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Exploring the implications of cryptocurrencies in selected developing countries

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Abstract

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Keywords

Bitcoin, El Salvador, Central African Republic, developing countries, crypto

Disciplines

Business

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New digital currencies based on distributed ledger–blockchain–technology such as Bitcoin and Ether have been introduced in the past two decades. These currencies are known as cryptocurrencies, which, unlike their fiat counterparts, are not managed by any central bank or authority. This decentralization creates both advantages (for example, reducing transaction fees) and disadvantages (for instance, the inability to manipulate the money supply). The purpose of this paper is to explore the implications of cryptocurrencies in developing countries, with a focus on the two countries that have adopted Bitcoin as an official currency: El Salvador and the Central African Republic (CAR).

The concept of a currency system based on cryptographic hash functions was first introduced by David Chaum in his company DigiCash in 1994, however, due to a general lack of acceptance, the company filed for bankruptcy just four years later; the concept was later popularized after a 2008 paper by Satoshi Nakamoto introducing Bitcoin.[1] Modern-day cryptocurrencies rely on blockchain technology, which serves as a secure record-keeping mechanism for transactions.[2] They rely on either a proof-of-work (Bitcoin) or proof-of-stake (Ether) validation method that allows for financial transactions to take place without the need for a third party. There are concerns about the high levels of energy usage with the proof-of-work model[3] and the potential socioeconomic inequities with the proof-of-stake model,[4] but these verification techniques are fundamental for the implementation of any cryptographic-based currency.

The increasingly pervasive conversation around cryptocurrencies is motivating international attention to how these decentral financial systems should be regulated and the degree to which they should be implemented. Each country's approach to criminalizing, accepting, or even requiring the usage of cryptocurrencies is drastically varied. This leads to the potentially critical but often overlooked topic of how various developing nations, which the United Nations defines as those countries with “a relatively low standard of living, undeveloped industrial base, and moderate to low Human Development Index,”[5] are approaching this innovation. Yet, there is controversy surrounding the degree of positive influence that these digital currencies can bring to countries with high levels of poverty.

This paper is intended for individuals with a foundational understanding of blockchain and crypto and who are interested in developing a deeper understanding of the motivations and public reactions to notable crypto policies, as well as the foreseeable effects of these regulations in developing countries through economic and social lenses. This work can serve as a springboard for future exploration into the extent to which digital currencies can benefit countries with varying degrees of economic and financial freedom. This white paper will cover, in-depth, the following points:

1. Events that led certain nations, both those in favor of and against cryptocurrencies, to take a strong stance on the implementation of this new currency system into their economy

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[1] Noam, Eli. 2019. “The Macro-Economics of Crypto-Currencies: Balancing Entrepreneurialism and Monetary Policy.” *Columbia University School of International and Public Affairs*, (November), 5.
[2] Ibid., 6-7.
[3] Oliver, Joshua. 2022. “Bitcoin has no future as a payments network, says FTX chief.” Financial Times.
[4] Bandelli, Luca. 2021. “Inequality in Proof-of-Stake Schemes: A Simulation Study.” *University of Groningen*, (February).
[5] IGI Global. n.d. “What is Developing Countries.”

2. The public reactions and short-term effects on economies of high-inflation countries in which Bitcoin is a required legal tender
3. A discussion on the future of digital currencies in the developing world

Motivations behind selected influential bitcoin regulation

Criminalizing Cryptocurrency

In contrast to the decisions by El Salvador and the CAR to adopt Bitcoin as official currency, over 42 countries[6] have made some form of mining, holding, or trading cryptocurrencies–in most cases, Bitcoin–illegal. Countries such as China, Egypt, and Indonesia have taken their bans more seriously by criminalizing any interaction with decentralized currencies. For example, in their September 2021 documentation titled, Circular on Further Preventing and Disposing of Speculative Risks in Virtual Currency Trading, the People's Bank of China (PBOC) articulates that the purchasing and selling of Bitcoin is illegal and that they will be "severely cracking down" on any internal and foreign crypto transactions.[7] This announcement mirrors their previous ban on initial coin offerings four years prior, where the PBOC found over ninety percent of ICOs "launched in China to be fraudulent," and builds off of previous policy developments with extra measures that prohibit cross-border trades.[8] Motivations behind this Bitcoin ban include concerns about money laundering and gambling, and well-founded worries about potential environmental impacts, although this concern seems to remain an afterthought. In fact, China's Payment & Clearing Association estimates thirteen percent of gambling sites accept digital currency; this rising percentage paired with the anonymity of blockchain technology makes it more difficult for the government to track these rising rates of illegal activities.[9] Historically, China is known for its decisions to maintain domestic and central control of media sites, social platforms, and other virtual outlets. For instance, the Chinese government banned YouTube in 2009 which shortly prompted large industry players in the media industry to leave the nation.[10] So, it makes logical sense that the PBOC and Ministry of Public Security are taking aggressive steps to combat digital currency.

