

CHARLES UNIVERSITY
FACULTY OF SOCIAL SCIENCES
Institute of International Studies
Department of North American Studies

Bachelor's Thesis

2023

Ondřej Černý

CHARLES UNIVERSITY
FACULTY OF SOCIAL SCIENCES

Institute of International Studies
Department of North American Studies

**Bitcoin and the world-systems theory: the case of El
Salvador**

Bachelor's Thesis

Author of the Thesis: Ondřej Černý

Study programme: Teritoriální Studia

Supervisor: PhDr. Jan Hornát, Ph.D.

Year of the defence: 2023

Declaration

1. I hereby declare that I have compiled this thesis using the listed literature and resources only.
2. I hereby declare that my thesis has not been used to gain any other academic title.
3. I fully agree to my work being used for study and scientific purposes.

In Prague on July 28, 2023

Ondřej Černý

References

ČERNÝ, Ondřej. “Bitcoin and the world-systems theory: the case of El Salvador.”
Bachelor’s Thesis, Charles University, 2023. Supervisor PhDr. Jan Hornát, Ph.D.

Length of the Thesis: 57 920 characters

Abstract

This bachelor's thesis revolves around the acceptance of Bitcoin as legal tender in El Salvador and the subsequent reactions from the international community, particularly the United States and the International Monetary Fund. Using the case of El Salvador as a study, the thesis seeks to explore a broader phenomenon concerning Latin America and the potential for Bitcoin to be the key for positive socio-economic transformation in the region. The theoretical part of the thesis delves into the concepts of dollarization and the governance of Bitcoin, in addition to the world-systems theory proposed by Immanuel Wallerstein. Subsequently, the thesis applies these theories to concrete facts and conducts an analysis. The timeframe for this research spans from September 2021, when Bitcoin was officially adopted as legal tender in El Salvador, until the end of 2022.

Abstrakt

Tato bakalářská práce se zabývá přijetím Bitcoinu jako zákonného platidla v Salvadoru a následnými reakcemi mezinárodního společenství, zejména Spojených států a Mezinárodního měnového fondu. Na příkladu Salvadoru se práce snaží zkoumat širší fenomén týkající se Latinské Ameriky a potenciálu Bitcoinu být klíčem k pozitivní socioekonomické transformaci regionu. Teoretická část práce se kromě teorie světových systémů navržené Immanuelem Wallersteinem zabývá koncepty dolarizace a bitcoinizace. Následně práce aplikuje tyto teorie na konkrétní skutečnosti a provádí jejich analýzu. Časový rámec tohoto výzkumu zahrnuje období od září 2021, kdy byl Bitcoin v Salvadoru oficiálně přijat jako zákonné platidlo, do konce roku 2022.

Keywords

Bitcoin, Latin America, El Salvador, U.S., Monetary policy, Core-periphery, Remittances, Dollarization

Klíčová slova

Bitcoin, Latinská Amerika, Salvador, Spojené Státy, monetární politika, jádro-periferie, remitence, dolarizace

Title

Bitcoin and the world-systems theory: the case of El Salvador

Název práce

Bitcoin a teorie světových systémů: případ Salvadoru

Acknowledgement

First and foremost, I would like to thank my supervisor, PhDr. Jan Hornát PhD., for his guidance, patience and communication while writing this thesis. Secondly, I would like to thank everyone, namely my colleagues from the seminar and PhDr. Marek Pečenka who helped me put the thesis together.

Table of Contents

INTRODUCTION	2
1 THEORETICAL PART	4
1.1 World-systems theory	4
1.2 Dollarization	6
1.3 The Governance of Bitcoin	8
2 EL SALVADOR, A PART OF THE PERIPHERY	13
2.1 El Salvador's Dollarization	13
2.2 Nayib Bukele and the political shift	15
2.3 Bitcoinization	16
3 THE FIRST YEAR OF BITCOINIZATION	19
4 THE CORE AND ITS REACTION	23
4.1 IMF's role in the World-systems	23
4.2 IMF's reaction	25
4.3 The U.S.	28
CONCLUSION	30
SUMMARY	31
LIST OF REFERENCES	33

Introduction

In the realm of global finance, socio-economic dynamics, and international political economy the rise of cryptocurrencies has emerged as a groundbreaking phenomenon that transcends borders and challenges conventional economic paradigms. At the forefront of this digital revolution stands Bitcoin, a decentralized and revolutionary digital currency that has garnered both praise and skepticism worldwide. As the world grapples with the implications of this new financial instrument, its impact on developing economies, particularly in Latin America, becomes an area of increasing interest and concern.

The argument for this thesis is that Bitcoin should not be frowned upon merely due to a few negative headlines. Instead, it should be studied to explore how society can benefit from it, as it represents progress and has the potential to complement today's financial systems. Drawing parallels with how people initially laughed at the idea of cars replacing horses for transportation over a century ago, Bitcoin might similarly prove to be highly advantageous for society, calling for further examination.

The first idea of adopting Bitcoin as legal tender originated in El Salvador in 2021, a Central American country with a dollarized economy undergoing political change. Central America has a history of facing interventions from the United States, encompassing not only military actions but also economic and political interventions. The topic of this thesis emerged from contemplating whether Bitcoin could potentially aid the region, and even Latin America as a whole, and whether the United States would permit such developments. These substantial questions make this topic worthy of study.

The thesis focuses just on the case of El Salvador in light to the rest of the region. El Salvador was the first to do in region, even after being for 20 years prior an economy in which only U.S. dollar was accepted. But it is not just this country in which the use of cryptocurrencies was discussed. For example, other countries in the region, such as Mexico and Argentina, have also been considered for their low banked population and high inflation, respectively, making Bitcoin's potential impact a relevant subject for analysis. It is clear that Bitcoin might play a role in the region, for which I am conducting this thesis in a method of case study.

Bitcoin was officially taken as legal tender in September 2021 and since then it has faced many reactions from international community and investors, on the other

hand, a big praise from the Bitcoin community. How did the core (mainly the U.S.) react, and can it pose any constraints through the influence in the International Monetary Fund (IMF) on the peripheral country of El Salvador? The thesis tries to answer this question and navigate through the historical experience and realities of the decision to adopt Bitcoin in El Salvador. I will be assessing the timestamp between September 2021 until the end of 2022, which is a year in which bitcoin's price significantly dropped.

The structure of the thesis involves four chapters: The first chapter will delve into the theoretical framework of World-systems, dollarization, and Bitcoin usage and governance. The second chapter will focus on El Salvador's role in the globalized economy and its position in the peripheral sphere, including the process of dollarization and the political changes that led to the groundbreaking decision to accept Bitcoin. The third chapter will analyze the actual impacts of this decision. Lastly, the fourth chapter will center on the core, exploring the role of the IMF and its negotiations with El Salvador, as well as the role of the U.S. in this context.

The thesis draws on the World-systems theory conducted by American historian, sociologist, and economist Immanuel Wallerstein, more exactly, on his book "World-systems analysis: An introduction" from 2004. Wallerstein based his theory on many others which is discussed in later chapters. The theory draws upon the contemporary global system where the core exploits the periphery through many instruments. I believe this theory is key to understand how the peripheral countries are constrained from making decisions completely on their own.

For research purposes, the book "Globalization and its Discontents" by Joseph E. Stiglitz, a Columbia University professor, provides insights into the role of the IMF and its connections to the U.S. as the core, showcasing how it can be used as a potent economic tool to enforce "core-friendly" policies.

To analyze the consequences of El Salvador's decision, a survey conducted throughout 2022 by the National Bureau of Economic Research will be presented. This survey, involving 1,800 households in face-to-face interactions, focuses on the domestic impacts of El Salvador's acceptance of Bitcoin. Additionally, primary sources directly from the IMF, alongside an evaluation of the Bitcoin law and other legal documents, will contribute to the further analysis.

1 Theoretical part

1.1 World-systems theory

This thesis is based on the theoretical framework of core-periphery relations, which explores the dynamics between dominant core and less developed periphery. While related theories have emerged since the Second World War, the concept has been particularly influential in Latin America.¹

The basic idea of core-periphery stands on the concept that some countries (or more exactly parts of the world) “were economically stronger than others (core) and were therefore, able to trade on terms that allowed surplus-value to flow from the weaker countries (periphery).”² According to Immanuel Wallerstein, the debates in social sciences between 1945-70 set the stage for the emergence of his world-systems theory and the concept of core-periphery relations, which was initially constructed by the United Nations Economic Commission for Latin America. From this framework emerged the quasi-Marxist dependency theory, which built upon the core-periphery idea but also posited that peripheral countries were dominated by core countries and should disconnect from the world economy.³ The main concept of dependency theory also stands on the core-periphery idea, but the added value was that the peripheral countries were dominated by the core countries and therefore should disconnect from the world economy.⁴ On the other hand, Wallerstein’s theory looks at the matter at hand a bit less skeptically. Nevertheless, both theories have been influential in shaping our understanding of the global economic system and the uneven distribution of wealth and power across different regions of the world.

Wallerstein believes that the world-system since the 16th century has always been a capitalist world-economy, where there is “an internal exchange of basic or essential goods as well as flows of capital and labor.”⁵ There are many political systems and cultures in a world-economy per se, but it is only the division of labor which is the

¹ Carlos A. Martínez-Vela, “World Systems Theory,” 2001, 5, <https://doi.org/10.4135/9781412939591.n1261>.

² Immanuel Wallerstein, *World-Systems Analysis: An Introduction* (London: Duke University Press, 2004), 12.

³ *Ibid.*, 10.

⁴ Scott Nicholas Romaniuk, “Dependency Theory,” in *The SAGE Encyclopedia of War: Social Science Perspectives* (Thousand Oaks: SAGE Publications, Inc., 2017), 4, <http://dx.doi.org/10.4135/9781483359878.n191> (accessed March 5, 2023).

