Implementation of Blockchain in Minimizing Tax Avoidance of Cryptocurrency Transaction in Indonesia

Siti Kurnia Rahayu

Faculty of Business Economics, Universitas Komputer Indonesia, Indonesia

Email: siti.kurnia@email.unikom.ac.id

Abstract. The purpose of this research is to determine the potential risk of tax losses caused by cryptocurrencies, to identify miners and cryptocurrency users, and to formulate a tax avoidance countermeasure strategy related to cryptocurrency transactions. This study uses qualitative research methods with literature study techniques. The type of data used in the form of textual includes definitions, concepts and arguments contained in the literature relevant to the research problem. The data used are primary data sourced from research articles from journals, and secondary data sourced from supporting documents. The data reduction and data analysis process include data display and content analysis. The results of this research show that the implementation of blockchain technology in the Indonesian tax system is a database integration model that can solve the problems of the underground economy in cryptocurrency transactions. The reason for the results of this study is that regulation of cryptocurrency transactions into the realm of regulation can be done through vertical regulation of the blockchain market, with a sectoral approach. The impact of the results of this study can be the basis for formulating tax policies related to cryptocurrency transactions by utilizing blockchain technology.

Keywords: Cryptocurrency Transaction, Blockchain, Tax Avoidance

1. Introduction

The increasing popularity of cryptocurrencies is important to the attention of the government as a regulator in regulating this. The strong reason that cryptocurrencies should be under the supervision of regulators is the risk of price volatility, speculative trading, money laundering and tax evasion that requires stricter regulation (Houben, 2018). The cryptocurrency problem is quite significant, although the extent of the abuse of the virtual currency is unknown, but its market value is reported to be in excess of 7 billion euros worldwide (European Commission, 2016), and in Indonesia bitcoin users have reached 200,000 with a total transaction of around Rp. 4M per day (Debi *et al.*, 2021).

The main issue cryptocurrency players and users need to address is how anonymity is disclosed (SDNs, 2021). Anonymity prevents adequate monitoring of cryptocurrency transactions, thereby allowing hidden transactions to take place outside regulatory boundaries, providing access to money laundering. Anonymity is a major problem in tax evasion. Cryptocurrencies as early adopters of blockchain technology have the potential to

serve interests in evading law enforcement, where cryptocurrency users do not use real identities and make transfers without intermediaries and cross international borders very easily. The use of cryptocurrencies is also not supported by data and analysis of how cryptocurrencies are used across regions, or trends over time (Houben, 2018).

The results of Fanusie & Robinson (2018) research using Elliptic's forensic analysis tool, found the bitcoin source market as one of the illegal cryptocurrencies that were laundered through conversion services. Bitcoin exchanges receive the largest number of identified illegal bitcoins of all conversion services. Europe-based conversion services receive the largest share of illegal bitcoin from identifiable territories, more than five times that of North American services, and Asian conversion services process the highest share of all transactions, accounting for a disproportionately small share. However, most conversion services that accept illegal bitcoins hide the country of operation, making it difficult to identify the legal jurisdiction responsible for enforcement.

It is tax evasion to conduct taxable cryptocurrency transactions without paying taxes. However, due to anonymity, tax authorities cannot detect or impose sanctions on this tax evasion if they do not know who made the taxable transaction. This makes cryptocurrencies a very attractive tool for tax evaders (SDNs, 2021). Some cryptocurrencies are pseudo-anonymous, which means that the identity of cryptocurrency users can be known through great efforts and the application of complex techniques by regulatory authorities, and addressing the broader tax evasion of cryptocurrency transactions requires a standardized approach in a more complicated way Houben (2018).

Cryptocurrencies with blockchain technology represent the potential for positive economic gains and at the same time the possibility of cryptocurrency tax evasion (Fanusie & Robinson, 2018). Since cryptocurrency is based on opensource software that can be downloaded easily and a decentralized network, it is likely to be a digital payment method option. These alternative payment methods carry financial risks when introduced to the public, which will then persist and eventually develop dynamically when regulations emerge to address violations of their use (Fanusie & Robinson, 2018). Blockchain is a distributed ledger technology that forms the backbone of the crypto market, blockchain as a cryptocurrency technology (Houben, 2018). Thus, regulators do not need to limit blockchain technology innovation in dealing with problems that arise from cryptocurrencies. The blockchain is a type of digital ledger that records all transactions across a peer-to-peer network. It uses cryptography to verify and confirm all transactions and then records those transactions in a searchable public ledger (Weinstein et al., 2019).