In contrast to China, several countries in the Middle East often refer to and cite Islamic religious texts as an influential factor in their decision to ban crypto. Islamic scholars opposing Bitcoin based on Shari'ah law argue that this virtual currency gives way to "socio-economic injustice as it has the element of *Gharar* (uncertainty) and *Maysir* (gambling), thus jeopardizing the *Maqasid* (goals) of Shari'ah."[11] Although there are Islamic scholars in support of digital currencies, Middle Eastern countries that are taking strong stances opposing virtual currencies are turning to religious rules as guidance. For instance, using Egypt as a case study,

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[6] Bajpai, Prableen. 2021. "Countries Where Bitcoin Is Legal and Illegal." Investopedia.
[7] Zhang, Laney. 2021. "China: Central Bank Issues New Regulatory Document on Cryptocurrency Trading." Library of Congress.
[8] Xi, Chao. 2022. "The End of the War or the Commencement of Battle? Cryptocurrency Regulation in China." The Chinese University of Hong Kong Faculty of Law Research, (April), 345-355.
[9] Consumer News and Business Channel. 2021. "China arrests over 1100 suspects in crackdown on crypto-related money laundering." CNBC.
[10] Branigan, Tania. 2009. "China blocks YouTube." The Guardian.
[11] Naz, Samina, and Naila Nazir. 2018. "Exploring Acceptability and Legitimacy of Bitcoin in Islamic Financial System." JICC, 37.

we see abundant pressure from their religious institutions, with highly-influential Imam Mufti Shawki Allam declaring Bitcoin unlawful for, among other reasons, lacking a central authority.[12] This religious decree preceded legal legislation introduced in September 2021. We see similarities in Indonesia, where cryptocurrency was deemed *haram* (forbidden), which later influenced policies that made it illegal for financial institutions to facilitate crypto transactions and holdings.[13] Although there is currently no official law restricting individual crypto transactions in Indonesia, there is a push toward criminalizing these activities entirely, similar to the actions taken in Egypt. Based on recent and ever-changing evidence, it seems logical to predict that more Islamic nations may follow the precedent set by Egypt.

Bitcoin as a required legal tender: El Salvador and the CAR

On 7 September 2021, El Salvador became the first nation to adopt Bitcoin as *compulsory* legal currency.[14] The CAR followed suit in April 2022; both countries proceeded in spite of warnings from the International Monetary Fund (IMF) and, in contrast, with praise from the crypto community.[15] The controversy surrounding these decisions resides primarily with supporters who believe that crypto can help increase access to financial services and critics who fear this regulation will prompt an increase in corruption.

The passing of El Salvador's "Bitcoin Law" requires the digital asset to be placed alongside their fiat currency counterpart, the U.S. dollar. Key motivations behind this new regulation, explains Salvadoran President Nayib Bukele (who dubs himself the "the coolest dictator in the world" in his Twitter bio[16]), is to decrease the nation's reliance on the U.S. dollar, while subsequently reducing the burden of high transaction fees and creating a more financially inclusive society. In fact, in 2020, remittances made up about 24.07 percent of El Salvador's GDP[17] and fees made up about 2.85 percent of the value of the transfer.[18] The hope behind a mass acceptance of the decentralized financial system by Salvadorans is to reach the majority of unbanked citizens while also easing the dependence on US monetary policy that has persisted since the dollarization in 2001. Going further to explain the distinctive practical measures of this law, one Princeton Legal Journal article explains that, under this law, "all Salvadoran businesses must accept Bitcoin as a means of transaction, taxes are payable in Bitcoin, and the government can now distribute subsidies in Bitcoin,"[19] which is a drastic change for a country in which approximately seventy percent of the population remains unbanked.[20] To support the integration

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[12] Naz, Samina, and Naila Nazir. 2018. "Exploring Acceptability and Legitimacy of Bitcoin in Islamic Financial System." JICC, 37.

