The Political Economy of Crypto Assets:

World Dependency on Digital Financialization

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doi: 10.22146/globalsouth.93107

The massive development of technology, the use of data, and information systems have brought the popularity of crypto assets—also known as cryptocurrency—as part of the digital economy in the globalized political economy order. This study aims to capture structuralist criticisms by Karl Marx of crypto assets as a global political economy project and see its massive entanglement in the current global political order. Using the concepts of base and superstructure, this study will dismantle the discourse on the mode of production of commodities that have been questioned based on their digital and intangible commodity. It reveals the reproduction of the surplus labor process as a part of an initial understanding of how the crypto assets work from the social relations network's perspective. In further analysis, this study uses Dependency Theory to view crypto assets as a global system phenomenon that cannot escape the role of multi-sectors that perpetuate the presence of global structuralism in the current global economy. The research utilizes Critical Discourse Analysis (CDA) to investigate the intertwining relationships between crypto assets and world dependency in the international political economy order.

Keywords: *blockchain; cryptocurrency; dependency theory; digitalization; Global South*

Introduction

This study aims to dissect Karl Marx's notion of crypto assets as part of the digital economy instruments in a super-modern society, seeing its massive shift in the current global economic order that derives from the advancement of the usage of data, technology, and globalization. In recent years, the notion of crypto assets—which is also known as cryptocurrency—has changed the relations between stakeholders and actors in the global economic order, where its presence is expected to transform not only banking and financial capabilities but also the people's power relations in the era of neoliberalism (De Filipi & Loveluck, 2016). The crypto assets concept was initially offered as a neoliberal economy project that radicalized Frederik Hayek and Milton Friedman's ambition to end central state control over the production of redistribution of capital flow. Crypto assets system require technological and information systems sophistication as part of the capitalist mode of production, initiating a long historical and dialectical journey in the era of disruption. According to Ethan

Fridmanski (2021), the political economy of crypto assets is a relationship between a capitalist system integrated with advanced computational technology and information systems to create social power relations and political ideology.

The conceptions of the political economy of crypto assets later meet the definition of digital financialization from Le Thanh Ha (2022). Economic transformation in a digital sector should fulfill criteria such as internet connection, digital connectivity, e-business, e-commerce, and e-government. The reality illustrates changes in the scheme of relations and trusts between countries and markets in managing digital finance projects by bypassing government financial institutions. For this reason, a country does not have sufficient legitimacy to regulate the circulation of crypto assets, assessing the impact of cryptographic technology beyond the central bank's power (Filipi & Loveluck, 2016).

I shall underline its initial designation of crypto assets in the global economy as an essential component of the digital economy framework as an alternative digital financial direct payment system to respond to the global financial crisis of 2008 (Bachaev & Abdulazizova, 2020). However, various academia, experts, and researchers have made several critical assumptions on the resilience of the crypto assets system, stating that several drawbacks of volatility market movement are predominant issues. Drawing upon Filipi & Loveluck (2016), Bachaev & Abdulazizova (2020), and Le Thanh Ha (2022), this research synthesizes based on the significance of crypto asset operationalization, blockchain technology as the financial 'hardware,' and the volatility market as a structure of the global financial system. In juxtaposing with structural political economy, the crypto asset discourse fills the emergence of dependency relations from the Global South with the capital flow of finance. Thus, this study's contribution is mainly on understanding the political struggle of the capitalistic financial system from the lens of the Global South.

The intertwining relationship between the crypto assets system and the global economic order is inseparable from the behavior of the global community, which uses the crypto assets as a payment gateway and capital accumulation with the support of the capitalist neoliberal regime in every economic practice. Here, I address two questions: (1) How does Karl Marx's notion dissect the crypto assets mode of production as part of the phenomenon of global capitalism? (2) How does the structural dependency created in the crypto assets system affect the global economic order? Two theoretical frameworks were used to answer those two questions. First, Karl Marx used the notion of Base and Superstructure, which underlines the essential anatomies of capitalism as an input for commodity production analysis within the system, including the labor and individual. In understanding the capitalist mode of production, Marx emphasizes that economic activity in material production within society is used to reproduce surplus value for a capitalist lifestyle, as in investment, later known as the Economic Base (Marx, 1976).