⁵ Wallerstein, *World-Systems Analysis*, 10–12.

unifying factor. This division of labor is unequal, with core countries controlling the more profitable production processes and periphery countries relegated to less profitable ones. As a result, periphery-like production processes are the ones that are truly competitive, while core production processes are controlled by quasi-monopolies that can produce more, consolidate power over domestic market, and expand to other markets.⁶

When exchange occurs, the quasi-monopolized products are in a much stronger position in the peripheral competitive market. “As a result, there is a constant flow of surplus-value from the producers of peripheral products to the producers of core-like products. This has been called unequal exchange.”⁷ These quasi-monopolies are most likely located juridically, economically, and physically in strong core-like states. And that is the reason for the geographical consequence of the core-periphery relations. The strong states contain a lion’s share of core-like processes, while the peripheral processes are located in weak states. Moreover, the strong states offer a sort of patronage to the quasi-monopolies and their processes, the weak states on the other hand, do not have much chance to affect this division of labor and have to accept their role in the world-economy process to even be internationally viable.⁸ This is the main part of Wallerstein’s thesis. From this, we can elaborate on more relational consequences in other topics like labor, geopolitics, monetary policies, etc.

Companies, and the movement of labor, capital and products in international exchange are affected by not only the policies of their own state, but also by the ones being exported to. If the foreign company in a market is located in a strong state it has more opportunities to appeal to the state to pressure other states to change their policies.⁹ For exporters, it is naturally better if the importing states have as little legal and economical boundaries as possible (e.g., no tariffs). Strong states can thus pressure weak states to keep their borders open to trade while taking no action in reciprocity. The pressure can come mostly from economical help (or humanitarian) directly or through international organizations (e.g., via IMF, or World Bank), financial sanctions, military bases, or currency pegs.

The adding point to the difference between strong and weak states is its ability to collect taxes and being able to carry out legal decisions effectively. “The weaker the

⁶ Wallerstein, *World-Systems Analysis*, 28.

⁷ *Ibid.*, 28.

⁸ *Ibid.*, 29.

⁹ *Ibid.*, 50.

state, the less wealth can be accumulated through economically productive activities.” And so, with less money collected, the fewer resources for enforcing the bureaucracy that collects them. This cycle is typical for weaker countries.¹⁰

With all these factors combined, the world-economy came to being with a progressive and innovative core with developed production processes, skilled and well-paid labor, and strong monetary foundations. But in order to grow, the core needed natural resources and cheap labor from the periphery. With this unequal exchange came uneven development.¹¹

Furthermore, Joseph E. Stiglitz¹², an economist and Columbia University professor, speculates that globalization has not brought the economic benefits it promised to the developing countries. Stiglitz emphasizes the changed role of the IMF and the WB in globalization and world trade and how disadvantageous it is to the developing world, or the periphery. The role of IMF is discussed in later chapters.

Nevertheless, the role of the United States in the core-like processes is undoubted. The very being of this whole theory comes from the relations between the United States and Latin American countries. Today, the United States is the biggest loaner in the world, followed by the European Union (EU) and Japan, the other core-like countries.¹³

1.2 Dollarization

With the trading dominance of the core, also comes financial dominance. The core uses its natural strengths to pressure the periphery to implement its policies. One of the ways to do so is with monetary policies or currency pegs, or even making a foreign currency a legal tender. A process that happened in El Salvador in the beginning of the millennium was called full dollarization, “under which a country completely abandons its own currency and instead adopts a more stable currency of another country, most commonly

¹⁰ Wallerstein, *World-Systems Analysis*, 53.

¹¹ Thomas D. Hall, Daniel Chirot, “World-System Theory,” *Annual Review of Sociology* 8 (1982): 86, <http://www.jstor.com/stable/2945989> (accessed 14.3.2023).

¹² Joseph E. Stiglitz, *Globalization And Its Discontents* (New York: W.W. Norton & Company, 2002).

¹³ Joe Myers, “Foreign Aid: These Countries Are the Most Generous,” *World Economic Forum*, August 19, 2016, <https://www.weforum.org/agenda/2016/08/foreign-aid-these-countries-are-the-most-generous/> (accessed March 14, 2023).

the U.S. dollar – as its legal tender.”¹⁴ Although, today the term dollarization is also broadly used for the adoption of any foreign currency.

It is important to note that most developing countries already might have some unofficial form of dollarization. The residents of a country with a weak currency tend to use a strong foreign currency alongside the local currency. Especially in high inflation countries such currency can be widespread in day-to-day transactions. This kind of dollarization is a natural response of individuals to protect their assets from economic instability, high inflation, and devaluation of their own currency.¹⁵

Thus, even for central banks, the main attraction of full dollarization lies in the elimination or at least alleviation of the risk of a sharp devaluation of the country’s exchange rate. Moreover, dollarized economies per se could enjoy lower interest rates on international borrowing, reduced fiscal costs, and in total more investment and growth.¹⁶ The main benefits of dollarization basically derive from the credibility it carries, since once a country is dollarized, it is very difficult to reverse such decision. The cash is always going to be in circulation.

An obvious advantage is a closer integration with the U.S. economy from the lower transaction costs, and stable prices in dollar terms. Although, dollarization does not eliminate the risk of external crises, which by historic standards devastate the developing countries’ economies, it still appears as a solution for a steadier market sentiment.¹⁷ The economic integration with the rest of the world may establish a solid steppingstone for an advanced financial sector stemming from a closer integration in financial markets. This is important, since it means that the integration also comprises of integration in the bank sector, i.e., with the American banks.¹⁸

But Latin American economies’ structures are a bit different from the one of the United States, unless fully integrated (like in the case of the EU) the benefits might not be that convincing. And the reasons for that are many.

¹⁴ Andrew Berg, and Eduardo Borenzstein, “Full Dollarization: The Pros and Cons,” *International Monetary Fund*, December 2000, 1, <https://www.imf.org/external/pubs/ft/issues/issues24/> (accessed December 12, 2022).

¹⁵ More on this topic at Berg, “Full Dollarization: The Pros and Cons“, 2. Also elaborating on how to distinguish the motives for currency or asset substitutions.

¹⁶ Berg, “Full Dollarization: The Pros and Cons,” 2.

¹⁷ *Ibid.*, 7.

¹⁸ *Ibid.*, 8.

Marcia Towers and Silvia Borzutzky, “The Socioeconomic Implications of Dollarization in El Salvador,” *Latin American Politics and Society* 46, no. 3 (2004): 38, <https://www.jstor.org/stable/4141619> (accessed November 15, 2022).

The main disadvantage is the loss of the central bank's ability to be the lender of last resort and the loss of monetary policy. With full dollarization, a country entirely gives up control over its monetary and exchange rate policy. While dollarization may alleviate the risk of sudden devaluation, it might diminish the central bank's response to all sorts of economic and financial crises. The main point of central bank is being able to print money and back bank deposits if needed. The ability to print money assures that bank runs¹⁹ will not be possible.²⁰ In any case the government is dependent on a response from a whole different foreign body, in this case Federal Reserve Bank of the U.S. (FED), which in comparison to, e.g., the European Central Bank might not have much interest in "saving" a smaller country's economy.

A dollarized country also loses its ability to accrue profits from the monetary authority from its right to issue currency – this is called seigniorage. And the cost of that can be significant immediately and for many years after.²¹ In fact, in the case of the fully dollarized countries (to the U.S. Dollar – USD) the profits coming from seigniorage are coming to the United States, which is not legally responsible to reimburse countries for such fluctuations.²² What Immanuel Wallerstein also elaborates on is the importance of a strong nation state and nationalism.²³ A nation using another nation's currency loses a national symbol.

With these arguments, it could be believed that dollarization falls confidently in the world-systems theory's financial dominance of the core and periphery. More on El Salvador's path to dollarization will be explained in further chapters.

1.3 The Governance of Bitcoin

One of the things the financial crisis of 2008 witnessed was the creation of a completely new system of payment. Based on a brand new blockchain technology, Bitcoin²⁴ was

¹⁹ The sudden run of clients on banks to withdraw their funds.

²⁰ Towers, "The Socioeconomic Implications of Dollarization," 41.

Berg, "Full Dollarization: The Pros and Cons," 10.

²¹ More on seigniorage can be read at Berg, „Full Dollarization“, 5.

²² Ibid., 6.

Towers, "The Socioeconomic Implications of Dollarization," 41.

The fact for this is that the FED is responsible for a bigger monetary market, thus it can print more money without much of a drawback.

²³ Immanuel Wallerstein, *World-Systems Analysis: An Introduction*, 54.

²⁴ There is a debate on how to write the word bitcoin, whether with a capital or lowercase *B*. The uppercase traditionally references to the technology, while the lowercase to the tokens. For the convenience of this thesis, the uppercase letter will be used.

first introduced on October 31, 2008. Bitcoin operates without a central authority or intermediary (peer-to-peer). It has gained widespread popularity in recent years, with a growing number of individuals and businesses using it for transactions, although there are still many questions about its day-to-day use.

Bitcoin per se is a kind of money, it thus serves as a medium of exchange, a unit of account, and a store of value.²⁵ The main idea of it though lies in its limited supply.²⁶ While today's most popular fiat money (money without fixed exchange rate) does not. Central banks are basically free to print as much money as they want, which proved to be a strong tool against any unwanted economic fluctuations and a flexible tool in monetary policy, but it also encompasses ever-growing inflation, possible government manipulation, lack of privacy, and most importantly, the dependence on the stability of the currency's government.²⁷

The U.S. unquestionably enjoys a privileged position in global trade since the USD takes the biggest portion of international foreign exchange reserves. With Bitcoin though, there is no nation which would be able to take control or manipulate the supply of currencies. This is of course virtually impossible to achieve since power always resists self-limiting reform.²⁸

Nevertheless, there are some theories and ideas on what would making Bitcoin a legal tender entail. So far (March 2023), the only countries that made Bitcoin its legal tender alongside its other currencies are El Salvador and The Central African Republic. It is therefore hard to predict long-term advantages and disadvantages.

The main argument for making Bitcoin legal tender are lower transaction costs than in a traditional banking system. This can highly benefit individuals and businesses that make frequent cross-border transactions, e.g., remittances. While the capital sent traditionally across the borders needs to first go through many third parties (like banks, exchanges, or third parties like PayPal), which in total can sometimes account for 6 %

²⁵ Basic factors of any good money. More on this in Saifedean Ammous, *The Bitcoin Standard: The Decentralized Alternative to Central Banking* (New Jersey: John Wiley & Sons, Inc., 2018).

