REMITTANCES TO THE MOON AND BITCOIN TO THE LAND OF THE SAVIOR: CAN EL SALVADOR'S BITCOIN LAW EFFECTIVELY REDUCE THE COST OF INTERNATIONAL REMITTANCES?

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INTRODUCTION

On June 8, 2021, El Salvador's president, Nayib Bukele, announced that El Salvador would officially make Bitcoin a legal tender.[1] On September 7, 2021, the Bitcoin Law went into effect in El Salvador, making it the first country to adopt any form of cryptocurrency as a legal tender.[2] The law was enacted with consideration of the country's "obligation to promote and protect private enterprise, generating the necessary conditions to increase national wealth for the benefit of the greatest number of inhabitants."[3]

The Bitcoin Law was enacted in part as a response to the El Salvador economy's heavy reliance on international remittances, or the transfer of money from migrant workers to their home countries.[4] Remittance dollars account for over one-fifth of El Salvador's total gross domestic product (GDP), exceed all foreign direct investment, and amount to over forty times the official development assistance.[5] The issue with international

1. Deric Behar et al., *El Salvador Christens Bitcoin as Legal Tender*, JDSUPRA (June 25, 2021), https://www.jdsupra.com/legalnews/el-salvador-christens-bitcoin-as-legal-5761391/.

2. Joe Hernandez, *El Salvador Just Became the First Country to Accept Bitcoin as Legal Tender*, NPR (Sept. 7, 2021, 4:57 PM), https://www.npr.org/2021/09/07/1034838909/bitcoin-el-salvador-legal-tender-official-currency-cryptocurrency.

3. LEY BITCOIN, D.L. N° 137, June 6, 2021, La Amblea Legislativa de la Republica de El Salvador.

4. Tom Wilson, *El Salvador Bitcoin Transfers Soar, but Still a Fraction of Dollar Remittances*, REUTERS (June 14, 2021, 5:04PM), https://www.reuters.com/business/finance/exclusive-el-salvador-bitcoin-transfers-soar-still-fraction-dollar-remittances-2021-06-14/.

5. U.N. Dev. Programme (UNDP), *Human Development Report 2009: Overcoming Barriers: Human Mobility and Development* 160, http://hdr.undp.org/en/media/HDR_2009_EN_Complete.pdf (showing the international financial flows to El Salvador, including remittances as a percentage of the country's GDP, and the amount of foreign investment and development assistance).

remittances is that the smaller the transaction, which is the most typical for poor migrants, the higher the transaction fee percentage.[6] Bukele's choice to adopt Bitcoin as legal tender was motivated by his belief that sending and receiving remittance payments to El Salvador via Bitcoin is cheaper than traditional money transfers, where a large portion is lost to intermediaries.[7] According to Bukele, using Bitcoin for remittance transfers will increase the amount of money received by families and the country by up to $400 million.[8]

Bitcoin allegedly offers a quick and cheap way to send money across borders without relying on the traditional and costly remittance channels,[9] but the complexity and lack of regulation and infrastructure of Bitcoin are hampering adequate usage and popularity.[10] When asked about the new Bitcoin Law, 95% of Salvadorians have claimed that its forced use is negatively impactful. In comparison, over 80% claim they distrust cryptocurrencies and refuse to stop using the dollar for the new currency.[11] Major remittance firms are also extremely cautious about offering cryptocurrency services, with many refusing to do so altogether.[12]

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6. Junaid Ahmed et al., *Sending Money Home: Transaction Cost and Remittances to Developing Countries*, 44 WORLD ECON. 2433, 2434 (2021).

7. John Detrixhe, *Remittances to El Salvador Are Cheaper Without Using Bitcoin*, QUARTZ (last updated Sept. 22, 2021), https://qz.com/2058676/remittances-to-el-salvador-are-cheaper-without- using-bitcoin/.

8. Nayib Bukele (@nayibbukele), TWITTER (Aug. 22, 2021, 8:34 PM), https://twitter.com/nayibbukele/status/1429618010944385029 (discussing the $400 million El Salvador pays in fees for remittances each year that could be saved by using Bitcoin).

9. Franscisco Rodrigues, *Crypto Remittances See Adoption, but Volatility may be a Deal Breaker*, COINTELEGRAPH (Oct 21, 2021), https://cointelegraph.com/news/crypto - remittances-see-adoption-but-volatility-may-be-a-deal-breaker.

10. *Id.*

11. *Majority of Salvadorans Do Not Want Bitcoin, Poll Shows*, REUTERS (Sept. 2, 2021, 3:56PM), https://www.reuters.com/technology/majority-salvadorans-do-not-want-bitcoin-poll-shows-2021-09-02/; Alex Gladstein, *The Village and the Strongman: The Unlikely Story of Bitcoin and El Salvador*, BITCOIN MAGAZINE (Sept. 26, 2021), https://bitcoinmagazine.com/culture/the-polarity-of-bitcoin-in-el-salvador.

12. *See* Tom Arnold & Tom Wilson, *Analysis: Remittance Firms Slow to Add Bitcoin, Despite El Salvador Move*, REUTERS (June 14, 2021, 3:00AM), https://www.reuters .com/business/remittance-firms-slow-add-bitcoin-despite-el-salvador-move- 2021-06-11/.

If the Bitcoin Law proves to be successful in lowering remittance transmission costs, there is a possibility that other poor countries that are heavily reliant on international remittances will consider following suit.[13] Remittance cost increases have been a worldwide problem for decades with little indication of lowering.[14] There have been no definite solutions to solve this problem, despite the number of migrant workers sending remittances to their home countries continuing to increase exponentially.[15] If Bitcoin can provide a solution, then other low-income countries may consider introducing Bitcoin into their economy as well.

This Comment will therefore answer two questions. First, has El Salvador seen an impact in remittances in the first few months since the rollout of the Bitcoin Law, and how are people responding to the new law? Second, if Bitcoin Law is proving to be successful in its adoption for remittances, what can El Salvador (or other countries looking to adopt Bitcoin as legal tender for similar measures) do to improve the law, or what alternative routes can be taken in its place?

This Comment will answer these questions in four parts. First, this Comment will give an overview of remittances and their importance in El Salvador. Second, this Comment will introduce the Bitcoin Law, its progress thus far, and the overall reaction from citizens. Third, this Comment will analyze the law and suggest methods of improvement for its success as well as possible alternatives to reduce remittance fees. Lastly, this Comment will conclude with the outlook of the Bitcoin Law and its potential effect on countries watching closely and recommendations on executing improvements.

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13. Rodrigues, *supra* note 9 (noting that the CEO of BitMEX, predicted that by the end of the year, at least five countries will have accepted Bitcoin as legal tender, "as crypto assets can be faster and cheaper for remittances.").

14. Kimberley Beaton et al., *Migration and Remittances in Latin America and the Caribbean: Engines of Growth and Macroeconomic Stabilizers?* 26 (IMF, Working Paper 17/144, 2017).

15. *Id.* at 15.

II. BACKGROUND

A. *The Rise of International Remittances Comes with a Price.*

International remittances are the transfer of money from migrant workers to their home countries, usually to support their families back home.[16] The money transfer can be used for many different reasons: to invest in human capital, to start a business, or to enable recipients to meet basic consumption needs.[17] Remittances are crucial for small developing countries because they help alleviate poverty and increase foreign exchange earnings.[18] Remittance flows have been growing rapidly in the last couple of decades as employer-based migration increases.[19] Even during the COVID-19 pandemic, where experts predicted a large collapse, remittance flows to developing countries have been resilient with only a 1.6% drop between 2019 and 2020.[20]

For several countries with developing economies, remittances are the largest source of foreign exchange flow and an important source of capital, exceeding the sum of foreign investment and official aid.[21] A variety of transfer mechanisms are used today for

16. Stephen Lee, *The Economic Dimension of Family Separation*, 71 DUKE L. J. 845, 851 (2022).

17. Jorge Durand et al., *Migradollars and Development: A Reconsideration of the Mexican Case*, 30 INT'L MIGRATION REV. 423, 426–27 (1996).

18. Dilip Ratha, *The Impact of Remittances on Economic Growth and Poverty Reduction*, MIGRATION POL'Y INST. (Sept. 2013), https://www.migrationpolicy.org/pubs/Remittances-PovertyReduction.pdf ("Migrants' remittances to their country of origin . . . represent a major vehicle for reducing the scale and severity of poverty in the developing world.").

19. Jose Gabilondo, *Monetizing Diaspora: Liquid Sovereigns and the Interest Convergence Around Worker Remittances*, 26 PENN. ST. INT'L L. REV. 653, 655 (2008).

