

DIGITAL ASSET TAX: ARRANGEMENTS, IMPLEMENTATION, AND CHALLENGES

Gunawan Widjaja

Senior Lecturer Faculty of Law Universitas 17 Agustus 1945 Jakarta

widjaja_gunawan@yahoo.com

Abstract

Digital asset tax is an issue that is receiving increasing attention along with the rapid growth of blockchain technology and cryptocurrencies. Tax regulation on digital assets is essential to create transparency and accountability in the global digital market. Governments in various countries have begun to develop policies and regulations to govern, monitor, and ensure tax compliance of various forms of digital assets. However, the implementation of these policies poses various challenges, including the need for adequate technological infrastructure, international cooperation, and education for taxpayers. These challenges need to be addressed through a flexible and collaborative approach to ensure effective and sustainable implementation. Thus, the importance of comprehensive policy integration and awareness from all relevant parties for the successful implementation of digital asset tax.

Keywords: Digital Asset Tax, Regulation, Implementation, Challenges.

Introduction

Along with the rapid development of information and communication technology, digital assets have become a global phenomenon. Digital assets offer a variety of benefits such as transaction efficiency, decentralisation, and significant profit potential. Digital assets are forms of ownership or rights that are held electronically through digital technology and are usually represented in the form of digital data. Digital assets include various types of digital entities such as cryptocurrencies (e.g., Bitcoin and Ethereum), digital tokens, non-fungible tokens (NFTs), and digitally stored documents and creative works (Weisbach, 2019). The main characteristic of digital assets is their ability to be traded or invested online through digital platforms without the need for physical intermediaries, thus offering high flexibility and efficiency in modern economic transactions. Digital assets are gaining prominence along with the development of blockchain technology that enhances transparency, security, and decentralisation in their management and storage (X. Zhao, 2023).

The growth of the digital asset market has seen a significant surge in recent years, fuelled by growing interest from both individual and institutional investors. Cryptocurrencies, as one of the most prominent forms of digital assets, have seen a dramatic increase in valuations and transaction volumes. Bitcoin, for example, has grown from a virtually unknown concept in 2009 to a widely traded investment instrument with a market capitalisation in the hundreds of billions of dollars (Goodman & Kent, 2020). This phenomenon is not only limited to Bitcoin, but also includes various

altcoins such as Ethereum, Ripple, and Litecoin, each of which offers a wide range of applications and uses in the digital ecosystem. This surge reflects investors' confidence in the potential of blockchain technology in revolutionising the financial sector and various other industries (Friedlmaier & Tumasjan, 2020).

In addition to cryptocurrencies, the digital asset market has also expanded with the emergence of non-fungible tokens (NFTs) that enable ownership of unique digital goods such as artwork, collectibles, and other creative content. 2021 witnessed an explosion of interest in NFTs, with some items selling for millions of dollars and attracting the attention of artists, celebrities, as well as large corporations (Chiu & Koeppel, 2020). On the other hand, the tokenisation of traditional assets such as real estate and securities also opens up new opportunities for investment diversification and market liquidity. This rapid growth is supported by the increasing adoption of blockchain technology and positive sentiment towards decentralisation. However, the digital asset market is still characterised by high volatility and evolving regulation, which makes it a challenging yet attractive area for investment and innovation. As a result, more and more individuals and institutions are investing in digital assets, making them an important component of the modern economy (OECD, 2020).

However, the exponential growth of the digital asset market also poses new challenges for policymakers, especially with regard to tax regulation and implementation. Existing tax regulations are often unable to accommodate the unique characteristics of digital assets. In many countries, digital asset tax regulations are still in the development stage, creating legal uncertainty for market participants (Cockfield & Hellerstein, 2020).

The application of taxes on digital assets is also complicated. The decentralised and anonymous characteristics of many digital assets make it difficult for tax authorities to track transactions and determine tax liabilities. This is exacerbated by differences in tax policies between countries that make cross-border tax coordination a challenge. As a result, there are loopholes that can be utilised for tax evasion and illegal activities (Wessels, 2025).