[13] Renaldi, Erwin, and Hellena Souisa. 2021. "Indonesian Muslim cryptocurrency enthusiasts find a way around Islamic fatwa." ABC.

[14] Pérez, Santiago, and Caitlin Ostroff. 2021. "El Salvador Becomes First Country to Adopt Bitcoin as National Currency." Wall Street Journal.

[15] Browne, Ryan. 2022. "Central African Republic becomes second country to adopt bitcoin as legal tender." CNBC.

[16] Wayback Machine. 2021. Internet Archives.

[17] "Remittances, percent of GDP in Latin America" The Global Economy.

[18] "Average transaction cost of sending remittances to a specific country (%) - El Salvador | Data." World Bank Data.

[19] Quirk, Cecilia. 2021. "El Salvador's Bitcoin Law: Contemporary Implications of Forced Tender Legislation." *Princeton Legal Journal*, (November).

[20] Gorjon, Sergio. 2021. "The Role of Cryptoassets as Legal Tender: The Example of El Salvador." Banco de Espana, (October), 3.

of Bitcoin, the Salvadoran government instituted a series of educational workshops and Chivo, a government-backed digital wallet.

Although the underlying reasons for the CAR's decision to legalize Bitcoin are comparable to those of El Salvador's, there are certain differences that should be noted. The CFA Franc, the fiat currency in the CAR, is shared among five other central African countries, including Cameroon, Chad, the Republic of the Congo, Equatorial Guinea, and Gabon.[21] Despite the concerns of complicated cross-border transactions and the limited access to technology and internet in the CAR, the government's decision could be influenced by speculated political factors including a "shift away from France and towards Russia"[22] or as President Faustin-Archange Touadera's chief-of-staff Obed Namsio explained in the vaguely worded announcement, "new opportunities for our country."[23] This announcement is less than 4 months before the time of writing this paper, so it is understandable that there is relatively limited scholarly research on some of the deeper motivations for the CAR's historically-significant move to decentralized finance.

Each country took different approaches in terms of the types of digital wallets and educational programs, if any, offered to the public. There remains the question of whether other cryptocurrencies will soon join Bitcoin as a legal tender.[24] In a subsequent section, this paper will present the respective public reactions in El Salvador and the CAR, and attempt to analyze the immediate and predicted implications of bitcoin legalization on their respective economies.

Public reactions and short-term economic effects of Bitcoin legalization in El Salvador and the CAR

The immediate public reactions to the integration of Bitcoin in respective countries can be characterized by responses from three primary groups: citizens, international economic organizations, and crypto communities. When explaining a survey conducted by the Central American University, the popular website Bitcoin.com reports that over 71 percent of Salvadorans believed that the Bitcoin Law "had brought no benefits at all for them."[25] There is abundant evidence showing that a majority of the citizens are concerned about their future under this novel financial system, with some taking to the streets to protest. Moreover, organizations like The Salvadoran Association of International Cargo Carriers threatened to increase prices by 20 percent for any payment in Bitcoin, while global communities like the IMF warned about the potential for decreased macroeconomic stability in markets that require Bitcoin, among a slew of

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[21] Katterbauer, Klemens, Hassan Syed, and Laurent Cleenewerck. 2022. "The impact of the legalization of Bitcoin in the Central African Republic – a legal analysis." *Intergovernmental Research and Policy Journal (IRPJ)*, (May), 3.
[22] British Broadcasting Corporation. 2022. "Why the Central African Republic adopted Bitcoin." BBC.
[23] Filseth, Trevor. 2022. "Central African Republic Adopts Bitcoin as Legal Tender." The National Interest.
[24] Katterbauer, Klemens, Hassan Syed, and Laurent Cleenewerck. 2022. "The impact of the legalization of Bitcoin in the Central African Republic – a legal analysis." Intergovernmental Research and Policy Journal (IRPJ), (May), 4.
[25] Goschenko, Sergio. 2022. "Survey: More Than 70% of Salvadorans Believe the Bitcoin Law Has Not Improved Their Personal Finances – Bitcoin News." Bitcoin.com News.

other concerns.[26] In contrast, the broader crypto community praised both countries' decisions, arguing that these laws will boost trade, tourism, and financial inclusivity.

