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Abstract

This paper explains the political economy of cryptocurrency expansion in Latin America. Based on qualitative research and in-depth interviews, the paper explains the motivations that promote cryptocurrency adoption and the growth of their ecosystems. Building on the cases of Venezuela, Argentina, El Salvador and Puerto Rico, it highlights the importance of bridging material, ideational and infrastructural conditions that facilitate the use of cryptocurrencies. The paper demonstrates that market volatility limits cryptocurrencies' expansion to specific material conditions where their use can offset other negative structural conditions and where infrastructural deficiencies can be overcome by digital assets. While ideational dimensions of cryptocurrency support are important for some communities of users, ultimately, distortions and constraints in the economy, at the domestic and transnational levels are crucial for adoption.

Keywords: cryptocurrency; Bitcoin; Venezuela; Argentina; El Salvador; Puerto Rico.

Introduction

Cryptocurrency use and their business ecosystems are increasingly expanding in Latin America. Cryptocurrency businesses have developed innovations, and bold political action has been taken to accelerate the adoption of these digital assets in the region. This paper answers the question of how cryptocurrencies and crypto

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ecosystems have expanded in Latin America. It brings together experiences from different jurisdictions to explain the motivations of different actors and analyse the variation in adoption. The paper develops a comparative approach, drawing from comparative and international political economy (IPE) literatures to explain these variations. IPE literature has long been concerned with structural and constructivist debates explaining changes in the distribution of resources and power in the global economy (Abdelal, 2009; Blyth, 2009; Gilpin, 2001). While the former focuses on powerful actors' material capabilities, the latter stresses the importance of ideas and discourse. The paper integrates these discussions and engages with a perspective of materiality in international finance, which rather than assessing the relative strength of structural versus ideational explanations, builds on the material connections of infrastructures, as well as the discourses, imaginaries and ideas that sustain them (Bernards & Campbell-Verduyn, 2019).

The comparative approach looks at different actors' motivations that lead to the potential adoption of cryptocurrencies. It demonstrates that market volatility limits cryptocurrencies' expansion to specific material conditions where their use can offset other negative structural conditions and where infrastructural deficiencies or opportunities can be overcome by digital assets. While ideational dimensions of cryptocurrency support are important for some communities of users, especially those committed to the libertarian agenda of Bitcoin maximalism, ultimately, distortions and constraints in the economy, at the domestic (currency controls) and transnational levels (sanctions) are crucial for day-to-day adoption. At the core of the motivations to adopt cryptocurrencies in Latin America is mistrust in currency policies, and the possibility for cryptocurrencies to help individuals bypass controls and hedge against inflation. In this context, cryptocurrencies operate as vehicles to repair severed connections, bypass obstacles and rebuild flows that are otherwise interrupted.

Argentina and Venezuela stand out as countries where over the past decade the adoption and use of cryptocurrencies have become frequent. These two countries are where cryptocurrency is more commonly used in the region (Chainalysis, 2024). The use of stablecoins, as well as more traditional cryptocurrencies like Bitcoin and Ethereum is relatively common, mainly as a response to high inflation, as a medium to receive remittances, in reaction to currency controls imposed by governments, and as response to sanctions (Castro, 2022; Chun, 2017; Jimenez Romero, 2025; Lankes, 2022; Robins, 2024; Rosales, 2021a). While these countries have experienced increased cryptocurrency use, El Salvador's government has been the most welcoming of these electronic assets by declaring bitcoin a legal tender. El Salvador's decision signals the growing and paradoxical alliances between crypto-enthusiasts and state officials, commonly known for their libertarian tendencies (Atilés, 2022a; Boos, 2024; Rosales *et al.*, 2023; Vázquez, 2022). Similarly, Puerto Rico has enacted tax provisions that seek to harness tech and crypto-investors to move into the archipelago. Through an attractive, investment-friendly framework that takes advantage of the ambiguous condition of the territory in the United States, authorities carved out a tax haven for investors without

fully exiting US jurisdiction (Atilas, 2022b; Bowles, 2018; Cortés, 2018; Crandall, 2019). Despite these welcoming state policies, El Salvador and Puerto Rico remain lagging in terms of everyday use for either speculative, investment or transactional purposes, as compared to Venezuela and Argentina.

In terms of methods and case selection, I first developed a region-wide matrix of media articles pertaining to cryptocurrency adoption, restrictions and business initiatives in the region. The collection and analysis of articles began in 2019, and it contains over 400 entries to-date. This tool helped generate a first approximation of country-specific advances regarding cryptocurrency use and innovation in the region. From these, four jurisdictions were selected, Venezuela, El Salvador, Argentina and Puerto Rico, based on the presence of state and business attempts to incentivize the use of cryptocurrencies and the expansion of crypto-markets, but where variation in outcomes of adoption is significant.

From 2019 onward, I carried out fieldwork visits in Venezuela (2019 and 2024), El Salvador (2022) and Argentina (2023). I have carried out 75 in-depth interviews with key sources from these countries. Subjects were selected first through identifying relevant state and business groups from the media database. Once in the field, snowball sampling was employed, where key individuals recommended other key subjects' contacts. In each of these sites the interviewees were senior-ranking state officials and crypto-entrepreneurs. In addition, I conducted online interviews with informants in Argentina, Venezuela, El Salvador and the United States. These interviews were held in Spanish and transcribed; they each lasted approximately one hour, with the lengthiest one lasting two hours. These were open-ended interviews, which allow for a freer exchange between research subjects and interviewer. They also facilitate covering in-depth themes and events that may arise in an individual's trajectory. Following ethics guidelines, some of these interviews have been anonymized, according to the research participant's choice. In cases of heightened repressive and authoritarian contexts, all non-government participants were anonymized. In addition, I have taken extensive field research notes with observations from informal conversations and non-recorded interviews. I have participated as observer in online group forums in social media apps with Latin American crypto enthusiasts. The paper also relies on an extensive review of secondary sources published in Spanish and English.