20. *Defying Predictions, Remittance Flows Remain Strong During COVID-19 Crisis*, WORLD BANK (May 12, 2021), https://www.worldbank.org/en/news/press-release/2021/05/12/defying-predictions-remittance-flows-remain-strong-during-covid-19-crisis;Daniel Webber, *How Money Transfer Companies Squeezed Four Years of Growth Into Just Two Months*, FORBES (May 28, 2020, 7:49 AM), https://www.forbes.com/sites/daniel webber/2020/05/28/how-money-transfer-companies-squeezed-four-years-of-digital-growth-into-just-two-months/?sh=50fb6143a7b6 (stating many remittance companies joined the digital space due to stay-at-home orders and Covid-19 crisis).

21. THE WORLD BANK, *Global Economic Prospects: Economic Implications of Remittances And Migration* 88 (2006), https://documents1.worldbank.org/curated/fr/507301468142196936/841401968_200510319014045/additional/343200GEP02006.pdf.

remittance flows.[22] Around 60% of cash is transferred through non-bank remittance companies, known as Money Transfer Operators (MTOs), and 38% comes from banking institutions.[23] While the market for MTOs includes many smaller operators, Western Union and MoneyGram are the largest players, operating in over 92 % of country corridors.[24] Alternative digital payment services, such as Apple Pay, Google Pay, and mobile apps, have been rising in popularity with remittances since the pandemic of 2020.[25] Remitters also use a wide variety of informal transfer mechanisms, such as in-kind payments, bearer mechanisms like couriers, barter arrangements, and ethnic stores in order to pay less remittance fees.[26] Because these informal mechanisms are not reported in transaction value, the actual figure of remittances is likely much higher.[27]

Transaction costs are at the heart of the remittance business, and as remittance flows increase, public attention to the costs has increased as well.[28] Though the number of migrant workers sending remittances to their home countries continues to

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22. *See id.* ([I]nternational banks focus on large-value services...[while] migrants...tend to prefer smaller financial institutions, MTOs, or informal channels, such as friends, family members, export-import firms, and transport companies).

23. Mackenzie Sigalos, *El Salvador's New Bitcoin Plan Could Cost Money Providers like Western Union and Other $400 Million a Year, Says President Bukele,*" CNBC (Sept. 17, 2021, 2:18pm), https://www.cnbc.com/2021/09/09/el-salvador-bitcoin-move-could-cost-western-union-400- million-a-year.html.

24. *See* World Bank, *supra* note 21, at 137 ("Major MTOs such as Western Union and MoneyGram apparently charge higher remittance fees than banks and other financial institutions that offer remittance services to attract migrant customers".).

25. Susan Caminiti, *Digital Payments Soared During the Pandemic and are Here to Stay*, CNBC (Aug. 17, 2021, 3:00PM), https://www.cnbc.com/2021/08/17/digital-payments-soared-during- the-pandemic-and-are-here-to-stay.html.

26. U.S. Dep't. of Treas., A REPORT TO THE CONGRESS IN ACCORDANCE WITH SECTION 359 OF THE USA PATRIOT ACT OF 2001, Appendix A, at 19–22, 31–32 (2002) (Ethnic stores send money to home countries as part of their specialized foods and services for diaspora communities).

27. *See* World Bank, *supra* note 21, at 85 (estimating that informal transfers and flaws in remittance reports might put the actual number of remittances at 50% more than reported).

28. *See* Gabilondo, *supra* note 19, at 656, 658 ("The transaction costs of these transfer services include fees, exchange rate commissions, and the opportunity cost to the recipient of the "float" captured by the transfer agent by delaying access to the remitted funds.").

increase, there have been no definite solutions to the cost problem.[29] Transaction costs reduce the net amount received in the home country and increase the amount going to formal transfer services.[30] Transaction costs for smaller remittances, which are the most typical transfers for poor migrants, have fees that average 7% and can be as high as 20% in smaller migration corridors.[31]

B. Remittances are Critical for El Salvador's Economy.

Aside from Haiti, no other country in the Western Hemisphere relies on remittance payments more than El Salvador.[32] Remittance payments are critical for the survival and livelihood of El Salvador's citizens, as it accounts as one of the strongest pillars of its economy.[33] Remittances from abroad make up nearly a quarter of El Salvador's GDP and around 70% of the population receives remittances and are unbanked.[34] Unofficial remittances may make those numbers higher.[35]

According to the country's Central Reserve Bank, Salvadorans transferred nearly $6 billion in 2021, with a chunk going to intermediaries.[36] While the amount and frequency of

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29. Kimberley Beaton et al., *Migration and Remittances in Latin America and the Caribbean: Engines of Growth and Macroeconomic Stabilizers?* 26 (IMF, Working Paper 17/144, 2017).

30. Gabilondo, *supra* note 19, at 657.

31. *See* Beaton, *supra* note 14, at 20. ("Banks are the most expensive channel [of] remittances, at 11.18 percent . . . the cost of sending remittances through MTOs reached 8.05 in [2016]. Mobile remittance providers are a low-cost option for migrants, at 3.45 percent . . . which is below the global average.").

32. Santiago Perez, *Remittances, a Lifeline for El Salvador, Plummet Amid Pandemic,* WSJ, (June 4, 2020, 9:00AM), https://www.wsj.com/articles/remittances-a-lifeline-for-el-salvador-plummet- amid-pandemic-11591275600.

33. *See* Joshua David Marcin, *Migrant Workers' Remittances, Citizenship, and the State: The Case of El Salvador*, 48 HARV. C.R.-C.L. L. REV. 531, 532 (2013) ("Wire Transfer services play a vital role in El Salvador's economy and for migrants living outside the country.").

34. Lee, *supra* note 16, at 855 (citing *Personal Remittances, Received (% of GDP) - El Salvador, Philippines, China, India, Mexico*, WORLD BANK, https://perma.cc/242N-F7XW).

35. Emily Freilich, *Home is Only a Money Transfer Away: Remittances and the Salvadoran Diaspora*, 1 ESSAY: CRITICAL WRITING AT POMONA COLL. (SPECIAL ISSUE) 14 (2017).

36. Sigalos, *supra* note 23.

remittances vary across households, those receiving remittances generally have lower poverty levels than average.[37] The average monthly remittance transfer for households is $195, and makes up about 50% of household total income.[38] About 81.7% of remittances are used for immediate household needs, education, and healthcare.[39] El Salvador is therefore vulnerable to fluctuations in remittance streams, especially because remittances make up for money where other forms of capital have deteriorated, and the support allows the Salvadoran government to avoid fixing bigger internal economic issues.[40]

Because of its importance to its national economy, El Salvador has taken measures over the decades to advance and augment remittances and encourage their investment in productive uses. El Salvador has a long history of emigration, in particular, to the United States.[41] About 25% of Salvadorans live outside of El Salvador, and approximately 1.5 million live and work in the United States.[42] Though the majority of remittances are sent for personal household needs, remittances are also connected to community investment, political activities, and entrepreneurial ventures.[43] This evidences transnational behavior by migrant senders and the possible shift of El Salvador

37. Freilich, *supra* note 35, at 19.

38. Sigalos, *supra* note 23, at 5.

39. Beth Baker, *Cristales, Salvadoran Migration To Southern California: Redefining El Hermano Lejano* 137–38 (New World Diasporas, 2004).

40. *See* Lee, *supra* note 16, at 855, (stating El Salvador is more vulnerable compared to other larger economies like China who receive more in remittances because in countries like China, remittances account for a smaller percentage of their GDP).

41. *See* Freilich, *supra* note 35, at 15, (discussing how workers originally migrated from El Salvador to the US to work in agriculture after the First World War. The largest migration wave was during the Salvadoran Civil War in 1980. Because socioeconomic inequality, weak government, and violence have persisted, Salvadorans continued to immigrate to the US.).

42. Sarah Gammage, *Exporting People and Recruiting Remittances: A Development Strategy For El Salvador?*, 33 LATIN AMERICAN PERSPECTIVES 75 (2006).

