## Comparative Analysis of Bitcoin Regulation in Latin American Countries

Idi Amin Germán Silva-Jug\*, Klender Aimer Cortez Alejandro\*\*, Adrián Wong Boren\*\*\*, Roberto Chiquet Jiménez\*\*\*\*

Received: july 4th, 2024 Evaluated: november 11th, 2024 Approved: march 23th, 2025

Research article

\* PhD in Accounting and Finance, Autonomous University of Nuevo Leon, Monterrey, Mexico; full-time professor. Autonomous University of Nayarit, Tepic, Mexico; idiamin@uan.edu.mx; https://orcid.org/0000-0003-0555-6529

> \*\* PhD in Business Studies, University of Barcelona, Spain; Director of Graduate Studies, Business School, Autonomous University of Nuevo Leon, Monterrey, Mexico; klender.cortezal@uanl.edu.mx (Corresponding author);

https://orcid.org/0000-0003-1204-5815

#### **Abstract**

This study aims to analyze the regulations applicable to Bitcoin in force in seven Latin American countries to assess the need to strengthen the regulatory framework and its implementation in the region. For this purpose, a qualitative study was designed with an exploratory scope and a non-experimental cross-sectional approach. Information is collected from secondary sources through the web and a survey of academics from institutions affiliated with the ALAFEC. The results show the regulatory advances regarding cryptocurrencies. Current regulations are described for Argentina, Brazil, Chile, Colombia, El Salvador, Mexico, and Venezuela. All the countries analyzed have mechanisms for the prevention of money laundering, terrorist financing, and the use of resources of illicit origin. Nonetheless, it is necessary to strengthen the current regulations by including mechanisms for the protection of all participants.

**Keywords:** bitcoin; cryptocurrencies; crypto assets; regulation; volatility; Latinoamerica.

JEL Classification: G28, K22, F38, O33, E42, K42, G18

# Análisis comparativo de la regulación del bitcoin en países de Latinoamérica

\*\*\* PhD in Accounting, Virginia Tech, United States of America; professor, Autonomous University of Nuevo Leon, Monterrey, Mexico; awongboren@gmail.com; 

https://orcid.org/0009-0003-2195-3791

Management, Latin American Technological
University; Director of Graduate
Studies, Business School, Autonomous
University of Nayarit, Tepic, Mexico;
roberto.chiquet@uan.edu.mx;
https://orcid.org/0000-0003-2235-4304

#### Resumen

El presente estudio tiene como objetivo general analizar la normatividad aplicable al bitcoin en siete países de Latinoamérica a efectos de evaluar la necesidad de fortalecerla en la región. Se diseñó un estudio cualitativo con alcance exploratorio y enfoque no experimental de tipo transeccional. Se recopiló información de fuentes secundarias a través de la web y mediante la aplicación de un sondeo a académicos de instituciones afiliadas a la ALAFEC. Los resultados evidencian los avances normativos con respecto a la regulación de las criptomonedas. Se realiza una descripción de la regulación vigente en Argentina, Brasil, Chile, Colombia, El Salvador, México y Venezuela. Todos los países analizados cuentan con mecanismos para la prevención del lavado de dinero, el financiamiento del terrorismo y la utilización de recursos de procedencia ilícita. No obstante, es necesario fortalecer la regulación vigente mediante la inclusión de mecanismos para la protección de todos los participantes.

Palabras clave: bitcoin; criptomonedas; criptoactivos; regulación; volatilidad; Latinoamérica.



Licencia Creative Commons Atribución-NoComercial-CompartirIgual 4.0 Internacional (CC BY-NC-SA 4.0)

## INTRODUCTION

The cryptocurrency market has grown exponentially in recent years, both in terms of the number of digital currencies and their capitalization value. However, there is a gap in the financial regulations regarding the operation of this market. It has even been mentioned that the lack of regulations is becoming increasingly pressing due to the absence of an organization that supports the circulation of cryptocurrencies, as in the case of fiat money (Hemenway Falk & Hammer, 2022).

Goal 10.5 of the  $10^{\text{th}}$  Sustainable Development Goal (SDG10) of the United Nations (UN) aims to "improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations" (UN, 2023). This goal, together with nine other goals, promotes the implementation of various actions that affect the objective of "reducing inequality within and among countries" (UN, 2023).

In this sense, it is imperative that the cryptocurrency market be regulated and that recognized entities or bodies be monitored both within countries and globally. This requirement addresses not only the effort to achieve SDG10 but also the need to protect the resources of investors, consumers, companies, and government institutions who either directly or indirectly participate in financial operations with cryptocurrencies.

Therefore, the following research question arises: What is the level of progress in the implementation of regulations applicable to Bitcoin in Latin America? To answer it, it is necessary to identify the level of regulation that exists in this region of the world. Thus, the general objective of this paper is to analyze the regulations applicable to Bitcoin in force in seven Latin American countries to evaluate the need to strengthen the regulatory framework and its implementation in the region. Likewise, the following specific objectives are considered:

- To identify the countries that have approved some type of regulation applicable to Bitcoin and describe the regulatory mechanisms implemented.
- To carry out a comparative analysis of the characteristics of the regulations approved in each country under study.

The above steps allow us to determine the level of implementation of the regulations in the countries analyzed and their characteristics and scope. Additionally,

it is possible to identify areas of opportunity to improve current regulations in terms of both their content and their application.

#### LITERATURE REVIEW

Internationally, the acceptance of cryptocurrencies as a medium of exchange has been endorsed by very few countries. However, some governments have included in their agenda the revision of regulations that allow the control of cryptocurrency trading within their countries. Gutiérrez Proenza (2022) identifies Japan, Spain, Venezuela, and Australia as countries promoting the use of Bitcoin. She also mentions other countries that have advanced in the matter of regulation for the operation of Bitcoin as a financial asset (crypto asset), such as Brazil, Bulgaria, Canada, Chile, Denmark, Germany, and the United States. In the same document, special mention is made of El Salvador, the first country in the world to accept Bitcoin as a legal tender.