In addition, the Social Superstructure of Capitalism is defined by a supplementary aspect of the Economic Base, which consists of the economic system, commodity production, labor class, and power relations with the Economic Base (Preston, 1999). The social Superstructure of Capitalism can be formed in many ways, including state contribution, political organization, society's culture, ideology, and other non-economic base variables (Zotov, 1985). The relation between the basis and the creation of the superstructure of society is reciprocal so that they determine the nature of each other, and the role of the social class that runs the base can influence how the social superstructure of society can be formed (Preston, 1999).

To explain the implication of the crypto assets system to a global power structure, I strongly utilize Dependency Theory on a global scale, combining the historical materialism and critical thinking paradigm as a development of Dependency Theory in a contemporary political economy. The main aim of this theory is to actively describe the inequality of economic development in the non-European world, which makes it increasingly less visible than it should be. The inequality of economic development created by a long historical process also creates economic development, on the other hand, as a side effect of capitalist development (Peet & Hartwick, 2015).

Crypto assets are a digital commodity that alienates digital labor work and perpetuates capitalists' victory in accumulating capital in the market. In a global economy context, crypto asset systems produce discrepancies in technological domination, capital, and cheap infrastructure utilization in the Global South in the era of contemporary international political economy and global development.

Methodology

This study uses a qualitative approach as its leading research umbrella to answer existing problems. The research design used is critical research that seeks to investigate further social and economic phenomena that arise in the global community. This critical research method seeks to emancipate mindsets, thoughts, and understandings of how current socio-political conditions can alienate in the context of discursive practices (McNabb, 2015). In addition, this method is believed to answer the discourse within the development order of the political economy of cryptocurrency, which also aims to raise the awareness of the public as part of the process of understanding the current social and political conditions as part of the process of understanding previous practices (McNabb, 2015). The increasing public unawareness of the potential alienation of crypto asset practices that have been prevalent over the past five years shows the need for emancipating understanding from other perspectives and their adverse implications for the sustainability of society in the era of capitalism. Society in the era of capitalism.

Data was collected through research based on hermeneutics methods where the hermeneutic analysis includes secondary data such as formal and non-formal written materials such as journals, books, articles,

etc. such as journals, books, articles, newspapers, magazines, and others (McNabb, 2015). In other words, data collection is done with a desk study analysis that utilizes secondary data with an analysis that leans towards interpretivism. The analysis will look at an author's interpretation and place it in the theorization used in this research, which discusses the development of the crypto economy and its social relations with users. Not only that, but the unit of analysis also used in this context is the global economic system, where the overall system of the world's economic order is seen holistically and thoroughly. Through these processes, the data is available from International Finance Institutions (IFIs) reports such as the OECD, the World Bank, and Marathon Digital Holdings and juxtaposed with previous research. Thus, synthesizing various empirical evidence and descriptive statistics reinforces the arguments built into the crypto financial system.

Crypto Assets as an Economic Base

Crypto assets are not new terminology in digital and political economic discussions. However, many must understand how the technology works and what differentiates it from other digital financial tools. To begin with, crypto assets are part of digital commodities from a pragmatic and philosophical understanding. Mariana Makarova (2018), in her work *The Influence of Bitcoin Ecosystem on Digital Economy*, says crypto assets or cryptocurrency is a form of digital asset that is not legally regulated under the law, is a decentralized and closed system (anonymous) and consists of the series of numbers or cryptographic code.