Supporting infrastructure

In hopes of achieving mass adoption of Bitcoin, the Salvadoran government rolled out the digital wallet Chivo, which is slang for 'cool.'[27] Chivo was released with a 30-dollar incentive (a notable amount, given El Salvador's per capita GDP of US$4,131[28]) for creating an account. According to a study conducted by the National Bureau of Economic Research, although about 68 percent of citizens were aware of the app, only about half of them downloaded Chivo and only 20 percent of the respondents continued using the app after spending the 30-dollar bonus.[29] This is yet another indication that there are low levels of enthusiasm about the Bitcoin law from the public. Unlike its counterpart, the CAR does not currently have a government-backed wallet to support Bitcoin, which can pose further challenges for citizens who are trying to decide which private crypto wallet can best support their needs.

Education and communication

The Salvadoran government also introduced educational programs to help boost financial literacy in this new space. Although there is limited information about the content being taught within these programs, based on the government-run Chivo app, it seems safe to predict that risks from Bitcoin's volatility are not effectively being conveyed to the population. The Salvadoran government's optimistic communication to the public has not reflected the concerns and critiques received about the currency. These measures to get people to utilize Bitcoin seem to be covering volatility and other complex issues that can motivate socioeconomically disadvantaged citizens to make poor financial decisions. Purely optimistic communication about this virtual currency can harm those most vulnerable in the population. If people do not understand the legislation in question, it can expose many citizens to monetary risk. There is limited data about the internal communications within the CAR, but we can expect more information about this in the coming months.

Economists raise concerns over volatility and speculation

Many economists draw attention to the volatility behind Bitcoin as a major economic concern. While fiat currencies are controlled by monetary authorities who manage the money supply to maintain stability, Bitcoin supply changes consistently irrespective of market conditions. As a brief overview, on 9 November 2021, Bitcoin was trading at US$69,000, and exactly one month later the price dropped 31.06 percent to about US$47,568.[30] Its closing price, on 5 August 2022, is around US$23,320.[31] Similar to the monthly fluctuation, the daily volatility

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[26] McClurg, Steven. 2021. "The Bitcoin Effect Part II: LatAm Bitcoin Adoption." *Valkyrie*, (September).

[27] Kshetri, Nir. 2022. "El Salvador's Bitcoin Gamble." *Institute of Electrical and Electronics Engineers Computer Society*, (June), 85.

[28] Pimentel, Benjamin. 2022. "Bitcoin's debut in El Salvador wasn't exactly volcanic." Protocol.

[29] Alvarez, Fernando E., David Argente, and Diana V. Patten. 2022. "Are cryptocurrencies currencies? Bitcoin as legal tender in El Salvador." *National Bureau of Economic Research*, (April), 2.

[30] "Cryptocurrency Prices, Charts, Daily Trends, Market Cap, and Highlights." Coinbase.

[31] Ibid.

remains notable as well. The Bank of International Settlements claims that this volatility can be attributed to the absence of a central bank.[32]

If Bitcoin remains completely unregulated and decentralized (as it was intended to) in the global economy, we can anticipate continued problems with volatility. Such fluctuation makes the currency a poor medium of exchange, unit of account, and store of value–the three fundamental properties of money. Let us take the hypothetical case where El Salvador and the CAR are closed economies, with only Bitcoin in circulation. Then, the prices of goods and services in the economy would reflect what the currency can buy. As the price level goes up, the currency has decreased purchasing power, and as prices decline, the value of Bitcoin would go up. Since Bitcoin is an unmanaged currency, rapid changes in the price level would lead to great periods of inflation and deflation. In this situation, when the prices of goods and services fluctuate up-and-down relatively rapidly, Bitcoin serves as a poor unit of account. Additionally, since the real value of Bitcoin is also volatile, it would make the currency a risky store of value. This volatility would effect daily financial transactions which would also make Bitcoin a poor medium of exchange.

