



Blockchain Comparative Guide



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Japan

Contributing Editor



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1. Legal and enforcement framework

1. 1. What general regulatory regimes and issues should blockchain developers consider when building the governance framework for the operation of blockchain/distributed ledger technology protocols?

Japan

Chuo Sogo LPC

Blockchain technology has become integrated into various economic activities. The tokens issued on a blockchain serve a variety of purposes, including:

- payment;
- investment;
- speculation;
- savings;
- identification;
- information management;
- governance; and
- intellectual property.

As a result, a wide range of regulations are at play.

In Japan, blockchain developers must, first and foremost, be mindful of financial regulations. Specifically, they need to determine whether the tokens issued on the blockchain are classified as:

- cryptocurrency or electronic payment instruments under the Payment Services Act (PSA); or
- securities under the Financial Instruments and Exchange Act (FIEA).

If the tokens fall under either category, developers must also confirm whether an appropriate licence is required.

In addition, in relation to soulbound tokens (SBTs), which are used for ‘know your customer’ and other purposes, blockchain developers should be aware of the issues under the Act on the Protection of Personal Information (APPI). They should:

- check whether the issuance of SBTs involves the collection and management of personal information; and
- if so, comply with the APPI.

In addition, because various types of assets can be easily transferred onto the blockchain and because the degree of anonymity varies, it is essential to comply with anti-money laundering (AML) regulations, countering the financing of terrorism (CFT) regulations, and countering proliferation financing regulations, including the travel rule (see question 3.2).

1. Legal and enforcement framework

1. 2. How do the foregoing considerations differ for public and private blockchains?

Japan
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The considerations outlined in question 1.1 apply primarily to public blockchains. In the case of private blockchains, however, there is a designated administrator and only specific users can participate, which may affect how financial regulations will apply.

Private blockchains are often used by financial institutions for the provision of services. For example, when a bank or funds transfer service provider issues digital money on a private blockchain, if technical measures are implemented to ensure that transfers can be made only to users verified in accordance with the Act on Prevention of Transfer of Criminal Proceeds (APTCP), and if the issuer must be involved in each transfer, such transactions are generally not classified as ‘electronic payment instruments’ under the PSA. However, issuing digital money on a private blockchain is considered an ‘exchange transaction’, meaning that a banking business licence or a funds transfer service licence is required.

1. Legal and enforcement framework

1. 3. What general regulatory issues should users of a blockchain application consider when using a particular blockchain/distributed ledger protocol?

Japan

Chuo Sogo LPC

As a general rule, users of blockchain applications are not required to obtain a financial licence. In Japan, users may use applications offered by overseas service providers without a licence and such use does not immediately expose them to penalties for regulatory violations.

However, using the services of an unlicensed or illegal provider carries the risk that the service may be abruptly terminated, causing inconvenience to users or a risk that users may lose their assets due to cyberattacks caused by insufficient security.

Therefore, it is advisable to check:

- whether the service provider holds a valid licence;
- what kind of customer asset protection is required of the provider under financial regulations; and
- whether any warnings have been given or administrative actions taken by financial authorities such as the Financial Services Agency (FSA) against the provider for:
 - operating without a licence; or
 - violating applicable regulations.

1. Legal and enforcement framework

1. 4. Which administrative bodies are responsible for enforcing the applicable laws and regulations? What powers do they have?

Japan

Chuo Sogo LPC

First, regarding financial regulations, the FSA or the local finance bureau is generally the competent authority, with the following powers:

- the authority to grant licences and approvals;
- the authority to conduct on-site inspections and request reports from regulated businesses; and
- the authority to issue administrative actions, such as:
 - business improvement orders;
 - business suspension orders; or
 - registration cancellations.

Some financial services may fall under the jurisdiction of other ministries, such as the Ministry of Economy, Trade and Industry.

Additionally, although financial authorities do not have direct supervisory power over businesses that illegally provide financial services without a licence, they typically:

- issue warning letters;
- share information with investigative authorities; and
- rely on those authorities to conduct criminal investigations.

The decision on whether to prosecute is made by prosecutors.

With respect to other regulations, the Personal Information Protection Commission is the main authority that oversees the protection of personal information. However, financial authorities are delegated certain powers to supervise the handling of personal information by financial businesses.

AML/CFT regulations are overseen by multiple agencies, including:

- the Japan Financial Intelligence Centre;
- the Ministry of Finance; and
- the FSA.

