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El Salvador's Bitcoin Gamble

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El Salvador has adopted Bitcoin as legal tender. This article provides a critical evaluation of the country's Bitcoin initiative and its economic and social impacts.

On 9 June 2021, the Central American country El Salvador passed the Bitcoin Law (Spanish: *Ley Bitcoin*) by a supermajority, and Bitcoin became legal tender, effective 7 September. This initiative was driven by a number of motivations. First, the country's president, Nayib Bukele, argued that making remittances cheaper was important.[1] In this regard, it is worth noting that in 2020, personal remittances received in El Salvador amounted to US$5.936 billion, or 24.1% of the country's gross domestic product.[2] According to Bukele, El Salvador will save US$400 million annually in remittance transaction fees.[3] A second stated benefit is that the adoption of Bitcoin could make El Salvador an attractive destination for global investors. To draw them, the country announced plans to build the world's first "Bitcoin City," which would be funded by US$1 billion in bitcoin-backed bonds, known as *volcano bonds*.[4] Finally, the government has emphasized increased financial inclusion as a goal for the country, where 70% of adults lack a bank account.[5]

The government took a number of measures to facilitate widespread adoption of Bitcoin. In August 2021, the legislature's finance commission approved a US$150 million trust fund in the state development bank, Banco de Desarrollo de El Salvador, to support the initiative.[6] In September, the country launched its Chivo (slang for *cool*) wallet. Each wallet was loaded with US$30 worth of bitcoins. The government built a network of 200 Bitcoin automated teller machines (ATMs) in El Salvador and 50 in major U.S. cities.[7] The country has also gone on a Bitcoin buying spree. As of 22 January 2022, it had 1,801 bitcoins in its coffers.[8]

A look at the first six months of the experiment indicates that Bitcoin has failed to reach wide acceptance among the country's consumers and businesses. A survey conducted among 337 companies in early 2022 by the country's Chamber of Commerce and Industry found that only 14% of respondents had conducted transactions in Bitcoin since September 2021.[9] Among those participating in the survey, 91.7% reported that Bitcoin had little or no impact on their sales. Quoting a senior bank executive, the *Financial Times* reported that Bitcoin accounted for less than 0.01% of debt payments.[10] A survey conducted by Central American University in December 2021 showed that

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70% of Salvadoreans had "little or no trust" in Bitcoin and believed it mostly benefited technocratic elites, business leaders, the rich, and cryptoenthusiast foreigners visiting the country.

There are a number of arguments for and against the Bitcoin experiment. One view is that it "could work quite well for El Salvador," especially since the country's economy is "dollarized."[11] Since 2001, El Salvador has adopted the U.S. dollar as its official currency. The country cannot print money, and the U.S. Federal Reserve has no interest or obligation to make sure El Salvador has enough dollars. An opposing argument is that countries that adopt cryptocurrencies, such as Bitcoin, as national currency or give them legal tender status face various risks, including highly unstable domestic prices, the possibility of assets being used for money laundering and terrorist financing, macroeconomic instability, and adverse consequences on the environment.[12] In an article published in *Foreign Policy*, David Gerard warned that 6.5 million Salvadorans will be the "real victims" of El Salvador's Bitcoin gamble.[13]

The implications of adopting cryptocurrencies as legal tender are not well understood and remain to be explored. While there are well-founded rationales for and against such approaches, there is also a number of misinformed viewpoints. Based on El Salvador's experience with Bitcoin for more than six months, this column analyzes the implementation challenges faced by the country and the economic impacts that the adoption of Bitcoin has generated.

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ECONOMIC IMPACTS

As stated, there are three key goals and motivations behind EL Salvador's Bitcoin experiment: making remittances cheaper, expanding financial inclusion, and attracting investors and entrepreneurs. In this section, we discuss the country's progress toward achieving them.

Impact on remittances

Contrary to government claims, there is no evidence that Bitcoin's adoption has had any impact on remittances. According to the country's central bank, only 2% of remittances in January 2022 were sent using cryptowallets.[10] Indeed, the assumption that remittances can be sent using Bitcoin "with almost zero cost" is fundamentally flawed. A letter signed by a group of 10 Salvadoran economists questioned the promise that the cost of sending remittances will decline with Bitcoin's adoption.[14] Some critics have presented evidence of an opposite effect and suggested that Bitcoin remittances are about four times more expensive than traditional ones.[1] For instance, to send remittances to their families, Salvadoran workers in other countries need to change fiat currency to bitcoin through cryptoexchanges, such as Coinbase, Kraken, and Binance.