²⁶ The supply of bitcoin is baked in its system's code. Although it can be changed with more than 51% of all the nodes, which is virtually impossible. More on this in Antony Lewis, *The Basics of Bitcoins and Blockchains: An Introduction to Cryptocurrencies and the Technology That Powers Them* (Coral Gables, US: Mango Publishing Group, 2018).

²⁷ Andrea O'Sullivan, "Ungoverned or Anti-Governance? How Bitcoin Threatens the Future of Western Institutions," *Journal of International Affairs*, Ungoverned Spaces, 71, no. 2 (2018): 92–94, <https://www.jstor.org/stable/26552331> (accessed October 2, 2022).

Saifedean Ammous, "Can Cryptocurrencies Fulfil the Functions of Money?," *The Quarterly Review of Economics and Finance* 70 (2018): 39, <https://www.sciencedirect.com/science/article/pii/S1062976917300777> (accessed November 26, 2023).

²⁸ Andrea O'Sullivan, "Ungoverned or Anti-Governance?," 95.

(and even more),²⁹ with Bitcoin only the transaction fee to the miners³⁰ must be paid (in March 2023 around 2 USD).³¹ Since it is peer to peer there is also no way to stop or revert this transaction. That is of course, if Bitcoin is used as it was primarily made and not with a third-party wallet or exchange. Additionally, the transaction speed also needs to be accounted for. Bitcoin transactions can be processed much faster than traditional banking systems, which can take up to several days to clear. This can lead to greater efficiency in transactions and reduce settlement risks.³²

Other advantages include the inclusion of all people since anyone with an access to the internet can pay by Bitcoin. A privilege that is not common in the traditional banking system in which there have been cases of people being denied setting up an account because of their gender (e.g., in Afghanistan) or simply by not having the needed infrastructure in all parts of a country.³³ Bitcoin also serves as a store of value because of its limited supply and deflationary nature (similar to gold). Finally, the transactions cannot be blocked or in any way interceded. The parties enjoy a high level of privacy (although not anonymous, since every transaction is recorded, even that of the bitcoins received and traded by unlawful means) and so it is impossible for governments or any authority to ban an individual from economic activity. This could be especially important in totalitarian states.

On the other hand, Bitcoin has been questioned many times for its high volatility, which poses a risk to financial stability. Its value can fluctuate rapidly, which can lead to price instability and affect consumer and investor confidence. “In the absence of a central bank with the power to adjust the money supply, cryptocurrencies simply cannot be said to offer stability.”³⁴ It can also be very challenging to include Bitcoin into existing financial systems. Currently, it is very rare for vendors to accept any type of cryptocurrency as a means of payment. Low acceptability might be a problem which can be eventually and gradually fixed, but the fact that the Bitcoin

²⁹ Kathryn White, “The Macroeconomic Impact of Cryptocurrency and Stablecoins” (World Economic Forum, 2022), 28, <https://www.weforum.org/whitepapers/the-macroeconomic-impact-of-cryptocurrency-and-stablecoins/> (accessed January 13, 2023).

³⁰ More on mining at Lewis, *The Basics of Bitcoins and Blockchains*.

³¹ This number though can get significantly higher. So far, the highest fee was recorded in April 2021 around \$60. Although, there has been a lot of development and today, most of transactions are recorded via the Lightning Network.

³² Eli Noam, “The Macro-Economics of Crypto-Currencies: Balancing Entrepreneurialism and Monetary Policy,” *SIPA’s Entrepreneurship & Policy Initiative Working Paper Series*, 2019, 10, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3493333 (accessed December 10, 2022).

³³ Paul Vigna, *Cryptocurrency: The Future of Money?* (London: Vintage, 2015, 3).

³⁴ Ammous, “Can Cryptocurrencies Fulfil the Functions of Money?,” 49.

blockchain can process only 7 transactions per second (while e.g., Visa can process 10,000) and validate them every 10 minutes is not helping.³⁵ This has led to the creation of many more alternative cryptocurrencies and third-party apps, which try to fix this problem (low scalability), but none of these enjoy the level of decentralization as Bitcoin.³⁶

However, there has still been a lot of development outside of the new crypto projects, the most viable one being the Lightning Network. Compared to other projects, the Lightning Network facilitates the settlement of Bitcoin transactions outside the blockchain framework. This is associated with a significant reduction in congestion within the blockchain, which suggests that it has effectively enhanced the efficiency of Bitcoin as a medium of exchange. In practice, the peers can open a Lightning Network channel on which they make bilateral payments. Once the payments are completed, the channel is closed, and on blockchain is only written the final result number. This off-chain settlement contributes to the scalability and improved functionality of Bitcoin as a reliable payment system while not absolutely eliminating the decentralization offered by Bitcoin.³⁷

In conclusion, Bitcoin and other cryptocurrencies represent a new way of payment instruments to complement the existing monetary system. Making Bitcoin legal tender has its advantages and disadvantages, although, for the most part it seems that it is mainly directed at the international economic status quo as there is a possibility people and smaller economic actors turn to this alternative system. It is for this reason I believe it might fit in the concept of world-systems.

Two other things worth noting before diving into the case of El Salvador, are practices and topics discussed while talking about the governance of crypto – digital exchanges and Central Bank Digital Currencies (CBDCs).

Around 99% of cryptocurrency coins are traded on third-party exchanges. Many of the traders and investors subsequently keep their coins and tokens on these exchanges, absolutely taking away the possibility of peer-to-peer payments and taking advantage of having their assets in their own custody and instead trusting a third party. These

³⁵ More on this at Lewis, *The Basics of Bitcoins and Blockchains*.

³⁶ Noam, “The Macro-Economics of Crypto-Currencies,” 12–14.

³⁷ More on this and the second-layer payments can be found at Anantha Divakaruni and Peter Zimmerman, “The Lightning Network: Turning Bitcoin into Money,” *Finance Research Letters* 52 (2023): 8.

practices create a noteworthy risk of losing all assets because of exchange closings or bankruptcies, which has happened in past.³⁸

A very cited solution to today's banking problems is a niche called CBDCs. A solely digital currency issued and controlled by central banks taking away the troubles of money-laundering, cash payments, and commercial banking as well. Although with this, come many loudly exclaimed disadvantages.³⁹

³⁸ George Milunovich and Seung Ah Lee, "Cryptocurrency Exchanges: Predicting Which Markets Will Remain Active," *Journal of Forecasting* 41 (2022): 954, <https://doi.org/10.1002/for.2846> (accessed June 2, 2023).

³⁹ More on this at Jesús Fernández-Villaverde et al., "Central Bank Digital Currency: Central Banking for All?," *Review of Economic Dynamics* 41 (2021): 225–42, <https://doi.org/10.1016/j.red.2020.12.004>.

2 El Salvador, a part of the periphery

“This is my message to our friends in the international community. [...] Where did they get this sudden love for El Salvador? If up to recently they could not find it on a map. All of a sudden, in the past three years, they have grown concerned. Where were they before? [...] El Salvador is a free, sovereign, and independent country. We make our own decisions, let that be clear to the world. We want to have relations with other countries, we want to be friends, allies, and partners. [...] But not a colony, not a backyard, nor a front yard, [...]. Our doors are wide open, but we will not allow them to come and tell us what to do. [translated by the author]”⁴⁰

This is how Nayib Bukele, the president of El Salvador, reacted to the international community’s concerns about the state of his governance over El Salvador in the preceding 3 years. There have been many shifts in law and executive actions enacted since his inauguration, one of which was a war on gangs, the enactment of quasi-authoritarian laws and practices, and of course, the enactment of the *Ley Bitcoin*. Nevertheless, this part of the speech among many other of his speeches fits perfectly in the core-periphery relations. The use of words like *backyard* and *front yard*, the appeal to the international community, or the clear message that El Salvador will finally make its own decisions. Bukele also mentions that the reason that the international community is so concerned about El Salvador might be because it gives off a bad example for other Latin American countries. It could be thus argued that the feeling of being a peripheral country is still alive.

2.1 El Salvador’s Dollarization

Since the 1980s El Salvador had been experiencing a gruesome civil war with an active American intervention mission. The war was ended by the Peace Accords in 1992. Since then, El Salvador confidently moved towards the implementation of neoliberal

⁴⁰ *En Vivo: Discurso Del Presidente Nayib Bukele En Su Tercer Año de Gobierno* (San Salvador, 2022), 36:00–41:00, <https://www.youtube.com/watch?v=IYZ-VLL6RSQ> (accessed April 11, 2023).

economic policies, e.g., by privatizing the banking sector mainly to attract foreign investment. The economy became strongly tied to the United States.⁴¹

As of 2001, the year of El Salvador's dollarization, the U.S. received around 60% (\$1.6 billion) of El Salvador's exports per year. However, this was contradicted by \$2.1 billion coming from imports from the U.S., resulting in a rather unpleasant trade deficit. How El Salvador really received its foreign exchange reserves was through remittances. Approximately 1.5 million Salvadoran workers in the U.S. were sending the sum of \$1.9 billion (15% of El Salvador's GDP) and the number has been growing ever since as will be further mentioned. Illiteracy remained at 21% in 2000 and 48% of the population was living in poverty. With the neoliberal laws inequality and uneven distribution of wealth were rising as well. The political environment was set for change.⁴²

After the civil war, two main parties were established in the new democratic system. On one hand, there was the national conservative ARENA (*Alianza Republicana Nacionalista* in Spanish) representing the oligarchy. On the other side, the lower-income groups were represented by FMLN (*Frente Farabundo Martí para la Liberación Nacional* in Spanish). In the presidential election of 1999, ARENA candidate Francisco Flores was elected for a 5-year term. Flores came from ARENA's newly established oligarchy representing the power of the rising financial sector, establishment of an open economy, easy access to foreign investment, and reduction of trade barriers. Flores clearly showed his intentions in the decision to dollarize the economy. The financial sector benefited from dollarization the most since financial policy can be barely altered (more on this at 1.2 Dollarization) if opposing political party gains power. Thus, on January 1, 2001, Salvadoran economy was dollarized.⁴³ After Ecuador and Panama, it became the third to do so. Interestingly, what unites the countries is a history of political, economic, and military interventions by the U.S.⁴⁴

The two main reasons discussed were driving down interest rates and tightening relations with the U.S. However, experts speculate about the reality of the former since interest rates and inflation in comparison to other Central American countries were quite stable. Soon after 2001 the U.S. dollars were flowing in the economy and by 2004 the

⁴¹ Robert Huang, "An Economic History Of El Salvador's Adoption Of Bitcoin," *Forbes*, June 27, 2021, <https://www.forbes.com/sites/rogerhuang/2021/06/27/an-economic-history-of-el-salvadors-adoption-of-bitcoin/?sh=298b299f93fd>.