These regulations cover laws such as the APTCP and the Foreign Exchange and Foreign Trade Act. The method of enforcement varies depending on the specific regulation.

1. Legal and enforcement framework

1. 5. What is the regulators' general approach to blockchain?

Japan

Chuo Sogo LPC

In order to promote innovation, the FSA has established a FinTech Support Desk which offers consultations for businesses looking to launch new fintech ventures.

At the same time, Japan has experienced several large-scale losses of customer cryptocurrency assets due to cyberattacks on cryptocurrency exchanges. As a result, the FSA conducts thorough and stringent examinations of cryptocurrency exchange licence applications, with a strong focus on customer protection. This has also led to longer preliminary consultation periods. Key areas of focus during the review process include:

- the risk of system failure;
- the robustness of security measures; and
- the adequacy of AML/CFT systems.

In addition, a new framework for electronic payment instruments services – that is, businesses that handle stablecoin transactions – came into effect in 2023. However, the registration process remains strict and, as of December 2024, no business had successfully obtained a licence. That said, it is anticipated that some businesses should have secured a licence in the not-too-distant future.

1. Legal and enforcement framework

1. 6. Are any industry or trade associations influential in the blockchain space?

Japan

Chuo Sogo LPC

In Japan, the following associations regulate businesses in blockchain industries:

- Japan Virtual and Crypto Asset Exchange Association (JVCEA): The JVCEA is a self-regulatory organisation for cryptocurrency exchange businesses and

cryptocurrency-related derivative trading businesses and formulates self-regulatory rules for this industry. It is both:

- a ‘certified funds settlement business operator association’ under the PSA; and
 - a ‘certified financial instruments business operator association’ under the FIEA.
- Japan Security Token Offering Association (JSTOA): The JSTOA is a ‘certified financial instruments business association’ under the FIEA. The scope of its self-regulation includes electronically recorded transferable rights (ERTRs), which are tokenised rights stipulated in each item of Article 2(2) of the FIEA, such as:
 - collective investment scheme equity; and
 - exempted ERTRs.
 - Japan Securities Dealers Association (JSDA): The JSDA is a ‘licensed financial instruments business association’ under the FIEA, some of whose members conduct transactions involving Type 1 financial instruments business, among other things. The JSDA:
 - establishes self-regulatory rules;
 - conducts investigations;
 - issues guidance and recommendations; and
 - performs other functions for its members.

With respect to security tokens, the JSDA has a self-regulatory domain for ERTRs that tokenise securities such as stocks and corporate bonds, as stipulated in Article 2(1) of the FIEA.

Other blockchain industry associations in Japan include:

- the Japan Blockchain Association;
- the Blockchain Collaborative Consortium;
- the Japan Cryptoasset Business Association;
- the Japan Security Token Association; and
- the Japan Contents Blockchain Initiative.

2. Blockchain market

2. 1. Which blockchain applications and protocols have become most embedded in your jurisdiction?

Japan

Chuo Sogo LPC

No particular blockchain application is dominant in Japan. However, from the perspective of security, scalability, interoperability and compliance, as in other countries, Ethereum, Hyperledger, Polkadot, Solana and Cardano are widely used in Japan. There are also several Japanese companies that provide original chains.

Furthermore, a number of Japanese companies have launched various applications of their own in a wide range of fields, including:

- exchanges;
- financial services;
- stablecoins;
- platformers;
- non-fungible token businesses;
- blockchain development applications;
- decentralised autonomous organisations (DAOs);
- wallets; and
- games.

These are becoming increasingly widespread.

2. Blockchain market

2. 2. What potential new applications/protocols are most actively being explored?

Japan

Chuo Sogo LPC

The following kinds of applications are currently being explored:

- tokenised real-world assets;

- security tokens; and
- stablecoins issued under a licensed framework with asset protection measures.

2. Blockchain market

2. 3. Which industries within your jurisdiction are making material investments within the blockchain space?

Japan

Chuo Sogo LPC

Industries making material investments within the blockchain space include:

- venture capital funds that focus on companies that concentrate on blockchain development;
- traditional financial institutions (eg, mega banks, trust banks and securities firms developing blockchain-related products or services);
- investment funds that focus on investments in blockchain-based assets; and
- major telecommunications and entertainment companies that focus their investments on the blockchain domain.

2. Blockchain market

2. 4. Are any initiatives or governmental programmes in place to incentivise blockchain development in your jurisdiction?