The central concept promoted by crypto-economics is the lack of human supervision, so the monitoring system is carried out via computers with help from software. This can replace the central bank's money supply monitoring system. Therefore, all the transactions in the system are based on cryptographic technology, which combines unique characters and codes, later known as Blockchain technology (Makarova, 2018). In addition, Bachaev & Abdulazizova (2020) explain the comprehensiveness of this study by making old users rich through the sacrifice of new users with all market capitalization activities and rationality. In other words, the pattern formed by the crypto assets is that capital accumulation is based on the period and amount of existing market capitalization.

However, some studies of crypto assets need to explain holistically how the position of labor and capital can be juxtaposed and affected by the global dependence country between the core and the periphery. By expanding our understanding of that, we must first agree that there has been a significant shift in civil society's understanding of capital in the digital economy. For this reason, the non-digital economic transition underway so far has experienced a shift when digitalization and information systems are present in society. Hence, the forms of commodities and their production modes also change along with technological developments.

Table 1. Comparison of The Transition from Non-Digital Economy to Digital Economy

	Non-Digital Economy	Digital Economy
Commodity	• Tangible Assets • Physical Form	• Tangible Assets • Current Assets • Digital Assets
Accessibility	• Trade Infrastructure • Providers of Goods and Services	• Internet of Things • Big Data • ICT • Network Infrastructure
Labour	• Traditional Labour	• Digital Labour
Surveillance	• State • Central Bank	• Central Bank • Blockchain Technology (for Decentralized Finance) • *Laissez-faire* • *Efficient* • *Transparent*
Market	• *Laissez-faire* (Market) • State-intervention	• Organic (Complex)
Civil Society	• Mechanic (Conventional)	• Digital Governance
Governance	• New Public Management	

Source: processed by author from various sources

Furthermore, *Table 1* explains the indicators that help to understand changes in the digital economic system, which are reworked from OECD 2020. The digital economy has various forms of commodities but has one distinctive characteristic, namely Tangible Assets, including Fixed Assets, Current Assets, and Digital Assets (Nuraliat & Azwari, 2018). These assets are the main exchange commodity in digital economic circulation, whether for investment purposes or other financial-monetary-related activities. This also applies to crypto assets, which qualify as a digital economy that has invisible commodities, meaning there is no actual value for a commodity. The commodities in question can be seen from two aspects, namely intangible fixed assets and current assets. This is because crypto-assets do not have physical material value and only take the form of a collection of information and data, which is then valuable in society. Moreover, crypto assets qualify as current assets because of their investment function in extracting profits.

Commodity Modes of Production on Bitcoin

One of the most popular and well-known commodities in crypto assets is Bitcoin (BTC), which has become the world's number one asset in crypto and decentralized finance circulation. In juxtaposing Bitcoin and The Value Theory of Karl Marx, several significant relevances in the capitalistic market dominate the global economic order and form a new commodity within systems. One of the most universal ways to understand this is by first understanding the *use value* and its *exchange value*. *Use value* is the actual value of one commodity, which explains the proper function of its goods. In contrast, *exchange value* is the exchange equivalent of a commodity compared to objects in the market (Villarreal Robledo, 2016).

When there is a polarization on Bitcoin's use value and asymmetrical perception of exchange value, Bitcoin's commodity flow that can be observed in general is that its identity does not qualify as fiat money but rather as a commodity and a medium of exchange only, and why is that? *First*, the value of bitcoin is obtained exclusively so that it

does not go through a commodity mediation process that provides use value into exchange value because the commodity produced is fictitious (not physical material) and inside the network (Villarreal Robledo, 2016).

The value given to coins is an exchange value based directly on the market's laws of supply and demand, not on the use value or intrinsic value of the material from which they are made. According to Marx, it does not have a real form that can be categorized as a function of money. However, its use value is represented by the improbability of crypto puzzle calculations and the sophistication of computing.