There have been many studies related to cryptocurrencies and blockchain from the point of view of technology, economic development, disruption and unlawful acts and from a taxation perspective. Moreno et al., (2019) mentions that cryptocurrencies are not banned and there are no specific regulations for the sale of bitcoins in Argentina. The Taxable Income derived from the commercialization of this digital currency is stipulated in the Income Tax Law. Reeves & Gilbert (2019) stated that the Australian Tax Office (ATO) views cryptocurrencies as assets owned or traded (not as a medium of exchange), and the ATO released taxation guidelines in cryptocurrency mining activities. Income that taxpayers earn from mining cryptocurrencies is considered income. Cryptocurrency miners are taxed on profits earned from transferring cryptocurrency to third parties, and losses that arise as a deduction from earnings.

The results of research by Rath & Gilbert (2019) explain that Austrian law does not prohibit cryptocurrencies, and there is no specific law for this. Revenues from commercial activities of cryptocurrencies, both mining and brokerage, are subject to progressive tax rates of up to 55% for individuals and 25% for companies. Cryptocurrencies are treated as investment assets if taxpayers use them to generate interest income, and sales gains are taxed at 27.5% for individuals and 25% for companies. If the cryptocurrency transaction is not a business within 12 months, capital gains are taxed up to 55% for individuals. Capital gains from the sale of cryptocurrencies held for more than 12 months are not taxed. If the capital gains per calendar year do not exceed 440 Euros, the tax exemption applies. Convert cryptocurrency into legal currency that is exempt from value-added tax. The purchase of goods or services that are subject to value-added tax and paid in cryptocurrency is no different from paying in fiat currency. The valuation basis for transactions subject to VAT is the unit's fair market value. However, the results of the research by Baudoncq & Baugniet (2019) explain that in Belgium there are no special tax rules that regulate Cryptocurrency Taxation, but several decisions in the European Court of Justice can explain that the purpose of cryptocurrencies as legal tender is exempt from VAT. Any activity that generates income from cryptocurrency trading is taxed under the PPh rules. Capital gains from personal property are not taxed. Capital gains on personal assets are taxed differently than capital gains on company assets. However, if the transaction in cryptocurrency is speculative, the capital gain is taxed as other income at a fixed tax rate of 33%. How to conduct cryptocurrency transactions in a professional manner, Bitcoin profits are considered professional income and are subject to Income Tax. Borg & Schembri (2019) explains that in several countries in the EU, laws dealing with money laundering and taxation have extended to cryptocurrency-related activities. Lithuania, Gibraltar and Switzerland have introduced rules for cryptocurrencies, which are intended to regulate the activity of the digital coins. These legislators recognize that cryptocurrencies as a result of blockchain technology deserve general regulation. The Maltese regulator was lauded for acknowledging a thriving industry and embracing blockchain technology.
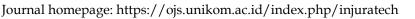
Based on these phenomena and research results, it is important to examine the possibility of applying taxation related to cryptocurrency transactions in Indonesia by using a comprehensive literature study. The purpose of this study is to determine the research questions above so that tax policies related to cryptocurrency transactions can be formulated by utilizing blockchain technology. This research novelty shows: a) The study related to the potential risk of losing tax revenue in Indonesia arising from cryptocurrencies; b) how to find out cryptocurrency miners and users in Indonesia; and c) taxation strategies (increasing compliance) related to cryptocurrency transactions.

2. Literature Review

Blockchain is a particular type or subset of distributed ledger technology (Distributed Ledger Technology) that works by recording and sharing data on multiple data stores (Ledgers) that have the same data records and are collectively controlled by distributed computer servers called nodes (WBG, 2017). Blockchain is a mechanism that uses an encryption method known as cryptography and uses (a set of) special mathematical algorithms to create and verify an ever-evolving data structure, where data can only be added and from which existing data cannot be deleted, it requires the form of a chain. "transaction's block", which functions as a distributed ledger (Houben, 2018). Blockchain is a

decentralized peer-to-peer network that maintains a ledger of transactions (for example, transferring assets from one party to another) using cryptographic tools to maintain transaction integrity and the integrity of the ledger itself, and protocol-wide conventions that verify data and determine whether, when, and how is it called a ledger (Marsh & Dewey, 2019) In a public blockchain, the ledger is replicated across multiple computers called "nodes", which are connected to a public network via the internet.

Cryptocurrency as virtual currency is an unregulated digital currency that is issued and usually controlled by its developers and is used and accepted among members of a particular community (European Central Bank, ECB, 2012). EBA (2014) defines Cryptocurrency as a digital representation of value that is not issued by a central bank or public authority, nor does it have to be attached to (fiat currency), but is accepted by an individual or legal entity as a means of payment and can be transferred, stored or deposited. electronically. FATF (2014) definition as a digital representation of value that can be used digitally and works as a medium of exchange, unit of account, and store of value, but does not have legal tender status anywhere. It is not issued or guaranteed by anyone, and fulfills the above conditions only by agreement within the virtual eye user community (Poskriakov et al., 2019).