Mohsin (2022) discusses the rejection and acceptance of cryptocurrencies in some Latin American countries, that is, whether they are accepted as a means of exchange to carry out transactions. Although Mexico, Argentina, Brazil, and Chile are mentioned, he neither describes the type of regulation nor makes a comparison among the countries.

Dhali et al. (2022) suggest that there are difficulties in establishing a regulatory framework at the international level due to jurisdictional limits and diversity of approaches, which are exceeded by the operational dynamics of cryptocurrencies. Additionally, most of the regulatory efforts that have been made internationally have focused on describing the risks involved in cryptocurrency transactions. In accordance with the foregoing, some regulatory authorities have dedicated themselves to establishing policies or regulations that prevent money laundering or cryptocurrency trading with resources of illicit origin, while others have established such policies in the face of the threat of financial fraud or tax evasion, with some focusing more on the protection of consumers or investors.

Scott et al. (2023) describe advances in the legislation of the United States concerning crypto assets. In their research, they point out that this country has recognized crypto assets, under its federal laws, as securities (financial instruments) and commodities (raw materials or basic goods), with the latter operating as a form of underlying asset in the financial derivatives market.

Santiago (2022) states that in Peru, there is no regulatory framework for the operation of cryptocurrencies or a consensus on the definition of their legal nature. The above author also mentions that the control of transactions and regulatory oversight should be carried out through the Financial Intelligence Unit of the Superintendence of Banking and Insurance, the Superintendence of the Securities Market, the Central Reserve Bank of Peru, and the National Institute for the Defense of Competition and Protection of Intellectual Property.

Although various studies have analyzed the regulations applicable to cryptocurrencies in some countries of the Americas, Asia, and Europe, none of these studies contains a description of the characteristics of current regulatory documents. The present study describes the regulations of the following Latin American countries: Argentina, Brazil, Chile, Colombia, El Salvador, Mexico, and Venezuela. The analysis of the information obtained allows for comparisons among the countries under study.

#### **METHODOLOGY**

In Latin America, each country has taken a different position regarding the regulation of cryptocurrency operations. Mexico and Brazil are mentioned as some of the countries in which legislative changes have been made to control digital assets, while countries such as Bolivia have established resolutions that prohibit the use of cryptocurrencies as a medium of exchange (Gutiérrez Proenza, 2022).

The present study is qualitative with an exploratory scope because there is little empirical evidence related to the research topic. The research was carried out through a non-experimental cross-sectional approach. Information about the regulations in force in September 2023 that apply to Bitcoin in some Latin American countries was collected.

Information was collected by consulting secondary sources, such as the official websites of executive powers, institutions, or agencies of national governments, congresses, or legislative chambers, and professional or trade associations. Additionally, to avoid any omissions, a survey was administered to academics from higher education institutions in some Latin American countries. The aforementioned survey is considered a query to our primary sources.

The information collection instrument was administered through an opinion sample considering those institutions affiliated with the Latin American

Association of Accounting and Administration Colleges and Schools (ALAFEC, by its Spanish acronym) as the population. The ALAFEC was founded in 1982 and is currently composed of 224 higher education institutions from 19 Latin American countries, which are grouped into four regions: I. Andean, II. Mexico and the Caribbean, III. Central America, and IV. Southern Cone. Due to the professional profile of these institutions, some of their professors are experts in finance and know how financial markets, including the cryptocurrency market, operate. In this sense, it is considered that the academics of those institutions affiliated with the ALAFEC have the capacity to identify the applicable regulations or their sources of consultation. The possibility of some academics from institutions outside the ALAFEC also responding to the survey exists.

The structure of the data collection instrument consists of ten items, three of which correspond to the general or classification information of the respondent, six of which ask about current regulations, and one of which is related to the source of consultation available to corroborate and deepen the information provided by the respondent. The questionnaire was prepared using the *Google Forms* platform and was sent via email or instant messenger.

Additionally, the information provided by the academics surveyed was contrasted with the reference source of the referred regulations for each country, with which greater detail about their characteristics and level of application was obtained.

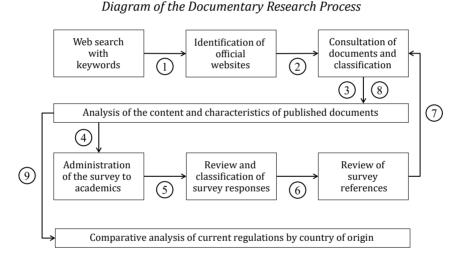
The steps that were followed to carry out the documentary research are described below (Figure 1):

- 1. Web search with keywords such as standards, regulations, law, rules, Bitcoin, cryptocurrencies, crypto assets, and country
- 2. Identification of the official websites of executive powers, institutions, or agencies of national governments, congresses, or legislative chambers, professional or trade associations
- 3. Consultation of published documents and their chronological classification
- 4. Analysis of the content and characteristics of published documents
- 5. Administration of the survey to academics
- 6. Review and classification of survey responses
- 7. Review of references provided by academics

- 8. Consultation of published documents and their chronological classification
- 9. Analysis of the content and characteristics of published documents
- 10. Comparative analysis of current regulations by country of origin

It is worth mentioning that this research is limited to seven Latin American countries. The five countries with the highest gross domestic product (GDP) in Latin America were chosen, and two representative countries were included in the regulations of the aforementioned region.

Figure 1.



Source: Own elaboration.

The selection criterion for the first five Latin American countries studied was the size of their economy, measured by the average GDP from 2014 to 2022 at 2023 prices. The information used as a reference for the selection was extracted from the *Estudio económico de América Latina y el Caribe 2023* (Comisión Económica para América Latina y el Caribe [CEPAL], 2023).