Second, Bitcoin (BTC) and other crypto coins are optimal means for exchanging value where prices cannot be determined through commodity use value but rather the law of supply and demand; consumers and crypto speculators are potential winners in accumulating wealth in the system (Villarreal Robledo, 2016). The framework introduced by Karl Marx with the notation C-M-C (Commodity-Money-Commodity) and M-C-M (Money-Commodity-Money) is very relevant for implementation. The exchange of low Bitcoin prices for buying and selling on the secondary market and replacing them with higher Bitcoin prices uses a complex economic strategy that works in two directions: to gain profits in the crypto economic circulation. Of course, this activity can alienate and objectify the workforce in crypto mining.

The workforce, later known as Labour, has an ontological position in the reality of crypto assets activities and mode of production. The commodification of labor is a physical commodity with non-material value, so it does not only talk about the transfer of capital flows between parties but also the transaction activities of goods or services within it (Kleijnen, 2020).

According to Marx (1976), Labour has the most valuable non-material value in the production process scheme, which mediates the transfer of the value of a raw commodity into a finished commodity and is, of course, more valuable. Moreover, he said that the value of a commodity first appears as a unity that cannot be separated from the labor power that produces the commodity. The extraction carried out by capital owners towards digital workers continues to be carried out to achieve maximum profits and prominent figures. In crypto mining, digital workers solve puzzles in validating Bitcoin transactions, which require high computational power and electrical energy, so a surplus of labor value can be obtained based on these activities.

Capital owners take advantage of the minimal production costs required to mine Bitcoin, including sophisticated computer infrastructure and the electrical energy needed to support this activity (Fridmanski, 2021). Capital owners then calculate low production costs to control a large portion of world energy and electricity based on low prices and cheap labor. Bitcoin mining centers then extract surplus labor by paying wages at no more than production costs to achieve profits on fictional capital or Bitcoin itself (Fridmanski, 2021).

Digital Financial Market and System as a Superstructure

The growth-oriented economic development of a country is one of the classic characteristics of the political project of capitalist society to achieve sustainable development. The disruption of information and communication technology in the current era is also an essential determinant of the orientation of a country's economic development and even global development towards the Industrial Revolution 4.0. The crypto assets system is believed to be an instrument of money exchange that maximizes technological sophistication by reducing the role of the government and its intervention in the flow of capital circulation, whether between individuals, corporations, or countries (OECD, 2020). Various financial problems considered inefficient, not fast, and impractical are being addressed by crypto-economics in cross-border transactions requiring a third-party mechanism.

The main principle of crypto-economic development relies on the *Laissez-Faire* principle, which maximizes decision-making for political units, investment, production, and distribution of decentralized economic circulation. The market is the main arena for information transactions, resource allocation, and coordination related to decision-making, so it can provide sufficient intensity in stimulating individual and business capital (Mas'oed, M., 2002). The natural characteristic of the market is competition and is full of international competition. This concept is the foundation of the crypto economic production mode which promotes *Decentralized Finance* (DeFi) transactions without the legitimate authority of third parties including the government in carrying out economic circulation flows (Tokocrypto, 2021). The *Laissez-Faire* development principle is very well manifested in the growth and transformation-oriented crypto assets system.

As a growth-oriented economic development instrument better known as an economic-led development project, crypto relies on the law of supply and demand to ensure transactions run smoothly so that government intervention in supervision, implementation, and legal regulations is relatively minimal (Mas'oed, M., 2002). More than that, the circulation of the crypto economy is a political-economic project driven by the private sector, so the public sector's legitimacy towards this industry is still considered skeptical. It is not interested in this industry (Feyen et al., 2022). One private sector that supports crypto is the financial institutions JPMorgan and Morgan Stanley, saying that many financial institutions want to invest their funds in Bitcoin (Feyen et al., 2022). The busy private sector investing in Bitcoin and the circulation of the crypto economy can also be seen from several corporations such as Tesla, PayPal, Ark Invest, and others, which have begun channeling investment funds into the Bitcoin system (Feyen et al., 2022).