43. *See* Bhargavi Ramamurthy, INTERNATIONAL LABOUR MIGRANTS: UNSUNG HEROES OF GLOBALISATION, SIDA STUDIES 78 (2003) (discussing how remittances are mainly spent on basic household expenses); Gammage, *supra* note 42, at 76 (discussing the ways remittances are used to give back to the Salvadoran economy).

to a transnational state.[44] Remittances allow migrants to connect to their home country and provide for their households in an extended manner.[45] To ease the realities of remittance transfers, El Salvador began offering dual citizenship in 1983 and gave the option of citizenship for children born to Salvadoran parents regardless of physical location.[46] Further, in 2001, El Salvador adopted the United States dollar as its official currency to make it easier to access and transfer remittances from the United States.[47] This helped make international investments more stable and helped lower the transfer costs because there was no longer a need for currency conversion, allowing more money to be transferred.[48]

The Salvadoran government has also implemented programs to guide remittances into state sponsored channels and to link them with courier services. In 2004, El Salvador's legislature created a permanent Vice Ministry for El Salvadorans living abroad within the ministry of Foreign Affairs.[49] They, along with the La Defensia del Consumidor (the Salvadoran Consumer

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44. *See* Marcin, *supra* note 33, at 534. ("El Salvadoran remittance senders living in the United States often engage in transnational behavior."); *see generally* Steven Vertovec, *Conceiving and Researching Transnationalism*, 22 ETHNIC & RACIAL STUDS. 447 (1999) (stating transnationalism refers to ties and interactions linking people across the borders of nations).

45. *See* Freilich, *supra* note 35, at 19. ("Remittances are a way to continue to connect to the homeland and fulfill the expected and desired responsibilities of migrants to their families and communities.").

46. *See* Marcin, *supra* note 33, at 532. (stating El Salvador defines citizenship as a legal status to keep emigrants and their families connected to the country regardless of physical location); *See, e.g.*, CONSTITUCIÓN DE LA REPÚBLICA DE EL SALVADOR 1983, tit. IV, art. 90(2); CONSTITUCIÓN DE LA REPÚBLICA DE EL SALVADOR 1962, tit. II, art. 12(2) (stating that children of a Salvadoran mother or father are Salvadoran citizens even if born in a foreign country).

47. *Id.* (stating that in 2001, El Salvador adopted the U.S. dollar to make it easier for immigrants in the north to send remittances); *see also* Baker, *supra* note 39 at 135 (stating that after El Salvador's economy was devastated by the Salvadoran civil war, the Salvadoran Legislative Assembly decided to adopt the U.S. Dollar in 2001, partly in reaction to the increase of dollars through remittances).

48. *See* Jorge Rivera, *Analysis of Trade on El Salvador Post Dollarization*, Economic Commons (2007), (utilizing the Gravity Model economics framework to show the positive effects dollarization has had on bilateral trade flows and the lowering of transaction costs).

49. Decreto No. 2 [Decree No. 2], Diario Oficial [DO], at 21, 1 de Junio de 2004 (El Sal.), available at http://www.diariooficial.gob.sv/diarios/do-2004/06-junio/01-06-2004.pdf.

Protection Agency), work together to provide legal counseling, compliant review services, and information about remittance transfer options and costs to Salvadoran remittance senders in the United States.[50] Similarly, agencies such as Fondo de Inversion Social para el Desarrollo Local (Social Investment Fund for Local Development) offer co-financing to Salvadoran associations seeking to invest their remittances.[51] The government also actively reaches out to communities of Salvadorans in the United States to encourage investment in remittances for philanthropic projects.[52] Another example includes El Salvador's commercial banks, which effectively regulate remittance transfers made via Western Union and other MTOs through government mandates requiring transaction analysis and reporting of suspicious activity to government agencies.[53] The programs were all implemented to encourage transnational citizens to maintain connections with El Salvador, ensuring money continues to get sent to the country.[54]

C. *Bitcoin Law is the Government's Latest Attempt to Encourage Remittances and Lower their Costs.*

Over the years, Salvadorans have used several formal and informal services to transfer remittances. The formal services range from large companies such as Western Union and Banco Agrícola to smaller agencies such as TransExpress, Gigante Express, and Urgente Express.[55] The remainder of the transfers are made through the smaller transfer agencies, smaller financial institutions, and private individual couriers, known as

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50. *See* Marcin, *supra* note 33, at 547.

51. *Id.*

52. *Id.*

53. CTR. FOR LATIN AM. MONETARY STUD. MULTILATERAL INV. FUND AND THE INTER-AM. DEV. BANK, *International Remittances in El Salvador* 14, (1st ed., 2009).

54. Marcin, *supra* note 33, at 542.

55. Gammage, *supra* note 42, at 85; see Manuel Orozco, *The Future Trends and Patterns of Remittances to Latin America*, IDB (2003), (available at https://publications.iadb.org/publications/english/document/The-Future-Trends-and-Patterns-of- Remittances-to-Latin-America.pdf) (stating Western Union is the preferred transfer agency for El Salvador, followed by Giganto Express, and Banco Agricola).

viajeros(as).[56] As previously stated, these services charge a variety of transfer costs, cutting into the amount effectively transferred into El Salvador.[57] In order to completely eliminate these intermediaries, El Salvador enacted The Bitcoin Law.[58]

The Bitcoin Law went into effect on September 7, 2021, officially recognizing Bitcoin as legal tender, and giving it equivalent status to the U.S. dollar.[59] The law made El Salvador the first sovereign nation to formally adopt Bitcoin as legal tender, causing its businesses and people to accept Bitcoin for goods and services.[60] The translated text of El Salvador's Bitcoin law, among other things, states that the purpose is to:

> regulate bitcoin as unrestricted legal tender with liberating power, unlimited in any transaction, and to any title that public of private natural of legal persons require carrying out.[61]

Aside from Bukele announcing how the Bitcoin Law would cut out intermediaries, the Central American Bank for Economic Integration (CABEI) also identified cutting the costs of remittances as an important aspect of El Salvador's Bitcoin adoption.[62] In order to achieve unlimited fee-less transactions, keep all the citizens' wallets in one virtual space, and reach a larger percentage of the population, El Salvador's government launched its own national virtual wallet app, the Chivo Wallet (Chivo).[63] Chivo offers no fee transactions and allows for quick

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56. *Id.* at 85–86.

57. World Bank, *supra* note 21, at § xv–xvi.

58. Behar, *supra* note 1.

59. *Id.*

60. *Id.*

61. LEY BITCOIN, *supra* note 3.

62. Nelson Renteria & Anthony Esposito, *Remittance Costs Key to Take-up, of Salvadoran Bitcoin Plan -Development Bank*, REUTERS (Aug. 24, 2021, 10:38PM), https://www.reuters.com/business/finance/remittance-costs-key-take-up-salvadoran-bitcoin-plan-development-bank-2021-08-24/.

63. MacKenzie Sigalos & Arjun Kharpal, *El Salvador's Bitcoin Experiment: $60 Million Lost, $375 Million Spent, Little to Show So Far*, CONSUMER NEWS AND BUS. CHANNEL., (Oct.13, 2022), https://www.cnbc.com/2022/10/13/el-salvadors-bitcoin-holdings-down-60percent-to-60-million-one-year-later.html.

cross-border payments.[64] Every Salvadoran citizen has access to the Chivo, which contains a balance from inception of $30 in Bitcoin per citizen.[65]

El Salvador has had a rocky experience since making cryptocurrency legal tender. On the day that the Bitcoin Law took effect and Chivo was launched, the system crashed due to the excessive number of new users.[66] The app was not equipped to deal with the amount of traffic it generated on the first day, causing the system to be taken offline for some hours.[67] Soon after the enactment of the Bitcoin Law, people protested the law by demolishing and vandalizing a Chivo ATM that had been installed in the country's capital, San Salvador, due to their distrust of the new law.[68]

Moreover, a few people announced that the remittances they sent to their family in El Salvador went missing, though the money claimed to have been deposited into their wallets.[69] Users have been experiencing different ranges of transaction fees from remittances sent through non-Chivo wallets, regardless of whether it is sent to a Chivo user.[70] In November 2021, reports showed that a couple of million dollars had been remitted to El Salvador through the use of Chivo, but traditional remittances are still the preferred method of Salvadorans.[71] Despite these setbacks, the government announced in late 2021 that Chivo had

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64. Renteria & Esposito, *supra* note 62.

65. *Id.*

66. Sigalos & Kharpal, *supra* note 63.

67. Renteria & Esposito, *supra* note 62; *see also* Bitcoin Boys, *How is Bitcoin Adoption Going in El Salvador?*, YOUTUBE (Oct. 14, 2021), https://www.youtube.com/watch?v=SP4yBHmn_rM (stating Android users could not access the app for days after its inception).

68. Jack Delahunty, *Bitcoin in El Salvador*, INVERSE (Nov. 7, 2021, 7:30 AM), https://www.inverse.com/innovation/bitcoin-el-salvador-protests-chivo-app.

69. Jonathan Laguán, *Bitcoin Was Supposed to Help El Salvador With Remittances*, THE BUSINESS OF BUSINESS (Oct. 20, 2021, 4:43 PM), https://www.businessofbusiness.com/articles/el-salvador-bitcoin-chivo-wallet-remittances-complaints/.