Additionally, the study included El Salvador and Venezuela, two countries with advanced regulations on cryptocurrency operations, serving as a reference for analyzing and approving regulatory documents in other Latin American countries.

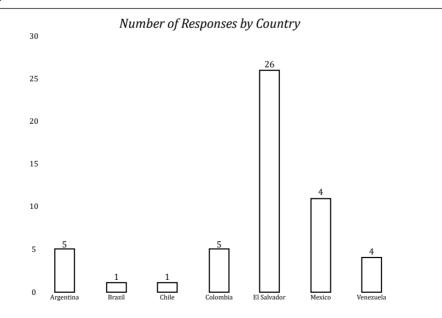
The seven countries selected for this study are as follows:

- 1. Argentina
- 2. Brazil
- 3. Chile
- 4. Colombia
- 5. El Salvador
- 6. Mexico
- 7. Venezuela

## **RESULTS**

The opinion poll was completed by 53 academics from seven Latin American countries. However, some of them demonstrated limited knowledge of the subject or were assured that their country has no applicable regulations for cryptocurrencies.

Figure 2.



Source: Own elaboration based on survey responses.

The distribution of the number of responses obtained by each of the participating countries is shown in Figure 2. It is convenient to clarify that the responses of each country are related to the disposition shown by the academics of the institutions to which the survey was sent, for which the sample lacks strict representativeness; each country has a different number of responses. However, the objective of the survey to complement the information obtained by consulting secondary sources was achieved. El Salvador has the highest participation rate among academics, likely due to Bitcoin's greater diffusion in the country, as it was the first to approve its use as a legal tender (Gutiérrez Proenza, 2022).

As indicated in the previous section, a web search was carried out for each of the selected countries. In this way, the information obtained on the web was contrasted with that provided by some of the academics who responded to the opinion poll.

The main findings by country are described below.

## **Argentina**

The particular case of Argentina has focused on mitigating the risks of money laundering and financing activities related to terrorism. Faced with this situation, the Financial Information Unit (FIU) issued Resolution 300/2014, *Virtual currencies – Amendment to Resolution No. 70/2011*, related to the "Prevention of Money Laundering and Terrorist Financing." This special resolution issued by the FIU consists of five articles, with Article 2 establishing a definition of *virtual currencies*, as well as a differentiation of these cryptocurrencies with respect to electronic money, referring to fiat money.

Recently, in April 2023, the National Securities Commission (CNV, by its Spanish acronym) approved the Regulation of Futures Contracts on the Bitcoin Matba Rofex Index, whose trading, closing of operations, and settlement were carried out in Argentine pesos. This decision allows for hedging investors and the general public through the contracting of financial derivatives. Although the index quote comes from the price information of different suppliers and the CNV does not exercise control or supervision over them, it establishes conditions through Matba Rofex, SA. For example, for suppliers to operate in the country, they must have a current contract with a payment service provider (PSP), registered with the Central Bank of the Argentine Republic (BCRA) (Comisión Nacional de Valores, 2023).

#### **Brazil**

The Brazilian Chamber of Deputies approved Law No. 14,478 on December 21, 2022, which establishes guidelines for the regulation of the provision of services with virtual assets. This law defines the concepts of *virtual assets* and *virtual asset service providers*. Likewise, the guidelines for the authorization of providers and the operation of services with said virtual assets are detailed. Although reference is made to a regulatory entity in charge of supervising operations with virtual assets, it is not specified; it is mentioned only that the Federal Executive will designate one or more entities to fulfill the functions of the regulatory body (Câmara dos Deputados [Brasil], 2022).

The law consists of fourteen articles that include, in addition to what is mentioned in the previous paragraph, some amendments to Decree-Law No. 2,848, Law No. 7,492, and Law No. 9,613. The amendments are intended to include the classification of crimes related to the use of virtual assets, as well as the prevention of money laundering carried out through said assets. Additionally, the observance of Law No. 8,078 is established with regard to the defense of the consumer or customer for operations with virtual assets (Câmara dos Deputados [Brasil], 2022).

The last article of the aforementioned law provides that its entry into force will be 180 days after its official publication. It has been speculated that this six-month period has been established as a period of review of the law, considering that there will be a change in the head of the executive power.

On June 13, 2023, Decree No. 11,563 was published in the official gazette of the nation, which regulates Law No. 14,478 and grants powers to the Central Bank of Brazil to regulate, authorize, and supervise the virtual asset market. The decree consists of four articles: Two of these articles detail the powers granted to the Central Bank of Brazil concerning the virtual asset market. The third article refers to the limitations of this power. The fourth article establishes the date of entry into force of the decree (Câmara dos Deputados [Brasil], 2023).

#### Chile

On January 4, 2023, the National Congress of Chile approved a law that promotes competition and financial inclusion through innovation and technology in the provision of financial services (Fintech Act). This law was sent by the Ministry of Economy,

Development and Tourism and the Ministry of Finance to the Chamber of Deputies and Senators of Chile on September 3, 2021. After being analyzed and going through the corresponding legislative procedures, this law was promulgated on December 22, 2022, and subsequently published in the official gazette on January 4, 2023, as Law No. 21,521 (Cámara de Diputadas y Diputados de Chile, 2021).

The Fintech Act consists of five titles, 46 articles, and nine transitory provisions. The purpose of this law is to strengthen Chile's financial system by incorporating new technology-based products, activities, and operations into financial regulation, with its own legal framework. In this situation, not only are investors or consumers (financial customers) protected, but financial institutions and various providers that participate in the intermediation, custody, advice, and provision of technological platforms are also sought. In addition, Article 1 mentions the "preservation of the integrity and financial stability" of the country, as well as the prevention of money laundering and the financing of drug trafficking and terrorism, as part of the purpose of this law. In accordance with the provisions of the Fintech Act, the Financial Market Commission is identified as the regulatory entity (Congreso Nacional de Chile, 2023).