Japan

Chuo Sogo LPC

In Japan, the ruling Liberal Democratic Party has launched the Web3 Project Team and published the Web3 White Paper 2024, which describes policies for incorporating Web3 – including the use of blockchain technology – into national strategy. As a result of such initiatives, various regulations related to blockchain have been reviewed. For example:

- under certain conditions, corporations are no longer subject to taxation on the market value of their own cryptocurrencies at the end of the fiscal year;
- the revision of the Payment Services Act has led to the implementation of a system for the circulation of ERTRs (ie, permissionless stablecoins) in 2023;
- the Cabinet Office Ordinance on the Definition of Financial Instruments and Exchange Act, Article 2 was revised in April 2024 to allow DAOs to be formed using Japanese limited liability companies (*godo-kaisha*) under certain conditions; and
- in May 2024, the Limited Partnership Act for Investment was amended to allow investment limited partnerships to invest in cryptocurrencies issued for businesses, with the expectation of coming into force within a year.

Finally, the Japanese government has previously implemented programmes to support the creation of blockchain-related content and has commissioned specific businesses to carry out demonstration projects to create digital public goods using blockchain technology. It is also expected that this type of programme will be launched in the future.

3. Cryptocurrencies

3. 1. How are cryptocurrencies and/or virtual currencies defined and regulated in your jurisdiction?

Japan
Chuo Sogo LPC

In Japan, assets that meet certain criteria, including virtual currencies, are defined as ‘cryptoassets’ under the Payment Services Act (PSA). Insofar as electronic money qualifies as a currency-denominated asset, it is not considered a cryptoasset.

There are two types of cryptoassets, as follows:

- Type 1 cryptoassets: cryptoassets that meets all of the following requirements.
 - property value (electronic records) that can be used for payments to unspecified persons;

- assets that can be traded with unspecified persons (including exchange with legal currency);
- assets that can be transferred through computer networks; and
- assets that are not legal currency or currency-denominated assets.
- Type 2 cryptoassets: cryptoassets that meets all of the following requirements.
 - property value (electronic records) that can be exchanged with Type 1 cryptoassets when dealing with unspecified persons;
 - assets that can be transferred through computer networks; and
 - assets that are not legal currency or currency-denominated assets.

3. Cryptocurrencies

3. 2. What anti-money laundering provisions apply to cryptocurrencies?

Japan

Chuo Sogo LPC

In Japan, anti-money laundering measures for cryptoassets are regulated under the Act on Prevention of Transfer of Criminal Proceeds (APTCP). Cryptoasset exchange service providers must verify the identity and transaction purposes of users and create and store verification and transaction records in the following cases:

- when opening user accounts;
- during exchanges of cryptoassets exceeding JPY 100,000; and
- during transfers of cryptoassets exceeding JPY 100,000.

Furthermore, cryptoasset exchange service providers must collect information on the source and destination of cryptoasset transfers and notify the destination exchange provider of this information (known as the ‘travel rule’). The travel rule applies to all transfers, regardless of the amount or type of cryptoasset. However, under Japanese law, the travel rule does not apply to cryptoasset transfers in the following cases:

- transfers involving unhosted wallets, such as MetaMask;
- wallets managed by foreign cryptoasset exchange service providers in countries that are not designated as notification target countries under the APTCP; and

- wallets managed by unregistered providers.

Nonetheless, even in these cases, cryptoasset exchange service providers must:

- collect and record ownership information for unhosted wallets or other wallets used by transaction counterparties; and
- investigate and analyse the attributes of the counterparty's unhosted wallets and assess the associated money laundering risks.

Thus, strict measures are in place to prevent money laundering, even for transfers that are exempt from the travel rule.

3. Cryptocurrencies

3.3. What consumer protection provisions apply to cryptocurrencies?

Japan

Chuo Sogo LPC

From a user protection perspective, the following key provisions are in place:

- Entities conducting an exchange of cryptoassets as a business must register with the Financial Services Agency (FSA) or a local finance bureau (see question 3.5).
- Cryptoasset exchange service providers must explain the nature of cryptoassets to customers in advance when engaging in exchanges of cryptoassets.
- Regulations are imposed on advertising and solicitation methods used by cryptoasset exchange service providers.
- To prevent an outflow of cryptoassets, cryptoasset exchange service providers must manage private keys associated with customer cryptoassets using highly reliable methods, such as cold wallets.
- In the event of the bankruptcy of a cryptoasset exchange service provider, customers have the right to receive priority repayment of their cryptoassets managed by the provider.
- Cryptoasset exchange service providers must:
 - segregate user funds from their own funds and place them in trust with a trust company or similar entity; and

- segregate users' cryptoassets from their own cryptoassets and keep them in a way that allows for the immediate identification of the specific assets that belong to each user.