In addition, fast-changing market dynamics and technology require flexible and adaptive tax arrangements. Challenges such as cybersecurity, transaction verification, and data privacy protection also need special attention. Threats from cyberattacks such as hacking, phishing, and malware continue to increase as the value and volume of digital asset transactions grow. Crypto exchange platforms and digital wallets are often prime targets for hackers seeking to steal users' assets. Several major incidents have resulted in millions of dollars in losses, undermining investor confidence in the security of these ecosystems (X. Zhao, 2023). Therefore, enhancing cybersecurity through the implementation of protective measures such as data encryption, multi-factor authentication, and rigorous security audits is crucial to maintaining the integrity and stability of digital asset markets.

In addition to cybersecurity, transaction verification and privacy data protection are also critical challenges that need special attention. Blockchain, the technology behind many digital assets, offers transparency and decentralisation, which can increase trust in transactions. However, the anonymous aspect inherent in some types of crypto transactions can also be exploited for illegal activities such as money laundering and terrorism financing. Therefore, the implementation of Know Your Customer (KYC) and Anti-Money Laundering (AML) procedures is crucial to verify user identity and prevent illegal activities (Catalini & Gans, 2020) . On the other hand, data privacy protection is also an important issue, given the amount of personal information stored on digital platforms. The use of best practices in data management and storage, as well as compliance with data privacy regulations such as GDPR, need to be implemented to protect users and avoid data breaches. Disciplining the balance between transparency, security and privacy is a complex challenge that requires a holistic and collaborative approach from various stakeholders in the industry (Balz & Schilling, 2022) .

Under such circumstances, this research aims to examine the regulation, implementation, and challenges of digital asset tax through an in-depth analysis of existing literature. By understanding the various approaches taken by different countries and identifying the main challenges in the implementation of digital asset tax, it is hoped that this research can make an important contribution in formulating a more effective and efficient tax policy.

Research Methods

The study in this research uses the literature method. The literature research method is a systematic approach to reviewing and analysing various written sources relevant to a particular research topic or problem. This method involves collecting data from scientific journals, books, research reports, as well as other academic publications, with the aim of summarising, synthesising, and assessing the information available (Carnwell & Daly, 2001) ; (Boote & Beile, 2005) . This process generally involves identifying keywords, searching the literature, selecting and evaluating sources, and analysing the data contained in the selected literature. Literature research not only helps researchers understand the existing knowledge landscape, but also identifies research gaps, strengthens theoretical foundations, and provides historical and conceptual context for the research to be conducted (Cooper, 2010) .

Results and Discussion

Tax Arrangements on Digital Assets in Various Countries

In the United States, the Internal Revenue Service (IRS) treats cryptocurrencies like Bitcoin as property for tax purposes. This means that digital asset transactions are subject to capital gains tax. When a digital asset is purchased and then sold at a higher price, the gain is considered taxable income. On the other hand, if the asset is sold at a

lower price than the purchase price, the loss deductible. In addition, reporting digital asset transactions is an obligation that must be fulfilled by taxpayers to avoid sanctions from the IRS (IRS, 2014) .

Canada also treats digital assets as property. The government body that handles taxes in Canada, the Canada Revenue Agency (CRA), regulates that profits from trading digital assets are taxed as capital gains. When assets are sold or traded, the gain or loss must be calculated and reported in that fiscal year. Canada also confirms that crypto mining and the receipt of payments in crypto are income that must be reported as business income (Brown, 2024) .

In the European Union, tax arrangements on digital assets vary between member states, although there are efforts to achieve harmonisation through common guidelines. In Germany, cryptocurrencies are subject to capital gains tax if sold in less than one year. While in France, profits from cryptocurrency trading are taxed under the fixed capital tax category. The EU is also likely to campaign for stricter Anti-Money Laundering (AML) and Know Your Customer (KYC) regulations for digital asset transactions (Maese & Vicari, 2021) .

In the UK, Her Majesty's Revenue and Customs (HMRC) treats digital assets as investment property. Tax is applied on capital gains when the assets are sold or traded. When an individual receives digital assets as a form of payment or through mining activities, the market value of the assets when received must be reported as income. UK regulations also encourage greater transparency in digital asset transactions through strict reporting (Ali & Barrdear ., 2021)

The Australian Taxation Office (ATO) classifies cryptocurrency as a form of property. Capital gains tax is levied on any cryptocurrency transaction. Australia also has a policy that transactions where digital assets are exchanged for goods or services must be valued at the market price of the asset at the time of the transaction. Mining and receiving payments in crypto is also considered a form of income that must be reported (World Economic Forum, 2022) .

