

CRIPATOMONEDAS Y LA TRANSFORMACIÓN DE LA ECONOMÍA MUNDIAL: INNOVACIÓN FINANCIERA, DESAFÍOS REGULATORIOS Y ESTABILIDAD ECONÓMICAMoisés Ignacio Palacios¹E-mail: mipalacios@unan.edu.niORCID: <https://orcid.org/0000-0003-4669-9497>¹ Universidad Nacional Autónoma de Nicaragua. Nicaragua.**Suggested Citation (APA, 7th edition)**Palacios, M. I. (2026). Cryptocurrencies and the transformation of the global economy: financial innovation, regulatory challenges, and economic stability. *Revista UGC*, 4(3), 48-57.**Submission:** 04/20/2026**Acceptance:** 06/02/2026**Publication:** 07/01/2026**ABSTRACT**

This study analyzes the growing influence of cryptocurrencies on the global economy and examines the opportunities and challenges generated by the rapid expansion of digital financial assets. The research focuses on the economic, technological, financial, and regulatory dimensions associated with cryptocurrencies and blockchain technology. Using a qualitative and descriptive methodology based on a systematic review of academic literature and institutional reports published between 2018 and 2025, the study evaluates how cryptocurrencies are reshaping international financial systems, commercial activities, and economic governance. The findings indicate that cryptocurrencies have contributed significantly to financial innovation by facilitating decentralized transactions, improving accessibility to financial services, and promoting digital economic participation, particularly in developing and emerging economies. The study also demonstrates that blockchain technologies are transforming international trade, payment systems, and investment activities through greater transaction efficiency and reduced operational costs. However, the research reveals that the increasing integration of crypto assets into global financial markets has intensified concerns related to price volatility, macroeconomic instability, financial crime, cybersecurity, and regulatory uncertainty. Furthermore, the analysis highlights that the decentralized and transnational nature of cryptocurrencies complicates governmental supervision and challenges traditional financial governance structures. The absence of harmonized international regulations has created legal inconsistencies and increased systemic risks within the international financial system. The study concludes that cryptocurrencies represent both opportunities

for economic modernization and significant challenges for financial stability and regulatory authorities. Consequently, balanced international regulatory frameworks and stronger global cooperation are essential to ensure the sustainable integration of cryptocurrencies into the future global economy.

Keywords:

Cryptocurrencies, blockchain technology, financial regulation, global economy, financial stability, digital finance.

RESUMEN

Este estudio analiza la creciente influencia de las criptomonedas en la economía mundial y examina las oportunidades y desafíos generados por la rápida expansión de los activos financieros digitales. La investigación se centra en las dimensiones económicas, tecnológicas, financieras y regulatorias asociadas con las criptomonedas y la tecnología blockchain. Mediante una metodología cualitativa y descriptiva basada en una revisión sistemática de literatura académica e informes institucionales publicados entre 2018 y 2025, el estudio evalúa cómo las criptomonedas están transformando los sistemas financieros internacionales, las actividades comerciales y la gobernanza económica. Los resultados indican que las criptomonedas han contribuido significativamente a la innovación financiera al facilitar transacciones descentralizadas, mejorar el acceso a los servicios financieros y promover la participación económica digital, especialmente en economías en desarrollo y emergentes. El estudio también demuestra que las tecnologías blockchain están transformando el comercio internacional, los sistemas de pago y las actividades de inversión mediante una mayor eficiencia en las transacciones



y la reducción de costos operativos. Sin embargo, la investigación revela que la creciente integración de los criptoactivos en los mercados financieros globales ha intensificado las preocupaciones relacionadas con la volatilidad de los precios, la inestabilidad macroeconómica, los delitos financieros, la ciberseguridad y la incertidumbre regulatoria. Asimismo, el análisis destaca que la naturaleza descentralizada y transnacional de las criptomonedas complica la supervisión gubernamental y desafía las estructuras tradicionales de gobernanza financiera. La ausencia de regulaciones internacionales armonizadas ha generado inconsistencias legales y aumentado los riesgos sistémicos dentro del sistema financiero internacional. El estudio concluye que las criptomonedas representan tanto oportunidades para la modernización económica como importantes desafíos para la estabilidad financiera y las autoridades regulatorias. En consecuencia, marcos regulatorios internacionales equilibrados y una cooperación global más sólida son esenciales para garantizar la integración sostenible de las criptomonedas en la futura economía mundial.

Palabras clave:

Criptomonedas, tecnología blockchain, regulación financiera, economía mundial, estabilidad financiera, finanzas digitales.