⁴² Towers, "The Socioeconomic Implications of Dollarization in El Salvador," 31.

⁴³ *Ibid.*, 34.

⁴⁴ Huang, "An Economic History Of El Salvador's Adoption Of Bitcoin."

former currency colón stopped flowing completely.⁴⁵ But soon after, the opposition to dollarization became widespread among the population. In 2002 more than 61% of a survey's respondents reported that dollarization had a negative effect on their economic situation.⁴⁶ Moreover, the overall GDP rate was rather lagging compared to El Salvador's neighbors and there is no evidence that USD has positively contributed to the economic prosperity via increased trade and tourism.⁴⁷ On the other hand, in the wake of 2008 great financial crisis the costs of dollarization concerning the lack of monetary policy weren't as severe as anticipated.⁴⁸

2.2 Nayib Bukele and the political shift

Since the civil war, El Salvador had been running on kind of a two-party system, which was connected to high levels of poverty, widespread corruption, and unhinged gang violence. Nevertheless, the parties up until 2015 had been receiving 90% of popular vote every election. This support of a stable but nonfunctional system hit its wall in 2019, when the presidential election was won by a landslide by a center-right populist maverick Nayib Bukele.⁴⁹

Two years following his election as president, Nayib Bukele's recently established political party, *Nuevas Ideas*, achieved a resounding majority in the General Assembly. This development served to further strengthen Bukele's firm grip on power and bolster the implementation of his "new ideas" agenda, which does not align with traditional left-wing nor right-wing ideologies.⁵⁰ Instead, he has prioritized results-driven governance during his tenure in office, basically "getting the job done."

⁴⁵ Andrew Swinston, "Official Dollarization in El Salvador as an Alternative Monetary Framework," in *Central America: Challenges Following the 2008-09 Global Crisis* (Washington D.C.: International Monetary Fund, 2012), 177, <https://doi.org/10.5089/9781616353780.071> (accessed December 10, 2022). Huang, "An Economic History Of El Salvador's Adoption of Bitcoin."

⁴⁶ More on the topic and reasons can be found at Towers, "The Socioeconomic Implications of Dollarization in El Salvador," 45–51.

⁴⁷ Cagri Kumru, "2021 in Review: El Salvador's Bitcoin Experiment," *Australian Institute of International Affairs*, December 27, 2021, <https://www.internationalaffairs.org.au/australianoutlook/el-salvadors-bitcoin-experiment/>.

⁴⁸ Huang, "An Economic History Of El Salvador's Adoption Of Bitcoin." Andrew Swiston, "Official Dollarization as a Monetary Regime: Its Effects on El Salvador" (IMF Working Paper, June 2011), 13, <https://www.imf.org/external/pubs/ft/wp/2011/wp11129.pdf> (accessed April 11, 2023).

⁴⁹ Lucas Perelló and Patricio Navia, "The Disruption of an Institutionalised and Polarised Party System: Discontent with Democracy and the Rise of Nayib Bukele in El Salvador," *Political Studies Association* 42, no. 3 (2022): 271, <https://doi.org/10.1017/0022278x.2022.12010777181> (accessed April 12, 2023).

⁵⁰ *Ibid.*, 268.

However, Bukele's populist approach to governance has not always respected the country's institutions, leading some critics to view him as a potential threat to Salvadoran democracy. Despite this criticism, Bukele's policies have consistently gained high levels of public support, with approval polls indicating that up to 90% of Salvadorans approve of his actions. This remarkable level of popularity has made Bukele the most popular leader in Latin America.⁵¹ One of the legislatures enacted during his rule was the *Ley Bitcoin*.

2.3 Bitcoinization

In 2021, the total value of remittances originating from the United States to El Salvador amounted to \$7.1 billion, representing a significant proportion of the country's GDP at 24.7%. Remittances thus make a crucial importance for the sound being of Salvadoran economy. It is also noteworthy that the trade balance between the two nations still remains in favor of the U.S., as shown by the difference between their exports and imports, with exports to El Salvador exceeding imports by approximately \$1.5 billion.⁵² In an effort to enhance transparency and promote fair pricing for remittances, the World Bank has established a dedicated website that provides comprehensive information on the fees charged by various service providers. According to the data provided by the website, the average total fee for sending a sum of \$200 is 8.35%.⁵³ It is estimated that out of \$6 billion dollars received in 2020 \$180 million were lost in fees.⁵⁴ This increase in remittances and the high average fees might have opened the door for a broader use of cryptocurrencies.

But of course, since El Salvador's dollarization the fees do not stem from the foreign exchange commissions, but rather from the banks and third parties having their own limits on the money internationally transferred. One of the reasons being that with any transfer over \$10,000 the International Revenue Service (IRS) needs to be informed. Additionally, undocumented immigrants in the U.S. might not have the sufficient documentation for using the traditional banking system whatsoever.

⁵¹ "Why Salvadorans Love Their Populist President, Nayib Bukele; Elections in El Salvador.," *The Economist*, March 2, 2021, <https://www.economist.com/the-americas/2021/03/02/why-salvadoreans-love-their-populist-president-nayib-bukele>.

⁵² U.S. Department of State, "U.S. Relations With El Salvador," <https://www.state.gov/u-s-relations-with-el-salvador/> (accessed April 11, 2023).

⁵³ World Bank, "Remittance Prices Worldwide: Making Markets More Transparent," accessed April 19, 2023, <https://remittanceprices.worldbank.org/corridor/United-States/El-Salvador>.

⁵⁴ Kumru, "2021 in Review: El Salvador's Bitcoin Experiment."

Although, it might sound a bit immoral, it is of natural interest to El Salvador to maximize its remittances received, and Bitcoin might just be the way. Yet, the constraints remain vivid, since the high volatility might deter the expats' willingness to use it.⁵⁵

Nevertheless, in June 2021, the “revolutionary” President Nayib Bukele presented to the legislative assembly a new legislature named *Ley Bitcoin*. Interestingly, the use of Bitcoin could already be seen before this decision. For instance, since 2019, Bitcoin has been used as a form of exchange in a number of coastal villages in La Libertad department, the most famous of those being the town El Zonte. This region became to be known as a “Bitcoin Beach.”⁵⁶ Right before the enactment of *Ley Bitcoin*, Bukele said that El Salvador’s government was holding 400 BTC worth of approx. \$21,000,000 marking his intentions and optimism about this asset clearly.⁵⁷

In May 2021, President Nayib Bukele announced his intention to make Bitcoin a legal tender in El Salvador during the Bitcoin Conference 2021 held in Miami. The initiative was to be implemented in collaboration with the Lightning Network company Strike. Bukele cited several reasons for this move, including the high fees associated with traditional remittance services, the potential for increased investment in the country, and the ability to provide financial services to the 70% of Salvadorans who do not have access to traditional banking.⁵⁸ Bukele further emphasized that the adoption of Bitcoin would not hamper the traditional relations between El Salvador and the U.S. and instead it would coincide side-by-side with the U.S. dollar.⁵⁹

On September 7, 2021, the *Ley Bitcoin* was enacted. It comprises of two chapters and 16 articles. One of the few examples are: taxes may be paid by Bitcoin (art. 4), the state is obliged to provide alternatives to carry out transactions and withdrawal with Bitcoin (art. 8), trading with Bitcoin is tax-free and guaranteed (art. 12), and the state will provide a safe, instantaneous, and secure exchange to USD (art. 9). But the most crucial is article 7, which states that “Every economic agent must accept Bitcoin as

⁵⁵ Kumru, “2021 in Review: El Salvador’s Bitcoin Experiment.”

⁵⁶ “Bitcoin Beach,” accessed April 25, 2023, <https://www.bitcoinbeach.com/#about>.

⁵⁷ Nelson Renteria, “El Salvador Holds 400 Bitcoin, Price Jumps,” *Reuters*, September 6, 2021, <https://www.reuters.com/technology/el-salvador-buys-its-first-200-bitcoins-president-says-2021-09-06/>.

⁵⁸ Joe Hernandez, “El Salvador Just Became The First Country To Accept Bitcoin As Legal Tender,” *NPR*, September 7, 2021, <https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency>.

⁵⁹ Robert Huang, “An Economic History Of El Salvador’s Adoption Of Bitcoin.”

a form of payment when offered by whoever buying a good or service. (transl. by author).”⁶⁰

⁶⁰ “Ley Bitcoin” (Asamblea Legislativa - República de El Salvador, September 7, 2021), <https://www.jurisprudencia.gob.sv/DocumentosBoveda/D/2/2020-2029/2021/06/E75F3.PDF>.

3 The first year of Bitcoinization

Right after *Ley Bitcoin* came into effect the Bitcoin wallet Chivo made for the transactions between the citizens of El Salvador was released. The Chivo Wallet is a mobile application available for both Android and iOS devices. Its primary purpose is to facilitate the storage, exchange, and use of Bitcoin as a medium of exchange within El Salvador. The wallet allows users to send and receive Bitcoin, as well as convert it into US dollars or withdraw it in cash, all without commission.⁶¹

Upon its release, the government distributed \$30 worth of Bitcoin (which is 3.75 daily minimum wages) to each user who downloaded and registered with the Chivo⁶² Wallet. This was done to encourage the adoption and use of Bitcoin in everyday transactions. Additionally, the government set up around 200 Chivo Wallet kiosks across the country where users could receive assistance in setting up and using the wallet. The government used up to \$200 million to create this infrastructure. But soon after, the app itself started experiencing many glitches and security breaches. One of the biggest issues of the app was actually the \$30 incentive. Although, it was meant to be spent in stores people quickly started realizing that if the money would move to another wallet, they could later withdraw it to real USD cash leading to long queues at cash dispensers which did not possess enough money.⁶³

Chivo is compatible with other Lightning Network wallets, which makes it convenient for tourists or more specifically, non-Salvadorians who cannot use Chivo, since the app requires national ID. Furthermore, Chivo is directly connected to El Salvador's banking system to deposit or withdraw USD. This makes Chivo a custodial wallet in which transactions are not anonymous and can be easily traced much like a CBDC.⁶⁴ In this context, the primary advantages of Bitcoin are made obsolete. However, theoretically, Chivo still fulfills its purpose by making the convenient and instant transfer of money and by providing banking services to the unbanked population. Along with launching of the app, the government also launched an

⁶¹ "Chivo Wallet: Beneficios," accessed May 30, 2023, <https://www.chivowallet.com/index.html#beneficios>.