Class Formation on Crypto Assets System

According to Marx (1976), the social ability to transform materials can be seen from the degree of development of produc-

tive forces and guided by exploitative social relations to transform collective consciousness into an ideological format where elites can monopolize collective violence, rationalize inequality, and guarantee the continued reproduction of profits in forms of inequality (Peet & Hartwick, 2015). This can be classified through the organizational pattern of the economic society that forms it so that the class formation between capital owners and the working class is structurally understood in the notation of core and periphery. The core and periphery structure in social and financial relations is usually formed based on interdependence in a society where lower production levels depend on higher levels. Actors in core social relations usually have transactional relationships in their direction, so they have complex relationships between the core and the periphery (Villarreal Robledo, 2016).

The core-periphery structure in the crypto assets system can be seen as a hierarchical order in power distribution in socio-economic relations. Hypothetically, investors, landlords, and financial capitalists occupy the highest hierarchical position or core of all social relations by extracting surplus capital from industrial capitalists such as credit, site rentals, investments, and buildings (Villarreal Robledo, 2016). This shows the production of structural imbalances within the core itself, so there is an imbalance of power because the financial capitalist aspect has the power to regulate all other aspects. Meanwhile, the peripheral aspect of the system facilitates the exchange of labor from the total social capital of the crypto assets system, where digital workers can also own, buy, and benefit from relationships with the core.

More specifically, the structure of the crypto assets community formed in the core-periphery scheme shows intense connections but weak connections at the periphery (Villarreal Robledo, 2016). This causes a more profound gap with fellow peripheries where the distribution of power between the mining center and crypto consumers has dense transactions to actualize its value. Exchanges also continue to take place with traders, consumers, and mining centers that require the disbursement of other assets. For this reason, social relations in the hierarchy of actors in the core become a complex accumulation of social relations because they connect many actors needed in the crypto-economic system (Villarreal Robledo, 2016).

Capital and Technology Domination in the Global North

Based on the IMF report (Feyen et al., 2022), the adoption of the crypto economy in various parts of the world, both in the Global North and Global South, is known as cryptoisation, which continues to be echoed as part of digital financialization. The cryptoisation phenomenon in Table 2 shows that countries with middle-income economies show crypto adoption that exceeds countries with advanced economies. This is caused by various factors that encourage massive crypto adoption in the Global South. The IMF said that inadequate macroeconomic policies and inefficient payment systems are the

main factors in developing the crypto economy in these countries. However, more than that, speculative retail investments are the main attraction for users in these countries (Feyen et al., 2022).

Table 2. List of Countries on Cryptoisation in the Year 2022

Cryptoisation Ranking	Countries	Peer-to-peer Exchange Volume Index
1	Vietnam	2
2	Philippines	66
3	Ukraine	39
4	India	82
5	United States of America	111
6	Pakistan	50
7	Brazil	113
8	Thailand	61
9	Russia	109
10	China	144

Source: Chainalysis (2022)

For this reason, the success of cryptoisation in Global countries cannot be separated from the role of the Global North as owners of capital in various aspects, be it technology, business land, research, human resources, and so on. Of course, the Global North has a role as an investor in carrying out the circulation of the crypto economy which is concentrated in countries with advanced economies with high capitalization (Hays, Elkov, Rosenberg et al., 2022). For example, in Table 3, a crypto company with a total capitalization of $482.5 billion held by Bakkt (a Bitcoin exchange company) is a clear illustration that the largest capital owner in the crypto and technology industry comes from the United States. More than that, the United States also dominates the world's largest capitalization and funding for the technology industry and the crypto economy, which owns many crypto resources with investors through venture capital companies.