INTRODUCTION

The rapid expansion of digital technologies has transformed nearly every dimension of the global economy, redefining communication systems, commercial activities, financial transactions, and international trade. In recent years, one of the most disruptive innovations within the financial sector has been the emergence of cryptocurrencies, decentralized digital assets that operate through blockchain technology without direct control from governments or central banks. Since the introduction of Bitcoin in 2009, cryptocurrencies have evolved from a small experimental technological project into a global financial phenomenon with profound implications for economic systems, monetary policies, financial markets, and international governance. The increasing adoption of cryptocurrencies by individuals, corporations, investors, and even governments demonstrates that digital assets are becoming a central element in the future of global finance.

The growth of cryptocurrencies is closely associated with the digital transformation of financial systems and the search for alternatives to traditional banking structures. Unlike conventional fiat currencies issued by central banks, cryptocurrencies enable peer-to-peer financial transactions through decentralized networks that rely on cryptographic verification and blockchain technology. This technological structure eliminates the need for intermediaries such as commercial banks, potentially reducing transaction costs, increasing transaction speed, and improving transparency. As a result, cryptocurrencies have attracted significant global attention, particularly

among younger generations, technology companies, and populations in countries with limited access to traditional banking services.

One of the most important arguments supporting cryptocurrencies is their potential contribution to financial inclusion and economic empowerment. In many developing and emerging economies, millions of individuals remain excluded from formal banking systems due to geographic, economic, or institutional barriers. Cryptocurrencies offer alternative mechanisms for accessing financial services, making international transactions, and participating in digital commerce without requiring traditional bank accounts. El Hajj & Farran (2024) emphasize that cryptocurrencies in emerging markets may enhance financial inclusion by providing accessible financial tools and increasing economic participation among underserved populations. In this sense, cryptocurrencies are often presented as instruments capable of democratizing finance and promoting broader economic opportunities on a global scale.

At the same time, the rapid expansion of crypto assets has been driven by several macroeconomic and technological factors. Globalization, inflationary pressures, technological innovation, economic uncertainty, and distrust in traditional financial institutions have all contributed to the growing popularity of cryptocurrencies. Feyen et al. (2022) explains that crypto-asset activity around the world is strongly influenced by macro-financial drivers and evolving economic conditions. In periods of economic instability or currency depreciation, cryptocurrencies are increasingly perceived by some investors as alternative stores of value and hedging instruments against inflation or financial crises. Furthermore, the widespread adoption of mobile technologies and digital payment systems has accelerated the integration of cryptocurrencies into everyday economic activities.

Despite these opportunities, cryptocurrencies also present serious risks and challenges for the global economy. One of the principal concerns involves the extreme volatility of cryptocurrency markets. The prices of digital assets such as Bitcoin and Ethereum can fluctuate dramatically within short periods of time, often influenced by speculation, investor sentiment, geopolitical events, and technological developments. Such volatility creates uncertainty for investors and limits the ability of cryptocurrencies to function effectively as stable mediums of exchange. Moreover, rapid price fluctuations can contribute to speculative bubbles and financial instability, potentially affecting broader financial systems if cryptocurrencies become increasingly interconnected with traditional markets.

The relationship between cryptocurrencies and traditional financial markets has become particularly evident during periods of global crisis and economic uncertainty. Ballis et al. (2025) argue that cryptocurrency dynamics during global crises reveal a growing interaction between Bitcoin

and conventional financial markets. Their findings suggest that cryptocurrencies are no longer isolated financial instruments operating independently from the global economy. Instead, they increasingly influence and are influenced by international financial conditions, investor behavior, and macroeconomic developments. This growing interdependence raises concerns about the possibility that disruptions within cryptocurrency markets could generate broader consequences for global financial stability.

Another major challenge associated with cryptocurrencies involves regulation and financial supervision. Because cryptocurrencies operate through decentralized networks and frequently cross-national borders, governments and regulatory authorities face considerable difficulties in monitoring transactions and enforcing financial regulations. In many cases, cryptocurrency transactions occur outside conventional banking systems, creating opportunities for illegal financial activities such as money laundering, tax evasion, cybercrime, terrorist financing, and fraud. The anonymity or pseudonymity associated with some digital assets further complicates regulatory oversight and law enforcement efforts.

The absence of harmonized international regulations has become one of the most significant issues surrounding cryptocurrencies. Different countries have adopted widely varying approaches toward crypto assets, ranging from full legalization and institutional integration to severe restrictions or outright bans. This fragmented regulatory environment creates legal uncertainty for investors and businesses while increasing the risk of regulatory arbitrage, where individuals or corporations exploit differences between national legal systems to avoid compliance requirements. Such inconsistencies make international cooperation increasingly necessary to establish common standards capable of addressing the global nature of digital financial markets.

International organizations have repeatedly warned about the risks that cryptocurrencies may pose to financial stability and global economic governance. The International Monetary Fund (2021) highlighted that the rapid expansion of the crypto ecosystem could threaten financial stability if effective regulatory and supervisory frameworks are not implemented. According to the organization, the growing integration between crypto-assets and traditional financial institutions increases systemic vulnerabilities and may amplify economic shocks during periods of crisis. Similarly, the International Monetary Fund (2024) emphasized the urgent need for coordinated international responses and stronger supervisory mechanisms capable of addressing the changing landscape of crypto-assets and decentralized finance.