Money laundering is defined by the US Treasury's Financial Assault Enforcement Network (FinCen, 2017) as the process of making "illegally obtained proceeds appear legal, by a) placing dirty money in a legitimate financial system, b) increasing it in additional transactions to its origins, and c) integrate it into the financial system with more transactions so that the funds appear legitimate.

Underground Economy or Economics in scope includes all economic activities that belong to official authorities for reasons of tax, regulatory and institutional evasion (Medina & Schneider, 2018). Empirical research on the size and development of the global shadow economy has grown rapidly (Williams and Schneider 2016, and Hassan and Schneider 2016). The most important causes of the underground economy are the tax burden and the decline in morale or tax compliance. Taxes affect the choice of opportunities for economic actors who encourage the underground economic sector not to be taxed (Erdinc, 2016). The underground economy is important to control, among others, by establishing tax policies that can support a positive business cycle and increase state revenues in the tax sector.

3. Methodology

This research is a qualitative. The technique used is literature study, with data collection and in-depth data analysis by the author through assessment by reading, recording and processing data, which is then poured into research problem formulations that support thinking related to cryptocurrency, blockchain and tax avoidance. Literature study is research that is carried out only based on written works, including research results, where the data obtained in this study are sourced from libraries and documents (Zed, 2014).

This research was conducted by searching the literature not only for the initial step of preparing a research design but also utilizing sources of scientific articles to obtain research data. The instrument in the literature study research is the researcher. Researchers must have the stock of theory and broad insight so that they are able to ask questions, analyze, take

pictures and construct the social situation under study to be clearer and more meaningful (Sugiyono, 2011). In this study, the researcher acts as a planner, implementer of data collection and interprets the collected data.

The type of data in this study is in the form of textual or concepts. This research data is a description of the variables on the object under study. The aspects that the researcher analyzes include the definitions, concepts, views, thoughts and arguments contained in the literature that are relevant to the discussion. This study uses primary and secondary data. The primary source of data for this study is data containing the object under study, namely research articles from journals. Secondary data sources are published documents that support research problems. This secondary data serves as a complement to the primary data used.

The data collection techniques in this study were implemented through an online data collection process. The data analysis method is a process where data is reduced, displayed, and analyzed (Moleong (2000) explains that data analysis by reducing data is a process of organizing data and the process of arranging data sequences. Afifudin et al., (2009) explain that data is organized into pattern units, categories, and basic description units. After performing data reduction, the next step is to display the data (display data) to facilitate researchers in understanding the results of research. The research method of data analysis uses content analysis. That is, a study that is a detailed discussion of the content of information written or printed in the mass media (Afifudin et al., 2009). Content analysis can be applied to all social research. Content analysis can be used when the following conditions are true: There is a specific theoretical framework that describes how to approach supplementary information or data, where the available data consists primarily of documented material (books, newspapers, manuscripts / manuscripts). In addition, some documents are so distinctive or specific that researchers have the technical ability to process the materials or data they collect (Afifudin et al., 2009). After getting the results of the analysis, the last step is drawing conclusions.

4. Results and Discussion

The risk of potential loss of tax revenue in Indonesia arising from cryptocurrency transactions

Cryptocurrency transactions are anonymous, public ledger, traceable, immutable, unlimited of every transaction ever made allowing law enforcement to track the flow of funds involving investigative targets anywhere in the world in a way that is not possible with cash or many other types of financial instruments. In Indonesia, cryptocurrency is not a legal payment (Law of RI, 2011), but the performance of cryptocurrency is higher than other assets as an alternative to cross-border transactions for non-cash transactions. Cryptocurrencies in Indonesia are regulated as commodities that can be traded on futures exchanges (CoFTEA, 2011), but the system regarding cryptocurrency transactions that provide income benefits for bitcoiners has not been regulated by the government.

The existence of loopholes in cryptocurrency transactions that generate profits due to the fact that regulators have not set a system regulation and transactions related to cryptocurrencies allows for higher transaction developments. Tax treatment can make a big difference for a volatile asset like this. Tax avoidance on cryptocurrencies stems from the existence of tax administration provisions that are not yet strong. Tax authorities in

Indonesia may find it difficult to track income from crypto transactions if there is no reporting made by Taxpayers or other parties involved in crypto transactions. This means that income becomes non-taxable. There are no clear tax rules in this regard, so many things related to crypto income are not reported. This is able to create avenues for taxpayers to benefit from tax evasion that cannot be tracked by tax authorities.