Table 3. List of the World's Largest Venture Capital Companies Funding Crypto

Venture Capital Firms	Country
TRGC	United States of America
Coinbase Venture	United States of America
Dragonfly Capital	United States of America
Polychain Capital	United States of America
Digital Currency Group	United States of America
Alameda Research	Hongkong

Source: Cointelegraph Consulting (2020)

Based on this table, the Global South needs more capital to fund companies to ensure the circulation of crypto assets within the global economy systems. This creates differences in the division of labor between countries that contribute to the global political and economic order. Not only that, the relationships developed by capital owners and crypto with the existing technology companies also offer their services to crypto miners in the field. The consequences of technological domination of the Global North are proliferating the use of crypto in various parts of the world, particularly the Global South. In this context, market intrusion is carried out in the Global South countries that have the power to use crypto-economic transactions. Hence, if we want to differentiate between

the divisions of labor, the Global North countries are investors, capital owners, and economic activity regulators (powerhouses). At the same time, the Global South is the adopter player in trade, exchange, and has a high volume of transactions in a concentrated area.

The Global North Dependency on Labor, Production, and Capital

Corresponding with an economic order based on neoliberal capitalism, the crypto assets mode of production, with all the complexity of the intertwining actors and their relationships, gives rise to a quite significant process of dependency between the core and periphery structures in circulation. The two structuralist positions and the networks created are the valid world dependence structural framework in seeing dependency at the macro and global level as these countries need each other to meet the needs of capital owners and the economies of their countries, especially in perpetuating an economic system that is exploitative and supports inequality. The power distribution in mapping the relationship between the core and the periphery is also crucial because the degrees of the crypto assets hierarchy can be traced (Fridmanski, 2021).

The structural relationship between the Global North as the location of the core structure consisting of investors, both individuals with significant capital and venture capital companies, crypto and crypto technology companies, as well as crypto mining sites, has quite complicated social ties with the Global South as the location of periphery structure in the crypto assets circulation. It is described as a user, consumer, and transaction implementer with a lower power relationship than a country with various capital types (Fridmanski, 2021). The increasingly complex accumulation of social ties between the Global North and the Global South provides a picture of increasingly complex structural consolidation in claiming a portion of the total social wealth obtained in a system (Fridmanski, 2021).

In general, the essence of the hierarchal relationship structure in the crypto assets system has the primary function of driving the wheels of the crypto economy, called core space. The complex relationships in the core structure reflect not only the complexity of the actors within the company but also the countries of origin of the company, which shape the distribution of power and its relationships. Without being said, the transfer of power and social relations in crypto cannot be studied with certainty due to the anonymity of users and the circulation used. Nevertheless, key player companies can be tracked through location, capital owners, and the companies or affiliates used to run their business (Fridmanski, 2021).

In the core space, the state is a facilitator that supports the flow of crypto assets so that accessibility for companies that provide funding or investment can be achieved efficiently. Then, it also gives a high power in determining which companies and consumer targets they want to reach, including market intrusion into the Global South countries and jurisdictions. After that, venture capital firms, individual investors, and crypto ex-

change companies have the highest structure of power that regulates all activities created, and every transaction between the three has an important role in extracting wealth with the help of crypto mining industries. Miners also have strategic power in determining where the capital or coins being split during market consolidation go (Fridmanski, 2021).

All relationships that create power relations in the core structure are carried out to support and maintain the flow of transactions that must occur to accumulate, obtain, and exploit the resources owned by the capitalists. The relationship being put forward is also oriented towards consolidating capitalists to strengthen their bargaining power position in the global economic order so that more ideological and fundamental economic ideas can last longer for the benefits they obtain (Fridmanski, 2021). The Global North clearly illustrates the structure of inequality, differences, and division of labor that can occur among the Global North and the need for interdependence with other sectors.

One example is the Marathon Digital Holdings Company, which operates in the crypto and Bitcoin mining sector in Las Vegas, United States. In implementing the structuralism framework in the Global North as the leading provider of reproductive resources for the crypto economy. Marathon Digital Holdings is a crypto company and the largest bitcoin mining center in the United States. It has been involved in the crypto industry for a long time. Of course, a provider of production equipment requires sufficient funding from venture capital companies consisting of The Vanguard Group, Blackrock Fund Advisors, and Morgan Stanley & Co (Marathon Digital Holdings, 2022). Both have a reciprocal relationship regarding the needs of industries and businesses that run to fulfill profits and have substantial power over ownership of resources.