The political economy of cryptocurrency adoption and expansion

IPE has long been concerned with structural and constructivist approaches to explaining the distribution of power and wealth within and across borders (Abdelal, 2009; Blyth, 1997; Gilpin, 2001), and yet, there have been substantive attempts to bridge those approaches. The intersections of technology studies and global finance have generated contributions that highlight the importance of infrastructures and materiality shaping the global economy (Bernards & Campbell-Verduyn, 2019). In this case, the notion of materiality not only includes

artefacts of the physical world that shape and constrain flows, but also the ideas, knowledge and values with which they are construed and deployed (Bernards & Campbell-Verduyn, 2019; de Goede & Westermeier, 2022; Westermeier, 2024). Infrastructures in finance emerge as key (Anand *et al.*, 2018). Bernard and Campbell-Verduyn (2019, p. 776) explain that infrastructures are ‘combinations of emerging and existing social and technical systems through which basic but crucial enabling functions are carried out, but that tend to be taken for granted and assumed’. Westermeier (2024, p. 1573) states that infrastructures are both ‘material and sociopolitical’. Hence, infrastructural perspectives on finance embed the complex materiality that allow capital flows (or interrupt them) as well as the norms, ideas and regulations that shape those flows and interruptions.

The political economy of cryptocurrency adoption can be explained by the interactions of material and ideational factors and how they are deployed through infrastructures. Leading actors’ (either state or non-state) motivations are important in this context, but they reveal only part of what drives political economies to increasingly adopt a rather obscure and volatile set of digital assets. Beneath these actors’ motivations are structural conditions and set of beliefs, mostly rooted in (mis)trust and the pervasiveness of crisis. Lack of trust and the pervasiveness of crisis lead to increased cryptocurrency adoption through a variety of infrastructural means, from energy networks to payment systems developed by private actors and skilled workers. As Westermeier *et al.* (2025, p. 3) eloquently explain, an ‘infrastructural gaze’ of finance considers sociotechnical relations that often ‘only become visible when they fail, cease to function, or undergo profound changes’. In this case too, moments of crisis and vulnerability crack open possibilities for new technologies to mend or repair relations and infrastructures that are severed.

An initial wave of scholarship focused on the rise and expansion of cryptocurrencies emphasized the ideational underpinnings of Bitcoin as a decentralized currency in the context of the global financial crisis and of growing mistrust in financial institutions, banks and states. As Dallyn (2017, p. 468) explains, ‘the key political belief underpinning Bitcoin is a broad libertarian conviction that an alternative money system based on cryptography, which is beyond the control of the state, is both sustainable and desirable’. Critical social scientists underscored the ‘materiality’ of Bitcoin, or the crucial connection between software, energy, infrastructure and ideas that, put together, powered this technology and assets (Maurer, 2012; Zimmer, 2017).

The political economy of cryptocurrency continues to be a matter of debate, that is, how their proponents, sponsors and consumers benefit from their deployment and how they connect to and benefit from state power or business concentration (Boos, 2024; Rosales, 2021a; Rosales *et al.*, 2023). The idea of displacing trust from the state to a web of nodes, connected through a technological ledger known as the blockchain, underpinned much of the original support for cryptocurrencies, at least in theory (Karlström, 2014; Presthus & O’Malley, 2017). This apparent de-politization of money has been questioned through different political economy lenses, and cryptocurrencies have been tied back to both material

connections and institutional make-ups that make Bitcoin and other cryptos a reality (Karlström, 2014; Maurer *et al.*, 2013; Zimmer, 2017). Studies in economic anthropology reveal how the ideas of crypto-utopianism are linked with existing economic structures and power. As Faria (2022) argues, ‘however distanced they wish to be from the dominant economy and politics, the tales spread and encoded by some cryptocurrency projects are persistently entangled with them’. These perspectives have highlighted that power dynamics between fiat money, the global economy and cryptocurrencies ‘reveal how the motif of decentralisation is permeated by multiple tensions and dependencies between mainstream economic and market dynamics and projects’ ‘monies’ to be’ (Faria, 2022, p. 89). Moreover, the ideas of ostensible peer-to-peer exchanges are intended to be ‘open to all and free from governing intermediaries’, yet these projects tend to produce other forms of recentralization (Nelms *et al.*, 2018, p. 19).

Critical scholarship scrutinizing the role of infrastructure in limiting or enhancing exchanges, trade and financial interconnection, reflect the power of long-established technologies that respond to specific power dynamics and ideas (Tankha, 2021). Among these power dynamics are issues of imperialism and coloniality, whose legacies play out in peripheral countries’ insertion into the global economy. Seemingly apolitical technologies, or at least the revenues that they engender for elite investors, can be harnessed in jurisdictions subject to colonial and semi-colonial rule, such as Puerto Rico, where the dispossession of poor communities is the result of tax incentives set up to attract crypto enthusiasts (Crandall, 2019; de Onís, 2018). Ultimately, the active role of states is crucial for the expansion of cryptocurrency and its downstream activities, be it via infrastructural arrangements, such as energy infrastructures, or tax policies and favourable regulation.

While open and less regulated markets may be welcoming to speculative assets and emerging technologies, other, less ‘friendly’ institutional and market features incentivize their expansion. The other side of the techno-utopian view of decentralized association is the incentive driven by mistrust of existing fiat currencies that can make cryptocurrencies attractive despite their market volatility. This other side of trust represents a central point for structural economic conditions and infrastructural mechanisms to play a role in adoption. In this context, the state may inadvertently enhance purportedly decentralized solutions to problems its policies cause or cannot solve. Trust is in part a bridge that connects the structural conditions that drive volatility and widely held views and beliefs on institutions, and concretely, on money. In Latin America, recurrent crises lead to the rootedness of mistrust in the state and policies, including mistrust in money, and the assumption that crisis and volatility is a constant. As Muir (2015) shows, money is both socially constructed and at the same time material and subject to collective critique. Mistrust of money appears in this case as ‘a widely shared belief that neither the state nor the financial institutions can be relied upon to safeguard the value of money and savings over time’ (Moreno, 2025, p. 226). Mistrust of

financial institutions and infrastructures accounts for a central incentive for users of Bitcoin but also of altcoins and stablecoins that connect crypto ecosystems to the world of fiat monies and can undergird the conditions in which adoption is acceptable and desirable (Saiedi *et al.*, 2021).