Cryptocurrency transactions will quickly become an alternative to cash, as more and more transactions will accept virtual currency as payment. It only takes 5 years for the crypto value to soar with extreme price fluctuations every day, so there is more and more profit in owning this asset (Goldman & Lewellen, 2021). Although it is not yet a large part of the business today, cryptocurrency transactions are likely to increase in the next decade, especially with the development of very broad-based digitalization of financial accounts.

Transactions that accept crypto as a substitute for cash do not need to report taxes because there are no tax provisions regarding crypto transactions. Cryptocurrencies that do not have to be traded through exchanges like other currencies make transactions an underground economy, which is invisible to tax authorities in tax setting. Generally, the tax gap in Indonesia is caused by income that is not reported by the taxpayer. Most hide their income in a non-transparent financial structure.

How to find out cryptocurrency miners and users in Indonesia

The cryptocurrency uses blockchain technology, which belongs to a permissionless public blockchain, with a Distributed ledger technology that is not controlled by a central instance, but is dependent on a community of miners, nodes and users. Public blockchains would not exist without cryptocurrencies because miners would earn in cryptocurrencies and users trading cryptocurrencies would have to use the network. Responding to the freedom and independence of using blockchain technology in the financial sector, it is important for regulators in Indonesia to provide a clear regulatory framework.

A software tool has been developed to link cryptocurrency addresses to specific users and identify anonymous hackers. The same tool also makes it possible to identify perpetrators and suspicious transactions in cryptocurrency exchanges (Fanusie & Robinson, 2018). This can be used as a benchmark in enforcing tax compliance in terms of cryptocurrency transactions in Indonesia. As a benchmark, based on research by (Fanusie & Robinson, 2018), the Center on Sanctions and Illicit Finance of the Foundation for Defense of Democracies, together with Elliptic (a provider of cryptocurrency analysis), researched the illicit flow of bitcoin through conversion services or platforms where users can exchange cryptocurrency in fiat and cryptocurrency in cryptocurrency or send cryptocurrency to other users. Clear rules and guidelines for AML and know your customer policies can help reduce illegal activity through exchanges and other cryptocurrency companies.

Solutions for utilizing blockchain technology in tax compliance enforcement with joint implementation in compliance with KYC and AML legal requirements in the financial sector can be used by building the right system, so as to enable speed of implementation and accuracy of compliance programs. Regulators can also benefit from blockchain adoption. Since the blockchain contains a complete history of all transactions that have taken place on the network, including data regarding the timing of all transactions, internal auditing is simpler, and regulators can access the ledger ensures that all transactions match the information provided by the user. The ability to view transactions in real time will also be

useful to regulators who can track transactions and more easily detect and detect illegal activities (Marsh & Dewey, 2019).

The implementation of blockchain technology in the tax system in Indonesia is a very possible database integration model. The application of blockchain technology is a solution to the problems of the underground economy, including cryptocurrency transactions. By adopting blockchain technology by prioritizing technology integration into infrastructure, it can encourage the efficiency of the tax system in Indonesia (Guinot, 2018). The implementation of this technology is important to be supported by the reconciliation of stakeholders including the DGT, the Bank, and the Ministry of Communication and Informatics. Through this database reconciliation system, the tax system will strive for transparency without having to disclose confidential and non-hackable data. The use of blockchain technology in the taxation system can be categorized into the mediumterm prospects but the development cycle includes the long term.

Shared Ledger

Shared Ledger is a database that can track the owners of physical or electronic financial assets, and each participant can keep a copy of the blockchain. This copy is automatically updated each time a new transaction occurs. The security and accuracy of information is ensured through cryptography to ensure that all copies of the ledger match. This distributed ledger technology can solve problems that can be summarized as costs, duplication, and reconciliation (Brown, 2019). The UK has relied on this approach for many successes. Cryptocurrencies such as Bitcoin, synchronize thousands of computers over the internet in a distributed network. Distributed ledger technology can enable businesses and governments to operate more efficiently, without costly compromise and redundancy. This can lead to in a revolution beyond censorship-resistant digital money. If similar techniques can be used in the tax system in Indonesia, the systems can stay in line with each other and solve problems.

Shared Ledgers and databases provide key benefits to governments with four essential properties of blockchain technology (Taylor, 2019):

1) Reconciliation through cryptography. In order for blockchain technology to achieve this, they must share the same underlying data or provide evidence to verify the data. Different users of the ledger use a number of different consensus algorithms to reach consensus on the state of the underlying data.
2) Replicated to many institutions. The user can own part or all of a copy of the data, so there is less chance of a single point of failure occurring. Users can also confirm that records have been updated by making up.
3) Fine-grained access control. This ledger uses a key and a signature to control who can access the shared ledger. A unique cryptographic signature proves that the participant has added notes according to the correct rules. This key can be given to the regulator allowing it to view all transactions.
4) Granular transparency and privacy. Ledger transparency is very high because multiple parties have copies of the ledger, and can verify every record. This ensures that the contents of the database will not be fraudulently edited or altered. It is possible for regulators to unlock private and invisible records, in the prevention of tax evasion.