The debate surrounding cryptocurrencies also extends to issues of monetary sovereignty and the future role of central banks. Traditional monetary systems are based on the authority of governments and central banks to issue and

regulate national currencies. However, decentralized digital currencies challenge this structure by creating alternative systems of exchange and value storage that operate independently from state institutions. As cryptocurrencies continue to expand globally, many governments have become concerned about their potential impact on monetary policy, capital controls, taxation, and national economic stability. In response to these developments, numerous countries are exploring the creation of Central Bank Digital Currencies as a means of modernizing payment systems while preserving governmental control over monetary systems.

Furthermore, the growing influence of cryptocurrencies has intensified discussions regarding global governance and the capacity of international institutions to regulate emerging digital economies. The decentralized nature of blockchain technology challenges traditional models of financial governance that rely on centralized institutions and national legal frameworks. Consequently, cryptocurrencies represent not only an economic and technological innovation but also a broader political and institutional challenge for the international community. The increasing complexity of decentralized finance platforms, digital wallets, and cross-border crypto transactions demonstrates the urgent need for international collaboration capable of balancing innovation with financial security and consumer protection.

In addition to financial stability concerns, cryptocurrencies also generate social and ethical debates. Critics argue that the cryptocurrency industry contributes to environmental problems due to the high energy consumption associated with certain blockchain validation mechanisms, particularly proof-of-work systems such as Bitcoin mining. Others question the speculative culture surrounding cryptocurrencies and the unequal distribution of wealth generated within digital asset markets. Meanwhile, supporters maintain that blockchain technology has the potential to promote transparency, decentralization, and economic innovation in ways that traditional financial systems have failed to achieve. These conflicting perspectives illustrate the complexity of evaluating the long-term implications of cryptocurrencies for the global economy.

The rapid development of cryptocurrencies demonstrates that digital financial technologies are reshaping the foundations of international economic systems. Their influence extends beyond financial markets into areas such as public policy, international trade, investment strategies, technological innovation, and economic governance. Consequently, understanding the opportunities and risks associated with cryptocurrencies has become essential for governments, financial institutions, researchers, and society.

Therefore, this article examines the impact of cryptocurrencies on the global economy by analyzing their role in financial inclusion, technological innovation, market

transformation, and international economic development; while also exploring the major challenges they pose to financial stability, regulation, and global governance. Through the analysis of recent academic literature and reports from international organizations, this study seeks to provide a comprehensive understanding of how cryptocurrencies are transforming the international financial landscape and shaping the future of the global economy.

MATERIALS AND METHODS

This study was developed using a qualitative and descriptive research approach based on a systematic review of academic literature and institutional reports related to cryptocurrencies and their impact on the global economy. The research focused on examining the economic, financial, technological, and regulatory dimensions associated with the expansion of digital assets in international markets. Through this methodological approach, the study sought to identify the principal opportunities, risks, and challenges generated by cryptocurrencies within contemporary financial systems.

The materials used in this research consisted primarily of peer-reviewed journal articles, institutional publications, and international reports published between 2018 and 2025. The selected sources addressed topics such as cryptocurrency regulation, financial inclusion, macroeconomic stability, financial crime, international trade, global governance, monetary sovereignty, and Central Bank Digital Currencies. Academic databases, digital repositories, and institutional websites were consulted to obtain reliable and updated information relevant to the objectives of the study. In addition, publications from international organizations, including reports from the International Monetary Fund and the World Bank, were incorporated to provide broader perspectives regarding the global implications of crypto assets.

The selection of sources followed criteria based on academic relevance, publication quality, thematic consistency, and contribution to the understanding of cryptocurrencies within the international economic context. Studies that directly examined the relationship between cryptocurrencies and financial systems, regulatory frameworks, economic development, or market stability were prioritized. Likewise, recent publications were emphasized in order to incorporate contemporary debates and emerging trends associated with digital finance and blockchain technologies.

For data collection, the study employed documentary analysis techniques through the detailed examination of theoretical arguments, empirical findings, and institutional assessments contained in the selected literature. The collected information was organized according to thematic categories, including financial innovation, economic inclusion, market volatility, financial regulation, monetary policy, taxation, cybersecurity, and global governance.

This classification facilitated the identification of recurring patterns, converging perspectives, and contrasting viewpoints among the analyzed sources.

The analytical process involved comparative and interpretative methods aimed at evaluating the similarities and differences between the selected studies. Particular attention was given to identifying how cryptocurrencies influence economic structures, regulatory systems, and financial markets at both national and international levels. Furthermore, the study examined how technological developments associated with blockchain infrastructure are reshaping institutional responses and transforming global financial dynamics.

