INSTITUTE OF SINGAPORE CHARTERED ACCOUNTANTS

March 2020

ISCA Financial Reporting Guidance 2 (“FRG 2”)

Accounting for Cryptoassets: From a Holder’s Perspective

Global Mindset, Asian Insights

About the Institute of Singapore Chartered Accountants

The Institute of Singapore Chartered Accountants (ISCA) is the national accountancy body of Singapore. ISCA's vision is to be a globally recognised professional accountancy body, bringing value to our members, the profession and wider community. There are over 32,000 ISCA members making their stride in businesses across industries in Singapore and around the world.

Established in 1963, ISCA is an advocate of the interests of the profession. Possessing a Global Mindset, with Asian Insights, ISCA leverages its regional expertise, knowledge, and networks with diverse stakeholders to contribute towards Singapore's transformation into a global accountancy hub.

ISCA is the Designated Entity to confer the Chartered Accountant of Singapore – CA (Singapore) – designation.

ISCA is a member of Chartered Accountants Worldwide, a global family that brings together the members of leading institutes to create a community of over 1.8 million Chartered Accountants and students in more than 190 countries.

For more information, visit www.isca.org.sg.

About ISCA's Technical Division

As the national accountancy body, ISCA is committed in supporting our members in their careers as they progress and rise to challenges faced along the way. ISCA's Technical Division provides technical support in areas of audit & assurance, financial reporting, sustainability reporting, ethics and specialised industries such as capital markets, banking and finance and insurance; and communicates insights and views to our members and the wider accountancy community. Through our technical committees that comprise representatives from various stakeholders in the corporate reporting eco-system, we hear issues from the ground and conceive initiatives to promote and enhance quality, consistency and best practices to uphold technical excellence.

About ISCA's Financial Reporting Committee

ISCA's Financial Reporting Committee (FRC) is chaired by Mr Reinhard Klemmer and comprises representatives from legal and accounting firms, corporate, regulators and academia in the financial reporting eco-system. FRC's terms of reference include monitoring policy and implementation issues relating to the development of accounting standards internationally and in Singapore, and to identify, understand and address accounting issues faced by professional accountants in Singapore, and provide support through the issuance of guidances.

The terms of reference are executed through FRC with the support of two Sub-Committees, namely the Core Sub-Committee and the Valuation Sub-Committee. The FRC Core Sub-Committee is the technical accounting arm of FRC and comprises various technical accounting subject matter experts from accounting firms. The Core Sub-Committee engages in technical deliberations on emerging accounting issues in Singapore and new or revised accounting developments proposed by the international accounting standards setter.

Preface

In recent times, cryptoassets have emerged as a new digital asset class. Examples[1] include Bitcoin, Basic Attention Token, Ravencoin, Cryptokitties, Blockchain Capital tokens and The DAO tokens. Uses of cryptoassets have continued to evolve since their initial uses for payment or financing. As their uses grow more varied and complex, stakeholders such as shareholders and lenders may require more information about these assets and the associated transactions. Consequently, preparers of financial statements will need to ensure that the related accounting and disclosures are appropriate and adequate.

Cryptoassets are not explicitly within the scope of any IFRS Standard. However, due to the lack of prevalence, the International Accounting Standards Board (IASB) decided to monitor the development of cryptoassets but not to add related projects to its work plan. Nevertheless, some clarity on this matter was provided in the form of an agenda decision by the IFRS Interpretations Committee (IFRIC) on the holdings of cryptocurrencies in June 2019.

ISCA[2], through its Financial Reporting Committee (FRC) and FRC Core Sub-Committee, is issuing this Financial Reporting Guidance (FRG) to guide preparers, who report under Singapore Financial Reporting Standards (International) (SFRS(I)s), International Financial Reporting Standards (IFRSs) or Financial Reporting Standards issued by the Accounting Standards Council (FRSs), on the accounting for holdings of cryptoassets. Guidance on accounting for cryptoassets from the issuer's perspective will be the subject of a separate FRG expected to be issued at a later date.

If you have any queries on this FRG, please contact Lim Ju May, Deputy Director, or Donaphan Boey, Manager, from ISCA's Technical Division via email at technical@isca.org.sg.

---

[1] Examples of cryptoassets are added for illustration purpose only – it is not ISCA's intention to endorse the legitimacy of these cryptoassets.