70. John Detrixhe, *Remittances to El Salvador Are Cheaper Without Using Bitcoin*, QUARTZ (Sep. 14, 2021), https://qz.com/2058676/remittances-to-el-salvador-are-cheaper-without-using-bitcoin.

71. Pineda & Renteria, *One Month On, El Salvador's Bitcoin Use Grows But Headaches Persist*, REUTERS (Oct. 8, 2021, 4:11 AM), https://www.reuters.com/technology/one-month-el-salvadors-bitcoin-use-grows-headaches-persist-2021-10-07/.

more than three million downloads and that the country had more citizens signed up with Bitcoin wallets than with bank accounts.[72]

III. ANALYSIS

A. Blockchain Technology and Cryptocurrencies Offer Many Benefits for the Remittance Industry.

Cryptocurrency remittances are not an entirely new concept, and Bukele anticipates they could revolutionize remittance transfers and cut out the middleman.[73] Regulators and practitioners have long studied the capabilities of blockchain technology to integrate and potentially replace MTOs and the correspondent banking roles in remittance transfers.[74] Blockchain is a decentralized, public ledger that records cryptocurrency transactions.[75] Most cryptocurrencies use their own native blockchains to record transactions.[76] Since Blockchain technology manages cross-border monetary transactions, it is believed to provide promising solutions to many of the current remittance problems, including the large transaction costs and lengthy transaction processes.[77]

The high cost of remittances stems from the amount of intermediaries involved through each transaction. Some transactions can have up to seven intermediaries: sender's bank, sender's payment system, correspondent banks, foreign exchange service, recipient's payment system, and recipient's banks.[78] Each intermediary gets their own payment from the transaction which

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72. *Id.*; *see also* Nayib Bukele (@nayibbukele), TWITTER (Sep. 25, 2021, 2:27 PM), https://twitter.com/nayibbukele/status/1441846960332361730 (stating that Chivo's users outnumber those with bank accounts in El Salvador).

73. Bukele, *supra* note 8.

74. Ludovico Rella, *Blockchain Technologies and Remittances: From Financial Inclusion to Correspondent Banking*, 2 FRONTIERS BLOCKCHAIN 1, 2 (2019).

75. Georgios Dimitropoulos, *The Law of Blockchain*, 95 WASH. L. REV. 1117, 1127 (2020)

76. *Id.* at 1178.

77. Rella, *supra* note 74, at 2; *see also* Igor Davidov, *Blockchain Use Cases: Remittance*, BINANCE (last updated May 25, 2022), https://academy.binance.com/en/articles/blockchain-use-cases-remittance.

78. Rella, *supra* note 74, at 4–5.

decreases the amount that the receiver actually gets.[79] Since transactions go through multiple intermediaries, the process is not instant and can take days to weeks to get finalized.[80] This makes the current remittance system highly inefficient. Since blockchain cuts out intermediaries and functions as a peer-to-peer network, with execution entirely based on a network of high-performance computers, it can provide frictionless, nearly instant transactions at a fraction of the cost. [81]

Moreover, with the rise of mobile phones in developing countries, migrant workers have begun to send remittances through their mobile phones.[82] This makes payments using blockchain based mobile wallets a possibility in these developing countries. While the underbanked populations of developing countries are currently at a disadvantage in using traditional remittance providers and instead turn to informal avenues, the opportunity for blockchain technology to serve the underbanked is evident. Blockchain does not require a bank account or any sort of identifiable information to make transactions, which it makes it widely available for use, but it remains transparent because of its recordation.[83]

B. Cryptocurrency Cons Come to Light with El Salvador's Experiment.

Though much research has been conducted to show the benefits of cryptocurrency and blockchain technology for the remittance industry, many issues and limitations have been exposed through El Salvador's rollout. Since El Salvador is the first country to make cryptocurrency legal tender, the initial application lags and crashes were expected. With time, these

79. Amine Soufaih, *Revolutionizing International Remittance Payments Using Cryptocurrency and Blockchain-based Technology,* U. PA. SOC. IMPACT RES. EXPERIENCE (Sept. 1, 2020), https://repository.upenn.edu/cgi/viewcontent.cgi?article=1085&context=sire.

80. *Id.*

81. *Id.*

82. Davidov, *supra* note 77.

83. *Blockchain Opens the Door for Those Who Still Do Not Have a Bank Account,* BBVA (Aug. 26, 2018), https://www.bbva.com/en/blockchain-opens-door-still-not-bank-account/.

technological issues will likely be corrected and resolved. However, some non-technological issues about using Bitcoin for remittances have been exemplified by El Salvador's use.

1. Scalability

Bitcoin was projected to provide cheap and fast means of transactions; however, in practice, its high fees and slow transactions have contradicted that promise.[84] Because Bitcoin is the most popular cryptocurrency, over 300 thousand transactions occur daily, but this is still far behind what most banking institutions process daily.[85] One major issue that comes with Bitcoin is the scalability of the network for payment transactions.[86] The blockchain process for Bitcoin transactions have a time lag because it relies on a network to validate each and every transaction.[87] Bitcoin transactions have a limited processing rate due to each block's size, making large scale applications nearly impossible.[88] Using cryptocurrencies for everyday transactions would require a network that is capable of handling large amounts of transactions, and the continued growth of transactions, without processing issues and delays. It must also be properly secured, credible, and trustworthy to ensure individual adoptability.

El Salvador attempted to combat this issue by making Chivo supported through using the Lightning Network.[89] The Lightning Network is a two-layer solution built on top of the bitcoin

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84. Jesse Zhou, *Bitcoin Transactions Are Slow and Costly. Let's Explain Why.*, MEDIUM (Apr. 16, 2021), https://medium.com/geekculture/bitcoin-transactions-are-slow-and-costly-lets-explain-why-a3f6f2e326db.

85. *See Bitcoin Number of Transactions*, NASDAQ DATA LINK, (Oct. 25, 2022), https://data.nasdaq.com/data/BCHAIN/NTRAN-bitcoin-number-of-transactions.

86. Amine Soufaih, *Revolutionizing International Remittance Payments Using Cryptocurrency and Blockchain-based Technology*, U. PA. SOC. IMPACT RES. EXPERIENCE (Sep. 1, 2020), https://repository.upenn.edu/cgi/viewcontent.cgi?article=1085&context=sire (defining scalability as the capability of the network to handle a certain amount of transactions).

87. *Id.*

88. *Id.*

89. Anthony Esposito & Nelson Renteria, *Factbox: A Glimpse Under the Hood of El Salvador's Bitcoin Experiment*, REUTERS (Sept. 7, 2021, 6:14PM), https://www.reuters.com/technology/glimpse-under-hood-el-salvadors-bitcoin-experiment-2021-09-07/.

blockchain so that payments can be processed in seconds without any extra fees.[90] However, many Salvadoran citizens reported that their remittances from their migrant family members either took days or weeks to appear in their accounts, or disappeared entirely.[91] Chivo users specified that they did not have to pay any fees for sending money, but the long delays for the money to appear in their loved ones' accounts, or experiences where their money went missing entirely, led them to return to their traditional methods of sending remittances.[92] Since Chivo is the only app offering zero transaction fees to Salvadoran citizens, those who used other cryptocurrency transfer methods, even on the Lightning Network, reported higher transaction fees than regular remittance transaction methods.[93] Salvadoran citizens using cryptocurrency transfer methods other than Chivo reported paying between 15% to 20% more than market price or being charged ATM withdrawal fees ranging from 5% to over 20%.[94]

A possible solution to the current scalability issue is to integrate and partner the Blockchain network with current MTOs and banks.[95] A few alternative cryptocurrencies ("altcoins") that have actively been targeting the remittance market for years have partnered up with MTOs to diversify cross border transfers. From their onset, these altcoins offered lower fees and faster transaction speed than Bitcoin, but they did not have the

90. Jian-Hong Li et al., *Lightning Network: a Second Path Toward Centralization of the Bitcoin Economy*, 22 NEW J. PHYS. 1, 2 (2020), https://www.researchgate.net/publication/347787386_Lightning_Network_a_second_path_towards_centralisation_of_the_Bitcoin_economy/link/6229ee0597401151d20be0f0/download. (stating the Lightning Networks add a layer to the Bitcoin blockchain which allows users to settle transactions off the blockchain and not constrain them by the block size limit to have instant transactions and no extra fees).