In addition to instability and mistrust locally, external pressures imposed on national monetary systems also affect conditions of trust. External constraints such as financial sanctions have been noted as incentives to cryptocurrency alternatives. The rise of alternative payment systems in response to sanctions can represent a threat to traditional financial infrastructures, and digital currencies have become an experimental avenue for targeted states (McDowell, 2023). Countries targeted by sanctions, such as Russia and Venezuela, have used cryptocurrencies – whether decentralized currencies or stablecoins – as potential tools to bypass coercive measures and populate an alternative financial network that renders the traditional system unnecessary (Rosales, 2019). In this case, the adoption and potential expansion of cryptocurrencies emerge less out of ideological conviction and support for a utopian stateless world of financial interconnection, than as a necessity by centralized authorities to encourage and appropriate these tools, likely adding to the fragmentation of financial infrastructures globally.

This more pragmatic source of expansion generates questions for ideologues, crypto-maximalists and community supporters of decentralized financialization, as they may be enthralled by their natural adversaries, state authorities. An important challenge facing the adoption and use of cryptocurrencies as money, as Chey (2023) has argued, is that lacking a centralized issuer, crypto-entities are less likely to be able to enforce the use of the currencies. Instead, when allied with a state, in the way of legal tender status, or through acceptance for tax payments,¹ cryptocurrencies can find in the centralized authority of the state a mechanism for wider adoption. It should then not be a surprise that crypto enthusiasts have developed alliances with governments throughout the Global North and Global South (Rosales, 2025). With these alliances they seek to use state power to impose favourable regulatory frameworks to protect their wealth, like in Puerto Rico's tax haven (Atilas, 2022b). In other cases, they seek to bring the state as a holder of Bitcoin through national reserves and other investments such as in El Salvador or, more recently, in the United States.

Variegated forms of cryptocurrency adoption in Latin America

The way structural and ideational factors interact with infrastructural conditions of monetary vulnerability and use is varied in Latin America. Conditions of crisis and volatility largely affect the perception of opportunity digital assets can offer. The agency of powerful state or private actors is important in promoting the use of cryptocurrencies, but they remain secondary to the structural conditions in the economy and infrastructural opportunities that can

allow digital assets to offset vulnerability. Regardless of the attempts by top officials to normalize Bitcoin and the crypto-ecosystem or outlaw it, structural conditions of volatility can afford cryptocurrencies equal or greater trust than stable fiat monies and payment infrastructures.

Below, in [Table 1](#), I sketch a simplified view of how these dynamics operate in four Latin American jurisdictions. It shows schematically how state or private actors lead initiatives of cryptocurrency adoption and their motivations in each jurisdiction. The role of the state varies in the promotion of cryptocurrencies, top-down policies are prominent in the case of El Salvador, whereas in Argentina motivations spring from local programmers and business that used inflation as opportunities for expansion laboratories. In Venezuela, motivations for adoption spring from both more popular desires to hedge against inflation and access convertible currencies, as well as from the state level as means of averting sanctions. Puerto Rico is a unique case where the ecosystem is promoted through policies imposed by unelected colonial authorities as a tax haven for crypto and other sectors.

Regardless, adoption is more prominent in Argentina and Venezuela, where structural conditions of vulnerability (high inflation), institutional constraints (controls and sanctions) and infrastructural opportunities (energy and payment platforms) allow cryptocurrencies to offset trust scepticism that they may otherwise generate. In El Salvador, despite the interests of top officials, making Bitcoin a legal tender did not lead to a multicurrency system in

Table 1 Main actors and motivations for crypto expansion

Jurisdiction	Main actors	Motivation	Trust
Venezuela	Private sector and regular citizens	Hedging against inflation, accessing convertible currency and rent appropriation from cheap electricity.	Lack of trust in the national currency leads to crypto use.
	Government	Avoiding sanctions, new revenue streams.	Desire to overcome external constraints leads to crypto use.
Argentina	Private sector, programmers and developers	Hedging against inflation, accessing convertible currency and avoiding government regulation.	Lack of trust in the national currency leads to crypto use.
El Salvador	Government and foreign crypto enthusiasts	Financial inclusion, onboarding new crypto communities.	Lack of trust in Bitcoin and national wallet leads to failure of Bitcoin law.
Puerto Rico	Unelected colonial (US) authorities	Attraction of venture capital investments.	Crypto investments remain part of an elite project designed by authorities.

the country as the dollar remains predominant. Adoption is negligible in Puerto Rico, where crypto initiatives are born out of interest from unelected colonial authorities to attract mainland venture capitalist investors to the archipelago.

The remainder of the paper explains how seemingly decentralized tools can have re-centralizing effects, or be embraced by centralized authorities and corporations, in ways that benefit them (Beaumier & Kalomeni, 2021; Nelms *et al.*, 2018). But more importantly, the recurrence of crisis and volatility – both social and economic – underscores the opportunity for cryptocurrency ecosystems to repair flows, and to bridge connections severed by domestic (controls) or external (sanctions) constraints.