[2] ISCA gratefully acknowledge and thank the following individuals for their contributions towards the development of this publication:

- Mr Reinhard Klemmer (FRC Chairman)
- Ms Chan Yen San
- Mr Chen Voon Hoe
- Ms Cheng Ai Phing
- Prof Chua Kim Chiu
- Mr Aylwin How
- Ms Kok Moi Lre
- Ms Ong Suat Ling
- Ms Soh Lin Leng
- Mr Gajendran Vyapuri
- Mr Wong Yew Chung

Contents

1. Overview of cryptoassets 5
   (A) What is a cryptoasset? 5
   (B) What are the different types of cryptoassets? 6
   (C) What are the relevant guidelines and regulations on cryptoassets in Singapore? 7
2. Accounting for cryptoassets by the holder 9
   (A) Holdings of cryptocurrencies 9
   (B) Holdings of cryptoassets other than cryptocurrencies 14
   (C) Absence of an applicable FRS 17
   (D) Summary of applicable FRSs 18
3. Other considerations 20
   (A) Classification and measurement considerations 20
   (B) Disclosure considerations 21
4. Glossary of terms used in this Financial Reporting Guidance 22

1. Overview of cryptoassets

(A) What is a cryptoasset?

A cryptoasset is:

"A digital asset class that includes assets recorded on a blockchain. These could be intended to be used as a medium of exchange (i.e. cryptocurrencies) or may provide the holder with other rights (i.e. crypto tokens)."[3]

Cryptocurrencies are among the best-known examples of cryptoassets, and may be used as a medium of exchange via blockchain, which is "a digitised, decentralised, public ledger of all cryptocurrency transactions"[3].

Blockchain's capabilities include: tracking asset ownership; removal of the need for intermediaries and reconciliations by real-time three-way matching; and automated contracting.

Other types of cryptoassets have emerged from the evolution of cryptocurrencies that provide holders with different rights. These different types of cryptoassets are explained further in Section 1(B) below.

Cryptoassets can be generated primarily via Initial Coin Offerings (ICOs) and mining.

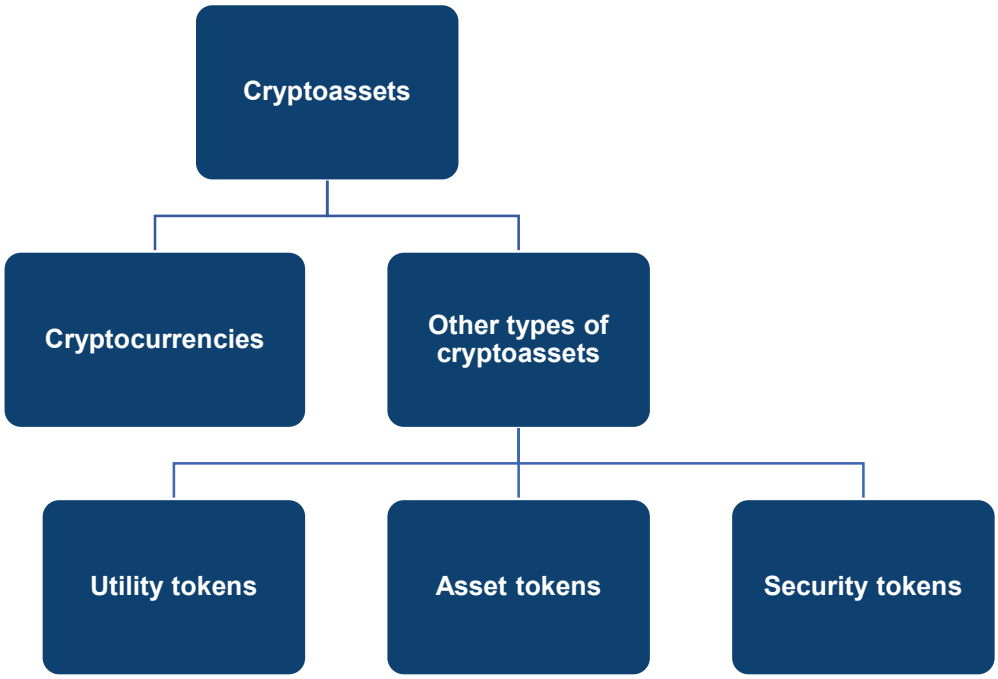
In ICOs, the ability of a blockchain platform to host and execute "smart contracts" facilitates the automated exchange of tokens issued by the issuer for currency or cryptocurrency, from the subscriber. The tokens issued by the issuer represent an underlying asset or function, which could be an asset, security or access to a product or service.