Smart Contracts

Smart Contracts are the application layer of blockchain technology into reality. The collection of monetary resources through various types of taxation is very complex, this complexity

stemming in part from its centralized nature. The government recognizes that real-time personal and digital services are available for all services. The property of blockchain technology offers an opportunity to reduce government complexity and costs. That will lead to improved compliance, reduced cost, and increased accountability (Taylor, 2019). Activities may include:

1) Require exchanges to verify customer identity (KYC, or 'Know Your Customer' regulations).
2) Publish guidelines for the banking sector for: (i) those that transfer value through blockchain systems; (ii) providing software to industries using blockchain; (iii) providing blockchain-based software to solve traditional business problems.
3) Set provider security standards.
4) Create challenges for the academic community and let them see specific gaps in the blockchain ecosystem, such as: (i) constructing an appropriate technical architecture; (ii) defining how technology can improve customer identity verification, combat money laundering, and prevent crime; (iii) Define how the use of multi-signature wallets creates a new government-citizen user experience and enables citizens to control and audit their own data held by the government.
5) Use partners to maintain coordinated government-industry conversations.

Security Features

One of the main security features of cryptocurrencies is distributed control of networks (Sasse et al., 2019). The system is managed by a global set of peers that operate on a consensus basis, so there is no central point of trust or failure. Bitcoin implements a much broader computer security infrastructure: a distributed ledger that provides high-looking integrity and consistency. Use a complex consensus protocol to ensure that everyone in your system gets a consistent view of your ledger. This is the key to Bitcoin's ability to prevent double payments, but it is just as important when using distributed ledgers for other applications such as contract and certificate recording. Distributed ledgers are naturally well suited for implementing high-level services, including notaries, timestamps, and highly consistent filings, by enhancing automation to facilitate service provider switching and peer transactions. Reduce the cost of activities. One of the main issues with secure online communication is making sure that the public key belongs to the service that the user wants to access. The common mechanism used is known as public key infrastructure. This is basically a set of trusted third parties that provide certificates that prove the relationship between the key and the service. CONIKS2 is based on a specially created distributed ledger to store and retrieve a user's public key, which can be used to encrypt or sign emails. Unlike CT, which relies on third-party networks to manage and audit distributed ledgers, CONIKS uses existing communication providers and user databases to build a highly integrated ledger. In particular, the security advantages of decentralized systems, resilience and robustness, only apply in full to unlicensed ledgers that follow the global theory of trust. For legal ledgers or examples with other centralized functions, there will be less robustness, but better ability to ensure trust and / or centralized functionality.

In fact, there is a wide range of choices between fully decentralized systems (as in Bitcoin) and fully permitted ones (specialized private networks). Given this set of solutions, it is

important to analyze the business and security requirements of any proposed implementation before deciding what type of ledger to use. Given the identified threats, governments must decide the appropriate level of security for the perpetrators of the threat, and the proposed period of use. If a cyberattack is to be expected, the system must be designed with safe use in mind from the start. It is easier to build a new secure infrastructure than to adapt the existing infrastructure to a new secure application. As such, it will be easier to configure and approve a new set of allowed servers than it is to reuse existing internet servers. The initial design should make it easier to update components during their lifespan.

Challenges of using blockchain technology for taxation

According to Catherine Mulligan, economics can range from (i) tax-based economies, (ii) pseudo-tax-compliant economies, (iii) non-tax-compliant (or "black market") economies. It can be categorized by method. VAT issues occur in all three for a variety of possible reasons to avoid tax obligations. DLTs are characterized by exponential growth and the potential for significant transaction transparency. The UK can play an important role in supporting the development of DLT technology, process protocols, and implementation solutions to reduce the EU VAT shortage. The development of a set of pan-European VAT standards and protocols will allow the use of DLT with unilateral approval of all VAT accounting transactions, from invoices to bank receipts. These systems may include smart contracts designed to trick the economy into complying with quasi-tax rules. Thanks to machine learning tools that read EU VAT transactions in real time, erroneous transactions will be detected much more often than existing audit methods. Greater traceability and transparency, including among payment service providers, banks and other financial institutions, will make it harder to cover up the black market economy.