One example of the application of user protection measures involves FTX Japan. In this case, due to financial instability at its parent company, FTX Trading Limited, there was a risk that FTX Japan's assets could be transferred to overseas affiliates. To protect users, the FSA imposed a domestic asset retention order on FTX Japan under the Financial Instruments and Exchange Act (FIEA). This measure was possible because FTX Japan was a registered financial instruments business operator. However, as of December 2024, the FSA cannot impose domestic asset retention orders on cryptoasset exchange service providers that are not registered as financial instruments businesses. Nonetheless, the Working Group on Funds Settlement Systems, etc of the Financial System Council of Japan is discussing an amendment to the PSA to enable such orders for cryptoasset exchange providers as well.

3. Cryptocurrencies

3. 4. How are cryptocurrencies treated from a tax perspective?

Japan

Chuo Sogo LPC

Income tax: Profits earned by individuals from managing cryptoassets are generally classified as 'miscellaneous income' and are subject to aggregate taxation, combined with other income (eg, salary or business income). The income tax rate is progressive, ranging from 5% to 45%, depending on the amount. Including the 10% flat resident tax, the maximum tax rate applied to profits from cryptoassets for individuals can reach 55%.

Corporate tax: Profits (capital gains) from cryptoasset transactions are subject to corporate tax as taxable income. When selling or exchanging cryptoassets, the resulting gains or losses are recognised as transfer gains or losses and are recorded as income or expenses for the fiscal year, based on the contract date (settlement date). The corporate tax rate varies based on the type and size of the corporation but is around 20%.

For cryptoassets held at the end of the fiscal year, fair value assessment is conducted. Only cryptoassets with an ‘active market’ are evaluated and the difference between the book value and the market value at year-end is recorded as income or loss. This gain or loss is adjusted in the following fiscal year.

Inheritance and gift tax: When cryptoassets are acquired through inheritance, bequest or gift, they are subject to inheritance or gift tax. The tax rate for inheritance and gift taxes ranges from 10% to 55%, depending on the amount acquired.

Consumption tax: Transfers of cryptoassets through domestic cryptoasset exchange providers are not subject to consumption tax. However, cryptoasset lending in exchange for a usage fee is subject to consumption tax, with the standard rate set at 10%.

For more detailed tax treatment, please refer to:

https://www.nta.go.jp/publication/pamph/pdf/virtual_currency_faq_03.pdf

3. Cryptocurrencies

3. 5. What regulatory requirements apply to a cryptocurrency trader/exchange?

Japan

Chuo Sogo LPC

Cryptoasset exchange services: The following activities constitute cryptoasset exchange services and cannot be conducted without registration with the FSA or a local finance bureau:

- the purchase and sale of a cryptoasset or exchange for another cryptoasset;
- intermediary, brokerage or agency services for the activities listed above;
- the management of users’ money in connection with the activities listed above;
- and
- the management of cryptoassets on behalf of another person.

Companies conducting cryptoasset exchange services outside Japan must also register if they offer services to users in Japan.

Leveraged transactions: Engaging in derivative transactions based on cryptoassets as underlying assets or using cryptoasset prices as reference indicators as a business, and intermediary, brokerage or agency services for such derivatives, require registration as a Type I financial instruments business. These activities are subject to entry regulations, disclosure requirements and other regulations.

Additionally, businesses providing cryptoasset exchange services involving the extension of credit to cryptoasset users must be registered as a cryptoasset exchange service provider. If the cryptoasset margin trading includes the lending of money, registration as a money lending business is also necessary.

Decentralised exchanges (DEX): It is difficult to determine whether there are DEX operators that are subject to financial regulations such as the PSA and the FIEA. How regulatory frameworks apply to decentralised finance services remains an underdeveloped area of discussion. Therefore, it is necessary to examine, on a case-by-case basis:


- which entities are involved in the operation or development of the exchange;
- how they are involved; and
- whether they fall within the scope of regulation.

3. Cryptocurrencies

3. 6. How are initial coin offerings and securities token offerings defined and regulated in your jurisdiction?