⁶² The word Chivo in the local slang means "cool".

⁶³ Christine Murray, "El Salvador Endures Bumpy First Week with Bitcoin as Legal Tender," *Financial Times*, September 10, 2021, <https://www.ft.com/content/842415ec-06cb-437b-932f-f868d4f55fc4>.

⁶⁴ Fernando E. Alvarez, David Argente, and Diana Van Patten, "Are Cryptocurrencies Currencies? Bitcoin as Legal Tender in El Salvador," *NBER Working Papers*, no. 29968 (April 2022): 5, <http://www.nber.org/papers/w29968> (accessed May 15, 2023).

educational campaign on how to use it along with many educational programs on blockchain technology as well.⁶⁵

Although in the initial days the price of Bitcoin dropped by 15%, by November 2021 it met its ever-highest point. Following this surge, President Bukele revealed his intention to construct the Bitcoin City, a tax haven dedicated to cryptocurrencies and blockchain technology. The city was proposed to be situated on the Gulf of Fonseca and powered by geothermal energy sourced from the Conchagua volcano. To finance the project, Bukele aimed to issue \$1 billion in so-called “Bitcoin bonds.” However, due to the volatile nature of the cryptocurrency market, including the significant decline in Bitcoin's value over the year 2022, the implementation of these plans faced massive delays. As reported by the credit rating company Moody's, Bukele’s initiative has cost El Salvador \$375 million. Furthermore, 2022 has wreaked havoc for Bitcoin and for the reputation of President Bukele. In July 2022, he bought 80 more bitcoins each for \$19,000 (in September 2021, it was roughly \$46,000 per each) taking El Salvador’s holdings to 2,381 bitcoins in total.⁶⁶

To assess the real implications, a survey conducted throughout 2022 by National Bureau of Economic Research will be used in this thesis. The survey, which interviewed 1,800 households through face-to-face interactions, found that a majority of Salvadoreans (68%) are aware of the Chivo Wallet's existence. Almost 70% of respondents are unbanked and 90% of them do not use traditional mobile banking. But 64.6% of them have access to a mobile phone with internet.⁶⁷ Those who are aware tend to be individuals who own internet-enabled cell phones, have access to banking services, possess higher levels of education, are younger in age, and are male. Among businesses, the acceptance of Bitcoin is limited to only 20% of enterprises. Furthermore, the businesses that even with the Article 7 of *Ley Bitcoin* actually do accept Bitcoin tend to be large in scale, and a mere 11.4% of firms report positive sales conducted in Bitcoin. On average, only 4.9% of total sales are paid using Bitcoin. Additionally, 88% of businesses convert their Bitcoin sales into dollars, and 71% of these enterprises subsequently withdraw the converted cash.⁶⁸

⁶⁵ Alvarez “Are Cryptocurrencies Currencies?,” 64.

⁶⁶ “El Salvador Marks 1st Year Of Bitcoin Use As Confidence Wanes,” *International Business Times*, September 7, 2022, <https://guardian.ng/news/el-salvador-marks-1st-year-of-bitcoin-use-as-confidence-wanes/>.

⁶⁷ Alvarez “Are Cryptocurrencies Currencies?,” 6–7.

⁶⁸ *Ibid.*, 3.

According to official data, by January 2022, the app was downloaded 4 million times, which in a country of 6.6 million people (+3 million people across the borders) is a remarkable number. But most of the downloads took place right after its initial release, with almost no downloads in 2022. The main driver of adoption for households is reported to be just the \$30 bonus. Only 20% of respondents continue using the Chivo wallet, and less than 10% use it to transact in Bitcoin.⁶⁹

Individuals who have actually continued to use Chivo after utilizing their bonus exhibit distinct characteristics, including being young, educated, male, banked, and having a higher likelihood (26%) of using alternative digital wallets (not only Chivo) for transfers. Among these active users, more than half have not withdrawn cash from a Chivo ATM. It can be inferred that active Chivo users predominantly engage in transactions using dollars rather than Bitcoin, as the average amount of payments and transfers, both sent and received, consistently exceeds that of Bitcoin when denominated in dollars.⁷⁰

As for the reasons for abstaining from downloading Chivo, the study reveals that more than 21% of respondents were aware of Chivo Wallet but chose not to download it. The primary motive cited was a preference for cash transactions. The second most significant reason for not downloading Chivo was a lack of trust in the system and Bitcoin itself. Privacy and security concerns lie at the heart of the ongoing discussion surrounding CBDCc and Bitcoin. These concerns, which revolve around the absence of anonymity and secure transactions, can partially explain the two main reasons for not downloading the app, as cash provides an anonymous payment method. Another frequently mentioned reason was the lack of an internet-enabled phone. For over 50% of respondents, the most significant barrier to using Bitcoin in any form was a lack of understanding and trust in the technology. Furthermore, in regions with higher per capita income like San Salvador and La Libertad, the percentage of users who continue using the Chivo application after utilizing the \$30 bonus is twice as high compared to regions with lower per capita income such as Usulután and Chalatenango.⁷¹

Moreover, only 5% of Salvadoreans have utilized Chivo to fulfill tax obligations and Chivo is not extensively used for receiving remittances from abroad, with only 3% of individuals receiving remittances in Bitcoin and 8% in dollars via the Chivo platform.

⁶⁹ Alvarez “Are Cryptocurrencies Currencies?,” 2.

⁷⁰ Ibid., 8–9.

⁷¹ Ibid., 9–10.

These findings are consistent with reports from the Central Reserve Bank of El Salvador, which indicate that only 1.45% of remittances were received through digital wallets as of March 2022, thereby providing external validation to the results of the survey.⁷²

Thus, the findings of the study indicate that Bitcoin is not being extensively used as a means of exchange, and the utilization of the Chivo app remains relatively low. This observation holds true even with the significant efforts made by the government, including granting Bitcoin legal tender status through the Bitcoin Law, offering a \$30 bonus, providing gas discounts,⁷³ and waiving transaction fees. Additionally, despite the encouragement to adopt touchless payment methods during the pandemic, Chivo's usage has not seen substantial growth as anticipated by authorities.⁷⁴ Similar reports were found by the country's Chamber of Commerce and Industry.⁷⁵

The Bitcoin Law initiative in El Salvador has demonstrated shortcomings in its planning and execution. To maximize the potential benefits of blockchain technology, it is essential for El Salvador to adopt a more comprehensive blockchain strategy that encompasses various sectors such as public administration, property registration, supply chains, and healthcare. Additionally, the country should prioritize the development of a robust regulatory framework to safeguard consumer data and prevent instances of identity theft. These measures will contribute to a more holistic and sustainable integration of blockchain technology into El Salvador's socio-economic landscape.⁷⁶

However, El Salvador's decision to embrace Bitcoin as a recognized form of currency has had a positive impact on the country's tourism industry, drawing the attention of celebrities and billionaires who visit for leisure or business purposes. The president has utilized the profits derived from Bitcoin to construct a modern pet hospital under the Chivo brand. Furthermore, this move has provided an opportunity for some individuals in El Salvador, who lack access to the US stock market, to potentially achieve financial gains through their involvement with Bitcoin.⁷⁷

⁷² Alvarez "Are Cryptocurrencies Currencies?," 10.

⁷³ Among other things, one of the incentives for utilizing the Chivo wallet was to make discounts on gas prices if paid by the app or bitcoin.

⁷⁴ Alvarez "Are Cryptocurrencies Currencies?," 11.

⁷⁵ Nit Kshetri, "El Salvador's Bitcoin Gamble," *Computing's Economics* 55, no. 6 (June 2022): 85 <https://www.computer.org/csdl/magazine/co/2022/06/09789315/1DZ87WLvjGg> (accessed April 10, 2023).

⁷⁶ *Ibid.*, 88.

⁷⁷ White, "The Macroeconomic Impact of Cryptocurrency and Stablecoins," 29.

4 The core and its reaction

Although the domestic results after the adoption of Bitcoin in El Salvador might not have been fruitful, it still well impacted the way of how international organizations, namely the IMF, and the U.S. are looking at the topic. The IMF's role and its connection to the World-systems theory has been extensively researched by the economist Joseph E. Stiglitz.

4.1 IMF's role in the World-systems

The (IMF) and the World Bank originated during World War II following the UN Monetary and Financial Conference held in Bretton Woods, New Hampshire in July 1944. This conference aimed to address the need for financing the reconstruction of war-torn Europe and preventing future global economic depressions. The World Bank, officially known as the International Bank for Reconstruction and Development, was established to support the rebuilding efforts, while the responsibility of maintaining global economic stability was entrusted to the IMF.⁷⁸

The primary objective of the IMF was to prevent another worldwide depression. It aimed to achieve this by exerting international pressure on countries that were not fulfilling their fair share in sustaining global aggregate demand, which meant allowing their economies to slump. Additionally, the IMF would provide liquidity in the form of loans to countries experiencing economic downturns and lacking sufficient resources to stimulate aggregate demand.⁷⁹

However, the IMF is a public institution funded by taxpayers globally. It is accountable to the finance ministries and central banks of governments worldwide. Control over the IMF is exercised through a complex voting system that primarily reflects the economic power of countries at the end of World War II. Although there have been some minor adjustments, the major developed countries dominate decision-making, with the United States holding an effective veto power, so as every decision needs to have the approval of the U.S.⁸⁰

⁷⁸ Stiglitz, *Globalization and Its Discontents*, 11.

⁷⁹ *Ibid.*, 12.

⁸⁰ *Ibid.*, 12.

