional de Acceso y Uso de Productos y Servicios Financieros 2022.
- Barajas, Adolfo, and others, 2020. Financial Inclusion: What Have We Learned So Far? What Do We Have to Learn? IMF Working Paper. Institute for Capacity Development and Monetary and Capital Markets Department. International Monetary Fund, Washington.
- Boissay, Frederic, and others, 2022. Blockchain scalability and the fragmentation of crypto. BIS Bulletin, No 56. Bank for International Settlements, Basel.
- Camara de Comercio e Industria de El Salvador, 2022. Primer sondeo empresarial, San Salvador.
- Carare, Alina and others, 2022. Digital Money and Remittances Costs in Central America, Panama, and the Dominican Republic. IMF Working paper. International Monetary Fund, Washington.
- Carrière-Swallow, Yan and others, 2021. India's Approach to Open Banking: Some Implications for Financial Inclusion. IMF Working Paper. International Monetary Fund, Washington.
- Croxson, Karen and others, 2021. Platform-based business models and financial inclusion. BIS Working Papers No 986. Bank for International Settlements, Basel.
- Committee on Payments and Market Infrastructures (BIS) and World Bank Group, 2016. Payment aspects of financial inclusion, Washington.
- Duarte, Angelo and others, 2022. Central banks, the monetary system and public payment infrastructures: lessons from Brazil's Pix. BIS Bulletin, No 52. Bank for International Settlements, Basel.
- D'Silva, Derryl and others, 2019. The design of digital financial infrastructure: lessons from India. BIS Papers No 106. Bank for International Settlements, Basel.

- Gobierno de El Salvador, Banco Central de Reserva and Alliance for Financial Inclusion, 2019. Resultados de la Encuesta Nacional de Acceso al Financiamiento de las Micro, Pequeñas y Medianas Empresas (MIPYMES). San Salvador.
- Gobierno de El Salvador, Política Nacional de Inclusión Financiera para El Salvador (2021-2024), 2021.
- Makarov, Igor and Schoar, Antoinette, 2022. Blockchain Analysis of the Bitcoin Market. MIT Sloan, NBER and CEPR.
- OECD, 2020, "OECD/INFE International Survey of Adult Financial Literacy," Paris, OECD.
- Universidad Tecnológica de El Salvador, CIOPS, 2022. Características del crédito otorgado por el sector no regulado en El Salvador, 2022. ABANSA, San Salvador.
- World Bank Group and World Economic Forum, 2016. Innovation in Electronic Payment Adoption: The case of small retailers. Washington.
- World Bank, 2021. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. Washington.