From energy extraction to bypassing sanctions: Cryptocurrency adoption in Venezuela

During the earlier years of the 2010s, it was still relatively easy and inexpensive to mine Bitcoin from home with one or two ASIC terminals. Venezuela's long-lasting rentier practices and set of incentives in the domestic market, together with an unprecedented economic crisis that shrunk its gross domestic product by more than 80 per cent in seven years (Rodríguez, 2025), encouraged the emergence and spread of a cryptocurrency ecosystem. Cheap energy is required for cryptocurrency miners to validate a token through the blockchain, something that Venezuela can offer to miners (Chun, 2017; Rosales, 2021a). In Venezuelan, mining Bitcoin was linked to the energy that flows from the Guri Dam in lower Caroní River and is distributed through transmission lines that connect Guri to the rest of the country. These infrastructures are the result of historical relations between the state, companies and large investments channelled from hydrocarbon rents to electrify the country. Venezuela's hydroelectric infrastructure, built with the goal of maximizing oil exports and revenues, served as the backbone of an ambitious industrialization programme during the era of import-substitution-industrialization (Coronil, 1997). Oil rents allowed the continued use of subsidies that – in a context of hyperinflation – made electricity virtually free.

From 2013 onward, cryptocurrency enthusiasts and individuals with computer knowledge began to purchase ASIC mining terminals or GPUs to mine from home (interviews V-6-14, held between March 2018 and February 2019). Miners explained they used 'savings in dollars' to acquire these machines (interviews V-6-14, March 2018 – February 2019). Dollar savings in Venezuela between 2003 and 2012 are most likely linked to the process of wealth redistribution that took place through the government centralization of currency exchange at the time of high oil prices.

Miners in Venezuela faced challenges after the 2017 decline in Bitcoin prices and more scarce availability of Bitcoins, which made it more cumbersome to validate the PoW protocol. In this context, large mining farms have become

necessary, usually pushing household miners and smaller farms out of business. Experimentation in other areas, such as trading, programming and gaming became more prominent in Venezuela, with the intention of securing convertible currencies and hedging against inflation amid a profound economic crisis.

In response to the crisis and the ongoing instability in Venezuela, some enterprises used the initial experience of Bitcoin adoption in the country to link Venezuelan migrants with their families at home via cryptocurrency exchanges that can help them bypass the obstacles imposed by sanctions and bizarre currency policies (Robins, 2024). Symptomatic of the crisis, traditional remittance channels are closed in Venezuela because legal wire transfers are blocked (first due to capital controls and later due to sanctions), forcing triangulation mechanisms and alternative exchanges powered by cryptocurrencies to serve the Venezuelan market. These triangulation mechanisms ultimately allow cash payments to flow between accounts based in countries with free currency mobility, while equivalents of US dollars are exchanged domestically in Venezuela between intermediaries and those receiving payments abroad. As Tankha (2021, p. 144) explains, in the case of Cuba-US transactions affected by sanctions, ‘electronic payment infrastructures between the United States and Cuba are propped up and secured by pre-existing cash infrastructures that engage in *repairing* the breakages, delays, and fallouts of an interoperable banking system’. The Venezuelan crisis has also spurred the demand for crowd sourcing tools, such as Yakera, a start-up equivalent of GoFundMe, which uses stablecoin architecture to serve as an alternative platform (interview V-25, March 2023). While it has roots in the US tech market, the Yakera platform employs Venezuelan professionals in its web platform, communications strategy and outreach. The goal of Yakera is to build bridges between people seeking support and those willing to offer charitable contributions without requiring intermediaries from governments, international organizations (IOs) or non-governmental organizations (NGOs).

The most important crypto market innovations in Venezuela relied, however, on the cheap labour of an impoverished middle-class and low-cost yet fragile internet and electric service provision (Hao & Hernández, 2022; Hernández, 2022; Johnston, 2022; Posada, 2022). Once the mining of Bitcoin became a more onerous enterprise, many who originally mined at their homes remained in the cryptocurrency ecosystem, providing professional services to crypto start-ups and local exchanges. Some successful businesses expanded beyond Venezuela and began experimenting in cloud mining solutions, pooling together the energy capacity of individual miners to create forms of virtual farms, powered by smart contracts and other blockchain peer-to-peer interactions.

But at the bottom of this economic pyramid is a set of workers willing to spend time and effort in the cryptocurrency ecosystem for small rewards that only makes economic sense in rapidly deteriorating economic conditions. Venezuela provided a mass of gamers for esports, professional or amateur, at a comparatively low cost. After government deregulation of certain sectors from 2019

onward, which involved allowing private investors to offer internet services, new opportunities have emerged for gamers in the country willing to work for less than their counterparts elsewhere. As Hernández (2022) writes, ‘the situation presented a unique opportunity for foreign investors: Venezuela was a land of skilled gamers desperate for money, but with few resources to compete on the global stage’. Still, gamers are betting on the slim chances of a big tournament win, as there tends to be

a hard expiration date on this gateway out of economic hardship for Venezuela’s professional gamers. Players must constantly be checked for damage to their vision, hand or back muscles [...] esports gamers have shorter careers than NFL players, due to extreme stress and overwork. (Hernández, 2022)

The country became a hotspot for Axie infinity gamers to invest in ‘scholars’ who would spend a few hours a day playing for larger owners of the NFT-powered tokens for US\$50 to US\$100 per month, an exploitative deal that makes sense only in a context where regular wages are much lower (Bornacelly, 2021; Di Carpio, 2022; Rosales, 2021b).

Unlike El Salvador, as we shall see, state-led regulation in Venezuela did not come by convinced crypto evangelists at the helm of the government. Rather, a bottom-up pathway influenced policymakers into opening cryptocurrency regulations in favour of the ecosystem, albeit in contradictory ways. As cryptocurrency mining became more widespread in Venezuela, there remained a regulatory vacuum, leading to raids and harassment of miners, which often included extortion and seizure of mining terminals. Nevertheless, in 2017, the government of Nicolás Maduro decided to back cryptocurrencies in the country, providing a legal framework for mining and trading, and forging an institutional scaffolding to support the cryptocurrency ecosystem (Rosales, 2019). Once inflation became out of control and was coupled with sanctions from the United States and other countries, the government saw mining and the cryptocurrency ecosystem in general as an opportunity. The institutional setup included a national registry of miners and the government launched its own national cryptocurrency, the Petro. Initially, the Petro sought to support transnational payments coming into the country, while making a transparent payment system and eliminating the currency arbitrage problem generated by a wide disparity between the market value of the dollar and the official rate.