The research did not rely on experimental procedures or statistical modeling because its primary objective was to develop a comprehensive conceptual understanding of cryptocurrencies and their implications for the world economy. Instead, the study emphasized critical analysis and theoretical interpretation to synthesize existing knowledge and provide an integrated perspective regarding the opportunities and risks associated with digital assets. By combining academic literature with institutional reports, the methodology allowed for a multidimensional analysis capable of addressing economic, political, legal, and technological aspects simultaneously.

RESULTS AND DISCUSSION

The analysis of recent literature and institutional reports demonstrates that cryptocurrencies have become increasingly influential within the global financial system, generating both significant opportunities and complex economic challenges. The findings indicate that the rapid expansion of crypto assets has transformed financial markets, accelerated digital innovation, and encouraged new forms of economic interaction. At the same time, the evidence reveals that cryptocurrencies continue to create concerns related to financial volatility, regulatory uncertainty, economic security, and institutional governance.

One of the most significant findings emerging from the literature is the growing role of cryptocurrencies in promoting financial accessibility, particularly within emerging economies. Digital assets provide individuals with alternative methods for storing value, transferring funds, and accessing international markets without relying on traditional banking institutions. This aspect is especially important in regions where financial infrastructure remains underdeveloped or where large segments of the population remain excluded from formal financial systems. El Hajj & Farran (2024) explain that cryptocurrencies can contribute to economic empowerment by reducing barriers to financial participation and facilitating access to digital financial services. The study suggests that blockchain-based financial systems may offer practical solutions for populations affected by banking limitations, currency instability, or high transaction costs.

The findings also reveal that the increasing adoption of cryptocurrencies is strongly connected to technological innovation and digital transformation. Blockchain technology has introduced new possibilities for transparency, decentralization, and transaction efficiency within financial systems. As a result, cryptocurrencies are no longer limited to speculative investment activities but are increasingly integrated into broader financial ecosystems, including decentralized finance platforms, international remittances, and digital payment systems. Feyen et al. (2022) demonstrate that the expansion of crypto-asset activity has been influenced by technological development, economic uncertainty, and changes in investor behavior across global markets. Their analysis indicates that digital assets are progressively becoming part of the international financial structure rather than remaining isolated technological experiments.

However, the results also highlight the substantial risks associated with the growing influence of cryptocurrencies. One of the most frequently identified concerns is the extreme volatility that characterizes cryptocurrency markets. The rapid and unpredictable fluctuations in the value of digital assets create uncertainty for investors and limit the capacity of cryptocurrencies to function as stable financial instruments. This instability becomes particularly problematic during periods of global economic stress, where investor reactions and speculative behavior may intensify market disruptions. Ballis et al. (2025) found that the relationship between Bitcoin and traditional financial markets has strengthened during periods of global crisis, suggesting that cryptocurrencies are becoming increasingly interconnected with broader economic systems. This growing integration increases the possibility that turbulence within cryptocurrency markets could affect international financial stability.

Another important result emerging from the analysis concerns the limitations of existing regulatory frameworks. Governments and financial authorities around the world continue to face difficulties in supervising cryptocurrency activities due to the decentralized and transnational nature of blockchain systems. Unlike conventional financial institutions, cryptocurrency networks often operate without centralized oversight, making it difficult to enforce anti-money laundering regulations, taxation policies, and consumer protection laws. The absence of consistent international standards has created fragmented regulatory environments in which countries adopt significantly different legal approaches toward digital assets. Some governments actively encourage cryptocurrency innovation, while others impose strict restrictions or prohibitions due to concerns regarding economic security and financial crime.

The studies analyzed suggest that this regulatory fragmentation generates uncertainty for both investors and institutions. Inconsistent legal frameworks may discourage

legitimate innovation while simultaneously creating opportunities for regulatory arbitrage and illicit activities. The International Monetary Fund (2021) warns that the rapid expansion of the crypto ecosystem could amplify systemic vulnerabilities if effective regulatory and supervisory mechanisms are not implemented. The report emphasizes that the increasing interaction between crypto-assets and traditional financial institutions may expose global markets to new forms of economic risk, particularly during periods of financial instability.

The findings further indicate that cryptocurrencies have introduced important challenges related to monetary sovereignty and governmental authority over financial systems. Because decentralized digital assets operate independently from central banks, their expansion may weaken the ability of governments to control monetary policy, regulate capital flows, and manage inflation. This concern has encouraged many countries to explore the development of Central Bank Digital Currencies as alternatives capable of combining digital innovation with institutional oversight. The emergence of Central Bank Digital Currencies reflects the recognition that digital finance will continue to shape the future of economic governance and international monetary systems.