Moreover, two important sectors that have high power in regulating the running of the crypto economy in various companies require mining activities to perpetuate existing businesses to achieve profits or benefits. Marathon Digital Holdings further has mining centers in several areas in the United States, which are affiliated with other companies specifically providing mining services and infrastructure, including Computenorth, blockchain applications, and others such as Mccamey, Grandbury, Ellendale, Garden City, Plano, and Coshocton areas., United States (Marathon Digital Holdings, 2022). Of course, these companies employ digital workers or digital labor to carry out mining activities and make profits for service-providing companies.

Electricity as a New Land Resource

The cryptoisation phenomenon in the Global South is a form of extension of market consolidation in continuing economic development brought about by the Global North countries. The world's use of the crypto economy can be seen as the percentage of intensive usage, including peer-to-peer transactions (P2P), dominated by the Global South, including Vietnam, the Philippines, Ukraine, India, and so on (Adrian et al., 2021). Even though using a digital economy based on crypto technology is prohibited in

various regions, the massive cryptoisation phenomenon still dominates in the Global South.

Crypto mining activities also occur in Asia, more precisely in China, which holds the highest numbers in the crypto assets mining industry, especially Bitcoin mining. This can be seen from the seventy percent computational power of crypto mining that dominates the world, which manifests as the world's most significant mining activity (Matthews, 2018). Even though China has banned the use of all crypto-economic activities considered detrimental to its national financial stability, there are still many capitalists based in China to extract profits from these activities (Matthews, 2018). The cycle being faced also has a strong dependency cycle between sectors where crypto users, exchangers, and consumers, mainly in the Global South, have a high dependency on it.

Comprehensively, the power relations formed by the dependence between the Global South and the Global North are also caused by deep and institutional social and political extraction, so they have strong control over the exploitation used during the crypto economic business processes. This also shows the difficulty of inclusive economic development because access to the crypto economy is, again, limited to those who have capital, even within the Global South countries. However, in a global context, the Global South remains an economic actor in the peripheral structure because it is still the provider of the cheapest mode of production, including materials, resources, labor, infrastructure, and taxes.

Dependency in the peripheral space or the Global South can be seen by the presence of key players with a core role in this circulation. Of course, the adoption of the structuralist economic model, which led to the capitalist mode of production, was obtained from the intrusion of the Global North countries, which consolidated their market share in the Global South countries. The core inside Periphery provides a more affordable mining center with other countries and is affiliated with another institution that provides crypto-economic exchange services for local currencies. Of course, its success requires increasingly alienated digital workers and the public to catch up to the demands of capitalism in countries.

One of the most critical aspects of Global South market consolidation required by Global North capitalists is cheap resources. According to the Earth and Space Science Open Archive (ESSOAr) report, the involvement of the Global South in mining mechanisms in the crypto-economic industry has increased massively as measured by concrete environmental impacts that can be seen. The substantial increase in activity in the crypto economy also indicates an increase in mining carried out to extract profits. Of course, the ease with which the Global North can purchase and extract it also has severe environmental impacts. This is because the infrastructure needed to produce profits has a very high material value and supports electricity, carbon emissions, etc.

Some companies have subsidiary companies located not only in the Global North but also in the Global South. This is

shown through the high rate of electricity consumption, carbon footprint, water footprint, and land footprint used for crypto mining. ESSOAr classifies based on Bitcoin (BTC) mining. The Global South, in the top ten most extensive BTC mining activities, such as China, Kazakhstan, Iran, and Venezuela, has relatively cheap electricity prices compared to northern countries and is subsidized by the local government so that crypto economic mining can be profitable sustainably. More than that, these countries also produce electricity from varied energy resources such as water, carbon, and land.