The Petro was designed to operate under a decentralized, open-source platform (interview V-20, January 2023). The Maduro government later turned this initiative into a commodity-backed cryptocurrency, using oil and a basket of other commodities as reference for its value, while leveraging unexploited oil fields as collateral.² As one of the original ideologues of the Petro said in an interview: ‘At the moment when the government tried to use oil as collateral for the Petro, it turned into a debt bond’ (interview V-20, January 2023). The original Petro advocates and creators were swiftly

sidelined and even persecuted, while technical support from Russia helped set up a bond-like instrument instead. The government sought to obtain US\$5 billion in investments from this plan, but the strategy failed mostly due to lack of confidence from investors and the US-imposed sanctions on the initiative (Bianchi, 2018; Floyd, 2019). State-led regulation impacted the downstream ecosystem, particularly as cryptocurrency mining remained an important activity in the country, now with the government participating in it and sectors of the military seeking to reap rents from government subsidies (Vanci, 2020).

Financial sanctions on Venezuela continued to stimulate the use of cryptocurrencies in the country, and it facilitated the rise of exchanges and block-chain-powered systems that circumvented the obstacles imposed on cross-border transactions. The government used these tools extensively including for the sale of oil off-the-radar and bypass sectoral sanctions (Bull, 2026). Venezuelan entrepreneurs contributed to the creation of payment systems, which used stablecoins, to bridge diasporic populations with their families at home and to avoid restrictions, such as capital controls imposed by the Venezuelan government, and, later, financial sanctions.

Escaping inflation and forging crypto innovations in Argentina

Argentina has long suffered from devaluation crises, continued distrust in government policies to sustain the value of the peso and subsequent chronic inflation. Moreover, the memory of the 2001 *corralito* crisis, when the government froze bank accounts for days and sparked social unrest, bringing about a period of political instability, remains alive for many in the country (Dinerstein, 2003). These memories of crises are especially salient for middle-class Argentines whose upward social mobility appears to be constantly under threat due to the failures of external actors, mainly the state, banks and other institutions (Visacovsky, 2010). The fear derived from such threats pushes Argentines to seek refuge from volatility (Moreno, 2025). Chief among the means of refuge is the US dollar, which serves to protect them from devaluation, while exerting pressure on the value of the peso. In this context, cryptocurrencies have become attractive for Argentineans despite its notorious volatility (Lankes, 2022). Trust in Bitcoin first grew around 2011 during the first *cepo cambiario* (currency controls) imposed by the government of Cristina Fernández de Kirchner. According to Ignacio Carballo, a fintech expert in the country, interest in Bitcoin ‘was initially circumscribed to a quite ideological group who, based on anarcho-capitalist views, saw in Bitcoin a solution to all government policies that incur in monetary fraud’ (interview with author, 2022). This original profile later expanded, with cryptocurrencies taking root in working-class and middle-class Argentines who seek to protect themselves from inflation while avoiding the obstacles of currency distortions (Schwartz & Idris, 2022). Cryptocurrency penetration in Argentina is mostly concentrated in trading and exchange, with

significant downstream linkages in laboratory creations of wallets, exchanges and bridges with traditional financial systems.

Some strong ideological advocates, so-called ‘Bitcoin maximalists,’ continue to support Bitcoin in Argentina, while rejecting linkages with traditional banks and the opening of space for different cryptocurrencies beyond Bitcoin. In this niche, enthusiasts in Argentina are attracted to Bitcoin and other cryptos that operate outside the radar of tax authorities in the country. Together with an ideological position against Argentina’s distorted currency policy, some of these enthusiasts want to escape government control altogether (Paradela, 2021). They have fed from the so-called ‘financial caves’ where people exchange dollars and cryptocurrencies informally (interview A-1, 3, 5, May 2023, November 2023).

The cryptocurrency industry took advantage of arbitrage spirals that involved purchasing low-priced convertible currency through government subsidized dollars and reselling these dollars in the open and informal market. The government’s attempts at limiting this traditional arbitrage by closing avenues for regular citizens to access US dollars opened new opportunities to participants in the digital assets business. These innovators offered digital escape routes for Argentines to access convertible currencies through stablecoins and traditional cryptocurrencies. The COVID-19 pandemic was a turning point in this process. Before the pandemic, people tried to bypass the *cepo* by taking their pesos to an irregular exchange office, known in Argentina as *caves*. These caves sold dollars in cash.

Crypto exchanges allowed people to access convertible currencies without leaving their homes during the lockdowns. An executive from one of the major exchanges explained in an interview that in 2020, ‘the illegal/informal competition [from traditional caves] went down because people could no longer go to caves to acquire physical dollars to protect themselves’ (interview A-6, November 2023). This meant that e-wallets and crypto exchanges in Argentina promoted the digitalization of caves as well as the emergence of new points for arbitrage spirals, now controlled by crypto businesses that dominate the exchange market. As an interviewee who worked as a programmer at a major exchange explained: ‘We created a simple interface that allowed people to buy DAI’ – a stablecoin anchored to the US dollar value – ‘with pesos’. Buenbit created a campaign that told customers: ‘Free yourself from the *cepo*’ (‘Libérate del *cepo*’) (interview A-11, November 2023).