In addition to economic concerns, the literature reveals broader implications for global governance and institutional cooperation. The decentralized nature of cryptocurrencies challenges traditional regulatory models based on national legal systems and centralized financial supervision. Consequently, international organizations increasingly emphasize the necessity of coordinated global responses capable of addressing the cross-border nature of digital financial activities. The International Monetary Fund (2024) argues that stronger international collaboration is necessary to develop effective regulatory strategies that balance financial innovation with economic stability and consumer protection. Without international coordination, regulatory gaps may continue to undermine the effectiveness of national policies and increase systemic vulnerabilities within global financial markets.

Another relevant finding involves the role of cryptocurrencies during periods of economic uncertainty and geopolitical instability. In some contexts, digital assets have been perceived as alternative stores of value capable of protecting wealth against inflation or currency depreciation. This perception has contributed to the growing popularity of cryptocurrencies in countries experiencing economic crises or unstable monetary conditions. Nevertheless, the speculative nature of cryptocurrency investments means that digital assets may also amplify financial instability rather than reduce it. The evidence suggests that cryptocurrencies function simultaneously as opportunities for financial diversification and as potential sources of systemic economic risk.

The discussion of these findings demonstrates that cryptocurrencies represent a highly complex phenomenon that cannot be understood exclusively through technological or financial perspectives. Their influence extends into economic governance, international regulation, political authority, and social transformation. On one hand, cryptocurrencies encourage innovation, expand financial accessibility, and accelerate the modernization of financial systems. On the other hand, they generate significant challenges related to market volatility, regulatory enforcement, financial security, and institutional control.

The results therefore indicate that the future impact of cryptocurrencies on the global economy will largely depend on the capacity of governments, financial institutions, and international organizations to establish balanced and adaptive regulatory frameworks. Excessive restrictions may limit technological innovation and economic opportunities, whereas insufficient regulation may increase financial instability and encourage illicit activities. For this reason, effective governance strategies must seek equilibrium between innovation, market efficiency, financial inclusion, and economic security.

Overall, the analysis confirms that cryptocurrencies are reshaping the international financial landscape and influencing the evolution of global economic systems. Their continued expansion will likely intensify debates regarding regulation, monetary sovereignty, digital finance, and global governance in the coming years. As cryptocurrencies become more integrated into mainstream financial activities, understanding their economic implications will remain essential for policymakers, researchers, and financial authorities worldwide.

Frediani (2024) provides an important contribution by examining how different countries are developing regulatory strategies to address the rapid expansion of cryptocurrencies within the global economy. The study emphasizes that inconsistent international regulations create uncertainty for investors, financial institutions, and governments, limiting the potential benefits of digital assets. Furthermore, the author argues that effective regulation should not suppress technological innovation but rather establish balanced legal frameworks capable of promoting financial security, transparency, and economic growth simultaneously. This perspective is especially relevant because it highlights the necessity of international coordination in an increasingly interconnected financial environment.

In a complementary vein, Abdurashidova (2024) analyzes the broader economic implications of cryptocurrencies and explains how digital assets are reshaping global financial systems. The study identifies both positive and negative consequences associated with cryptocurrency adoption, including increased financial accessibility, faster international transactions, and emerging concerns regarding volatility and regulatory instability. The author contributes to the debate by demonstrating that

cryptocurrencies are no longer marginal financial instruments but influential economic actors capable of affecting global markets and investment dynamics.

Building upon this economic perspective, Anuyahong & Ek-udom (2023) focus specifically on the impact of cryptocurrencies on international trade and commerce. Their research demonstrates that blockchain-based payment systems may reduce transaction costs, accelerate cross-border trade, and improve efficiency within international commercial activities. At the same time, the study recognizes that the absence of universal legal standards complicates the adoption of cryptocurrencies within formal trade systems. Consequently, the authors contribute to understanding how digital currencies could transform international commerce while simultaneously generating regulatory and operational challenges for governments and businesses.

Equally significant, Kayal & Rohilla (2021) offer a comprehensive survey of the existing economic and financial literature on Bitcoin, consolidating previous academic findings regarding cryptocurrency markets, investment behavior, and financial performance. Their contribution is particularly valuable because it synthesizes diverse theoretical and empirical perspectives, enabling researchers to better understand the evolution of cryptocurrency studies within economics and finance. Additionally, the authors emphasize the speculative nature of Bitcoin and the persistent debates surrounding its role as a currency, asset, or store of value.

From a macroeconomic standpoint, Sukomardo et al. (2023) examine the relationship between cryptocurrencies and macroeconomic stability. The study argues that the expansion of digital currencies may influence inflation, monetary policy, capital flows, and financial market stability. The authors stress that governments and central banks face increasing pressure to develop effective regulatory responses capable of minimizing systemic risks without discouraging innovation. Their findings are particularly important because they connect cryptocurrency development with broader concerns regarding national and global economic stability.