Conversely, the aforementioned law considers the creation of the open finance system (open banking), which opens a permanent communication channel among financial intermediaries. It grants customers access to and the exchange of information, thus facilitating the strategic planning of financial service providers for the design or modification of their products and services (Congreso Nacional de Chile, 2023).

Finally, it is worth noting that the Fintech Act recognizes the use of crypto assets as a means of payment, as long as said crypto assets meet the established requirements and are backed by fiat money. In this sense, although not explicitly stated, the Fintech Act refers to so-called *stablecoins* (Congreso Nacional de Chile, 2023).

#### Colombia

Although the country lacks a regulatory framework, in Colombia, a technical guidance document specifically for managing crypto assets was issued. On June 5, 2023, the Technical Council of Public Accounting (CTCP, by its Spanish acronym) of the National Institute of Public Accountants (INCP, by its Spanish acronym) issued Technical Guide Number 20, called *Crypto Assets: Accounting Management in Colombia*. This document is intended to serve as a guide in the recognition, measurement, disclosure, and

presentation of the economic events related to this type of asset (Instituto Nacional de Contadores Públicos de Colombia (INCP), 2023b).

The technical document consists of the following four sections: I. Introduction, II. Accounting management of cryptographic assets, III. Cryptographic asset audit, and IV. Frequently asked questions. Obviously, the backbone of the document is made up of the technical specifications for the accounting and auditing of crypto assets. However, the first and fourth sections provide useful information that can be used as a reference. In the introductory section, several fundamental attributes or characteristics of *blockchain* technology, such as the immutability of records, information security, elimination of intermediaries, traceability, and decentralized databases, are described. Section four aims to answer some of the basic questions that are necessary to understand the accounting treatment of crypto assets (INCP, 2023a).

The analyzed document references some concepts and definitions of the Blockchain Reference Guide for the Adoption and Implementation of Projects in the Colombian State, which was published in December 2020 and implemented in early 2021 as part of the strategy for the development of the digital government (Ministerio de Tecnologías de la Información y las Comunicaciones, 2020).

#### El Salvador

The case par excellence is that of El Salvador, the first country in the world whose legislative assembly, at the initiative of the President of the Republic, approved the circulation of Bitcoin as a legal tender.

The Bitcoin Act was approved on June 8, 2021, by Decree No. 57, and was published the following day in the official gazette under Number 110, Volume 431. The law itself established that it would enter into force ninety days after its publication.

The Bitcoin Act is composed of 16 articles classified into the following two chapters: I. General provisions and II. Final and transitory provisions. As established in Article 1, the aforementioned law aims to regulate Bitcoin as an unrestricted legal tender, voluntarily accepted by individuals or companies in the private sector only, in any transaction and for any purpose they may require. In this respect, the exchange rate with respect to the United States dollar is freely determined by the market, always taking into account the mechanisms and limitations provided by the state in the corresponding regulation. The United States dollar was adopted

by El Salvador as a legal tender at the end of 2000 through Decree No. 201 and published in the official gazette under Number 241, Volume 349.

To guarantee the automatic and instantaneous convertibility of Bitcoin to its exchange rate in US dollars, the creation of the Bitcoin Trust (FIDEBITCOIN) operated by the Development Bank of El Salvador (BANDESAL, by its Spanish acronym) was established. The constitution and regulation of the aforementioned trust were outlined in the Bitcoin Trust Creation Act, approved by Decree No. 137 and published on August 31, 2021, in the official gazette, under Volume 432. The latter law is made up of 19 articles covering the object of the law; the creation, validity, and supervision of the trust; the functions and obligations of each participant; and the functions and powers of the board of directors, among other aspects.

## Mexico

Mexico is the seventh country in the world to adopt fintech development with the greatest commitment, following China, India, the United Kingdom, Brazil, Australia, and Spain, according to the *Fintech Adoption Index 2017. The Rapid Emergence of Fintech* (as cited in Ordónez-Sánchez et al., 2020)

The Financial Technology Institutions Regulation Act (LRITF, by its Spanish acronym), or Fintech Act, was published in the Official Gazette of the Federation (DOF, by its Spanish acronym) on March 9, 2018; this law has undergone several reforms, the last of which was published in the DOF on May 20, 2021. This law consists of seven titles, fourteen chapters, four sections, 145 articles, eleven transitory provisions, and 16 transitory articles of reform decrees (Congreso de la Unión, 2018).

The Fintech Act has the purpose of regulating the financial services provided by financial technology institutions (ITFs, by its Spanish acronym), as well as their organization, operation, and functioning, and the financial services subject to any special regulations that are offered or performed by innovative means" (Congreso de la Unión, 2018). The same law confers the supervision of compliance, within the scope of its powers, to the following two entities of the Mexican financial system: 1) the National Banking and Securities Commission (CNBV, by its Spanish acronym) and 2) the Bank of Mexico (BANXICO, by its Spanish acronym).

The first title establishes the characteristics, obligations, structure, organization, specificities, requirements, and authorizations of ITFs, which are configured as collective financing institutions or electronic payment fund institutions. Likewise,

the authorized activities, operations, and procedures carried out by these institutions are detailed. All ITFs must have the authorization of the CNBV to operate, provided that they meet the legal and regulatory requirements established in the aforementioned law. Conversely, the second title describes in detail everything related to virtual assets, their definitions, the terms and conditions established by BANXICO, and the characteristics and restrictions of the transactions carried out with virtual assets. The third title establishes the general provisions applicable to ITFs, particularly those related to the authorization process, the procedures and characteristics of their operation, the grounds for the suspension or revocation of the authorization, the inspection and surveillance of ITFs, and the conditions of information exchange among participants. The fourth title mentions the new models of operation with virtual assets, as well as the criteria and conditions for the temporary authorization of legal entities other than ITFs that operate with virtual assets. The National Commission for the Protection and Defense of Users of Financial Services (CONDUSEF, by its Spanish acronym) is the entity in charge of resolving any disputes that arise between the companies authorized to operate a novel model and their customers. Finally, the fifth, sixth, and seventh titles are more specific and refer to the financial innovation group, sanctions and crimes. and notifications, respectively (Congreso de la Unión, 2018).