But, El Salvador and the CAR are not closed economies; they are small, open economies. In addition to all of the problems outlined in the previous paragraph, which still remain under a small, open economy, if Bitcoin is the dominant currency, prices in terms of the coin will fluctuate based on global market demand. Its value will be measured relative to foreign currencies, and price fluctuations would impact exchange rates. When exchange rates depreciate, net exports would increase–exports become cheaper and imports become costlier. On the other hand, if exchange rates increase, net exports would decrease and the opposite would happen. These trade imbalances can be detrimental to the El Salvadoran and CAR economies. In particular, long periods of trade deficit can lead to decreases in their bank reserves and financial crises. While a trade surplus is not in itself detrimental, it is not sustainable and can lead to lower levels of consumption. Since the cost of purchasing and selling Bitcoin comes with high risk, its purpose as a medium of exchange is diminished.

Currencies also serve as a store of wealth. Governments, businesses, and people will all have wealth stored in Bitcoin. The countries' respective reserves will be affected by the coin's global market volatility, and we already see this happening in the case of El Salvador. For example, in order to introduce Bitcoin into their markets and increase liquidity, since "September 2021, the El Salvador government…has amassed 2,301 bitcoins that were worth $103 million. Now, they are worth around $51 million."[33] When exchange rates increase, citizens in these two economies will have decreased purchasing power. Foreign debt will become more expensive and disincentivize international investments into the country. When exchange rates decrease, the opposite occurs. People do not view fiat currencies as investments, but stable currencies have always been a safe place for people to store their wealth over a period of time. At its present state, Bitcoin does not deliver this benefit.

The traditional fiat currencies, the U.S. dollar in El Salvador and CFA Franc in the CAR, are much more stable as they have the backing of a central bank. It is abnormal for a country's government, especially those with small economies, to participate in speculative activities with public wealth.

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[32] Fatás, Antonio. 2019. "The Economics of Fintech and Digital Currencies." CEPR Press, (March), 33.
[33] Wang, Philip, and Tara Subramaniam. 2022. "El Salvador's Bitcoin bet suffers amid crypto meltdown." CNN.

Low levels of internet penetration and other issues

With less than 50 percent[34] of Salvadorans and ten percent[35] of CAR citizens having reliable internet access, there is a fundamental question of who truly are the beneficiaries of these policies. For crypto transactions to occur both the buyer and seller must, at the minimum, have access to the internet, which means only a rather small portion of the population in either country can actually utilize bitcoin as a means of exchange. In fact, the limited information available on public reactions from CAR citizens could be because those who are being negatively affected by this legislation do not have the means to share their sentiments online.

At the same time, there are concerns about money laundering that are more likely to occur under a Bitcoin-prevalent economy. Blockchain, the revolutionary technology behind Bitcoin, relies on the anonymous and complete transparency of every transaction. Bitcoin's proof-of-work system is anonymous and fully transparent; however, this anonymity also makes it difficult to track illegal activities. Additionally, since most countries differ in their crypto-regulation, there are debates on how to regulate cross-border trades, such as those that occur between the CAR and its neighboring central African countries that did not declare Bitcoin as legal tender. The potential increase in crime is concerning as there are already high rates of crime in both countries, with the United Nations Office on Drugs and Crime reporting a homicide rate of 37.16 per 100,000 people in El Salvador in 2019, which is over 7 times higher than that of the United States.[36] Other sources cite a murder rate of about 20.12 per 100,000 people in the CAR in 2016.[37]

Economies under a bifurcated monetary system

A valuable case study of a country with a dual monetary system is Cuba. The dollarization of the country occurred in response to the Cuban Crisis or 'Special Period' where the gross domestic product saw a 33 percent reduction from 1990 to 1993.[38] Until late 2004, the nation's economy accepted the U.S. dollar, Cuban peso, and a convertible peso pegged to the U.S. dollar; however, in late 2004, the Cuban government no longer authorized the U.S. dollar as legal tender.[39] The Cuban peso (CUP) and the convertible peso (CUC) remained national currencies from 2004 until January 2021, when the government declared the CUP as the only official currency.