Moreover, Normandin et al. (2025) contribute to the discussion by exploring the growing influence of both private digital currencies and Central Bank Digital Currencies. The study demonstrates how digital currencies are transforming relationships between governments, central banks, private corporations, and consumers. The authors highlight that Central Bank Digital Currencies may emerge as strategic tools for preserving monetary sovereignty while responding to the technological transformation of financial systems. Their research broadens the debate by linking cryptocurrencies with the future evolution of central banking and monetary governance.

Turning attention toward taxation issues, Kicova et al. (2025) provide a systematic review of cryptocurrency taxation and tax evasion challenges worldwide. The study reveals that the decentralized and cross-border nature of cryptocurrencies complicates the implementation of effective tax policies and increases opportunities for financial concealment. Furthermore, the authors argue that harmonized international tax regulations are necessary to prevent regulatory loopholes and strengthen financial transparency. Their contribution is especially valuable because it connects cryptocurrency expansion with fiscal governance and international economic accountability.

Likewise, Guo et al. (2025) analyzes cryptocurrencies and Central Bank Digital Currencies from a global perspective, emphasizing the growing competition between decentralized and state-controlled digital financial systems. The authors argue that Central Bank Digital Currencies may provide governments with greater control over monetary systems while preserving many technological advantages associated with cryptocurrencies. Their work contributes to understanding how digital currencies could redefine the future architecture of international financial systems and influence the balance between innovation and governmental authority.

In contrast to more optimistic perspectives, Joebgies et al. (2025) focuses on the risks that crypto-assets pose to financial market stability. Their study argues that the speculative dynamics and interconnectedness of cryptocurrency markets may amplify financial instability, particularly during periods of economic uncertainty. The authors emphasize that the integration of crypto assets into conventional financial systems increases systemic vulnerabilities and creates new challenges for regulators and policymakers. This contribution is highly relevant because it highlights the potential dangers associated with uncontrolled cryptocurrency expansion.

From a governance perspective, Jacobs (2018) examines cryptocurrencies as a global governance challenge that transcends national regulatory boundaries. The study argues that decentralized financial technologies undermine traditional governance mechanisms based on centralized institutions and state authority. Furthermore, the author emphasizes the need for international cooperation capable of addressing the global nature of digital financial systems. Jacobs contributes to the literature by framing cryptocurrencies not only as economic innovations but also as political and institutional challenges for global governance structures.

Similarly, Morton (2020) explores the tension between the decentralized nature of cryptocurrencies and the increasingly regulated global economy. The author argues that cryptocurrencies operate within legal gray areas that complicate traditional regulatory approaches and challenge existing financial laws. The study highlights the contradiction between technological decentralization and

governmental efforts to strengthen financial oversight. As a result, Morton contributes to understanding the legal complexities associated with integrating cryptocurrencies into modern regulatory frameworks.

Adding another dimension to the discussion, Al Naqbi et al. (2025) investigates global trends in cryptocurrency-related financial crime. Their research identifies the increasing use of cryptocurrencies in money laundering, cybercrime, fraud, and illicit financial activities. The authors argue that the anonymity and decentralization associated with digital assets create opportunities for criminal exploitation, thereby intensifying the need for stronger international regulatory cooperation. Their contribution is particularly significant because it connects cryptocurrency growth with emerging security threats within the global financial system.

From a political economy perspective, Chey (2023) proposes a research agenda for understanding cryptocurrencies within the international political economy of money. The study argues that cryptocurrencies challenge traditional assumptions regarding monetary authority, sovereignty, and the role of states within financial systems. The author encourages scholars to examine digital currencies through broader political and institutional frameworks rather than limiting analysis to technological or financial dimensions. This contribution is valuable because it expands the theoretical understanding of cryptocurrencies within global political economy debates.

Furthermore, Zwilling & Lesjak (2023) identify critical gaps, concerns, and unresolved issues associated with the future development of cryptocurrencies. Their study discusses problems related to regulation, cybersecurity, market instability, and public trust while emphasizing that the long-term success of cryptocurrencies depends on resolving these structural weaknesses. The authors contribute to the literature by offering a balanced analysis that recognizes both the innovative potential and the substantial limitations of cryptocurrency systems.

Finally, Chavez-Perez et al. (2025) analyzes the impact of cryptocurrencies and blockchain infrastructure on global financial regulation. The study demonstrates that technological innovation within digital finance is forcing governments and regulatory authorities to redesign legal frameworks and supervisory strategies. The authors emphasize that regulators must adapt rapidly to technological transformation to maintain financial stability and consumer protection. Their contribution is particularly important because it links technological infrastructure with the evolving future of global financial regulation.

Overall, the analyzed studies demonstrate that cryptocurrencies have significantly transformed the global economic and financial landscape by creating both opportunities for innovation and major regulatory and economic challenges. The literature highlights those digital assets

have promoted new forms of financial inclusion, facilitating access to economic and commercial services through decentralized technologies capable of reducing transaction costs and accelerating international operations. In addition, the expansion of cryptocurrencies has been driven by global digitalization, technological innovation, and the growing demand for alternatives to traditional financial systems.