91. Jonathan Laguan, *Bitcoin Was Supposed to Help El Salvador with Remittances*, B2B (October 20, 2021, 4:43PM), https://www.businessofbusiness.com/articles/el-salvador-bitcoin-chivo- wallet-remittances-complaints/.

92. *Id.*

93. Detrixhe, *supra* note 7; *El Salvador's Experiment with Bitcoin as Legal Tender* (Nat'l Bureau of Econ. Rsch., The Digest No. 7, 2022).

94. *Id.*

95. *Id.*; Fernando Alvarez et al., *Are Cryptocurrencies Currencies? Bitcoin as Legal Tender in El Salvador* 8 (Nat'l Bureau of Econ. Rsch., Working Paper No. 29968, 2022).

credibility and popularity that Bitcoin has.[96] In order to make an impact in the remittance market, the altcoins began to team up with MTOs and banks to expand their reach worldwide.[97] For example, Ripple Labs, Inc., an American blockchain company, has partnered with a few different money transfer services around the world, and considers MTOs such as MoneyGram and Ria its customers, to expand the reach of its cryptocurrency, XRP, as a medium of exchange in remittances.[98] By teaming up with these popular MTOs, Ripple has managed to gain the trust and credibility of those populations, ensuring it keeps high speed and low fees by providing an interoperability layer between payment systems.[99] The Ripple system works by having the MTOs estimate the amount needed for their operations, purchasing that amount in XRP, and then selling the XRP for the fiat currency in the receiving country causing customer's transactions to be performed within minutes.[100] This also eliminates the need of the remittance recipients to understand how cryptocurrencies work. Dash, BitPesa, Coinbase, and Stellar, have all similarly targeted the remittance market by partnering with banks and MTOs.[101]

This could be a solution to the current Bitcoin scalability issues experienced with the Bitcoin Law. By adopting the

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96. Davidov, *supra* note 77, at 11–12; Simon Chandler, *Bitcoin v. Altcoins: Which is the Most Usable for Merchants*, COIN TELEGRAPH (Sept. 1, 2018), https://cointelegraph.com/news/bitcoin-vs-altcoins-which-is-the-most-usable-for-merchants.

97. *E.g.*, Gamza Khanzadaev, *Ripple to Power Remittances Between Japan and Thailand via New Partnership*, U. TODAY (Aug. 16, 2022), https://u.today/ripple-to-power-remittances-between-japan-and-thailand-via-new-partnership (noting the formation of a partnership between Ripple, the platform for Altcoin XRP, and SBI Remit, an MTO and Japan's largest payment provider).

98. *Id.; List of Leading Partners of Ripple and How They Use XRP?*, ITSBLOCKCHAIN (Feb. 2, 2021), https://itsblockchain.com/ripple-partners/, (listing all of Ripple's financial institution partnerships); *see also* Soufaih, supra note 86.

99. Rella, *supra* note 74 at 7–9.

100. *Id.*

101. *E.g.*, Joël Valenzuela, *Dash Partners with IQ CashNow Adding 1,000+ New Dash-Accepting Merchants*, DASH NEWS (Sept. 5, 2019), https://dashnews.org/dash-partners-with-iq-cashnow-adding-1000-new-dash-accepting-merchants/1/8; *e.g.*, Soufaih, *supra* note 79 at 8; *e.g.*, *Coinbase Commences Partnership With Signature Bank to Provide Real Time Settlement via Signet*, BUSINESS WIRE (Oct. 12, 2022), http://businesswire.com/news/home/20221012005945/en/Coinbase-Commences-Partnership-With-Signature-Bank-to-Provide-Real-Time-Settlement-via-Signet.

government's use of alternative cryptocurrencies, aside from just Bitcoin, and encouraging the partnership of these altcoins with local banks and the top MTOs of the country, El Salvador could be strengthening the use of cryptocurrencies while facilitating more efficient and credible money transfers. By teaming up with well-known MTOs that the population already uses for everyday transfers, such as Western Union or Ria, people's trust in the use of cryptocurrencies will increase, giving the Bitcoin Law the force it needs to expand its product in the country. It will also provide an extra layer of security for cryptocurrency transactions from the MTOs.[102]

2. Regulation

Though cryptocurrencies continue to develop technologically, regulations remain in the early stages.[103] Regulation remains undefined or even non-existent in developing countries that rely on foreign remittances and inflow.[104] One of the reasons that banks and MTOs have such high transaction fees is that they have strict reporting requirements and screenings to prevent money laundering crimes.[105] Bitcoin transactions provide a heightened level of anonymity without strict regulation, leading to money laundering crimes.[106] In 2021, over $8.6 million in cryptocurrencies were laundered.[107]

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102. *See* Rella, *supra* note 74, at 9.

103. *See* Dimitropoulos, *supra* note 75, at 1119, 1122.

104. Policy Brief, U.N. Conference on Trade and Development, The Cost of Doing Too Little Too Late: How Cryptocurrencies Can Undermine Domestic Resource Mobilization in Developing Countries, Policy Brief No. 102 (Jul. 2022).

105. *See* Rella, *supra* note 74, at 5 (noting that in the Middle East and North Africa, 40% of banks reported higher costs related to compliance, including Anti-Money Laundering efforts).

106. *See* Rani Shulman, *Are Centralized Cryptocurrency Regulations the Answer? Three Countries; Three Different Directions*, 45 BROOK J. INT'L L. 843, 845 (2020) (noting that there is no better way than cryptocurrency to transact anonymously which makes money laundering easy).

107. Gertrude Chavez-Dreyfuss, *Crypto Money Laundering Rises 30% in 2021 – Chainalysis*, REUTERS (Jan. 26, 2022), https://www.reuters.com/technology/crypto-money-laundering-rises-30-2021-chainalysis-2022-01-26/.

This has led countries like China to ban cryptocurrencies restraining their potential.[108]

This poses a risk for El Salvador because the growth is stilted unless they put in place supportive regulations and policies. Especially because Bitcoin is allowed in El Salvador for all transactions, it could increase the risk that illegal money gets circulated through El Salvador's financial system if banks accept Bitcoin.[109] El Salvador alleges that they are in control of Bitcoin with digital protocols and committees in charge of overseeing money laundering; however, El Salvador has a history of high money laundering crime.[110] Though the country's anti-money laundering law states that banks must report any suspicious activity to the Unidad de Investigacion Financiera (UIF) so that sketchy accounts will be closed and seized; in early 2021, the head of the financial regulatory agency in El Salvador instructed the banks to not close the accounts of suspected money launderers, which makes it even easier for criminals to get away with their crimes.[111]

Moreover, El Salvador has also reported a multitude of identity theft cases since they implemented their Bitcoin Law system.[112] Many citizens have downloaded Chivo and attempted to sign up with their "Documento Unico de Identidad" (Unique Identity Document or DUI) numbers only to find out that their identification had been previously utilized for access.[113] Though Chivo allegedly requires a source of identification for access, along with a photo of the DUI, a photo of

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108. *See* Shulman, *supra* note 106, at 836 (noting that China has a total ban on ICOs).

109. *Id.*

110. *See* Shane Sullivan, El *Salvador Protects Accounts of Suspected Money Launderers*, INSIGHT CRIME (Jan. 13, 2021), https://insightcrime.org/news/brief/money-launderers-bank-accounts-el-salvador/ (noting a history of money laundering in El Salvador).

111. *Id.*

112. *See* Tim Alper, *'Identity Theft' Criminals Plundering El Salvador Bitcoin Wallet Funds*, CRYPTONEWS (Oct. 11, 2021), https://cryptonews.com/news/identity-theft-criminals -plundering-el-salvador-bitcoin-wallet-funds.htm (noting that "massive" amounts of those who have downloaded Chivo have discovered that their identity had already been used).

113. *Id.*

yourself, and a security code, hackers have easily been able to open accounts under stolen identifications.[114]

Cryptocurrency regulation issues have sparked different responses from governments worldwide. Many countries have begun to take steps toward regulating cryptocurrencies in different capacities.[115] Anti-cryptocurrency countries, such as China and Bolivia, have fully banned Bitcoin and other cryptocurrencies due to criminal accessibility issues.[116] Other countries, however, have had a positive stance on cryptocurrencies, but they have incorporated internal regulations and monitoring protocols for its use.[117] The United States and Japan, for example, have implemented taxation rules on cryptocurrencies.[118] By taxing cryptocurrencies, these countries are deterring bad faith behavior from fraudulent actors, and in turn, using the taxes to fund government projects. This could be a beneficial route for El Salvador to consider, especially because the Bitcoin Law's implementation was in part to create new government projects.[119]

Canada is also working toward crypto-friendly regulations.[120] In Canada, cryptocurrency exchanges are considered money services businesses, so they are governed under anti-money laundering laws.[121] The exchanges must be registered with their financial agency who keeps a record, and reports any suspicious

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114. *See* Andrés Engler, *Identity Thieves Exploit El Salvador's Chivo Bitcoin Wallet's Setup Process*, COINDESK (Nov 1, 2021), https://www.coindesk.com/business/2021/10/29/identity-thieves-exploit-el-salvadors-chivo-bitcoin-wallets-setup-process/ ("According to Chivo's official website, opening an account requires scanning the DUI front and back, and then performing facial recognition to check the registrant's identity . . ." but 755 Salvadorans reported identity theft with their Chivo Wallets).