Structural conditions in the labour market in Argentina encouraged the expansion of laboratories in crypto ecosystems. As Carballo explained in an interview, ‘Argentina was involved in a fintech market on par with top economies in the region due to the macroeconomic conditions of a relatively skilled human capital that is greatly underpaid’ (interview with author). In this context, notable examples of programmers and coding experts working on generating 3.0 platforms include Decentraland, electronic wallets such as Lemon, and OpenZeppelin, a smart contract system that has been adopted by large crypto exchanges, such as Coinbase (Campanario, 2022; Schwartz & Cholakian

Herrera, 2021). These start-ups are linked to the laboratory established by graduates of the Instituto Tecnológico de Buenos Aires known as Voltaire House. This semi-secret space served as an incubator for developers from the same generation seeking to build on the previous success of *Mercado Libre*, an online market platform that now serves a region-wide market (Schwartz & Cholakian Herrera, 2021).

The successes of the Argentine crypto ecosystem expansion also reveal some of its paradoxes. Exchanges such as Lemon had a leading role in integrating traditional payment systems such as credit cards and online banking with cryptocurrencies, leading to re-centralization. Large exchanges such as Binance have launched a crypto card. An alliance with Mastercard, this initiative provides point of payment service through existing infrastructure, with competitive cashback offers in direct competition with similar products from traditional institutions. Projects like this demonstrate that core values of decentralization, anonymity and anti-inflationary monetarism wither in the face of practicality and market expansion of crypto ecosystems.

An enthusiast's laboratory turned legal tender: Bitcoin law in El Salvador

A community project emerged in 2019 through a large donation made by an unknown Bitcoin enthusiast, which aimed to build a circular economy in the coastal town of El Zonte, located in La Libertad department, an hour away from San Salvador (Schwartz & Brigida, 2022). The project was carried out in connection with Mike Paterson, an expat who often visited the area and worked with a local evangelical church on community projects, and with the support of Salvadoran businessman Jorge Valenzuela. These individuals distributed part of the donation to 500 families chosen and introduced the Lightning Network app, Strike, to facilitate exchanges in the town (Fieser, 2021; Namcios, 2022; Vázquez, 2021). The idea was to make the town's economy run on Bitcoin, from workers' wages to restaurants and business, and facilitate the influx of crypto investors and enthusiasts with interest in surfing and tourism. Part of the donation was invested in a community centre that runs surfing workshops for the town's children and a van that transports high schoolers to the nearest town's school. Hope House, as the community house is known, also runs Bitcoin workshops and other activities free of charge. In addition to the start-up, Strike, owned by famous Bitcoin millionaire Jack Mallers, El Zonte's project also gathered the attention of Athena, a Bitcoin ATM business that brought the first ATM to the town. Later, Athena, as much as Mallers' Strike, became involved in the broader government Bitcoin policy in a public-private partnership. This partnership, at least initially, allowed the government to take advantage of Athena and Strike's know-how to create the Chivo wallet and set up the broader infrastructure that made Bitcoin a legal tender.

El Zonte's project has attracted media attention and is frequently used by government officials as testament to the acceptance of Bitcoin in the population. All my interviews with government officials echoed the comment that every *pupusa* seller in El Zonte deals with Bitcoin in a town where 70 per cent of its people are unbanked (interviews ES-3, 6 May 2022). Nevertheless, there is no verifiable information about the extent of the use of Bitcoin in the area, and independent media reports confirm that Bitcoin is largely used by foreign tourists, many of whom are attracted to the surfing conditions and the Bitcoin experiment (Fieser, 2021).

Beyond practical concerns, the experiment of 'Bitcoin beach', as it is dubbed by advocates and government, has been used as an example for replication. First, President Nayib Bukele visited El Zonte to announce his decision to build a 'Bitcoin city' in the eastern town of La Unión at the bottom of a volcano (Howson, 2021). A futuristic, techno-utopian city, in which geothermal energy from the volcano would be harnessed for Bitcoin mining, was promoted as a grand development zone (Cuellar, 2021). Later, the government tied this project to a 'Bitcoin bond' or 'volcano bond', worth US\$1 billion; half would be used to build the city, and the other half would be reinvested in Bitcoin (interviews with members of parliament ES-7-11, May 2022). The technicalities of the bond, along with the urbanistic feasibility of the city and the possibility of harnessing geothermal energy from the volcano to mine Bitcoin, remain a mystery and have since been shelved (Cuellar, 2021; Howson *et al.*, 2024).

Sceptics worry that projects like El Zonte's, and open regulatory frameworks such as the ones offered in El Salvador and Puerto Rico, can become carve-outs for money laundering disguised under a fancy techno-utopian discourse. Moreover, the techno-utopian discourses seem to reveal, at best, a charitable, saviour complex practice disconnected from the needs of the population they seek to benefit, and, at worst, another form of exploitation and colonization of impoverished people in the Global South by rapacious investors (Atiles, 2022a; de Onís, 2018). The extent of the local population's awareness of the radically volatile price of Bitcoin is largely unaccounted for in discussions with enthusiasts, whose idea of Bitcoin *as a currency* is conflated with the practicality of Bitcoin as a risky asset where already wealthy enthusiasts stand to benefit from early adoption (Vázquez, 2021).

In 2021, President Bukele declared Bitcoin a legal tender through an executive legislative initiative that would be quickly approved by parliament. Bukele and members of his Nuevas Ideas Party were already owners and enthusiasts of Bitcoin, and were interested in expanding the El Zonte experiment already underway in the country's coast (Fieser, 2021). The decision of the Salvadoran president was justified by his government to benefit the people of El Salvador through promoting financial inclusion and enhancing development via new technological investments. Dania González (Nuevas Ideas), head of the finance commission of the Salvadoran National Assembly, argues that 'the bitcoin law is a policy of financial inclusion' (interview with author, May

2022). González explains that El Salvador was already a breeding ground for Bitcoin expansion, thanks to the so-called ‘Bitcoin beach, but now we will offer a set of incentives for investment and create an ecosystem for development and innovation’ (interview with author, May 2022). State officials promoted potential policy objectives in tandem with the advertisement of an innovative leadership, capable of standing up to international institutions such as the International Monetary Fund (IMF) and the United States, and the promotion of technical solutions to people’s quotidian problems. González was emphatic about the disruptive nature of Bukele and his government’s ostensible autonomy from centres of power globally: ‘When the IMF criticized our Bitcoin law, what the President did was to buy more Bitcoin’ (interview with author, May 2022).