Presently, the IMF's provision of funds is contingent upon countries implementing policies that often involve measures such as deficit reduction, tax increases, or interest rate hikes, which can result in economic contraction. Over time, the IMF and the World Bank have assumed the role of missionary institutions, advocating and promoting these ideas among reluctant, financially strained developing countries that often depend on loans and grants. Despite the willingness of finance ministries in these countries to adopt these policies to secure funds, a significant portion of government officials and the general populace remained skeptical.⁸¹

In the early 1980s, a transformation took place within the World Bank's research department, which guided the institution's thinking and direction. The Bank expanded its support beyond project-based lending (e.g., infrastructure development) to include broader assistance through structural adjustment loans. However, the approval of the IMF was necessary for such loans, and with that approval came conditions imposed by the IMF on the borrowing country. While the IMF's original focus was on addressing crises, developing countries consistently required assistance, resulting in the IMF becoming a permanent fixture in most developing nations.⁸²

Some of the policies advocated by the IMF, particularly premature liberalization of capital markets, may have contributed to global instability. Moreover, when a country faced a crisis, IMF funds and programs not only failed to stabilize the situation but often exacerbated matters, particularly for the impoverished segments of the population.⁸³

But forcing a developing country to open its markets to imported goods, which compete with vulnerable domestic industries, can have severe social and economic repercussions. The consequences include the systematic destruction of jobs, particularly for impoverished farmers who struggle to compete with heavily subsidized products from Europe and America. This occurs before the country's industrial and agricultural sectors have had the chance to grow stronger and generate new employment opportunities. Furthermore, IMF's insistence on developing countries maintaining strict monetary policies often results in interest rates that hinder job creation even under favorable circumstances.⁸⁴

⁸¹ Stiglitz, *Globalization and Its Discontents*, 13.

⁸² *Ibid.*, 14.

⁸³ *Ibid.*, 15.

⁸⁴ *Ibid.*, 17.

The motivation for periphery countries is not only seeking assistance but also aiming to gain the IMF's "seal of approval" in order to enhance access to international capital markets must comply with the economic prescriptions imposed by these institutions. These prescriptions typically align with their free-market ideologies and theories. This "conditionality" associated with international lenders undermines national sovereignty.⁸⁵

While the IMF and the World Bank primarily operate in the developing world, especially in terms of lending activities, they are led by representatives from industrialized nations, typically from the U.S and Europe.⁸⁶ This all fits in the definition of the core by Wallerstein perfectly.

4.2 IMF's reaction

As mentioned in earlier chapters, Bitcoin undermines today's financial system in its substance and the IMF is basically in charge of today's global financial system along with other international organizations like the World Bank or the Bank of International Settlements. So, it is natural that these organizations deem the use of cryptocurrencies as dangerous to their position as a central authority to monetary politics and global financial stability. The proof of this is a negative reaction of the IMF to the tenderizing of Bitcoin in El Salvador.

IMF had already been conducting research on Bitcoin and cryptocurrencies before September 2021. The IMF officials have been rather skeptical in their views of Bitcoin using as legal tender calling for a "very careful analysis."⁸⁷ The first real analysis and extensive report on El Salvador's economy from November 2021⁸⁸ acknowledges the issuance of Bitcoin as legal tender and gives a few recommendations. This is what the report says:

⁸⁵ Stiglitz, *Globalization and Its Discontents*, 18.

⁸⁶ *Ibid.*, 19.

⁸⁷ "Transcript of IMF Press Briefing" (International Monetary Fund, June 10, 2021), <https://www.imf.org/en/News/Articles/2021/06/10/tr061021-transcript-of-imf-press-briefing>. More IMF briefings can be found at "El Salvador" (International Monetary Fund), <https://www.imf.org/en/Countries/SLV>.

⁸⁸ "El Salvador: Staff Concluding Statement of the 2021 Article IV Mission" (International Monetary Fund, November 22, 2021), <https://www.imf.org/en/News/Articles/2021/11/22/mcs-el-salvador-staff-concluding-statement-of-the-2021-article-iv-mission>.

“Risks to the economic outlook are sizeable. Key downside risks stem from [...] unaddressed regulatory and supervisory gaps related to the use of Bitcoin. On the upside, gains from financial inclusion and improved payment systems due to the introduction of a public e-wallet in U.S. dollars could increase growth. [...] The fiscal implications of recently announced plans to use proceeds of a new sovereign bond issuance to purchase Bitcoin and fund infrastructure investment have not been assessed by staff. [...] Bitcoin should not be used as a legal tender. Staff recommends narrowing the scope of the Bitcoin law and urges strengthening the regulation and supervision of the new payment ecosystem.”

Although this report might be skeptical of using Bitcoin, the time when push really came to shove was in January 2022. In the report, the IMF Executive Board reached a consensus on the importance of promoting financial inclusion and recognized the potential role of digital payment methods, such as the Chivo e-wallet. However, they emphasized the need for regulation and oversight of the new Chivo and Bitcoin ecosystem. They highlighted the significant risks associated with using Bitcoin, including concerns about financial stability, financial integrity, consumer protection, and potential fiscal liabilities. As a result, they urged the authorities to remove Bitcoin’s legal tender status. Furthermore, some directors expressed concerns about the risks linked to the issuance of Bitcoin-backed bonds connected to the Bitcoin City project.⁸⁹

IMF urging El Salvador to drop Bitcoin’s status as legal tender have not come as a surprise. The problem was that since March 2021 El Salvador had been negotiating with the IMF the issuance of a \$1.3 billion loan to pump up El Salvador’s economy after the Covid-19 pandemic, similarly as another Central American country Costa Rica, whose appeal was approved by the IMF board.⁹⁰ The statements of the report could mean that these negotiations could be hampered, which was even cited by the IMF’s board as well.⁹¹ While historically, the IMF claims to support democracy and free

⁸⁹ “IMF Executive Board Concludes 2021 Article IV Consultation with El Salvador” (International Monetary Fund, January 25, 2022), <https://www.imf.org/en/News/Articles/2022/01/25/pr2213-el-salvador-imf-executive-board-concludes-2021-article-iv-consultation>.

⁹⁰ Anthony Esposito and Nelson Renteria, “El Salvador Seeks IMF Funding, Sees ‘golden Opportunity’ for Economy, Says Finance Minister,” *Reuters*, March 4, 2021, <https://www.reuters.com/article/us-el-salvador-economy-exclusive-idUSKBN2AW1GV>(accessed June 2, 2023).

⁹¹ *Ibid.*

markets, the reforms required in exchange for its loans have often involved substantial reductions in social spending and limitations on industrial policies.⁹²

Subsequently, in March 2022 El Salvador postponed the issuance of Bitcoin-backed bonds to leverage its way back to negotiations with IMF.⁹³ At this time the deal had already been long-delayed, but the negotiations continued, although it was made pretty clear that Bitcoin would still be the major issue. In July 2022, the Salvadoran finance minister Alejandro Zelaya emphasized that the deal is not a panacea for the economic state of El Salvador to revoke the decision of accepting Bitcoin as legal tender.⁹⁴

El Salvador's public debt has been the best performing in Central America with a good history of fiscal controls, but still this quarrel with IMF resulted in the country's bonds being depressed and having a lack of motivation by investors. Throughout the year 2022 until January 2023 the quarrel wasn't that strong that both parties wouldn't find a wiggle room and kept on engaging in negotiations, although, from El Salvador's side, it has been more difficult.⁹⁵

However, there still need to be some adding remarks made. Firstly, cryptomarket and bitcoin were plummeting in 2022. The price of bitcoin hit its lowest in 3 years to around 16,000 USD in November 2022. Which of course isn't good news for investors, let alone the whole state treasury. Secondly, El Salvador faces more fiscal and economic problems, although Bitcoin was cited by IMF as the biggest one.⁹⁶ In July 2021, IMF noted that the greatest risk of adopting Bitcoin is linked to a widespread adoption of Bitcoin and its relative implications on macroeconomic stability.⁹⁷

⁹² David Z. Morris, "El Salvador: Who Needs the IMF When You Have Bitcoin?," *CoinDesk*, May 11, 2023, <https://www.coindesk.com/policy/2021/11/24/el-salvador-who-needs-the-imf-when-you-have-bitcoin/> (accessed June 2, 2023).

⁹³ Nelson Renteria, "El Salvador Postpones Bitcoin Bond Issue, Expects Better Conditions," *Reuters*, March 22, 2022, <https://www.reuters.com/technology/el-salvador-postpones-bitcoin-bond-issue-expects-better-conditions-2022-03-22/> (accessed June 2, 2023).

⁹⁴ Nelson Renteria and Brendan O'Boyle, "El Salvador Finance Minister Says Possible IMF Deal No Panacea," *Reuters*, July 15, 2022, <https://www.reuters.com/world/americas/el-salvador-finance-minister-says-possible-imf-deal-no-panacea-2022-07-14/> (accessed June 2, 2023).

⁹⁵ Rodrigo Campos, "IMF Visit in Focus after El Salvador Bond Payment," *Reuters*, January 25, 2023, <https://www.reuters.com/world/americas/imf-visit-focus-after-el-salvador-bond-payment-2023-01-25/> (accessed June 2, 2023).

⁹⁶ "IMF Executive Board Concludes 2021 Article IV Consultation with El Salvador," 2022.

⁹⁷ Henri Arslanian et al., "El Salvador's Law: A Meaningful Test for Bitcoin," *PwC Working Paper*, 2021, 11.

4.3 The U.S.

But how does the IMF's reaction fit in the power play of the United States? The United States hold the majority vote in IMF's decision making and has an effective veto over any policy, many times being criticized for serving as a tool for the U.S. international policy and global economic policies.⁹⁸

The relations between the U.S. and El Salvador have been long established since 1863. In the span of these years the U.S. has been active in influencing the domestic politics of the country as shown earlier (see Chapter 2). Currently, U.S. with cooperation of Central American countries established a Strategy to Address the Root Cause of Migration (RCS) and the and the U.S. Collaborative Migration Management Strategy (CMMS) which guide the diplomatic efforts of the U.S. in the region. The goal of these strategies is "to improve the underlying causes that push Central Americans, including many Salvadorans, to migrate. This strategy lays out a framework to use the policy, resources, and diplomacy of the United States, and to leverage the expertise and resources of a broad group of public and private stakeholders."⁹⁹ So it can be seen that U.S. still plays an active role in the domestic politics, although not directly. El Salvador's adoption of Bitcoin as legal tender might be a hit at the power dynamics between the core and the periphery within the world-system.