Many information technologies are available to significantly reduce tax avoidance, including machine learning, digital supercomputers, quantum analog computing, and distributed ledger technologies. The main challenge for governments is to implement and use this technology faster than organized crime groups can. According to Catherine Mulligan, the benefits of implementing a DLT are reduced tax burden, increased transparency of real-time transactions across the economy, accurate credit risk assessment, and enabling smart contracts between finance and commerce. That is. Governments need to be technically prepared and able to handle DLT for taxation, and end users and business owners need to understand how to use DLT for effective tax management. This data collection system is very useful in the banking and financial services industry because blockchain can track the path of payment, i.e. how money moves between people, businesses and accounts (Anessa, 2020).

Tax strategy (increasing compliance) related to cryptocurrency transactions

The regulation of cryptocurrencies can be brought into the realm of regulation without regulating the cryptocurrency itself, but through the regulation of its blockchain. The regulation of this sectoral approach is carried out by setting boundaries between intermediary services related to the financial sector and those related to the traditional economy. Given that cryptocurrency transactions are not carried out through internal registration systems that are controlled by centralized cryptocurrency exchanges and payment companies. This regulation requires that lawmakers be able to balance government

needs and avoid government interference that can hinder technological development. The resulting regulation can operate according to the problem and is not excessive and technology-neutral (Borg & Schembri, 2019).

As a virtual currency reference in the United States for tax purposes, it is treated as property and not as currency (Rager, 2020). Gains or losses that arise each time a sale or purchase transaction is thus subject to tax. This capital gain can lead to a potentially significant amount of tax paid. If crypto sales are made through exchanges such as capital market transactions, the number of transactions exceeding a certain threshold can be determined as income taxed on profits. If the transaction results in a loss, the loss can reduce the tax liability.

According to Rager (2020), taxpayers are considered investors for income tax purposes. Taxpayers are treated as non-traders and any profits are classified as capital. If any costs are incurred that are not related to the purchase or sale of assets, they are classified as portfolio costs and are not deductible. The interest expense incurred related to the investment is limited to the individual's total net investment income.
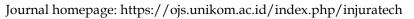
According to Rager (2020), Cryptocurrencies can be obtained through mining activities, which usually involve providing computing power to assist cryptographic processes, to authenticate transactions on the blockchain. The method of mining cryptocurrency is to create computing power and mine blocks directly, which requires large computing power. The tax treatment is the same. Prizes earned by miners on the date they were received are considered as income subject to business tax. Costs incurred in activities are deductible. Taxpayers are required to capitalize and depreciate any assets acquired and used in these activities. Another method of earning cryptocurrency is through staking, which is buying the cryptocurrency used in Proof of Stake, "PoS," and keeping the cryptocurrency in a specific wallet for a certain period of time. Owners are then rewarded for staking their cryptocurrency with a portion of the collected transaction fees. The longer someone stakes their cryptocurrency, the more they can earn. Cryptocurrency earned through staking can also be considered as income and valued on the date it was received.

The regulation stipulates that it is not a financial instrument then it is stipulated as VAT. Transactions with cash because there is no gain to be recognized with cash transactions, although cash fluctuates in value, currency fluctuations do not trigger gains or losses like property. Investors can also potentially commit tax non-compliance with crypto sales transactions. Investors who sell crypto and then momentarily buy it back are potentially not paying taxes. One effective way to improve tax compliance is reporting on cryptocurrency transactions that are set at a certain transaction value limit. Financial institutions, miners or custodians of cryptocurrency transactions can be designated as transaction reporters.

Moore (2021) explains how the IRS has stepped up tax enforcement actions for taxpayers disclosing cryptocurrency transactions. Tax compliance enforcement actions can be carried out by requesting tax payments to financial institutions, cryptocurrency miners and custodians that have been identified through blockchain technology, on virtual currency transactions within a certain threshold, or by issuing warning letters to taxpayers who are not expected to meet the reporting requirements. virtual currency transactions. The Taxpayer must submit a response to the appeal letter or warning letter to state the truth of the transaction in question. Taxpayers who do not report virtual currency transactions may be

subject to administrative sanctions for violations of reporting their virtual currency transaction information.

Tax authorities should have an information system as a tool used to collect information that relates to the individual code that accesses virtual currency, due to the nature of virtual currency which makes it difficult to identify such as income in the form of salaries or levies. Tax authority access to cryptocurrency codes owned by taxpayers cannot be reset, potentially not being able to detect the flow of transactions that occur. This can put pressure on taxpayers to properly disclose virtual currency transactions on their reports.