Against the backdrop of a disruptive discourse and the apparent desire to expand financial networks to the nation’s poorest, the Bitcoin policies of El Salvador reveal top-down dynamics that are not especially innovative, nor democratic (Boos, 2024). The Bitcoin process in El Salvador contributes to other dynamics, a far cry from achieving more financial inclusion and substantive investment in development. In essence, it reveals processes of increasing authoritarianism, fuelled by lack of transparency and a propensity toward fraudulent activities (Meléndez-Sánchez, 2021).

Unlike Venezuela and Argentina, El Salvador is a dollarized economy with rather stable inflation rates. As dollarization connects El Salvador with broader regional and global financial circuits, the adoption of bitcoin has not happened in an organic way. This does not mean that most Salvadorans are widely connected to the banking sector, in fact many are unbanked (Meijering & Rosales 2025). Yet, structural conditions make it difficult to close the gap between the banked and the unbanked. The country’s considerable unbanked population depend mostly on cash not due to technical needs but due to a lack of disposable income. In a survey approximately 80 per cent of Salvadorans said they had little to no confidence in Bitcoin (Instituto Universitario de Opinión Pública, 2022). An economic analyst explained that it was encouraging to find out that many people do not use Bitcoin: ‘people are not using it. Why? Because it is too risky’. This analyst went on: ‘They do not understand that much about financial risks, but they understand that if they put in money there, they can lose it. And if they lose it, they probably will not have money to eat’ (interview ES-17, May 2022). In contrast with Venezuela and Argentina, vulnerability in El Salvador leads people to keep their trust in a more stable currency like the US dollar than venturing into an unknown and volatile asset like Bitcoin.

The other major social promise of the Bitcoin law is that using Bitcoin to capture remittance flows to El Salvador would cheapen and ease the procedure for migrants and their families. Government officials emphasize the importance of offering an alternative, inexpensive mechanism to send remittances. Carlos Hernández, Nuevas Ideas member of parliament, said that migrant workers ‘often pay US\$12 or US\$13 just to send a small remittance; that made our

government work to facilitate the use of a cheaper way' (interview with author, May 2022). The adoption of Bitcoin for remittance has not been significant. Former Central Bank President Carlos Alvarado argues that 'the use of Bitcoin for remittances remains below 2 per cent of the total, and not for political reasons, as many in the diaspora support the President; it is simply because of practicality issues' (interview with author, May 2022). In this case, most continue to rely on expensive and predatory services offered by Western Union and similar exchanges.

The government initially requested a US\$200 million credit to parliament to finance the creation of a national wallet, through which a US\$30 incentive would be given to every Salvadoran citizen who downloaded the app. A trust fund of US\$150 million was created to allow automatic convertibility between Bitcoin and dollars by those purchasing and exchanging funds between the two. Another portion of those funds went into setting up the technology and infrastructure for the measure, as well as funding public awareness and education about the technology (Sigalos, 2022).

Opposition members of parliament agreed that a major concern for them in the implementation of the Bitcoin law has been the lack of transparency in the use of funds and the bypassing of regular budgetary procedures to approve public funds expenditures. While there is now a publicly available website with the total investments made by El Salvador, it is not possible to verify the process through which these purchases were made and what institution oversees safeguarding these Bitcoins. Claudia Ortiz from VAMOS, a centre-right party, said that 'the law never stipulated the government's acquisition of Bitcoin, but its use as legal tender'.

Chivo's release was reportedly rushed, and there have been breaches in its system. Fraud schemes were initially set up to steal individuals' personal ID information, and thousands of accounts (containing mainly the US\$30 incentive) were emptied that way. By and large, however, Salvadorans downloaded the app and immediately used the US\$30 incentive for daily consumption needs. An advisor to the National Assembly's finance commission stated that the government was 'determined to open (judicial) procedures in cases of fraud' (interview with author, May 2022). There is, however, no reliable information about those cases and the extent of the theft perpetrated.

The company Athena in its prospectus to the Securities and Exchange Commission (SEC) of the United States, explained some concerning features of the Chivo wallet, wherein Salvadorans who convert Bitcoin back to dollars may not be fully guaranteed their funds, but some form of stablecoin tokens. The document states that 'when Salvadorans convert their Bitcoin to dollars, they do not receive dollars in the digital wallet. Instead, they become holders of stable-dollar coins, which are only a claim to real dollars'. It goes on: 'At that point, Salvadorans hold an asset backed by the full faith and credit of Mr. Bukele's government' (SEC, 2022). This has raised concerns by critical observers who have claimed that Bukele may be trying to use Chivo to monetize the government's deficit and cast doubts about the sustainability of dollarization

(Rauda, 2022). Whenever asked, however, government officials deny any such attempt (interviews ES- 4, 5, 8, May 2022).

Early in 2025, the Salvadoran government reached a deal with the IMF for a US\$1.4 billion loan. In exchange, the government agreed to make Bitcoin of voluntary acceptance, lowering its status from legal tender, and making commitments to increase the transparency in public funds used for Bitcoin transactions (IMF, 2025). The government also agreed to gradually 'unwind' its participation from the Chivo wallet (IMF, 2025). While this agreement signals the degree of failure in the country's Bitcoin policy, it is not a full capitulation, as the government announced soon afterward the purchase of 12 new Bitcoins with public funds (Rentería & Campos, 2025).