The Mexican Council of Financial Reporting Standards (CINIF, by its Spanish acronym) approved Financial Reporting Standard NIF C-22 Cryptocurrencies in November 2019, which came into force on January 1, 2021. NIF C-22 aims to establish the valuation, presentation, and disclosure standards for recognition in an entity's financial statements of cryptocurrencies, cryptocurrency mining expenses, and cryptocurrencies that are not owned but kept in custody (Consejo Mexicano de Normas de Información Financiera, A.C., 2020).

Additionally, the NIF C-22 establishes the standards for determining the fair value of cryptocurrencies in which financial instruments receivable or payable are stated (CINIF, 2020).

A document with accounting guidelines consists of an introduction, eight chapters (from 10 to 80), and an appendix. The first three sections (Introduction, Objective, and Scope) describe the context in which the standard was created, its objective, main characteristics, reasons for issuance, and scope. The General Aspects chapter defines cryptocurrencies and describes some of their characteristics and investment properties. The fourth chapter details the recognition and valuation standards for cryptocurrencies or virtual assets, as well as mining expenses.

The fifth and sixth chapters describe the presentation standards in the financial statements and the disclosure standards, respectively. Chapter seven establishes the effectiveness of this NIF, and the eighth chapter establishes the transitory effectiveness of the standard. Finally, Appendix A—Basis for Conclusions, includes considerations that, in the opinion of the CINIF Issuing Council, are significant for generating reflections and points of view with respect to the subject (CINIF, 2020).

## Venezuela

In the case of Venezuela, several decrees and special orders have also been approved and published in relation to crypto assets. The Constituent Decree on the Comprehensive Crypto Asset System was published on January 30, 2019, as official gazette number 41,575 of the Bolivarian Republic of Venezuela. The aforementioned decree was enacted and published to create and define the regulatory framework applicable to the Comprehensive Crypto Asset System, as an organizational and functional expression of economic sovereignty, with the firm purpose of harmoniously advancing productive and social development (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2019). The decree is in force and consists of six chapters with 63 articles, five transitory and repeal provisions, and a final provision that refers to the beginning of the decree's effectiveness (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2019).

The Comprehensive Crypto Asset System consists of principles, rules, and procedures. Its governing body is the National Superintendence of Crypto Assets and Related Activities (SUNACRIP, by its Spanish acronym). In this regard, almost one-third of the decree refers to the SUNACRIP, detailing its purpose, structure, functions, attributions, and operability. The aforementioned decree also establishes the guidelines for carrying out transactions with crypto assets and their registration, as well as the procedures and measures for their inspection and supervision. Finally, the decree mentions the infractions and sanctions, as well as their initiation, substantiation, and termination procedures (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2019).

It is noteworthy that the system also considers the creation, issuance, organization, and use of sovereign crypto assets, which support the government of the Republic. In fact, the fines contained in Chapter 5: Infractions and Sanctions are

established in amounts of sovereign crypto assets (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2019).

Subsequently, the Intendance of Promotion, Training, and Comprehensive Care and the Intendance of Innovation and Development were created, both dependent on the SUNACRIP, by means of Order Number 092-2021 published in official gazette number 42,214 of the Bolivarian Republic of Venezuela on September 16, 2021 (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2021). The official document consists of four articles and contains the attributes of both municipalities.

As part of the regulatory compendium approved in Venezuela, on September 21, 2020, Ruling Number 084-2020 was published as official gazette number 41,969 of the Bolivarian Republic of Venezuela. This provision regulates digital mining and all the associated processes, that is, the use, import, sale, manufacture, assembly, and repair of mining equipment, as well as the conditioning of accommodation spaces for this equipment. The document consists of 23 articles and establishes the SUNACRIP as the regulatory body for all digital mining activities through the corresponding municipalities (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2020).

Additionally, the creation and attributions of the following two entities that facilitate the operation and surveillance of digital mining are provided: the Comprehensive Registry of Miners (RIM, by its Spanish acronym) and the National Digital Mining Pool. The RIM is a digital application hosted on a SUNACRIP website, through which the licenses and procedures for digital mining must be requested. In addition, the purpose of the National Digital Mining Pool is to bring together all miners who are within the national territory and to encourage international miners to be part of this electronic network. Not only can monitoring and surveillance activities be carried out through this platform, but it also constitutes a means of communication for all participants to speed up digital mining operations and the resolution of blocks (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2020).

It is convenient to point out that everything mentioned above with respect to the regulations of Venezuela applicable to crypto assets has its antecedent in Extraordinary Decree Number 3,196 published as official gazette number 6,346 of the Bolivarian Republic of Venezuela on December 8, 2017 (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2017). This decree established the creation of the Venezuelan Superintendence of Crypto Assets and

Related Activities (SUPCACVEN, by its Spanish acronym), which was later replaced by the SUNACRIP through the decree mentioned in the first paragraph of this section.

The decree of 2017, which consists of 13 articles, intends to strengthen the policies and regulatory measures regarding the purchase and sale of financial assets, including those that use blockchain technology. The power to create new crypto-currencies is established, and activities related to digital mining are mentioned. Likewise, the Venezuelan cryptocurrency Petro, which has as its physical backing barrels of Venezuelan crude oil or other commodities (raw materials or goods) that the Nation decides, is described. For the operation and negotiation of the Petro in the secondary market, the Exchange House was created. In addition to providing and managing the Petro trading platform, the Exchange House is responsible for determining the exchange value of the cryptocurrency, which may be exchanged for its equivalent value in fiat money or some other cryptocurrency (Asamblea Nacional Constituyente de la República Bolivariana de Venezuela, 2017).