Japan
Chuo Sogo LPC

Although there is no legal definition of an ‘initial coin offering’ (ICO), it is generally understood to be a method by which a company electronically issues tokens to raise funds from the public in the form of legal currency or cryptoassets.



If the tokens issued in an ICO qualify as cryptoassets as described in question 3.1, the act of selling or exchanging these tokens for other cryptoassets as a business constitutes a cryptoasset exchange service that falls under the PSA.

Moreover, in the case of an investment-type ICO that offers monetary returns, security tokens backed by financial instruments are issued which fall under the FIEA. When tokens are issued with backing from Type I securities (eg, stocks, corporate bonds or investment trusts):

- the issuer is subject to disclosure requirements; and
- regulations governing sales and solicitation apply.


Tokens backed by trust beneficiary rights, collective investment scheme interests or membership interests in a limited liability company are generally regulated as Type I securities, unless technical measures to restrict acquirers or restrict transfers are in place for such tokens..

In this regard, for membership interests in a limited liability company, if the token holders do not receive profit distributions beyond their contribution amount, the token is treated as a Type II security, exempting it from business and disclosure regulations associated with self-offerings. This structure is anticipated to enable decentralised autonomous organisations to raise funds through the framework of a Japanese limited liability company (*godo-kaisha*).

4. Smart contracts

4. 1. Can a smart contract satisfy the legal requirements of a legal contract under the laws of your jurisdiction? What will be considered when making this determination?

Japan
Chuo Sogo LPC



Under Japanese law, the formation of a contract requires an agreement of intent between the parties. Therefore, if the terms of an agreement are expressed in the form of a code and the execution of the transaction via a smart contract allows for the parties' mutual intent to be determined, such agreement can satisfy the requirements of a legal contract.

4. Smart contracts

4. 2. Are there any regulatory or governmental guidelines or policies within your jurisdiction which provide guidance on regulating/defining smart contracts?

Japan
Chuo Sogo LPC


There are no direct legal regulations or guidelines specifically for smart contracts in Japan. However, to promote the adoption of a decentralised autonomous organisation (DAO), which is based on the use of smart contracts, the government has amended financial regulations to create a legal framework for DAOs.

One such effort includes the amendment of a law to facilitate fundraising when a Japanese limited liability company (LLC) (*godo-kaisha*) is used as the entity for a DAO. Under this amendment, membership interest tokens that are transferable only to executive members of the LLC through technical measures or that do not provide for profit distributions beyond the amount of the contribution are classified as Type II securities. As a result, these tokens are exempt from business and disclosure regulations associated with self-offerings.

4. Smart contracts

4. 3. What parts of traditional contract might smart contracts be able to replace?

Japan
Chuo Sogo LPC



A ‘smart contract’ is a program that automatically performs a certain action when specific conditions (triggers) are met. Typical examples of contracts that are easily replaced by smart contracts include the automation of:

- monetary payments;
- penalties; and
- predetermined damages.

Moreover, if the counter-obligation can be performed on-chain, smart contracts could theoretically replace traditional contracts on a broader scale.

4. Smart contracts

4. 4. What parts of traditional contracts might smart contracts be unable to replace?

Japan
Chuo Sogo LPC


The physical delivery of real property or movable property and obligations to provide physical services are not well suited to automated performance through smart contracts.

Under Japanese law, the fulfilment of requirements for perfection is necessary for changes in rights, such as the transfer of real property, movable property or claims. However, the question of whether these requirements can be automated through smart contracts remains in an early stage of discussions.

4. Smart contracts

4. 5. What issues might present themselves in your jurisdiction with regard to judicial enforcement of smart contracts?

Japan
Chuo Sogo LPC



When the performance obligation involves a transfer of cryptoassets, a court may find it difficult to seize or convert these assets into cash through compulsory execution.

4. Smart contracts

4. 6. What are some practical considerations that parties should consider when drafting a smart contract?

Japan

Chuo Sogo LPC

Where businesses conduct transactions with a large number of unspecified parties, it is advisable to establish terms and conditions regarding the execution of transactions via smart contracts, ensuring that users understand that they are bound by an automated performance system.

The subject of performance should ideally involve elements that are conducive to automated execution through smart contracts, such as monetary payments or the delivery of digital assets.


The facts that serve as triggers for the execution of a smart contract should be ones that can be recognised through automated processing; therefore, triggers should not involve evaluative elements (eg, ‘grounds for liability’ or ‘the existence of damages’).