At the same time, the studies reveal that the growth of the crypto ecosystem has increased concerns related to market volatility, macroeconomic stability, and financial security. Several researchers emphasize that the progressive integration of crypto assets into traditional financial markets could amplify systemic risks during periods of economic crisis or financial uncertainty. Furthermore, the decentralized and transnational nature of cryptocurrencies complicates governmental supervision, creating challenges for taxation, financial crime prevention, and the consistent enforcement of international regulations.

Similarly, the reviewed works underline the importance of strengthening international cooperation and developing balanced regulatory frameworks capable of combining technological innovation with economic stability and consumer protection. The literature also highlights the growing interest in Central Bank Digital Currencies as potential instruments for preserving monetary sovereignty in response to the expansion of private cryptocurrencies. Finally, the studies agree that cryptocurrencies can no longer be considered isolated technological or financial instruments, but rather global phenomena capable of influencing economic governance, monetary policy, and the future evolution of the international financial system.

CONCLUSIONS

The study demonstrates that cryptocurrencies have emerged as one of the most transformative developments within the modern global economy, influencing financial systems, international markets, technological innovation, and economic governance. The expansion of digital assets has accelerated the digitalization of finance and introduced alternative mechanisms for conducting transactions, storing value, and accessing financial services. As a result, cryptocurrencies have contributed to the modernization of financial activities and expanded opportunities for participation within digital economies.

The analysis also confirms that cryptocurrencies have significant potential to promote financial inclusion, particularly in developing and emerging economies where access to traditional banking systems remains limited. Decentralized financial technologies may facilitate international transactions, reduce operational costs, and provide alternative financial solutions for underserved

populations. In this regard, cryptocurrencies represent not only technological innovations but also instruments capable of influencing economic accessibility and participation on a global scale.

Nevertheless, the findings reveal that the rapid growth of crypto assets generates substantial risks for economic and financial stability. Market volatility, speculative investment behavior, and the increasing interconnection between cryptocurrency markets and conventional financial systems create vulnerabilities capable of affecting broader economic conditions. The study highlights those cryptocurrencies may intensify financial instability during periods of economic uncertainty if effective regulatory and supervisory mechanisms are not implemented.

Another important conclusion concerns the limitations of existing regulatory frameworks. The decentralized and transnational nature of cryptocurrencies complicates governmental supervision and creates difficulties for taxation, anti-money laundering enforcement, and consumer protection. The absence of harmonized international regulations increases legal uncertainty and enables regulatory inconsistencies between countries. Consequently, international cooperation and coordinated governance strategies are essential for addressing the global challenges associated with digital assets.

The research further indicates that cryptocurrencies are reshaping debates regarding monetary sovereignty, state authority, and the future role of central banks. The emergence of Central Bank Digital Currencies reflects growing governmental interest in adapting monetary systems to technological transformation while preserving institutional oversight and financial stability. This development demonstrates that digital currencies are becoming increasingly important within future economic and monetary structures.

Overall, the study concludes that cryptocurrencies represent both opportunities and challenges for the global economy. Their future impact will largely depend on the capacity of governments, financial institutions, and international organizations to establish balanced regulatory frameworks capable of encouraging innovation while minimizing systemic risks. Therefore, achieving equilibrium between technological progress, financial security, economic inclusion, and effective governance will be essential for ensuring the sustainable integration of cryptocurrencies into the international financial system.

REFERENCES

- Abdurashidova, D. (2024). The impact of cryptocurrencies on the global economy. *European Journal of Management Economics and Business*, 1(3), 201–205. [https://doi.org/10.59324/ejmeb.2024.1\(3\).16](https://doi.org/10.59324/ejmeb.2024.1(3).16)