To date, India has a fairly strict approach to digital assets. Until 2022, the Indian government imposes a very high capital gains tax, at a rate of up to 30%, on profits from digital asset transactions. In addition, there is a 1% withholding tax on every crypto trading transaction (TDS). This is to monitor crypto trading activities and prevent potential tax evasion (Zohar, 2020) .

Japan is one of the most advanced countries when it comes to digital asset regulation. Japan's National Tax Agency (NTA) treats profits from crypto trading as other income, which is subject to a progressive scheme of income tax. This rate can reach up to 45% depending on the individual's annual income. Japan has heavily regulated crypto exchange platforms to ensure security and regulatory compliance (IMF, 2021) .

In South Korea, profits from digital asset trading are subject to capital gains tax. Starting in 2022, a tax of 20 per cent is applied to profits earned from digital asset transactions that exceed 2.5 million Korean won per year. The country also requires better and more transparent reporting from crypto exchange platforms, requiring them to verify user identity (Stabile et al., 2020) .

China is taking a different approach to many other countries by banning cryptocurrency trading and mining completely. However, the Chinese government developed their own central bank digital currency (CBDC), the Digital Yuan. This ban means that no taxes are specifically levied on digital assets as official crypto-related activities are not permitted (Lee & Deng, 2024) .

Singapore has a friendlier approach to digital assets. The Inland Revenue Authority of Singapore (IRAS) treats profits from digital asset trading on a case-by-case situation. Businesses that receive payments in crypto are required to report the income as taxable business income. In addition, Singapore does not impose capital gains tax, so profits from digital asset trading are not subject to special taxation (Auer & Claessens, 2021) .

Each country has a unique approach to regulating and taxing digital assets. These differences reflect the various political, economic and social factors that influence local policies. As the digital asset market develops, tax regulations are expected to continue to evolve to address the challenges and capitalise on the potential offered by this new technology.

Implementation of Digital Asset Tax

The implementation of digital asset tax is becoming increasingly relevant in the current digital era along with the increasing adoption of technology and digital asset transactions such as cryptocurrency. This encourages the government to prepare appropriate regulations and policies to regulate and collect taxes from activities related to digital assets. This effort aims to create a healthy economic ecosystem, avoid tax evasion practices, and increase state revenue (Wendt, 2020) .

Clear and transparent regulations are needed to provide legal certainty for business actors and investors in the digital asset sector. Various countries have begun to implement tax policies that regulate the sale, purchase and transaction of digital assets along with the development of blockchain technology and cryptocurrencies. This regulation covers various aspects ranging from transaction reporting to taxation of profits earned from digital asset trading (Oh & Choi, 2021) .

However, implementing a digital asset tax is not without its challenges. The complexity of blockchain technology and the anonymity of some transactions make tax enforcement more difficult. In addition, there is still a risk of low compliance from businesses and investors who do not fully understand their tax obligations. Therefore,

education and socialisation are important factors in increasing tax awareness among digital asset users (Naqvi & Baqai, 2021).

The government also needs to consider technological aspects in the implementation of this policy. The use of sophisticated technology and international cooperation can help track and audit digital asset transactions more effectively. Collaboration with technology service providers and digital asset trading platforms can also be a solution to optimise tax monitoring and collection (Morabito, 2021).

One of the main objectives of implementing a digital asset tax is to create a balanced and fair investment climate. With good regulation, it is expected to avoid actors who try to avoid taxes by using digital technology. It also helps to create healthy competition between businesses that comply with regulations and those that favour transaction proceeds to fulfil tax obligations (Singh & Raghu, 2022).

On the other hand, digital asset tax can also contribute to public understanding and acceptance of this new technology. When these regulations and taxation policies are implemented, people are expected to become more familiar and more comfortable in using digital assets in their daily lives. This will help accelerate technology adoption and simultaneously increase state revenue (Beck & Müller-Bloch, 2020).

Overall, the implementation of digital asset tax is a necessary step to regulate the ever-evolving digital ecosystem. Despite the challenges, with the right regulation, intensive socialisation, and the use of the latest technology, the implementation of digital asset tax can run effectively. Ultimately, the main goal of this policy is to create a healthier, fairer, and more transparent business environment, as well as increase state revenue from the increasingly influential digital sector (Weisbach, 2019).