4. Smart contracts

4. 7. How will the foregoing considerations differ when smart contracts are running on a private versus public blockchain?

Japan

Chuo Sogo LPC



The considerations for creating a smart contract are generally identical whether it is on a public or private blockchain. However, the evidentiary strength of records made by a smart contract is expected to be lower on a private blockchain than on a public blockchain. This is because private blockchains are relatively more susceptible to tampering, which reduces the presumption of the existence of an underlying agreement for the smart contract.

5. Data and privacy


5. 1. What specific challenges or concerns does blockchain present from a data protection/privacy perspective?

Japan

Chuo Sogo LPC

Under the Act on the Protection of Personal Information (APPI), if information handled on the blockchain carries the hallmarks of ‘personal information’ (Article 2.1) and is systematically reorganised so that it can be searched, the blockchain constitutes a ‘personal database, etc’ under Article 16.1 of the APPI. For example, because cryptoasset exchangers normally link Bitcoin addresses to personal data, store them in a database or have easy matching to each, these addresses themselves constitute ‘personal information’; likewise, crypto asset exchangers fall within the definition of “persons who uses personal information databases, etc. for business purposes” (APPI, Article 2.5).

Under the APPI, personal information must be deleted at the request of the person to whom it relates (eg, Articles 34, 35). However, if blockchain technology is used, personal information, once recorded, can never be deleted. Even with encryption, there is a risk that the information could be seen by all participants on the network.



Furthermore, in a completely decentralised blockchain, in view of the fact that there is no administrator, there is no “person who uses personal information databases, etc. for business purposes” (APPI, Article 2.5). Consequently, the problem may arise that a ‘business operator handling personal information’ cannot be determined. Once personal information is recorded on the blockchain, it will be shared and provided to third parties, which in principle requires the consent of the individual concerned (Article 27). However, since the identity of the administrator is unclear, the identity of the ‘business operator handling personal information’ will also be unclear.


5. Data and privacy

5. 2. What potential advantages can blockchain offer in the data protection/privacy context?

Japan

Chuo Sogo LPC

Because data recorded on a blockchain is difficult to tamper with, it is that much easier to maintain the authenticity and transparency of personal information. Another important feature of blockchain is its decentralisation. This puts the management of personal information in the hands of individuals, reducing the risks of centralised databases. In addition, smart contracts can be used to automatically manage the terms of use of personal information and prevent unauthorised use.



Furthermore, it has been common for service users to provide personal information to service providers when using services, but utilising the blockchain, a new method has emerged to manage personal information on a terminal called a ‘digital identity wallet’. In this method, personal information is stored in a wallet and when the service is used, access rights to personal information are individually granted to the provider and the access records are recorded and stored on the blockchain. The provider is only allowed to access the personal information stored in the wallet; it is not allowed to acquire the personal information itself or to copy or provide it to other businesses. As a result, while current law may allow personal information to be provided to third parties without the consent of the individual (Article 27), providers must obtain the individual’s permission in each case order to legally use the personal information. In addition, users can instantly identify and report the unauthorised use of personal information by checking it against access records on the blockchain.

6. Cybersecurity

6. 1. What specific challenges or concerns does blockchain present from a cybersecurity perspective?

Japan
Chuo Sogo LPC

Although blockchain technology is rated as having strong security, there are still risks of security breaches. Major risks include:

- 51% attacks;
- smart contract vulnerabilities; and
- private key leakage.

In addition, even if there is no problem with the blockchain itself, strong security of the blockchain cannot be maintained if there are security issues with those that handle it.

In 2018, approximately JPY 58 billion worth of cryptoassets designated as New Economy Movement (NEM) leaked from cryptographic asset exchanger Coin Check due to unauthorised access. Coin Check was storing the NEMs in a ‘hot wallet’ (ie, a wallet connected to the Internet) and malware infection occurred when an employee opened a link in an email from a malicious third party, leading to the NEM outflow.

In response, the Payment Services Act (PSA) was amended, requiring cryptoasset exchangers to manage customers’ cryptoasset in a ‘cold wallet’ (ie, a wallet not connected to the Internet) or by using other highly reliable means except for the cryptoasset necessary to respond to requests for transactions from customers (up to 5% of the total customers' cryptoasset) (Article 63-11). In addition, the PSA requires cryptoasset exchangers to separately hold crypto assets of the same type and amount as the source of reimbursement if the crypto assets are managed in a hot wallet (Article 63-11-2)

The Financial Services Agency is currently discussing a transition to ‘post-quantum cryptography’ in response to a suggestion that the security of public key cryptography could be compromised by the use of quantum computers beginning from September 2024.