## RESULTS AND DISCUSSION

Table 1 presents the information obtained from the seven countries previously analyzed. The type of document issued by each country and its year of enactment, as well as the official name published for its observance at the national level, are listed in this table.

Of the countries analyzed, only Brazil, Chile, El Salvador, and Mexico approved laws through their respective legislative processes. Only two countries, Brazil and El Salvador, have implemented specific laws for the trading of virtual assets or cryptocurrencies.

El Salvador has been a benchmark not only in Latin America but also internationally for the approval of a law specifically designed to regulate Bitcoin as a legal tender. Similarly, Brazil recently passed a law to regulate transactions with virtual assets within its country.

Both Chile and Mexico have a fintech act that regulates the financial services offered within their countries under digital schemes or technological platforms, including those that operate with cryptocurrencies or crypto assets. In fact, Mexico was the first country to publish a law on this issue.

Table 1.

m cn l	10.1	TZ CD
Types of Regulations	by Country and	Year of Enactment

	Law	Regulation	Decree	Resolution	Providence	Technical document	Guide
Argentina		$2023^{1}$		20142			
Brazil	20223		20234				
Chile	20235						
Colombia						20236	20207
El Salvador	$2021^{8} \\ 2021^{9}$						
Mexico	201810					202011	
Venezuela			$\begin{array}{c} 2017^{12} \\ 2019^{13} \end{array}$		$2020^{14} \\ 2021^{15}$		

<sup>&</sup>lt;sup>1</sup> Regulation of Futures Contracts on the Bitcoin Matba Rofex Index

Source: Own elaboration with information obtained from official websites.

Venezuela was the first country in Latin America to approve some type of regulation applicable to crypto assets or cryptocurrencies, but it did so at the decree level. In this case, it is a regulation issued by the Executive Power through which the Comprehensive Crypto Asset System is created. Venezuelan regulations include two decrees and two orders.

In the case of Argentina, there is a record of the issuance of regulations. However, it is a very specific regulation for the operation of derivative instruments with reference to an index that measures the variation in the price of Bitcoin. General application documents are issued in Argentina at the resolution level.

<sup>&</sup>lt;sup>2</sup> Resolution 300/2014 "Virtual Currencies—Amendment to Resolution No. 70/2011"

<sup>&</sup>lt;sup>3</sup> Law No. 14.478

<sup>&</sup>lt;sup>4</sup> Decree No. 11.563

<sup>&</sup>lt;sup>5</sup> Law that promotes competition and financial inclusion through innovation and technology in the provision of financial services (Fintech Act)

<sup>&</sup>lt;sup>6</sup>Technical Guide Number 20 Crypto Assets: Accounting Management in Colombia

 $<sup>^7</sup>$ Blockchain reference guide for the adoption and implementation of projects in the Colombian State

<sup>&</sup>lt;sup>8</sup> Bitcoin Act

<sup>&</sup>lt;sup>9</sup> Bitcoin Trust Creation Act

<sup>&</sup>lt;sup>10</sup> LRITF or Fintech Act

<sup>&</sup>lt;sup>11</sup> Financial Reporting Standard NIF C-22 Cryptocurrencies

<sup>&</sup>lt;sup>12</sup> Extraordinary Decree Number 3,196

<sup>&</sup>lt;sup>13</sup> Constituent Decree on the Comprehensive Crypto Asset System

<sup>&</sup>lt;sup>14</sup> Providence Number 084-2020

<sup>&</sup>lt;sup>15</sup> Providence Number 092-2021

Finally, Colombia issued a technical guidance document for the accounting treatment of crypto assets and a reference guide for the management of blockchain technology in government activities. The technical document has characteristics and scope very similar to those issued in Mexico in 2020. Both the Colombian and Mexican documents were prepared and issued by groups of accounting professionals in their respective countries.

Table 2 shows a comparison of some characteristics identified in the different regulatory documents of the countries analyzed.

Table 2.

## Characteristics of Regulations by Country

	Argentina	Brazil	Chile	Colombia	El Salvador	Mexico	Venezuela
Defines cryptocurrencies or crypto assets	X	X	X	X	X	X	X
Establishes rules for its accounting or recognition				X		X	X
Provides methods for or forms of valuation				X	X	X	X
Defines guidelines for auditing operations and/or accounting records				X	X		X
Regulates its use as a means of exchange (legal tender)			X		X		X
Describes mechanisms for the prevention of money laundering and terrorist financing	X	X	X	X	X	X	X
Outlines protection mechanisms for investors and/ or service providers	X	X	X			X	X
Sets rules for the corresponding taxing					X		
Designates a regulatory entity		X	X		X	X	X
Considers using an "open banking" system			X				
Considers issuing sovereign cryptocurrencies							X
Regulates or encourages digital mining						X	X

Source: Own elaboration with information obtained from official websites.

The only two characteristics present in all the regulatory documents analyzed are the definition of crypto assets or cryptocurrencies and the establishment of guidelines for the prevention of money laundering and the financing of illicit activities.

Each regulatory document has a different scope and intention. However, there are many similarities between the two fintech acts approved by Chile and Mexico, and the latter complemented its legal regulations with the technical document issued by the IMCP.

The intention to regulate accounting aspects through the issuance of regulatory documents for the valuation, recognition, presentation, and audit of operations with cryptocurrencies has been covered in Colombia, Mexico, and Venezuela. However, El Salvador considers only guidelines for the valuation of cryptocurrencies and the audit of the Bitcoin Trust.