5. Conclusion

Transactions that accept crypto as a substitute for cash do not need to report taxes because there are no tax provisions regarding crypto transactions. Cryptocurrencies that do not have to be traded through exchanges like other currencies make transactions an underground economy, which is invisible to tax authorities in tax setting. Generally, the tax gap in Indonesia is caused by income that is not reported by the taxpayer. Most hide their income in a non-transparent financial structure. The implementation of blockchain technology in the tax system in Indonesia is a very possible database integration model. The application of blockchain technology is a solution to the problems of the underground economy, including cryptocurrency transactions. By adopting blockchain technology by prioritizing technology integration into infrastructure, it can encourage the efficiency of the tax system in Indonesia. The implementation of this technology is important to be supported by the reconciliation of stakeholders including the DGT, the Bank, and the Ministry of Communication and Informatics. Through this database reconciliation system, the tax system will strive for transparency without having to disclose confidential and non-hackable data. The use of blockchain technology in the taxation system can be categorized into the medium term prospects but the development cycle includes the long term. The government must create a detection tool with blockchain technology to be able to identify cryptocurrency miners and users. And stipulate income tax for entities and individuals on the difference between buying and selling. Because crypto is not a legal tender and is not included in a financial instrument, it can be subject to VAT in Indonesia. Emphasizing that it is good to consider many things carefully before starting to dive into the adoption of technologies such as blockchain, considering that the resources that will be spent are very large. the fundamental thing that needs to be emphasized is to build a product with a solid foundation first. optimistic that if the progress has been made in the right direction, regardless of the technology chosen, then the big goals to be achieved can be achieved. It is hoped that with this transparency, taxpayers will increasingly trust the government in managing public taxes, because they will no longer hesitate in carrying out their tax obligations. However, taxpayer data can still be guaranteed confidentiality because it can still choose what data is entered in the network created. utilize this technology to optimize tax revenue so that the realization of tax revenue in Indonesia can reach the target.

References
[1] Afifuddin & Saebani, Beni Ahmad. (2009). Metodologi Penelitian Kualitatif. Bandung: Pustaka Setia.

[2] Anessa, A. S. (2020). What's the Big Deal About Blockchain?. *Florida Bar Journal. 94*(2), 42.

[3] Baudoncq, M. & Baugniet, F. W. J. (2019). Belgium. *Global Legal Insights – Blockchain & Cryptocurrency Regulation*. First Edition, 198-208.

[4] Borg, F. J. & Schembri, T. (2019). The Regulation of Blockchain Technology. *Global Legal Insights – Blockchain & Cryptocurrency Regulation*. First Edition, 188 -192.

[5] CoFTRA Regulation Number 5. (2019). Investasi Cryptocurrency. Peraturan Bappebti No. 5 Tahun 2019.

[6] Debi Putri Dkk. (2021). Analysis Of Potential and Risks Investing in Financial Instruments and Digital Cryptocurrency Assets During the Covid-19 Pandemic. Jurnal SEKURITAS (*Saham, Ekonomi, Keuangan Dan Investasi*). *5*(1).

[7] Erdinc, Z. (2016). The Reasons of Underground Economy, Its Results, Methods and the Turkish Case. *Journal of Business and Economic Policy. 3*(1), 15-21.

[8] European Banking Authority (EBA). (2014). EBA Opinion on 'Virtual Currencies'. EBA/Op/2014/08. 4 July 2014. Retrieved From: https://www.eba.europa.eu/sites/default/documents/files/documents/10180/657547/81409b94-4222-45d7-ba3b-7deb5863ab57/EBA-Op-2014-08%20Opinion%20on%20Virtual%20Currencies.pdf?retry=1

[9] European Central Bank (ECB). (2012). Virtual Currency Schemes. Eurosystem Oktober 2012. ISBN: 978-92-899-0862-7 (online) Retrieved From: https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf

[10] Fanusie J. Y & Robinson, T. (2018). Bitcoin Laundering, An Analysis of illicit Flows into Digital Currency Services. Elliptic. *Center on Sanctions & Illicit Finance*. Retrieved From: https://cdn2.hubspot.net/hubfs/3883533/downloads/Bitcoin%20Laundering.pdf

[11] Financial Action task Force (FATF). (2014). FATF Report, Virtual Currencies Key Definitions and Potentiap AML/CFT Risks. Retrieved From: https://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf

[12] FinCEN. (2017). Advisory to Financial Institutions and Real Estate Firms and Professionals. Retrieved From: https://www.fincen.gov/sites/default/files/advisory/2017-08-22/Risk%20in%20Real%20Estate%20Advisory_FINAL%20508%20Tuesday%20%28002%29.pdf

[13] Goldman, N & Lewellen, C. (2021). Behind Bitcoin-A Closer Look at the tax Implications of Cryptocurrency. Retrieved From: https://poole.ncsu.edu/thought-leadership/article/behind-bitcoin-a-closer-look-at-the-tax-implications-of-cryptocurrency/

[14] Guinot, C. (2018), Manfaat *Blockchain* dalam Sistem Perpajakan menurut CEO OnlinePajak. https://id.techinasia.com/blockchain-online-pajak

[15] Hassan, M. & Scheider, F. (2016), Size and development of the shadow economies of 157 worldwide countries: Updated and new measures from 1999 to 2013, *Journal of Global Economics, 4*(3).