The direct reaction on the adoption of Bitcoin though, wasn't clear. In April 2022 three U.S. senators introduced a bill which should investigate and possibly mitigate any consequences for bilateral relations. The "Accountability for Cryptocurrency in El Salvador Act" calls for reports on the adoption by the government of El Salvador of Bitcoin as legal tender. One of the points is the impact on the macroeconomic stability and public finances in El Salvador, the relations with IMF, or the possibility of imposing sanctions.¹⁰⁰ Subsequently, the act called for a plan how to mitigate risks to the United States financial system.¹⁰¹

By introducing this act, U.S. lawmakers raised questions about the potential risks and consequences of El Salvador's decision on the country's domestic economy and its relations with international financial institutions. The move was an indication of the

⁹⁸ Jan Hornát, "The International Financial Institutions" (Prague, March 24, 2022).

⁹⁹ U.S. Department of State, "U.S. Relations With El Salvador."

¹⁰⁰ James Elroy Risch, Robert Menendez, and Bill Cassidy, "Accountability for Cryptocurrency in El Salvador Act," Pub. L. No. MCC22059 6K3, 3 (2022), <https://www.cbo.gov/publication/58016> (accessed September 7, 2022).

¹⁰¹ *Ibid.*, 4.

United States' active involvement and interest in monitoring the developments surrounding Bitcoin's integration into the economy of a Central American nation. Furthermore, the act per se shows skepticism about the adoption of Bitcoin and also emphasizes the possibility of risks to the U.S. However, in 2022 there has been little to no development concerning this act.

The adoption of Bitcoin though led to a few changes in the U.S. legal perception of Bitcoin. El Salvador made way to change U.S. law regarding the definition of money. A specific rule in the Uniform Commercial Code says that if any government accepts something as a form of payment, it can be considered money. By applying this rule, El Salvador made Bitcoin qualify as money in the U.S.,¹⁰² which could have an impact on regulatory framework of the cryptocurrency and possible risk imposed on investors.¹⁰³

These interactions and reactions between the United States, the IMF and El Salvador in the context of Bitcoin's adoption show the interplay of power and influence within the world-system. Overall, the adoption of Bitcoin in El Salvador provides a compelling case study to explore the intricacies of power relations within the world-system, although the year 2022 wasn't as fruitful as anticipated.

¹⁰² Brian M. McCall, "How El Salvador Has Changed U.S. Law by a Bit: The Consequences for the UCC of Bitcoin Becoming Legal Tender," *Oklahoma Law Review* 74, no. 3 (Spring 2022): 333, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4124510 (accessed April 10, 2023).

¹⁰³ "US Taxpayers Should Be Mindful of Certain Tax Provisions That May Need to Be Considered with Respect to Bitcoin Following Approval of Recent Legislation in El Salvador," *Ernst & Young LLP*, June 14, 2021, https://www.ey.com/en_gl/tax-alerts/us-taxpayers-should-be-mindful-of-certain-tax-provisions-that-may-need-to-be-considered-with-respect-to-bitcoin-following-approval-of-recent-legislation-in-el-salvador (accessed July 21, 2023).

Conclusion

The acceptance of Bitcoin as legal tender in El Salvador raised many questions about the practical use of Bitcoin. While the Bitcoin theory is very optimistic, it appears that its implementation in El Salvador did not work out as intended. The main goals of acceptance were not fulfilled, with the Chivo wallet not being widely used as promised, despite the legal obligation to accept Bitcoin. It is safe to say that the first year was not a great success, and Bitcoin did not deliver the help to the people that was initially promised.

Nevertheless, it is still worth keeping an eye on the situation. The year 2022 was not successful for Bitcoin in general, and I argue that the situation could have been different if the price had gone up. Perhaps the negotiations with the IMF could have been more equalized, and the U.S. more engaged, though this remains speculative. The findings of this thesis regarding the core's reaction were not as convincing as anticipated. However, delving into the IMF's and El Salvador's negotiation over the \$1.3 billion loan was very interesting. While a neighboring country like Costa Rica did not face any trouble with this loan, El Salvador's position was significantly weakened.

Does the whole framework of this thesis fall under the world-systems theory? I believe it does. The arguments in favor of it are solid, and I think that this thesis calls for further investigation in the following years using the same theoretical framework. In the future, technologies like Bitcoin, as well as world politics, might undergo significant changes, and the evolution of new technologies is going to be fast. El Salvador might be just the beginning, as other projects based on blockchain technology are already changing our lives. For instance, another cryptocurrency like Ripple has already become an established competitor to the international SWIFT payments. The blockchain of yet another cryptocurrency, Ethereum, serves as a clever tool for making contracts and many other applications. But how does all of this help people on the periphery?

The Chivo wallet might not have been the right solution for the usage of Bitcoin. In November 2022, Bitcoin hit its lowest point in 3 years, affecting El Salvador's treasury. The Chivo wallet was poorly made, with numerous technical problems, leaving even those who were not skeptical or reluctant to use it feeling disgusted. Nevertheless, the government of El Salvador succeeded in raising important questions

about how we perceive new technologies and whether they truly lead to greater financial inclusion. However, it is possible that this is ultimately a blind alley.

We shall see how the forces of the world will react to the potential acceptance of more cryptocurrencies and how they will impact the core's interests. If it happens at all.

Summary

Přijetí Bitcoinu jako zákonného platidla v Salvadoru vyvolalo mnoho otázek ohledně skutečného využití Bitcoinu v praxi. Zatímco teorie o Bitcoinu je velmi optimistická, zdá se, že způsob, jak s ním bylo naloženo v Salvadoru, nevyšel. Hlavní cíle přijetí nebyly naplněny. Peněženka Chivo nebyla takřka vůbec používána, tak jak bylo slíbeno. Dá se říci, že první rok nebyl velkým úspěchem a Bitcoin nepřinesl lidem moc užitku, tak jak se očekávalo.

Přesto se vyplatí situaci nadále sledovat a studovat. Rok 2022 nebyl pro Bitcoin obecně úspěšný a dovolil bych si tvrdit, že situace mohla vypadat mnohem jinak, kdyby cena Bitcoinu místo poklesu stoupla. Jednání s MMF mohla být daleko vyrovnanější a USA se více angažovaly. I když to je jen spekulace. Přesto zjištění této práce na konto reakce jádra nebyla tak přesvědčivá, jak se předpokládalo. Jednání MMF a Salvadoru o půjčce ve výši 1,3 miliardy dolarů však byla velmi zajímavá pozorovat. Zatímco sousední Kostarika neměla s touto půjčkou žádné problémy, pozice Salvadoru byla velmi oslabena.

Spadá však celý rámec této práce do teorie světových systémů? Domnívám se, že ano. Argumenty pro něj jsou pádné a myslím, že tato práce si žádá pokračování v následujících letech se stejným teoretickým rámcem. V budoucnu mohou být technologie jako Bitcoin a také světová politika zcela jiné a vývoj nových technologií bude rychlý. Salvador by mohl být teprve začátek. Další projekty založené na technologii blockchainu již mění naše životy, např. další kryptoměna Ripple je již zavedenou konkurencí mezinárodního platebního systému SWIFT. Blockchain další kryptoměny Ethereum slouží jako chytrý nástroj pro uzavírání smluv a mnoho dalších věcí. Jak to všechno ale pomůže lidem na periferii?

Peněženka Chivo by nemusela být cestou pro používání Bitcoinu. Bitcoin v listopadu 2022 dosáhl nejnižší hodnoty za poslední 3 roky, což se velmi dotklo

salvadorské pokladny. Provedení peněženky Chivo se nevydařilo a potýkalo se s mnoha technickými problémy, po kterých i lidé, kteří nebyli skeptičtí nebo kteří se zrovna nezdráhali ji používat, zůstali znechuceni. Přesto se salvadorské vládě podařilo vyvolat mnoho otázek o tom, jak vnímáme nové technologie a zda je to cesta k větší finanční inkluzi. Avšak možná je to přece jen slepá ulička.

Uvidíme, jak budou světové síly reagovat na případné přijetí dalších kryptoměn a jak přesně to ovlivní zájmy jádra. Tedy pokud k tomu vůbec dojde.

List of References

- Anantha Divakaruni and Peter Zimmerman. “The Lightning Network: Turning Bitcoin into Money.” *Finance Research Letters* 52 (2023): 8
<https://www.sciencedirect.com/science/article/pii/S1544612322006560> (June 2, 2023).
- Andrea O’Sullivan. “Ungoverned or Anti-Governance? How Bitcoin Threatens the Future of Western Institutions.” *Journal of International Affairs*, Ungoverned Spaces, 71, no. 2 (2018): 90–102. <https://www.jstor.org/stable/26552331> (accessed October 2, 2022).
- Andrew Berg, and Eduardo Borenzstein. “Full Dollarization: The Pros and Cons,” International Monetary Fund, December 2000, 12.
<https://www.imf.org/external/pubs/ft/issues/issues24/> (accessed December 12, 2022).
- Andrew Swiston. “Official Dollarization as a Monetary Regime: Its Effects on El Salvador.” IMF Working Paper, June 2011.
<https://www.imf.org/external/pubs/ft/wp/2011/wp11129.pdf> (accessed April 11, 2023).
- Anthony Esposito and Nelson Renteria. “El Salvador Seeks IMF Funding, Sees ‘golden Opportunity’ for Economy, Says Finance Minister.” *Reuters*, March 4, 2021.
<https://www.reuters.com/article/us-el-salvador-economy-exclusive-idUSKBN2AW1GV> (accessed June 2, 2023).
- Antony Lewis. *The Basics of Bitcoins and Blockchains: An Introduction to Cryptocurrencies and the Technology That Powers Them*. Coral Gables, US: Mango Publishing Group, 2018.
- “Bitcoin Beach.” Accessed April 25, 2023. <https://www.bitcoinbeach.com/#about>.
- Brian M. McCall. “How El Salvador Has Changed U.S. Law by a Bit: The Consequences for the UCC of Bitcoin Becoming Legal Tender.” *Oklahoma Law Review* 74, no. 3 (Spring 2022): 313–35.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4124510 (accessed April 10, 2023)
- Cagri Kumru. “2021 in Review: El Salvador’s Bitcoin Experiment.” *Australian Institute of International Affairs*, December 27, 2021.