6. Cybersecurity

6. 2. What potential advantages can blockchain offer in the cybersecurity context?

Japan

Chuo Sogo LPC

Blockchain groups data into blocks and links them in a chain, making data tampering very difficult. Each block contains a hash value of the previous block and once recorded, all subsequent blocks must be recalculated in order to change the data.

Blockchain uses distributed ledger technology (DLT), which means that data is stored in a distributed manner throughout the network. This eliminates a single point of failure and increases the resilience of the entire system.

All transactions on the blockchain are public and anyone can verify them. This helps to prevent fraud and ensures the transparency of transactions.

Blockchain uses cryptography to protect the confidentiality and integrity of data. In addition, each transaction is verified by network participants, preventing unauthorised transactions.

Furthermore, by implementing smart contracts on the blockchain, transactions are automated and more reliable.

6. Cybersecurity

6. 3. What tools and measures could be implemented to mitigate cybersecurity risk?

Japan

Chuo Sogo LPC

In order to mitigate cybersecurity risks, it is important to build a multi-layered defence by combining multiple tools and measures. The following describes measures to address the risks described in question 6.1.

Since the basic structure of the Proof-of-Work (PoW) is a majority voting algorithm based on computational complexity, there is no fundamental measure for 51% attacks. However, the risk of 51% attacks actually occurring is extremely low because of the enormous amount of computation required to execute them. In addition, algorithms other than PoW have been developed that allow individuals to enter mining while avoiding 51% attacks, such as Proof-of-Stake, which determines majority voting based on the number of tokens held and the number of years of ownership, rather than the amount of computation.

Regarding smart contract vulnerabilities, it is most important to regularly audit the code of smart contracts to detect and correct vulnerabilities as early as possible. In particular, developers could request regular code audits by an independent auditor and offer bug bounties, especially if there is a risk of huge losses due to smart contract vulnerabilities.

As for private key leakage, possible measures include:

- thorough lifecycle management of private keys;
- storage in hardware or a hardware security module which is certified as secure and difficult to access from external sources; and
- use of a mechanism that enables transactions to be validated by using multiple keys ('multi-signature').

7. Intellectual property

7. 1. What specific challenges or concerns does blockchain present from an IP perspective?

Japan

Chuo Sogo LPC

From a patent perspective, blockchain technology is often developed as open source software (OSS); and because OSS allows for free redistribution, the unexpected loss of the opportunity to enforce patent rights can be problematic. Under the Patent Act, a patent holder must prove novelty and inventive step of the technology (Article 29), but it can be difficult to avoid duplication with existing blockchain technology.

From a copyright perspective, non-fungible tokens (NFTs) are sometimes said to be able to create unique and ownable digital data. However, since NFTs do not constitute digital art itself, but only data – for example, the certificate of authenticity attached to thereto – they cannot prevent the unauthorised reproduction of digital art. Therefore, it is technically possible for a third party to issue an NFT linked to copyrighted digital art without the copyright holder's permission or to issue another NFT linked to digital art with the same content, even though this would constitute copyright infringement. In addition, NFTs and the digital art associated with them are merely inanimate objects which are not subject to ownership rights under the Civil Code (Article 85). Furthermore, there is no concept of 'digital ownership' under current law.

7. Intellectual property

7. 2. What type of IP protection can blockchain developers obtain?

Japan
Chuo Sogo LPC

As explained in question 7.1, it can be difficult to avoid duplication with existing blockchain technology; but once a blockchain developer proves the novelty and inventive step of the technology, patent rights can be obtained to practise the patented technology (Article 68 of the Patent Act).

Programs are protected under the Copyright Act (Article 10.1.9). This allows blockchain developers to obtain copyright protection for programs or software using blockchain. However, as explained in question 7.1, it is not possible to copyright an NFT itself.

Trademarks are also an effective means for blockchain developers to acquire IP rights. They can protect a brand of blockchain-related services or products by trademarking their names or logo marks.

Even if the ideas or information are mere ideas or are still in the development stage and IP rights as described above are not recognised, if certain conditions are met, those ideas or information may be protected as trade secrets whose violation may be subject to damages under the Unfair Competition Prevention Act (Articles 3, 4).