Crypto paradise and crypto colonialism in Puerto Rico

Puerto Rico represents another example where state authorities have embraced cryptocurrencies, albeit in with a different approach. Instead, they focused on attracting investors who have profited from cryptos and other venture capital experiences. The archipelago is an unincorporated US territory – a remnant of colonial control in the Caribbean since the Spanish-American War of 1898. Puerto Rico faced increased public debt pressures leading to a default in 2016 and the imposition of severe austerity measures as the US Congress passed the Puerto Rican Oversight, Management and Economic Stability Act (PROMESA), which led to the creation of a Fiscal Oversight and Management Board (FOMB) (Atiles, 2022b). The FOMB is an unelected body that effectively oversees all significant budgetary and financial management issues in the archipelago. Puerto Rican authorities, with encouragement from the US mainland, promoted the territory as a 'crypto utopia' paradise land. It turned the territory into a tax haven, by approving Act 60 in 2019 with a set of tax incentives and an investor-friendly framework. These changes sought to attract venture capitalists with the promise of extremely low or non-existing tax burdens, including a zero-capital gains tax on crypto assets (Atiles, 2022b; Crandall & Vázquez, 2022). This framework is a continuation of a historical tendency to establish tax incentives to lure specific forms of investments to Puerto Rico from the mainland (Atiles, 2022b).

Several authors have pointed to the paradoxes of the Puerto Rican venture capitalist utopia. First, this ultra-lax framework emerged as a result of long-dated debt crises that have left the semi-dependent authorities on the island bankrupt, forcing forms of adjustment that strip away authority from the people of Puerto Rico, placing it instead onto superimposed entities that reinforce colonial dynamics with the United States (Cortés, 2018). Second, these strategies come in the context of environmental crisis, after hurricane María ravaged the archipelago and left thousands without power for weeks on end (de Onís, 2018). This energy vulnerability serves as a backdrop for the expansion of a tax haven in which the state relinquishes its traditional

roles of social protection and offers extra benefits to speculators within an energy-intensive financial sector of the global economy. The effects of these regulatory changes have been felt in the way of displacement and gentrification, feeding into the waves of mobility from Puerto Rico to the United States, while the structural conditions of debt and economic instability in the archipelago remain (Crandall, 2019; de Onís, 2018).

In the words of José Atilés (2022b, p. 622), ‘the state has rescinded its responsibility to protect PR from speculative finances, environmental degradation associated with blockchain and cryptocurrency, and the social harm produced by displacement’. Moreover, the state-led initiative in Puerto Rico, similarly to those in El Salvador and Venezuela, emphasizes that crypto enthusiasts are not disconnected from the state; instead, they require state-led policies and infrastructures to thrive. Further, economic crisis and vulnerability create opportunities for the market expansion of crypto entrepreneurs who are eager to embrace charity discourses and practices to profit from crisis. However, there is no widespread adoption in Puerto Rico, which like El Salvador continues to rely on the US dollar. Incipient cooperative projects have emerged, nonetheless, that have embraced distributed ledgers in production and organizing (Crandall & Vázquez, 2022).

Conclusions

In this paper, I have tackled the question of how cryptocurrency ecosystems expand in Latin America. With a focus on the different sets of incentives that motivate business and state actors to push for the adoption of cryptocurrencies, the paper emphasizes the importance of bridging structural and ideational conditions with infrastructural mechanisms that help explain variation in adoption. The paper builds on the perspective of infrastructures in finance, which considers both the material qualities of financial tools and the ideational and discursive elements that sustain them. The paper demonstrates that the repair of fractured financial infrastructure linked with conditions of vulnerability and fragility are motivations for expansion, explaining greater adoption in places with high inflation as well as domestic (currency controls) and external (sanctions) constraints for financial flows. The agency of powerful actors like state leaders and supranational authorities may be important in establishing legal conditions for cryptocurrency use, but adoption is not guaranteed unless digital assets can offer opportunities to offset structural limitations based on (mis)trust and infrastructural deficiencies.

A central motivation for cryptocurrency adoption has been through communities seeking to obtain convertible currencies in countries with strict capital controls to protect themselves from inflation. That is how people in Venezuela and Argentina, the two countries with the highest adoption rates, first adopted Bitcoin and, later, other cryptocurrencies. From this initial set of motivations and practices, laboratory experiments and downstream expansion of

cryptocurrency ecosystems have expanded through programming, web design, and further community engagement. Low-paid skilled or unskilled labour in places like Venezuela and Argentina has catalysed the expansion of these crypto ecosystems. Charitable donations and crypto enthusiast agendas linked to evangelical sectors in El Salvador, seeking to turn an impoverished community into a 'circular economy' powered by Bitcoin have also been important laboratories for expansion, albeit with much less success.

These business laboratories have produced varied state responses. While Venezuela's socialist government was initially sceptical of cryptocurrencies, it eventually latched on and embraced the socialized practices of Bitcoin mining. It also attempted and, so far, failed, to create its own cryptocurrency to bypass sanctions. In El Salvador, the government turned the country into a haven for crypto enthusiasts and turned Bitcoin into a legal tender. Nevertheless, the Bitcoin law failed to increase adoption and include marginalized communities into financial markets. Puerto Rico appears as a more extreme case where cryptocurrency experimentation emerges as a colonial imposition from unelected officials seeking to offer tax benefits to venture capitalists from the US mainland. In this case, however, there is also the possibility of organic social organizing, which may be enabled by blockchain-powered initiatives (Crandall & Vázquez, 2022).

Notes

1 While El Salvador was the first country to declare Bitcoin a legal tender, there have been similar cases such as the Central African Republic that has passed a similar provision and the US state of Colorado, which accepts cryptocurrencies for tax payments..

2 The advocates and original supporters of the Petro, as well as some high officials of the government were initially divided in their view of the linkage between oil and the Petro. Some original ideologues only thought of oil as an initial reference point and a symbolic evocation for the country's traditional export, while others wanted to strengthen that link and make the Petro a commodity-backed cryptocurrency tied in its value, and used as collateral.

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Generative AI tools have not been used in the preparation and writing of this paper.

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