- <https://www.internationalaffairs.org.au/australianoutlook/el-salvadors-bitcoin-experiment/> (accessed April 10, 2023).
- Carlos A. Martínez-Vela. “World Systems Theory,” 2001, 5.
<https://doi.org/10.4135/9781412939591.n1261> (accessed January 5, 2023).
- “Chivo Wallet: Beneficios.” Accessed May 30, 2023.
<https://www.chivowallet.com/index.html#beneficios>.
- Christine Murray. “El Salvador Endures Bumpy First Week with Bitcoin as Legal Tender.” *Financial Times*, September 10, 2021.
<https://www.ft.com/content/842415ec-06cb-437b-932f-f868d4f55fc4> (accessed May 2, 2023).
- Daniel Chirot, Thomas D. Hall. “World-System Theory.” *Annual Review of Sociology* 8 (1982): 81–106. <http://www.jstor.com/stable/2945989> (accessed March 14, 2023).
- David Z. Morris. “El Salvador: Who Needs the IMF When You Have Bitcoin?” *CoinDesk*, May 11, 2023. <https://www.coindesk.com/policy/2021/11/24/el-salvador-who-needs-the-imf-when-you-have-bitcoin/> (accessed June 2, 2023).
- “El Salvador.” International Monetary Fund. Accessed June 2, 2023.
<https://www.imf.org/en/Countries/SLV>.
- “El Salvador: Staff Concluding Statement of the 2021 Article IV Mission.” International Monetary Fund, November 22, 2021.
<https://www.imf.org/en/News/Articles/2021/11/22/mcs-el-salvador-staff-concluding-statement-of-the-2021-article-iv-mission> (accessed June 2, 2023).
- Eli Noam. “The Macro-Economics of Crypto-Currencies: Balancing Entrepreneurialism and Monetary Policy.” *SIPA’s Entrepreneurship & Policy Initiative Working Paper Series*, 2019.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3493333 (accessed December 10, 2022).
- En Vivo: Discurso Del Presidente Nayib Bukele En Su Tercer Año de Gobierno*. San Salvador, 2022. <https://www.youtube.com/watch?v=IYZ-VLL6RSQ> (accessed April 11, 2023).
- Ernst & Young LLP*. “US Taxpayers Should Be Mindful of Certain Tax Provisions That May Need to Be Considered with Respect to Bitcoin Following Approval of Recent Legislation in El Salvador.” June 14, 2021.
https://www.ey.com/en_gl/tax-alerts/us-taxpayers-should-be-mindful-of-certain-

- tax-provisions-that-may-need-to-be-considered-with-respect-to-bitcoin-following-approval-of-recent-legislation-in-el-salvador (accessed July 21, 2023).
- Fernando E. Alvarez, David Argente, and Diana Van Patten. “Are Cryptocurrencies Currencies? Bitcoin as Legal Tender in El Salvador.” *NBER Working Papers*, no. 29968 (April 2022): 1–28. <http://www.nber.org/papers/w29968> (accessed May 15, 2023).
- George Milunovich and Seung Ah Lee. “Cryptocurrency Exchanges: Predicting Which Markets Will Remain Active.” *Journal of Forecasting* 41 (2022): 945–55. <https://doi.org/10.1002/for.2846> (accessed June 2, 2023).
- “IMF Executive Board Concludes 2021 Article IV Consultation with El Salvador.” International Monetary Fund, January 25, 2022. <https://www.imf.org/en/News/Articles/2022/01/25/pr2213-el-salvador-imf-executive-board-concludes-2021-article-iv-consultation> (accessed June 2, 2023).
- Immanuel Wallerstein. *World-Systems Analysis: An Introduction*. London: Duke University Press, 2004.
- International Business Times*. “El Salvador Marks 1st Year Of Bitcoin Use As Confidence Wanes.” September 7, 2022. <https://guardian.ng/news/el-salvador-marks-1st-year-of-bitcoin-use-as-confidence-wanes/> (accessed May 16, 2023).
- James Elroy Risch, Robert Menendez, and Bill Cassidy. Accountability for Cryptocurrency in El Salvador Act, Pub. L. No. MCC22059 6K3, 5 (2022). <https://www.cbo.gov/publication/58016> (accessed September 7, 2022).
- Jan Hornát. “The International Financial Institutions.” Prague, March 24, 2022.
- Jesús Fernández-Villaverde, Daniel Sanches, Linda Schilling, and Harald Uhlig. “Central Bank Digital Currency: Central Banking for All?” *Review of Economic Dynamics* 41 (2021): 225–42. <https://doi.org/10.1016/j.red.2020.12.004> (accessed June 2, 2023).
- Joe Hernandez. “El Salvador Just Became The First Country To Accept Bitcoin As Legal Tender.” *NPR*, September 7, 2021. <https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency> (accessed April 25, 2023).
- Joe Myers. “Foreign Aid: These Countries Are the Most Generous.” *World Economic Forum* (blog), August 19, 2016. <https://www.weforum.org/agenda/2016/08/foreign-aid-these-countries-are-the-most-generous/> (accessed March 14, 2023).

- Joseph E. Stiglitz. *Globalization And Its Discontents*. New York: W.W. Norton & Company, 2002.
- Kathryn White. “The Macroeconomic Impact of Cryptocurrency and Stablecoins.” World Economic Forum, 2022. <https://www.weforum.org/whitepapers/the-macroeconomic-impact-of-cryptocurrency-and-stablecoins/> (accessed January 13, 2023).
- “Ley Bitcoin.” Asamblea Legislativa - República de El Salvador, September 7, 2021. <https://www.jurisprudencia.gob.sv/DocumentosBoveda/D/2/2020-2029/2021/06/E75F3.PDF> (accessed February 3, 2023).
- Lucas Perelló, and Patricio Navia. “The Disruption of an Institutionalised and Polarised Party System: Discontent with Democracy and the Rise of Nayib Bukele in El Salvador.” *Political Studies Association* 42, no. 3 (2022): 276–88. <https://doi.org/10.1017/1077110727/603236933597527212010777181> (accessed April 12, 2023).
- Marcia Towers, and Silvia Borzutzky. “The Socioeconomic Implications of Dollarization in El Salvador.” *Latin American Politics and Society* 46, no. 3 (2004): 29–54. <https://www.jstor.org/stable/4141619> (accessed November 15, 2022).
- Nelson Renteria. “El Salvador Holds 400 Bitcoin, Price Jumps.” *Reuters*, September 6, 2021. <https://www.reuters.com/technology/el-salvador-buys-its-first-200-bitcoins-president-says-2021-09-06/> (accessed April 25, 2023).
- . “El Salvador Postpones Bitcoin Bond Issue, Expects Better Conditions.” *Reuters*, March 22, 2022. <https://www.reuters.com/technology/el-salvador-postpones-bitcoin-bond-issue-expects-better-conditions-2022-03-22/> (accessed June 2, 2023).
- Nelson Renteria and Brendan O’Boyle. “El Salvador Finance Minister Says Possible IMF Deal No Panacea.” *Reuters*, July 15, 2022. <https://www.reuters.com/world/americas/el-salvador-finance-minister-says-possible-imf-deal-no-panacea-2022-07-14/> (accessed June 2, 2023).
- Nit Kshetri. “El Salvador’s Bitcoin Gamble.” *Computing’s Economics* 55, no. 6 (June 2022): 85–89. <https://www.computer.org/csdl/magazine/co/2022/06/09789315/1DZ87WLvjGg> (accessed April 10, 2023).
- Paul Vigna. *Cryptocurrency: The Future of Money?* London: Vintage, 2015.

- Robert Huang. “An Economic History Of El Salvador’s Adoption Of Bitcoin.” *Forbes*, June 27, 2021. <https://www.forbes.com/sites/rogerhuang/2021/06/27/an-economic-history-of-el-salvadors-adoption-of-bitcoin/?sh=298b299f93fd> (accessed January 10, 2023).
- Rodrigo Campos. “IMF Visit in Focus after El Salvador Bond Payment.” *Reuters*, January 25, 2023. <https://www.reuters.com/world/americas/imf-visit-focus-after-el-salvador-bond-payment-2023-01-25/> (accessed June 2, 2023).
- Saifedean Ammous. “Can Cryptocurrencies Fulfil the Functions of Money?” *The Quarterly Review of Economics and Finance* 70 (2018): 38–51. <https://www.sciencedirect.com/science/article/pii/S1062976917300777> (accessed November 26, 2023).
- . *The Bitcoin Standard: The Decentralized Alternative to Central Banking*. New Jersey: John Wiley & Sons, Inc., 2018.
- Scott Nicholas Romaniuk. “Dependency Theory.” In *The SAGE Encyclopedia of War: Social Science Perspectives*, 1–4. Thousand Oaks: SAGE Publications, Inc., 2017. <http://dx.doi.org/10.4135/9781483359878.n191> (accessed March 5, 2023).
- Swiston Andrew. “Official Dollarization in El Salvador as an Alternative Monetary Framework.” In *Central America: Challenges Following the 2008-09 Global Crisis*, 280. Washington D.C.: International Monetary Fund, 2012. <https://doi.org/10.5089/9781616353780.071> (accessed December 10, 2022).
- The Economist*. “Why Salvadorans Love Their Populist President, Nayib Bukele; Elections in El Salvador.” March 2, 2021. <https://www.economist.com/the-americas/2021/03/02/why-salvadoreans-love-their-populist-president-nayib-bukele> (accessed April 12, 2023).
- “Transcript of IMF Press Briefing.” International Monetary Fund, June 10, 2021. <https://www.imf.org/en/News/Articles/2021/06/10/tr061021-transcript-of-imf-press-briefing> (accessed June 2, 2023).
- U.S. Department of State. “U.S. Relations With El Salvador,” March 1, 2023. <https://www.state.gov/u-s-relations-with-el-salvador/> (accessed April 11, 2023).
- World Bank. “Remittance Prices Worldwide: Making Markets More Transparent.” Accessed April 19, 2023. <https://remittanceprices.worldbank.org/corridor/United-States/El-Salvador>.