Depending on how a transaction is funded, exchanging US$200 for Bitcoin via Coinbase costs between US$2.99 and US$7.67.[15] In addition, Coinbase may charge a bid–ask spread for a transaction, which is the difference between the highest price a buyer is willing to pay and the lowest that a seller is willing to accept. Bitcoin bought from Coinbase needs to be transferred to a Chivo wallet, which requires paying a network fee to cryptominers that process transactions on the blockchain network. Fees per transaction vary widely, averaging US$1.28 on 19 March 2022 and US$62.79 on 20 April 2021.[32] On the other hand, Western Union's mobile wallet, Tigo Money, which is available in 90% of the municipalities of El Salvador, allows users to send remittances at no cost.[15]

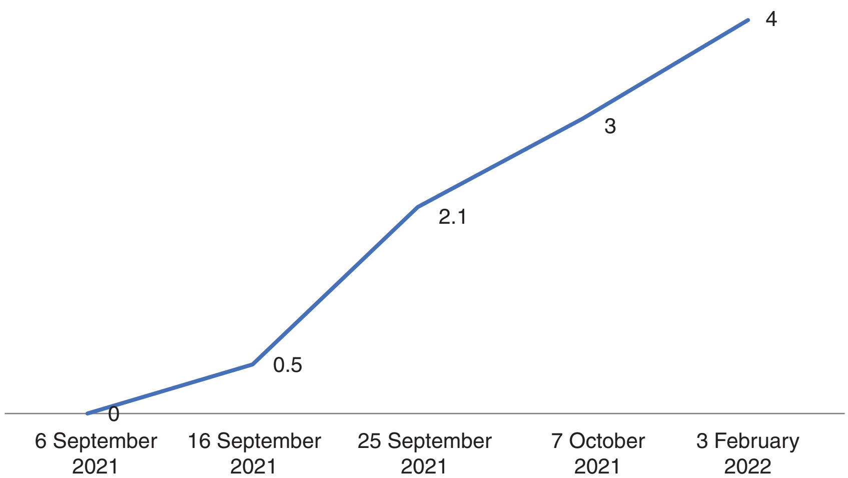

FIGURE 1. The number of Chivo wallet downloads (in millions). (Source: 16 September 2021 and 3 February 2022: Saat[16]; 25 September 2021: https://twitter.com/nayibbukele/status/1441846960332361730; 7 October 2021: Roy.[17])

Impact on financial inclusion

The government has portrayed its Bitcoin strategy as a success when it comes to expanding financial inclusion. As of the first week of October 2021, 3 million people—46% of the country's population—had downloaded Chivo (Figure 1), which compares with 30%

of Salvadorans with bank accounts. Comparing bank accounts and Chivo wallet downloads (Figure 1), however, is problematic. First, opening a bank account in El Salvador involves significant barriers related to cost, distance, and documentation. New customers cannot remotely open accounts through electronic channels. They need to fill out long forms that ask for personal and financial information, which is especially intimidating for low-income customers.[18] Preventing money laundering and terrorism financing are among the main reasons for the requirement. Despite cryptocurrencies' higher money laundering and terrorism funding risks, individuals are not required to do the same to open a Chivo wallet.

Second, the US$30 worth of Bitcoin loaded in every Chivo wallet is a substantial amount for low-income, unbanked Salvadorans. The minimum hourly wage in El Salvador varies from US$1 in agriculture to US$1.50 in commerce, industry, and services.[19] Most Salvadorans spent or cashed out the US$30 and did not use Chivo again. Third, the lack of money laundering and terrorism financing controls as well as flaws in the Chivo wallet attracted nefarious actors. Some were reported to open Chivo wallets by using other people's identities. The transparency organization Contraloría Social y Datos Abiertos estimated that there could have been more than 2,000 cases of identity theft associated with Chivo by mid-October 2021.[20]

IMPACT ON BITCOIN INVESTORS AND ENTREPRENEURS

Very little progress has been made in attracting Bitcoin investors and entrepreneurs, and things on this front have not gone as planned. For instance, the proposed volcano bonds launch date was mid-March 2022. However, as of 15 March 2022, the laws necessary for the bonds had not been sent to the congress.[21]

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There is also concern about the quality of entrepreneurial firms that are attracted by Bitcoin initiatives. For instance, the bonds are planned to be processed by British Virgin Islands-based iFinex's Bitfinex Securities. iFinex runs the Bitfinex cryptocurrency exchange and the Tether stablecoin.[13] The company has been fined US$18.5 million by the state of New York and US$41 million by the U.S. Commodities and Futures Trading Commission. It allegedly made repeated false statements for several years concerning the reserves that backed Tether.[13] U.S. investors are prohibited from using Bitfinex and thus cannot buy the bonds.