115. Shulman, *supra* note 106, at 845.

116. *Id.* at 836.

117. *See generally* Jacinta Bernadette, Rico Shirakawa & Upalat Korwatanasakul, *Cryptocurrency Regulations: Institutions and Financial Openness* at 4 (Asian Dev. Bank Inst., Working Paper No. 978, 2019).

118. Todd Ehret & Susannah Hammond, *Cryptocurrency Regulations by Country* at 20-21, 27 (Thomas Reuters) (June 1, 2021); *see generally* I.R.S. Notice 2014-21, § 1 (identifying and clarifying the tax classifications of Bitcoin in America).

119. *See generally* LEY BITCOIN, *supra* note 3.

120. *See* Ehret & Hammond, *supra* note 118, at 21.

121. *Id.* (explaining firms must register with the Financial Transactions and Reports Analysis Centre of Canada (FINTRAC)).

transactions.[122] Similarly, Switzerland is known to be a crypto-friendly jurisdiction; however, it has implemented strict anti-money laundering policies toward cryptocurrencies.[123] El Salvador could benefit from creating more stringent anti-money laundering laws and theft laws that establish how cryptocurrency crimes will be handled.[124] El Salvador could create agencies whose main responsibility is to govern cryptocurrencies to ensure they prioritize cryptocurrency monitoring and regulation. These personnel would be specifically trained on cryptocurrencies to know how to identify suspicious activity. Having such certain regulations in place would prevent and deter criminals from actively engaging in bad faith behavior while ensuring that Bitcoin continues to progress with the economy.

In a way, El Salvador is subtly regulating cryptocurrency use through Chivo. Chivo is a government-backed wallet that differs from regular cryptocurrency wallets, which are not backed by a central authority.[125] Implementing a government-backed wallet has been criticized by many experts as going against the essence of cryptocurrencies by giving the Salvadoran government control over the custodial wallet.[126] This unique Chivo factor, however, could be a benefit for such a large, widespread use of Bitcoin, mainly, when it comes to security and regulation. Though it arguably takes away from an individual's financial autonomy, it offers an added layer of protectability, and it is not much different from a central bank. By giving the Salvadoran government the

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122. *Id.*; Financial Transactions and Reports Analysis Centre, *Record Keeping Requirements for Money Services Businesses and Foreign Money Services Businesses*, GOV'T OF CAN. (Apr. 2022), https://www.fintrac-canafe.gc.ca/guidance-directives/recordkeeping-document/record/msb-eng (outlining the record keeping requirements for suspicious transaction reports).

123. Christoph Wronka, *Anti-Money Laundering Regimes: A Comparison Between Germany, Switzerland, and the UK With a Focus on the Crypto Business*, 25 J. MONEY LAUNDERING CONTROL 656, 663–665 (2022).

124. *See generally* Shulman, *supra* note 106, at 871, 875-76 (mentioning how centralized regulatory initiatives could be helpful for countries to safeguard and simultaneously internally regulate the cryptocurrency industry).

125. Tim Sloane, *El Salvador's Bitcoin Experiment Lesson: Change Doesn't Come Easy*, PAYMENTSJOURNAL (Apr. 29, 2022), https://www.paymentsjournal.com/el-salvadors-bitcoin-experiment-lesson-change-doesnt-come-easy/.

126. Delahunty, *supra* note 68.

ability and authority to freeze and monitor activity in the wallet app, the government is in a better position to screen for crimes, thefts, and laundering activities and freeze the accounts of any criminal activity done through the Chivo.

3. Volatility

Even before the Bitcoin Law's inception, one of the main concerns surrounding Bitcoin was its volatility.[127] This concern was exemplified when El Salvador announced its plans to make Bitcoin legal tender. The International Monetary Fund (IMF) warned El Salvador against enacting the Bitcoin Law stating that Bitcoin raised a number of legal and financial issues that El Salvador had not carefully evaluated, including the massive fluctuation solely reliant on market valuation impulsivity.[128] Similarly, the World Bank also rejected El Salvador's request to help with the implementation of Bitcoin as a legal tender, citing their rejection of the lack of transparency cryptocurrency offers.[129]

On the day of the Bitcoin Law's inception, Bitcoin's price dropped by 10% of its value by mid-morning.[130] Bukele had purchased 400 Bitcoin ahead of the launch day and when the price crashed on September 7, he took it as an opportunity to buy an extra 150 at the lowered cost instead of abandoning the project.[131]

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127. *See* Santiago Perez, *IMF Urges El Salvador to Ditch Bitcoin's Legal Tender Status*, WALL ST. J. (Jan. 25, 2022), https://www.wsj.com/articles/imf-urges-el-salvador-to-ditch-bitcoins-legal-tender-status-11643148210 (the IMF consistently warned El Salvador regarding the highly speculative and volatile nature of cryptocurrencies).

128. *See* Joel Frank, *IMF Warns El Salvador Against Using Bitcoin as Legal Tender*, FX EMPIRE (Nov. 24, 2021), https://www.fxempire.com/forecasts/article/imf-warns-el-salvador-against-using-bitcoin-as-legal-tender-819272 (the IMF posited that bitcoin's legal tender status will open El Salvador to contingent fiscal liabilities).

129. *World Bank Rejects El Salvador Request for Bitcoin Help*, BBC. (June 17, 2021), https://www.bbc.com/news/business-57507386.

130. Tanaya Macheel, *Bitcoin Tumbles Nearly 10% as El Salvador Adopts It as Legal Tender*, CNBC (Sept. 7, 2021), https://www.cnbc.com/2021/09/07/bitcoin-retreats-from-the-highest-level-since-may-as-el-salvador-adopts-it-as-legal-tender.html.

131. *See* Arjun Kharpal & MacKenzie Sigalos, *El Salvador Bought $21 Million of Bitcoin as It Becomes First Country to Make It a Legal Currency*, CNBC (Sept. 7, 2021), https://www.cnbc.com/2021/09/07/el-salvador-buys-400-bitcoin-ahead-of-law-making-it-legal-currency.html; *see also* Bibhu Pattnaik, *El Salvador President Nayib Bukele Adds 150 New Bitcoins, Thanks IMF for Being Critical of His Crypto Ambitions*, TRADESTATION (Sept. 7, 2021), https://www.tradestation.com/research/article/22834389.

Similarly, in January 2022, the cryptocurrency market experienced a larger crash, which caused investors to go on a selling spree of their investments.[132] Bitcoin's value, specifically, hit a record low with a 40% decrease.[133] This posed a huge threat to El Salvador's financial system, which is banking much of its economic success on Bitcoin's value. Bukele took advantage of the situation once again, and he bought more crypto in bulk at its low price and took to social media to boast about it.[134] The IMF doubled down on its warning against using Bitcoin and asked El Salvador to remove its status as legal tender.[135]

Though the Salvadoran president has been ignoring the volatility concerns, Salvadoran citizens have had a different reaction. Volatility has created a widespread fear which has led many citizens to refuse Chivo and cryptocurrency usage altogether.[136] While Bitcoin could serve as a solution for more developed countries with stable currency systems, El Salvador has a fragile economy backed by an entirely different country's currency, so becoming dependent on Bitcoin places the economy on thin glass because it is entirely dependent on Bitcoin's value and success.[137] Especially for poor migrants sending their

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132. *See* Tory Newmyer & Rachel Siegel, *Bitcoin Price Falls Sharply Amid Wall Street Sell-off, with Value Cut in Half since November*, WASH. POST (Jan. 22, 2022), https://www.washingtonpost.com/business/2022/01/22/crypto-crash-bitcoin-fed/.

133. *See* Aline Oyamada & Michael D. McDonald, *El Salvador's Bitcoin Losses Are Equal to Next Bond Payment*, BLOOMBERG (May 12, 2022), https://www.bloomberg.com /news/articles/2022-05-12/el-salvador-s-bitcoin-losses-are-as-big-as-its-next-bond-payment (Bloomberg estimates Bitcoins drop of roughly 40% from late March to mid-May costed the El Salvadoran government roughly $40 million).