As mentioned by Dhali et al. (2022), countries that have implemented regulations have focused on describing and mitigating the risks associated with the use of cryptocurrencies or crypto assets, as well as regulating entities that provide services for their operation. Such a situation can be observed in the current regulations of Argentina, Brazil, Chile, Colombia, and Mexico. In the cases of El Salvador and Venezuela, although protection against risks is also sought, there is a vision that extends to the circulation of cryptocurrencies and their acceptance as a means of payment.

#### CONCLUSIONS

The analysis of the results shows the regulatory and legal advances that the following seven Latin American countries have made with respect to the regulation of crypto-currencies or crypto assets: Argentina, Brazil, Chile, Colombia, El Salvador, Mexico, and Venezuela.

All the countries included in this study have some type of regulation applicable to Bitcoin. However, there are some differences across countries considering the type of regulations in force, as well as their consequent scope and applicability. The main conclusions of the study are as follows:

1. Despite the fact that the seven countries analyzed have some type of regulation applicable to Bitcoin, the regulatory documents of Argentina and Brazil have a very limited scope. Neither supervision nor surveillance

guidelines are established for cryptocurrency operations, nor is the entity empowered to do so. It is convenient to clarify that Brazil is in the process of implementing its corresponding legislation, which was recently approved.

- 2. In the case of El Salvador, although there is a special law and the use of Bitcoin has been promoted for quite some time in that country, it is considered necessary to strengthen the regulation by establishing mechanisms for the protection of all stakeholders—service providers, investors, financial entities, and consumers, with the latter being those individuals or companies that make payments with Bitcoin.
- 3. Only Chile, El Salvador, and Venezuela consider in their regulation the use of cryptocurrencies as a means of exchange or legal tender. The rest of the countries analyzed would have to include a section in their regulations that expressly authorizes the use of cryptocurrencies as a means of exchange.
- 4. The regulated exercise of mining can be carried out in Mexico and Venezuela.

The regulations in force in the seven countries included in this study show the concern of governments and civil society to regulate operations that involve the use of cryptocurrencies or crypto assets. All the countries analyzed have mechanisms for the prevention of money laundering, terrorist financing, and the use of resources of illicit origin, all in reference to the trading of cryptocurrencies. However, investors and service providers enjoy legal protection for their operations with cryptocurrencies in the following countries: Argentina, Brazil, Chile, Mexico, and Venezuela.

Additionally, all individual efforts must be brought together through international cooperation agreements to ensure that the regulation has an international scope of application, as required by the operational dynamics of cryptocurrencies. To achieve this, it will be necessary to establish uniform criteria that eliminate differences in approach among countries. Harmonizing concepts, definitions, their nature, and the scope of the law will require a regional consensus to establish a coherent framework. While all countries have mechanisms to prevent money laundering and terrorist financing, it will also be necessary to strengthen current regulations by including comprehensive mechanisms to protect all participants; harmonized regulations in this area would offer greater cross-border security. Similarly, harmonizing guidelines for the accounting, valuation, and auditing of cryptocurrencies is being considered, which would allow for comparability and financial transparency

in the region. Some countries have designated regulatory bodies, such as Brazil, Chile, Mexico, and Venezuela. However, coordination among these national bodies is of utmost importance, as is the design of a proposed regional supervisory model that optimizes oversight of the cryptocurrency market.

Finally, the fulfillment of goal 10.5 of UN SDG10, in the Latin American context, is still pending. Although important advances have been made in some Latin American countries, other countries have regulations that require strengthening the content and legal scope.

#### **ACKNOWLEDGMENTS**

We express our institutional gratitude to the Autonomous University of Nuevo Leon and the Autonomous University of Nayarit for establishing policies and actions for research development, which prompted the completion of this study. We also express our gratitude to the Latin American Association of Accounting and Administration Faculties and Schools for authorizing the survey to be conducted among academics at affiliated institutions in the countries selected for the study. We also personally express our gratitude to Jorge Manjarrez Rivera, PhD, for his initial review of the research and his recommendations for improving its structure.

#### **FUNDING**

This article is part of the dissemination of results from the project "Overview of the Regulations Applicable to Cryptocurrencies or Crypto Assets in Latin American Countries," approved under the University Productivity through Research call and funded with resources from the Special Tax allocated to the Autonomous University of Nayarit for the 2023 fiscal year.

#### CONFLICTS OF INTEREST STATEMENT

The authors declare no conflicts of interest with the subject matter, nor with the authorities or governments of the countries selected for the study. They have no personal or collective interest in highlighting or discrediting the progress made in implementing specific regulations in the countries under analysis. The information was obtained from official and formal sources, based on direct electronic research.

#### **AUTHORS' CONTRIBUTIONS**

Idi Amin Germán Silva-Jug: Conceptualization, Methodology, Project administration, Formal analysis, and Writing—Original draft

Klender Aimer Cortez Alejandro: Supervision, Data curation, Validation, and Writing—Review & editing

Adrián Wong Boren: Validation, Writing—Review & editing.