Conclusion

This research systematically explains digital financialization as a contemporary phenomenon in the current global political economy, especially the use of crypto assets in an economic order that is closely related to technology and information systems. As part of the digitalization transformation, the crypto assets system continues to gain high popularity amidst the onslaught of globalization and its challenges. This shows a shift in production modes at the community, state, and global levels of analysis in carrying out transactions that are increasingly invisible and based on cloud technology. Of course, understanding the crypto assets system must be fundamental and philosophical, reflected in analyzing its base, superstructure, and impact on the global political-economic order.

At least two main points must be observed in the commodity production process in the crypto-economic system: the economic base of society, which is shifting towards digital, and the social superstructure, which contains inequality in key institutions. The mode of production in the economic base of today's digital society has similarities in various aspects with non-digital economic modes of production, such as commodities, labor, and market systems.

However, what is different is the type of classification of the crypto asset or commodity itself, which is still a matter of debate because it does not meet the definition of a fiat currency but rather as a means of exchange and investment for wealth accumulation in the Global North. Moreover, it also has forms of alienation, exploitation, and labor extraction that exclusively happened in the Global South. Thus, accumulation by dispossession is a central theme in the dependency of the Global South and North relations as a network rather than a dyadic concept, which explains the need for new capital formation, such as electricity.

References

Books

Fridmanski, E. (2021). *Crypto-Capital: The Political Economy of Cryptocurrencies*. University of Notre Dame.

Marx, K. (1976). *Capital* (Vol. 1). Harmondsworth. Penguin.

Marx, K., & Engels, F. (1970). *The german ideology* (Vol. 1). International Publishers Co.

McNabb, D. E. (2015). *Research methods for political science: Quantitative and qualitative methods*. Routledge.

Peet, R., & Hartwick, E. (2015). *Theories of development: Contentions, arguments, alternatives*. Guilford Publications.

Preston, P. W. (1999). *Development theory: An introduction*. Siglo XXI.

V.D Zotov. (1985). *The Marxist-Leninist Theory of Society: Identity and Diversity of Social Development in the West and East*. Moscow: Progress Publishers.

Thesis/Dissertation

Kleijnen, B. (2020). *An ontology of bitcoin: assessing the value of bitcoin through an analysis of its inherent digital labor* (Master's thesis, University of Twente).

Journal Article (retrieved online, without DOI or page numbers)

Bachaev, U. A., & Abdulazizova, E. A. (2020). Cryptocurrency as a Component of the Digital Economy. In *European Proceedings of Social and Behavioural Sciences EpSBS* (pp. 1393-1398).

Feyen, E. H., Kawashima, Y., & Mittal, R. (2022). Crypto-Assets Activity around the World.

Makarova, M. (2018). The influence of bitcoin ecosystem on digital economy. *Economics. Ecology. Socium*, *2*(3), 35-44.

Villarreal Robledo, O. E. (2016). The Ontological Sociology of Cryptocurrency: A Theoretical Exploration of Bitcoin.

Electronic source

Adrian, T., He, D., & Narain, A. (2021). Global crypto regulation should be comprehensive, consistent, and coordinated . Retrieved November 22, 2022, from https://www.imf.org/en/Blogs/Articles/2021/12/09/blog120921-global-crypto-regulation-should-be-comprehensive-consistent-coordinated

Marathon Digital Holdings. (2022). *Securing & Supporting the Bitcoin System*. Retrieved November 22, 2022, from https://d1io3yog0oux5.cloudfront.net/_640653e429ebf8728c194bd275de5597/marathondh/db/212/3886/pdf/2022+October+-+MARA+IR+Presentation+-FINAL.pdf.

Narain, A., & Morreti, M. (2022). Regulating crypto. Retrieved November 22, 2022, from https://www.imf.org/en/Publications/fandd/issues/2022/09/Regulating-crypto-Narain-Moretti