134. *See* Anthony Faiola, *Nayib Bukele Trades Bitcoin Naked. El Salvador is Paying the Price.*, WASH. POST. (Jan. 26, 2022), https://www.washingtonpost.com/world/2022/01/2 6/el-salvador-bitcoin-dip-crypto-crash/.

135. *See El Salvador Angrily Rejects IMF Call to Drop Bitcoin Use*, ASSOCIATED PRESS (Jan. 31, 2022), https://apnews.com/article/cryptocurrency-technology-business-el-salvador-san-salvador-4612c5008ba1e919d42bdf0724095c91.

136. *See Bitcoin Protests in El Salvador Against Cryptocurrency as Legal Tender*, BBC (Sept. 16, 2021) https://www.bbc.com/news/world-latin-america-58579415 (describing anti-Bitcoin protests in El Salvador).

137. Jeffrey Frankel, *El Salvador Exemplifies the Surrealism of Cryptocurrencies*, BELFER CTR. FOR SCI. &. INT'L AFFS. (Sep. 26, 2021), https://www.belfercenter.org/publicati on/el-salvador-exemplifies-surrealism-cryptocurrencies (El Salvador adopted US dollar in 2001); *see* Jonathan Wheatley & Adrienne Klasa, *Cryptocurrencies: Developing Countries Provide Fertile Ground*, FIN. TIMES (Sept. 4, 2021), https://www.ft.com/content/1ea829ed-

hard-earned money as Bitcoin to their loved ones, they could see their funds lose their value overnight, especially since it is so easy for cryptocurrencies to experience random dumps. Every dollar counts for these citizens, and gambling on cryptocurrency does not seem like the ideal solution for people who cannot stand to lose the money that allows them to survive every day.[138]

Volatility is inherent to decentralized cryptocurrencies because they derive their value from community investments—if the demand for the coins goes up, then the supply increases proportionately, and vice versa for coins that lose demand. A few countries have adopted alternatives to Bitcoin, that use Blockchain technology without the worry of volatility. One solution that has been introduced is the adaptation of stablecoins.[139] A stablecoin is a type of cryptocurrency that is pegged to another asset, usually a fiat currency, but sometimes a commodity, like gold.[140] Stablecoins are designed to not fluctuate because they derive their value from another asset.[141] The creators of a stablecoin usually use a reserve to hold the underlying asset backing the stablecoin.[142] The asset reserve serves as collateral because it stabilizes the price of a stablecoin proportionately with the value of the asset.[143] Stablecoins have been used to mitigate trading fees and remittance fees.[144] The transfer works by moving the remittance and the conversion of the currency through blockchain technology, removing the need

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5dde-4f6e-be11-99392bdc0788 (providing examples of financial authorities and regulatory bodies warning of adverse consequences of cryptocurrency investment and government endorsement).

138. *See El Salvador's Dangerous Gamble on Bitcoin*, FIN. TIMES (Sept. 7, 2021), https://www.ft.com/content/c257a925-c864-4495-9149-d8956d786310.

139. *See generally* Agata Ferreira, *The Curious Case of Stablecoins—Balancing Risks and Rewards?*, 24 J. INT'L ECON. L. 755, 761 (2021).

140. Katie Rees, *What Are Gold-Backed Stablecoins*, MAKE USE OF, https://www.makeuseof.com/gold-backed-stablecoins/.

141. Ferreira, *supra* note 139, at 760.

142. *Id.* at 763.

143. Garrick Hileman et al., 2019 STATE OF STABLECOINS, 53 (Blockchain 2019).

144. Lai T. Hoang & Dirk G. Baur, HOW STABLE ARE STABLECOINS?, EUR. J. FIN. 17; Ferreira, *supra* note 139, at 777.

for intermediary fees and delays.[145] Because stablecoins are acquired as easily as other cryptocurrencies, they are more readily accessible than going to the bank to acquire cash.[146] Sol Digital, for example, is a stablecoin pegged to Peru's national currency, Sol, and it is exchanged between different mediums without intermediary fees.[147] Sol Digital is launched on the Stellar blockchain and is exchangeable for the Argentine peso, U.S. dollar, etc.[148]

This could be a solution to the Bitcoin Law's volatility issues. If El Salvador paired up and backed a stablecoin with a government reserve or bank, Salvadoran citizens would have more trust in the project and would not have to worry about fluctuation effects on the money they remit.[149] It could combine the operational advantages of cryptocurrency for remittances, by cutting out intermediaries and lowering fees, while guaranteeing price stability for the citizens and the economy.[150] If banks

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145. *See Commercial Remittance with Stablecoins (Borderless Crypto Banking)*, STABLY (Jul. 13, 2020), https://medium.com/stably-blog/commercial-remittance-with-stablecoins-borderless-crypto-banking-e52239aa79d8; *Impact Of Blockchain Technology On Western Union And MoneyGram*, COMPAREREMIT (Oct. 14, 2021), https://www.compareremit.com/money-transfer-tips/impact-of-blockchain-technology-on-western-union-and-moneygram/?resetgc=1; *see generally* PRESIDENT'S WORKING GRP. ON FIN. MKTS. ET AL., REPORTS ON STABLECOINS, 5–6 (2021).

146. Ferreira, *supra* note 139, at 757 (stating stablecoins can be useful for everyday payments as a proxy for cash).

147. *Central Bank of Peru Warns of Sol Digital Token as it Plans to Issue a CBDC*, DAILYCOIN (Dec. 2, 2021), https://www.investing.com/news/cryptocurrency-news/central-bank-of-peru-warns-of-sol-digital-token-as-it-plans-to-issue-a-cbdc-2697506.

148. Jamie Crawley, *Stablecoin Pegged to Peru's Currency Launches on Stellar*, COINDESK (Sept. 28, 2021), https://www.coindesk.com/business/2021/09/28/stablecoin-pegged-to-perus-currency-launches-on-stellar/.

149. Ferreira, *supra* note 139, at 765 (stating how nongovernment stablecoin attempt faced concerns over integrity and consumer protections); JP Koning, *Should Western Union Worry About Stablecoins?*, COINDESK (Jan. 3, 2022), https://www.coindesk.com/layer2/2022/01/03/should-western-union-worry-about-stablecoins/ (discussing how stablecoins don't suffer from bitcoin's volatility, and at least one remittance company is experimenting with them).

150. Ferreira, *supra* note 139, at 759 ("Stablecoins differ from regular cryptocurrencies, which have no stability mechanism and whose values tend to fluctuate substantially"); Zak Killermann, *How Cryptocurrency is Changing Remittances*, YAHOO! FINANCE (July 15, 2021), https://finance.yahoo.com/news/cryptocurrency-changing-remittances-164530383.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAADJZLrvKFkmLkQoxjex7m_ryvt333WA76eM7ws

allowed customers to automatically withdraw stablecoins from their accounts without a separate fee while also freely depositing stablecoins, then people making stablecoin remittances would not have to worry about any external fees. However, stablecoins could go against El Salvador's vision by being backed by the U.S. dollar, the economy would still be in the hands of another country's currency. For remittances, however, stablecoins seem to address some of the major issues experienced by the Bitcoin Law, but because they are such a new concept, regulation remains undefined.[151]

4. Lack of Education and Access

Many Salvadoran citizens do not trust Bukele and fear that he has been gambling their capital and economy with the move to Bitcoin.[152] Salvadorans have experienced dramatic shifts in policies throughout Salvador's history, including when El Salvador became dollarized in 2001.[153] Though dollarization promised foreign investment growth, the Salvadoran economy was left vulnerable and subject to economic shocks and inflation.[154] Moreover, the Salvadoran government failed to properly educate the public about the dollar and conversion rates, so Salvadorans had to rely on newspaper tables or calculators to

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cU6AY-rjqPAATuPUFnTb6EtIIMP1_86h5w03k42clw4XINElh0FVQKfyYjKei3dB-IuLKanldcpyeQjV7uLvGlaa3CKfzAjLgxYjJtg22N5Fq5dQ8_dZ9NmxsQkbTiKsiqTKV6 ("[crypto currency] allows for cross border payments free of third-party intermediaries, which in turn speeds up the process of the transaction and cuts back on the costs involved.").

151. Scott Nover, *Stablecoins Aren't Stable: Why TerraUSD is Crashing*, QUARTZ (May 13, 2022), https://qz.com/2165213/stablecoins-arent-stable-why-terra-is-crashing ("stablecoins are largely unregulated"); *see also* John Adams, *The Not-So-Stable State of Stablecoin Regulation*, AMERICAN BANKER (Dec. 1, 2021), https://www.americanbanker.com/payments/news/the-not-so-stable-state-of-stablecoin-regulation (discussing possible regulation of stablecoins in the U.S.).