7. Intellectual property

7. 3. What are the best open-source platforms that could be used to protect developers' innovations?

Japan
Chuo Sogo LPC

GitHub, which is used around the world, is also widely used in Japan. GitHub is a particularly popular platform for collaborative or project development because of its extremely useful features for multi-person development, such as 'Pull request', 'Merge' and 'Fork'.

The most famous open source programming language from Japan is Ruby, developed by Yukihiro Matsumoto (Matz). Ruby was the first programming language developed in Japan to be certified as an international standard by the International Electrotechnical Commission and is still widely used around the world, especially in the development of web applications.

Many open source platforms adopt copyleft-type licences. If you create new software by modifying software published these platforms, you should thus keep in mind that the software can be freely used and redistributed by third parties.

7. Intellectual property

7. 4. What potential advantages can blockchain offer in the IP context?

Japan
Chuo Sogo LPC

Blockchain allows for the accurate and reliable management of information on the registration and transfer of IP rights. For example, by recording the date of publication of an invention or the creation of copyrighted content in the blockchain, it becomes easier to establish the prior acquisition of rights.

In addition, all transactions and records are public in the blockchain, so all parties can access the same information. This transparency is extremely beneficial in resolving disputes and verifying rights. For example, in the event of suspected copyright infringement, blockchain records can be consulted to quickly and reliably verify the existence of rights.

Smart contracts are another important advantage of blockchain in protecting IP rights. These automate the conclusion of licensing agreements and royalty payments, reducing administrative costs and ensuring that the interests of rights holders are protected. Especially where IP is shared, royalties are distributed automatically and the risk of disputes between rights holders can be reduced. In addition, while consideration for copyrighted content is usually paid only at the time of initial transfer, smart contracts can be set up so that royalties can be earned on each resale.



Because of these advantages, the use of blockchain in the IP field has become particularly widespread and the market for NFTs, based on blockchain technology, is rapidly expanding.

8. Trends and predictions

8. 1. How do you think the regulatory landscape in your jurisdiction will evolve in the blockchain space over the next two years? Are any pending changes currently being considered?

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In September 2024, the Financial Services Agency established a working group to discuss amendments to blockchain-related laws. Specifically, as it is not currently possible to issue a domestic asset holding order in the event of the bankruptcy of a business dealing in crypto assets, the group is discussing the introduction of regulations to secure the return of domestic user assets. Furthermore, in future, it is expected that there will be discussions on whether to:

- amend the Payment Services Act to afford stronger protection to investors; or
- include crypto assets within the scope of the Financial Instruments and Exchange Act, in light of the business reality that many crypto asset transactions are conducted for investment purposes.


8. Trends and predictions

8. 2. What regulatory changes would you like your jurisdiction to implement to further advance the blockchain industry?

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The Web3 White Paper 2024 (see question 2.4) lists the changes that should be implemented to further promote the blockchain industry.



Of particular importance is the taxation of income from transactions in cryptocurrencies held by individuals which is classified as miscellaneous income and taxed at a maximum rate of 55% for income tax and resident tax, unlike income from stocks and other securities. It would be preferable for this treatment to be changed so that income derived from cryptocurrencies falls under a separate category and is taxed at a rate of 20% – the same rate as for capital gains.

8. Trends and predictions

8. 3. What is the largest impediment within your jurisdiction to the adoption of blockchain technology?

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There are several impediments to mass adoption, including:


- user experience;
- security vulnerabilities; and
- requirements relating to anti-money laundering/countering the financing of terrorism.

However, the largest impediment is that, as mentioned in question 8.2, personal income from transactions in cryptocurrencies is treated as miscellaneous income for tax purposes.

9. Tips and traps

9. 1. What are your top tips for effective use of blockchain technologies in your jurisdiction and what potential sticking points would you highlight?

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Protocols and applications that use blockchain technology are provided internationally and it is difficult to identify the cases in which the Japanese regulations apply. There are unresolved issues relating to law, accounting and taxation, and regulations are also changing rapidly. In cases where a licence is required, it often takes more than a year to obtain it, including the time spent on the consultation process. Depending on the business model, it may be impossible to obtain a licence.

Therefore, it is advisable for those contemplating starting a blockchain business in Japan to:

- consult with experts beforehand;
- check the applicable laws and regulations, including the tax and accounting treatment;
- check whether a licence is required; and
- properly prepare a business plan.



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