Roberto Chiquet Jiménez: Resources, Visualization

## REFERENCES

- 1. Asamblea Nacional Constituyente de la República Bolivariana de Venezuela. (2017, December 8). Decreto No. 3.196: Autoriza la creación de la Superintendencia de los Criptoactivos y Actividades Conexas (Gaceta Oficial No. 6.346). http://spgoin.imprentanacional.gob.ve/cgi-win/be\_alex.cgi?Acceso=T028700022296/0&Nombrebd=spgoin&TipoDoc=GCTOF&Sesion=29425751
- Asamblea Nacional Constituyente de la República Bolivariana de Venezuela. (2019, January 30).
   Decreto constituyente sobre el sistema integral de criptoactivos (Gaceta Oficial No. 41.575). http://www.minci.gob.ve/wp-content/uploads/2019/01/Gaceta-Oficial-Decreto-Constituyente-sobre-el-Sistema-Integral-de-Criptoactivos.pdf
- 3. Asamblea Nacional Constituyente de la República Bolivariana de Venezuela. (2020, September 21). Providencia No. 084-2020 que regula la minería digital y procesos asociados (Gaceta Oficial No. 41.969). http://spgoin.imprentanacional.gob.ve/cgi-win/be\_alex.cgi?Documento=T028700033923/0&Nombrebd=spgoin&CodAsocDoc=2305&t04=1&t05=png&Sesion=1914764713
- 4. Asamblea Nacional Constituyente de la República Bolivariana de Venezuela. (2021, September 16). Providencia No. 092-2021 que suprime la Intendencia de Promoción y Desarrollo de Criptoactivos y Actividades Conexas y crea nuevas intendencias (Gaceta Oficial No. 42.214). http://spgoin.imprentanacional.gob.ve/cgi-win/be\_alex.cgi?Acceso=T028700036770/0&Nombrebd=spgoin&Sesion=443563721
- 5. Cámara de Diputadas y Diputados de Chile. (2021, September 3). Proyecto de ley que promueve la competencia e inclusión financiera a través de la innovación y tecnología en la prestación de servicios financieros (Boletín 14570-05). https://www.camara.cl/legislacion/ProyectosDeLey/tramitacion.aspx?prmID=15054&prmBOLETIN=14570-05
- Câmara dos Deputados (Brasil). (2022, December 22). Lei nº 14.478 (Diário Oficial da União
   — seção 1, p. 3). https://www2.camara.leg.br/legin/fed/lei/2022/lei-14478-21-dezembro-2022793516-publicacaooriginal-166582-pl.html
- 7. Câmara dos Deputados (Brasil). (2023, June 13). Decreto nº 11.563, que regulamenta a Lei nº 14.478, de 21 de dezembro de 2022 (Diário Oficial da União seção 1, p. 9). https://www2.camara.leg.br/legin/fed/decret/2023/decreto-11563-13-junho-2023-794295-publicacaooriginal-168062-pe.html
- 8. Comisión Económica para América Latina y el Caribe [CEPAL]. (2023). Estudio económico de América Latina y el Caribe 2023. http://repositorio.cepal.org/handle/11362/67989

- 9. Comisión Nacional de Valores. (2023, April 11). La CNV aprobó futuros basados en índice Bitcoin. https://www.argentina.gob.ar/noticias/la-cnv-aprobo-futuros-basados-en-indice-bitcoin
- Congreso de la Unión. (2018, March 9). Ley para regular las instituciones de tecnología financiera (LRITF). Diario Oficial de la Federación (DOF) No. 282. https://www.diputados.gob.mx/ LeyesBiblio/ref/lritf.htm
- Congreso Nacional de Chile. (2023, January 4). Ley que promueve la competencia e inclusión financiera a través de la innovación y tecnología en la prestación de servicios financieros (Ley No. 21.521). https://www.bcn.cl/leychile/navegar?idNorma=1187323
- 12. Consejo Mexicano de Normas de Información Financiera, A.C. (2020). *Normas de información financiera*. IMCP.
- 13. Dhali, M., Hassan, S., & Zulhuda, S. (2022). Decentralized cryptocurrency: A potential regulatory strategy. SSRN. https://doi.org/10.2139/ssrn.4307136
- 14. Gutiérrez Proenza, J. (2022). Las criptomonedas: El Bitcoin y su creciente regulación. Una mirada al futuro. *Pensamiento Científico Latinoamericano*, 1(1), 37–45. https://revistapcl.grupogm.org/ojs/index.php/rpcl/article/view/7/5
- 15. Hemenway Falk, B., & Hammer, S. (2022). A comprehensive approach to crypto regulation. *University of Pennsylvania Journal of Business Law*. https://doi.org/10.2139/ssrn.4245285
- Instituto Nacional de Contadores Públicos de Colombia [INCP]. (2023a, June 5). Criptoactivos: Gestión contable en Colombia (Documento de Orientación Técnica No. 20). https://incp.org.co/wp-content/uploads/2023/06/Orientacion-20-%E2%80%93-Criptoactivos-CTCP.pdf
- 17. Instituto Nacional de Contadores Públicos de Colombia [INCP]. (2023b, June 9). CTCP emite orientación técnica sobre criptoactivos. https://incp.org.co/ctcp-emite-orientacion-tecnica-sobre-criptoactivos/
- Ministerio de Tecnologías de la Información y las Comunicaciones. (2020, December). Guía de referencia de blockchain para la adopción e implementación de proyectos en el Estado Colombiano. https://gobiernodigital.mintic.gov.co/692/articles-161810 pdf.pdf
- Mohsin, K. (2022). Cryptocurrency legality and regulations an international scenario. *International Journal of Cryptocurrency Research*, 2(1), 19–29. https://doi.org/10.51483/ IJCCR.2.1.2022.19-29
- Ordónez-Sánchez, S. G., Hernández-Barrera, G., & Sánchez-Ruanova, S. (2020). Ley Fintech
  y la regulación para criptomoneda Bitcoin. Vincula Tégica, 1647–1657. https://doi.org/10.29105/
  vtga6.2-674
- 21. Santiago, C. L. (2022). La criptomoneda tipo bitcoin y su naturaleza jurídica de acuerdo con la legislación peruana, periodo 2021 [Bachelor's thesis, Universidad Privada del Norte].
- 22. Scott, H. S., Gulliver, J., & Kortje, C. (2023). A review of cryptoasset market structure and regulation in the United States. SSRN. https://doi.org/10.2139/ssrn.4344838
- Unidad de Información Financiera. (2014, July 10). Resolución 300/2014: Monedas virtuales
   — modificación Resolución N° 70/2011. https://www.argentina.gob.ar/normativa/nacional/resoluci%C3%B3n-300-2014-231930/texto
- 24. United Nations. (2023, August 15). Sustainable development goals: Inequality. https://www.un.org/sustainabledevelopment/inequality/