- Al Naqbi, S. A., Nobanee, H., & Ellili, N. O. D. (2025). Global trends and insights into cryptocurrency-related financial crime. *Research in International Business and Finance*, 75, 102756. <https://doi.org/10.1016/j.ribaf.2025.102756>
- Anuyahong, B., & Ek-udom, N. (2023). The impact of cryptocurrency on global trade and commerce. *International Journal of Current Science Research and Review*, 6(4), 2543–2553. <https://doi.org/10.47191/ijcsrr/V6-i4-37>
- Ballis, A., Karagiorgis, A., Anastasiou, D., & Kallandranis, C. (2025). Cryptocurrency dynamics during global crises: Insights from Bitcoin's interplay with traditional markets. *International Review of Economics & Finance*, 103, 104512. <https://doi.org/10.1016/j.iref.2025.104512>
- Chavez-Perez, J., Melgarejo-Espinoza, R., Sevillano-Vega, V., & Iparraguirre-Villanueva, O. (2025). Impact of cryptocurrencies and their technological infrastructure on global financial regulation: Challenges for regulators and new regulations. *International Journal of Advanced Computer Science and Applications*, 16(4). https://the-sai.org/Downloads/Volume16No4/Paper_80-Impact_of_Cryptocurrencies_and_Their_Technological_Infrastructure.pdf
- Chey, H.-K. (2023). Cryptocurrencies and the IPE of money: An agenda for research. *Review of International Political Economy*, 30(4), 1605–1620. <https://doi.org/10.1080/09692290.2022.2109188>
- El Hajj, M., & Farran, I. (2024). The Cryptocurrencies in Emerging Markets: Enhancing Financial Inclusion and Economic Empowerment. *Journal of Risk and Financial Management*, 17(10), 467. <https://doi.org/10.3390/jrfm17100467>
- Feyen, E. H. B., Kawashima, Y., & Mittal, R. (2022). *Crypto-assets activity around the world: Evolution and macro-financial drivers* (Policy Research Working Paper No. 9962). World Bank. <https://doi.org/10.1596/1813-9450-9962>
- Frediani, M. E. A. (2024). Crafting the future of finance: A comparative analysis of cryptocurrency regulation in the global economy. *Journal of Financial Risk Management*, 13(1). <https://doi.org/10.4236/jfrm.2024.131010>
- Guo, Y., Yousef, E., & Naseer, M. M. (2025). Cryptocurrencies and central bank digital currencies in global perspective. *Journal of Risk and Financial Management*, 18(11), 644. <https://doi.org/10.3390/jrfm18110644>
- International Monetary Fund. (2021). *The crypto ecosystem and financial stability challenges* (Global Financial Stability Report, Chapter 2). <https://www.imf.org/-/media/files/publications/gfsr/2021/october/english/ch2.pdf>
- International Monetary Fund. (2024). *The changing landscape of crypto assets—Considerations for regulatory and supervisory authorities*. <https://www.imf.org/en/news/articles/2024/02/23/sp022324-changing-landscape-crypto-assets-considerations-regulatory-and-supervisory-authorities>
- Jacobs, G. (2018). *Cryptocurrencies & the challenge of global governance*. *Cadmus*, 3(4). <https://cadmus-journal.org/files/pdfreprints/vol3issue4/Cryptocurrencies-and-the-Challenge-of-Global-Governance-GJacobs-Cadmus-V3-I4-Reprint.pdf>
- Joebges, H., Herr, H., & Kellermann, C. (2025). Crypto assets as a threat to financial market stability. *Eurasian Economic Review*, 15, 473–502. <https://doi.org/10.1007/s40822-025-00311-4>
- Kayal, P., & Rohilla, P. (2021). Bitcoin in the economics and finance literature: a survey. *SN business & economics*, 1(7), 88. <https://doi.org/10.1007/s43546-021-00090-5>
- Kicova, E., Fabus, J., Stalmasekova, N., & Kvasnicova-Galovicova, T. (2025). Bitcoin, cryptocurrencies and tax evasion: A systematic literature review on global approaches to cryptocurrency taxation and the challenges for harmonising regulatory frameworks. *Data Science in Finance and Economics*, 5(2), 234–257. <https://doi.org/10.3934/DSFE.2025011>
- Morton, D. T. (2020). The future of cryptocurrency: An unregulated instrument in an increasingly regulated global economy. *Loyola University Chicago International Law Review*, 16, 129. <https://lawcommons.luc.edu/lucilr/vol16/iss1/8>
- Normandin, J., Brunetti, J., Cadillac, N., Casteneda, M., Gelinis, K., McCormick, M., Modol, A., Reynolds, H., Almaraz, J., Guijarro, V., & Solinis, A. (2025). Understanding the impact of digital currencies: From private companies to central banks. *Journal for Global Business and Community*, 16(2). <https://doi.org/10.56020/001c.142902>
- Sukumardojo, T., Pamikatsih, M., Arpianto, Y., Nuraini, A., & Fatmawati, E. (2023). Cryptocurrency and macro-economic stability: Impacts and regulations. *International Journal of Science and Society*, 5(4), 734–745. <https://doi.org/10.54783/ijssoc.v5i4.842>
- Zwilling, M., & Lesjak, D. (2023). The future of cryptocurrency: Gaps, challenges, and concerns. *Issues in Information Systems*, 24(3), 58–70. https://doi.org/10.48009/3_iis_2023_106

Conflicts of Interest:

The author declares no conflicts of interest.

Author Contributions:

Moisés Ignacio Palacios: Conceptualization, data curation, formal analysis, investigation, methodology, supervision, validation, visualization, original draft writing, and writing, review, and editing.

Ethical statement:

The study was based on the analysis of documentary sources and publicly available data, and therefore did not involve the direct participation of human subjects. No personally identifiable information was handled.