Cuba's bifurcated system led to severe economic inequalities. The discrepancy in purchasing the convertible peso at 25 CUP to 1 CUC and selling at 24 CUP to 1 CUC led to significant losses (about 4 percent) in transactions when exchanging between the two

[34] Taylor, Luke. 2022. "El Salvador's bitcoin experiment makes tech tourists happy but the locals are not convinced." ABC.
[35] Katterbauer, Klemens, Hassan Syed, and Laurent Cleenewerck. 2022. "The impact of the legalization of Bitcoin in the Central African Republic – a legal analysis." Intergovernmental Research and Policy Journal (IRPJ), (May), 6.
[36] "dataUNODC." United Nations Office on Drugs and Crime.
[37] "Murder Rate by Country 2022." World Population Review.
[38] Pérez-López, Jorge, and Carmelo Mesa-Lago. 2009. "Cuban GDP Statistics under the Special Period: Discontinuities, Obfuscation, and Puzzles." *Association for the Study of the Cuban Economy*, (November), 154.
[39] Herrera, Rémy, and Paulo Nakatani. 2014. "De-Dollarizing Cuba." *International Journal of Political Economy*, (December), 84.

currencies.[40] And, since the CUC was fixed to the U.S. dollar, there emerged two distinct economies and social classes. Those with access to the U.S. dollar, such as taxi drivers or cigarette suppliers in the tourism industry, were at an advantage over those without such access, such as local doctors and teachers. This financial system led to a counterproductive societal structure in which "groups of people who perform valuable services for society but work in the traditional peso economy are penalized with low real incomes."[41]

Referring to the aforementioned example, there are potential concerns about how access to Bitcoin will segregate citizens with internet access and those without in El Salvador and the CAR. Although there are subtle differences in the case of decentralized virtual currencies, it seems highly likely that the integration of Bitcoin will lead to two distinct economies in which Salvadorans and CAR citizens with access to the incentivized sectors will benefit at a greater rate than those who may not have similar access.

Limitations and avenues for future research

This research has some limitations. First, there is very little information about how citizens of the CAR reacted to the Bitcoin policy. Since the CAR's legalization was only implemented a few months ago in April 2022, it is difficult to anticipate the long-term effects of this law on individuals and organizations. With both countries that made Bitcoin legal tender, there is speculation about potential underlying political motivations that are not yet public knowledge.

Future research should examine the potential emotional and psychological incentives for countries to accept or ban Bitcoin. Furthermore, it may be helpful to conduct qualitative ethnographic interviews in these countries to get a better understanding of how local people of different socioeconomic backgrounds feel about the new legislation. Lastly, there needs to be further evaluation of how certain financial decisions can be made under this decentralized model; specifically, evaluating loans and other transactions that traditionally have a third party.

Conclusion

The goal of this paper is to evaluate the extent to which cryptocurrencies can benefit developing countries. Since the introduction of Bitcoin, developing nations around the world are taking drastically different approaches to how they regulate these cryptocurrencies. For example, China banned bitcoin due to worries about money laundering and other potential obstacles that can arise with unmanaged currencies, while some nations in the Middle East moved to prohibit Bitcoin due to religious reasons.

In contrast, El Salvador and the CAR differentiated themselves from others when, in September 2021 and April 2022 respectively, they declared Bitcoin legal tender. Their hope is that Bitcoin will increase social equity, decrease remittance fees, and reduce dependence on their

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[40] Posada, Peter M. 2011. "A Synopsis of the Dual Currency System in Cuba." *International Journal of Cuban Studies* 3, no. 1 (Spring), 46.
[41] Ritter, Archibald. 1995. "The dual currency bifurcation of Cuba's economy in the 1990s: causes, consequences and cures." Cepal Review 57 (December).

respective fiat currencies. However, these decisions have led to a slew of critiques from respected international organizations. This paper highlights concerns about the supporting infrastructure and educational programs rolled out by the El Salvador government. The purely optimistic communication within these supporting resources can expose many people in the population to financial risk. These financial risks are tied primarily to the volatility behind Bitcoin. Bitcoin's extreme fluctuations in value make it a poor medium of exchange, unit of account, and store of value. Its ability, then, to function as a dependable currency needs to be severely questioned. Lastly, with low levels of internet access in both countries, mass adoption of Bitcoin seems infeasible.

News about cryptocurrencies is continuously evolving. For example, the CAR has very recently announced the release of Sango,[42] a government-backed crypto coin. On a more international scale, there are continuing talks about Central Bank Digital Currencies (CBDCs), which would be similar to a digital version of fiat currencies; these virtual currencies seem to have greater potential than cryptocurrencies.

There are several factors to consider when considering decentralized financial institutions. The question of whether cryptocurrencies can ever become something other than speculative assets is difficult to answer. It seems that the future of crypto in the developing world depends on more universally accepted protocols, and perhaps, a reconsideration of our current understanding of financial systems.

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