Bitcoin mining started in a plant in the Berlín municipality in the Usulután department on 29 September 29.[13] In the first four days, the plant had mined only 0.00599179 of a bitcoin (equivalent to US$269).[22] Even worse, the operation spent at least US$4,672 worth of electricity for that accomplishment.[23]

IMPLEMENTATION CHALLENGES

El Salvador struggled with a number of challenges in the implementation of its Bitcoin strategy. Many of them arose because of the poorly designed and hastily implemented nature of the program. Many critics argued that three months were not enough build an app to handle people's money securely and smoothly. First, there is poor understanding of Bitcoin among Salvadoran businesses and consumers. Most equate Bitcoin with the state-sponsored Chivo wallet. This is partly due to the fact that the government did not train the population in the use of cryptocurrency and Chivo.[24] A survey conducted in September 2021 by Central American University found that nine out of 10 citizens did not know what Bitcoin was.[25]

Second, Chivo has faced a number of security and privacy concerns. To register for the wallet, a user needs a unique identity document (UID), phone number, and photo. Chivo's official website stated that users needed to scan the front and back of the UID and perform facial recognition. Several Salvadorans reported a serious flaw in Chivo's verification process, which did not check photos, enabling anyone to register with a UID and matching date of birth.[26] For example, a Salvadoran YouTuber tried to open a Chivo wallet for his grandmother as a test of the verification process. He had a photocopy of his grandmother's UID, which was accepted as valid. For the real-time facial recognition, he took a photo of Sarah Connor, a character in the *Terminator* movies, from a poster on his wall. The application was approved, and the US$30 was released.[27]

Many Salvadorans reportedly lost money through Chivo. A Twitter user, El Comisionado,[33] collected a series of tweets, which indicated that about US$96,000 worth of bitcoins were missing from Chivo by the end of 2021. Bitcoins worth US$100–16,000 had disappeared from Salvadorans' Chivo wallets.[28] Btcoin's high price fluctuations also make saving money through the cryptocurrency a risky strategy. *Business of Business* reported a Salvadoran clothing vendor who sold US$7,000 worth of goods in Bitcoin from September to November 2021. By March 2022, the vendor's cryptoholdings had declined to around US$4,500 due to bitcoin's price drop.[29] Many businesses that accepted bitcoin reported that they stopped doing so due to price volatility.[30]

Finally, there has been a lack of technical support to troubleshoot Chivo problems, maintain ATMs, and perform other functions that are important for using bitcoins to conduct transaction. Chivo users were frustrated by this. For instance, a shoe store owner in the tourist town of Concepción de Ataco complained that the nearest Bitcoin ATM was too far and that the government helpline was too slow. In a transaction, he lost US$25 from a customer due to technical issues, but the digital wallet's customer service team never responded. As a result, he stopped using Bitcoin.[30] Likewise, *Wired* reported that when two of its reporters visited a Chivo ATM in a Salvadoran restaurant in Oakland, California, there was an on-screen error message.[31]

El Salvador lacks its own currency and heavily relies on remittances. Remittance costs are extremely high worldwide. Looking from these perspectives, the country's Bitcoin strategy is seemingly straightforward. The overriding problem with it, however, is that it is based on many possibly unrealistic and false premises, such as "the price of one bitcoin would hit US$1 million within five years" and that remittances could be sent "with almost zero cost." Regarding the latter, easier and cheaper remittances do not necessarily result from the use of Bitcoin. Salvadorans are saving informally. Given the extremely volatile nature of Bitcoin, this could be a better economic decision. El Salvador's bitcoin initiative has also been the product of poor planning. It could benefit from a broader blockchain strategy to promote better uses of the technology in diverse areas, including public administration, property registration, supply chains, and health care. It must also develop a regulatory framework to protect consumer data and prevent identity theft.

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