152. Oscar Lopez & Ephrat Livni, *In Global First, El Salvador Adopts Bitcoin as Currency*, N.Y. TIMES, Oct. 7, 2021, https://www.nytimes.com/2021/09/07/world/americas/el-salvador-bitcoin.html.

153. *See* Marcia Towers & Silvia Borzutzky, *The Socioeconomic Implications of Dollarization in El Salvador*, 46 LATIN AM. POL. & SOC'Y 29, 45–46 (2004) (discussing the effect of El Salvador's dollarization).

154. *Id.* at 47; Andrew Swiston, *Official Dollarization as a Monetary Regime: Its Effects on El Salvador* 3 (IMF Working Paper, WP/11/129, 2011) (dollarization based in part on spurring foreign investment).

make the conversion, while the illiterate population, about 20% of the population, was left without proper resources.[155]

History seems to be repeating itself with the enactment of the Bitcoin Law. In an interview conducted before the Bitcoin Law's inception, 67.9% of interviewed Salvadorans did not approve of the adoption of Bitcoin.[156] The main cited reason for the opposition was a lack of general knowledge about cryptocurrencies.[157] Salvadoran citizens found out with the rest of the world of Bukele's plans to make Bitcoin legal tender at the Bitcoin 2021 Miami Conference.[158] Plus, the speech was entirely in English despite Spanish being the official language of El Salvador.[159] Many Salvadoran citizens had never heard of Bitcoin or cryptocurrency nor had any understanding of how it worked when the Bitcoin Law went into effect.[160] This lent itself to misuse, mistrust, and overall resentment of Bitcoin and Bukele.[161] Cryptocurrency and blockchain technology are complex concepts and according to a global study, over 60% of people do not understand it; therefore, in order for Salvadorans to truly feel confident with this transition and their engagement with the currency, proper education is required.[162] Providing zero guidance to Salvadoran citizens not only deters the population from its usage but also hinders cryptocurrency's potential growth.

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155. Towers & Borzutzky, *supra* note 153, at 46.

156. *See Majority of Salvadorans Do Not Want Bitcoin, Poll Shows*, *supra* note 11 (stating the opposition Salvadoreans according to over 1,000 interviewees).

157. *See* Bitcoin Boys, *supra* note 67 (an interview of a Salvadoran woman stating she does not understand Bitcoin and had to get her grandson to help her).

158. *See* Nelson Renteria et. al, *In a World First, El Salvador Makes Bitcoin Legal* Tender, REUTERS, June 9, 2021, https://www.reuters.com/world/americas/el-salvador-approves-first-law-bitcoin-legal-tender-2021-06-09/; Lopez & Livni, *supra* note 152.

159. *Id.*; Markus Schultz-Kraft, et al., *El Salvador*, ENCYCLOPEDIA BRITANNICA (Aug. 24, 2022), https://www.britannica.com/place/El-Salvador (stating that El Salvador's official language is Spanish).

160. Gladstein, *supra* note 11.

161. *Id.*

162. Jordan Major, *Over 60% of People Don't Understand Crypto, Global Study Reveals*, FINBOLD (Oct. 12, 2022), https://finbold.com/over-60-of-people-dont-understand-crypto-global-study-reveals/.

Moreover, Chivo requires phones with internet access in order to be accessed.[163] Though access to mobile phones in El Salvador is high, access to the internet is not, so the majority of the population does not have access to Bitcoin.[164] The older population, specifically, does not want to learn to use newer model phones just to transfer money and would rather continue to receive remittances the "traditional" way (through MTOs or banks).[165] Street vendors and local shops also often do not have the resources nor the adequate technology to access the Chivo, much less register their businesses with it.[166] It may be an adequate solution for big businesses and global companies, but for the locals, it seems out of reach.

El Salvador could have prevented much of the opposition by rolling out Chivo in tiers to have more stability and control and to ensure everyone was adequately equipped to handle Bitcoin. However, it did not consider this ex-ante approach. Many of the current Bitcoin opposition and issues could be fixed with a government-implemented educational program on Bitcoin. Luckily, Bukele has noticed the demand for education and announced his intentions to construct twenty Bitcoin schools using the surplus of the Bitcoin government funds.[167] In February 2022, the first free Bitcoin education center, La Casa del Bitcoin, opened, aiming to educate the population on the technology and

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163. *Chivo Wallet–Preguntas Frecuentes*, GOBIERNO DE EL SALVADOR, https://www.chivowallet.com/preguntas-frecuentes.html#:~:text=No%2C%20para%20poder%20ingresar%20a,se%20encuentra%20asociado%20al%20mismo (Smartphone with internet access required to register); Samuel Wan, *Study Finds El Salvador's Chivo Bitcoin Wallet is Not Widely Used*, CRYPTOSLATE (Apr. 28, 2022), https://cryptoslate.com/study-finds-el-salvadors-chivo-bitcoin-wallet-is-not-widely-used/ (lack of widespread use of El Chivo compounded by lack of access to phones with internet access).

164. *See* Samuel Wan, *supra* note 163; Bitcoin Boys, *supra* note 67.

165. *See* Anna-Catherine Brigida & Anastasia Moloney, *FEATURE - El Salvador's Bitcoin 'Experiment' Leaves Digital Poor on the Sidelines*, REUTERS (Sept. 30, 2021), https://www.reuters.com/article/el-salvador-bitcoin-poor/feature-el-salvadors-bitcoin-experiment-leaves-digital-poor-on-the-sidelines-idUKL8N2QP4M4.

166. Delahunty, *supra* note 68.

167. Alex McShane, *President Bukele: El Salvador to Use Bitcoin Profits to Build 20 Schools*, NASDAQ (Nov. 02, 2021), https://www.nasdaq.com/articles/president-bukele%3A-el-salvador-to-use-bitcoin-profits-to-build-20-schools-2021-11-02.

benefits of Bitcoin and cryptocurrencies.[168] This is a positive step; however, given the circumstances due to the pandemic, Bukele should consider creating other avenues to educate the masses, such as government-created pamphlets and documents to distribute to citizens that include the Bitcoin basics, local radio stations that give Bitcoin news, updates, and information throughout the day, and cryptocurrency informational televised events, for people to access from their homes. This would create a higher level of involvement and better transparency and disclosure of Bitcoin use.

Though Bukele has taken steps toward educating the masses, there have not been any changes toward making phones more accessible. El Salvador could benefit from creating a government-subsidized program that offers free phones to citizens or per household if they qualify based on a number of criteria. Some of the criteria that could qualify a citizen or household could include reliance on remittances, poverty levels, mobile accessibility, etc. This would ensure that even the poorest population does not get left out because of a lack of access to the necessary resources.

IV. CONCLUSION

Remittances have grown exponentially worldwide, and remittance fees continue to grow with them.[169] Developing countries, like El Salvador, have been looking for solutions to the fee problem in order to stimulate their country's economies.[170] Cryptocurrencies provide an alternative to traditional MTOs and banks by using Blockchain technology to cut out intermediaries and speed up transaction time with a peer-to-peer conception.[171]

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168. *Paxful Launches Bitcoin Educational Center in Heart of El Salvador*, PAXFUL U. (Feb. 02, 2022), https://paxful.com/blog/la-casa-del-bitcoin-launch/.

169. *See* Gabilondo, *supra* note 19, at 655–58 (stating transaction costs of these transfer services include fees, exchange rate commissions, and the opportunity cost to the recipient of the float captured by the transfer agent by delaying access to the remitted funds).

170. Ratha, *supra* note 18, at 1.

171. *See* Rella, *supra* note 74 (detailing how blockchain technology could provide benefits for the remittance industry); *Impact Of Blockchain Technology On Western Union And MoneyGram*, *supra* note 145.

El Salvador enacted the Bitcoin Law, partly, to apply those benefits to its remittances and to stimulate its economy in the process.[172] The Bitcoin Law has been in effect for five months as of February 2022, and though it is still too early to adequately measure its success, the level of adoption throughout the country continues to grow every day, along with the cryptocurrency remittance inflow. With the proper attention to Bitcoin's regulation, volatility, and scaling issue and with proper improvements toward regulation, stability, educating the masses, and providing proper equipment, the Bitcoin Law could pave the way for many countries hoping for remittance solutions, such as Paraguay, Mexico, Haiti and Honduras, and its enactment has been an important first step.

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172. Bukele, *supra* note 8.