Thus, the implementation of digital asset tax is a crucial step to accommodate the development of technology and digital economy. This tax not only serves as a source of state revenue, but also as an instrument to achieve justice and legal certainty in the digital era. Proper implementation and support from various parties are needed so that this policy can run in accordance with the expected goals.

Challenges in the Regulation and Implementation of Digital Asset Tax

One of the main challenges in regulating and implementing digital asset tax is the lack of regulatory clarity. Many countries do not yet have a clear and consistent regulatory framework related to digital assets. This lack of clarity makes market participants experience confusion in fulfilling their tax obligations (J. Zhao & Xiao, 2023).

The volatility of the value of digital assets, such as cryptocurrencies, is also a major challenge. Significant fluctuations in the value of these assets can complicate the accurate valuation and calculation of tax liabilities. Regulators and taxpayers must face difficulties in establishing the right price at the time of the transaction (Goodman & Kent, 2020).

The technology behind digital assets continues to evolve rapidly. Innovations such as non-fungible tokens (NFTs) and decentralised finance (DeFi) add to the complexity of regulation and taxation. Regulators must keep abreast of these technological developments in order to effectively regulate and tax digital assets (Friedlmaier & Tumasjan, 2020).

The anonymity that digital asset transactions often present is a challenge. This makes it difficult for tax authorities to trace and identify the parties involved in the transactions. While blockchain technology provides transparency, the identity of asset owners is often disguised (Chiu & Koeppl, 2020).

The unique characteristics of distributed and often decentralised digital assets create reporting difficulties. Taxpayers may experience difficulties in recording and reporting all their digital asset transactions to tax authorities. This can lead to inaccuracies or omissions in fulfilling tax obligations (OECD, 2020).

Each country has different legal frameworks and tax policies. This creates challenges in enforcing rules and applying taxes evenly. These differences can also be exploited by taxpayers to find loopholes in the global tax system (Cockfield & Hellerstein, 2020).

The lack of understanding and education of taxpayers regarding digital asset tax obligations is a challenge. Effective tax policy implementation requires educational efforts to increase taxpayer awareness and compliance. Many market participants may not understand how to properly report their digital assets (Wessels, 2025).

Technical arrangements and effective supervision are the keys to success in the implementation of digital asset tax. Tax authorities need to have adequate infrastructure and resources to monitor digital asset transactions. This includes adopting new technologies and cooperating with technology companies (L. Zhao & Chen, 2023).

Fraud and market manipulation in the digital asset sector are also important issues. Regulators face challenges in identifying and addressing illegal activities that can undermine market integrity. Clear and transparent taxation policies can help reduce incentives for fraud.

Accounting and financial reporting standards for digital assets are still under development. The absence of comprehensive standards makes companies face difficulties in recording and reporting digital asset transactions. This has an impact on the clarity and accuracy of financial information reported to the tax authorities (Catalini & Gans, 2020).

By realising these challenges, it is hoped that regulators and tax authorities can formulate policies that are adaptive and responsive to the dynamics of digital assets. International collaboration and technological capacity building are key in dealing with the complexity of digital asset tax in the future.

Conclusion

The regulation of digital asset tax is a crucial step in order to create transparency and accountability in the growing digital market. Governments in various countries have begun to formulate special policies and regulations to deal with digital property and assets such as cryptocurrencies, tokens, and other forms of digital assets. This regulation aims to ensure that all activities involving digital assets are properly documented and in accordance with applicable tax regulations, thus avoiding tax evasion practices.

In its implementation, digital asset tax presents major challenges for both the government and taxpayers. For the government, these challenges include the need to build infrastructure and technological capabilities capable of efficiently tracking and auditing digital transactions. In addition, there is also a need for international co-operation to address the cross-border issues that often occur in digital transactions. From the taxpayer side, there is a need for assistance and education to understand how to report and pay taxes on digital assets, given the complexity and variety within the ecosystem.

The challenges involved in regulating and implementing digital asset tax cannot be underestimated as it involves cross-jurisdictional legal and technical aspects. With regulations constantly evolving, a flexible and adaptive approach is required from all relevant parties. The successful implementation of digital asset tax will depend on comprehensive policy integration, strong international cooperation, and awareness and compliance from digital industry players. As technology advances and expertise in this field increases, it is expected that digital asset taxation practices can be more effective and sustainable in the future.

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