[16] Houben, R. (2018). Cryptocurrencies and Blockchain. Legal Context and implications for financial crime, money laundering and tax evasion. *TAX3 Committee.* Retrieved From: https://www.europarl.europa.eu/cmsdata/150761/TAX3%20Study%20on%20cryptocurrencies%20and%20blockchain.pdf.

[17] IRS Notice (2014), 21, Q-1. Retrieved From: https://www.irs.gov/pub/irs-drop/n-14-21.pdf. IRS FAQ on Virtual Currency Transactions, *FAQ 2,* https://www.irs.gov/individuals/international-taxpayers/frequently-asked-questions-on-virtual-currency-transactions.

[18] Law of the republic Indonesia Number 7/2011 on The Currency

[19] Medina, L. & Schneider, F. (2018). Shadow Economies Around the World: What Did We Learn Over the Last 20 Years?. *IMF Working Paper*. WP/18/17.

[20] Lexy J. Moleong. (2000). Metodologi Penelitian Kualitatif, Bandung: PT Remaja Posdakarya

[21] Marsh, B. & Dewey, J (2019). The Loan Market, Blockchain, And Smart Contracts: The Potential for Transformative Change. *Global Legal*

[22] Moore, G. (2021). IRS Watch Contributor Group, Operation Hidden Treasure is Here: If You Have Unreported Crypto, Get Legal Advice, Forbes. Retrieved Form: https://www.forbes.com/sites/irswatch/2021/03/06/operation-hidden-treasure-is-here-if-you-have-unreported-crypto-its-time-to-get-legal-advice/?sh=4ef50cbc39c9

[23] Moreno, J. M. D., Marval, S. E. L. O'Farell, & Mairal. (2019). Argentina. *Global Legal Insights – Blockchain & Cryptocurrency Regulation*. First Edition (193-197).

[24] Poskriakov, F., Chiriaeva M. Lenz C. C., Staehelin. (2019). Cryptocurrency Compliance and Risks: A European KYC/ AML Perspective. *Global Legal Insights – Blockchain & Cryptocurrency Regulation.* First Edition (198 -208)

[25] Rager. (2020). The Intersection of Cryptocurrencies and Individual Taxation. Retrieved From: https://www.cohencpa.com/insights/articles/the-intersection-of-cryptocurrencies

[26] Rath, U. & Kulnig T. (2019). Austria. *Global Legal Insights – Blockchain & Cryptocurrency Regulation.* First Edition (198-208)

[27] Reeves, P. & Gilbert G. W. (2019). Australia. *Global Legal Insights – Blockchain & Cryptocurrency Regulation.* First Edition (198 -208)

[28] Brown, R. G. (2019). Distributed Ledger Technology: Beyond Block Chain. A Report By The UK Government Chief Scientific Adviser. *Government Office for Science.*

[29] SDNs, IMF (2021). Staff Discussion Note Virtual Currencies and Beyond: Initial Considerations. Retrieved From: https://www.imf.org/external/pubs/ft/sdn/2016/sdn1603.pdf, 27.

[30] Sasse, M. A. Danezis, G. & Meiklejohn, S. (2019). Distributed Ledger Technology: Beyond Block Chain. A report by the UK Government Chief Scientific Adviser. *Government Office for Science*.

[31] Taylor, S. (2019). Distributed Ledger Technology: Beyond Blockchain. A Report by the UK Government Chief Scientific Adviser. *Government Office for Science.*

[32] Sugiyono. (2011). Metode Penelitian Kuantitatif Kualitatif dan R&D. Alfabeta.

[33] Weinstein J., Cohn A., & Parker C., (2019). Promoting innovation through education: The blockchain industry, law enforcement and regulators work towards a common goal. *Global Legal Insights – Blockchain & Cryptocurrency Regulation* First Edition (1-3)

[34] Williams, C. C. & Schneider, F. (2016). Measuring the Global Shadow Economy: The Prevalence of Informal Work and Labour. Edward Elgar Publishing, UK.

[35] World Bank Group (WBG). (2017). Distributed Ledger Technology (DLT) and Blockchain". FinTech Note (1).

[36] Zed, M. (2014). Metode Penelitian Kepustakaan. Jakarta: Yayasan Obor Indonesia.