In the mining of cryptocurrencies, "miners" compete to be the first to verify blocks of transactions by solving complex mathematical problems, which require substantial computing resources, in exchange for potential economic rewards. Potential economic rewards come in the form of newly-issued cryptocurrency units, and this also increases the amount of cryptocurrency units in circulation with each successful mining.

[3] Source: Agenda Paper 12D for the International Accounting Standards Board (IASB) meeting in July 2018 Appendix A—Glossary of cryptocurrency terms – refer also to Section 4

(B) What are the different types of cryptoassets?

Other than cryptocurrencies, cryptoassets include other types of cryptoassets such as utility tokens, asset tokens and security tokens.



Cryptocurrencies	"A digital or virtual currency that uses cryptography for security. A cryptocurrency is difficult to counterfeit because of this security feature. A defining feature of a cryptocurrency, and arguably its most endearing allure, is its organic nature; it is not issued by any central authority, rendering it theoretically immune to government interference or manipulation."[3] Cryptocurrencies are used as payment for acquiring goods or services or transfer of funds.
Utility tokens	Utility tokens provide the holder with rights to access a product or service.
Asset tokens	Asset tokens provide the holder with rights to an asset. Rights to assets may be split among many holders by "tokenising" them. In this way, the issued tokens, called asset tokens, indicate rights over a stake in these underlying assets. Examples of assets which could be "tokenised" range from real estate, rare collectibles like paintings, to intellectual property (which could, for example, represent rights over licenses and automate distribution of royalties).
Security tokens	Security tokens provide the holder with rights to a security. Security tokens are similar in nature to an interest in the debt or equity of the issuer by, for instance, giving the holder the right to a share of future profits or cash flows.

The area of cryptoassets is evolving at a rapid pace, and new mechanisms and features are constantly being conceptualised and developed. As such, it could be challenging to categorise a cryptoasset into any one of the broad categories above.

Notwithstanding the above, the characteristics of the cryptoassets, primarily the rights and obligations attached to them, are critical in determining their appropriate accounting treatment.

(C) What are the relevant guidelines and regulations on cryptoassets in Singapore?

Monetary Authority of Singapore (MAS)

The MAS released a general guidance, titled "A Guide to Digital Token Offerings", on the application of securities laws administered by MAS in relation to offers or issues of digital tokens in Singapore on 14 November 2017, and updated the guide on 5 April 2019.

In accordance with the guide[4]:

Offers or issues of digital tokens may be regulated by MAS if the digital tokens are capital markets products under the Securities and Futures Act. A digital token may constitute a share, a debenture, a unit in a business trust, a securities-based derivative contract or a unit in a collective investment scheme.

Based on the Payment Services Act, a person carrying on a business of providing any service of dealing in digital payment tokens or any service of facilitating the exchange of digital payment tokens must be licensed and will be regulated under the Payment Services Act for anti-money laundering/ counter-terrorist financing purposes only and will be required to put in place policies, procedures and controls to address its money laundering/ terrorist financing risks.

Singapore Exchange Regulation (SGX RegCo)

On 15 November 2018, SGX RegCo issued guidelines[5] on its expectations of listed companies conducting an ICO.

Other than making reference to MAS's guide above, the guidelines clarified that as digital tokens are not listed on SGX, SGX's rules would cover only the listed issuer and not the tokens nor the holder of the tokens. The guidelines also state certain required disclosures from listed issuers conducting ICOs to ensure shareholders of the issuer can make informed investment decisions.

[4] A Guide to Digital Token Offerings by MAS, last updated on 5 April 2019
[5] Regulator's Column: What SGX expects of listed companies conducting an Initial Coin Offering (ICO)

Inland Revenue Authority of Singapore (IRAS)

In accordance with the "Income Tax Treatment of Virtual Currencies" issued by the IRAS[6], businesses that choose to accept virtual currencies for their remuneration or revenue are subject to normal income tax rules. In particular, taxable income for these transactions should be filed based on the open market value of the goods or services or, if this cannot be determined, using the virtual currency exchange rate at the point of the transaction.

Based on IRAS's e-Tax Guide[7], with effect from 1 January 2020:

Supplies of digital tokens or cryptocurrencies that function or are intended to function as a medium of exchange (referred to as "digital payment tokens" by IRAS) will no longer be subject to goods and services tax (GST).

The GST treatment for digital tokens/virtual currencies/cryptocurrencies that do not qualify as digital payment tokens remains unchanged – supplies of such tokens will continue to be regarded as taxable supplies of services, unless they fall under the prescribed list of exempt financial services under Part I of the Fourth Schedule to the GST Act.

[6] https://www.iras.gov.sg/irashome/Businesses/Companies/Working-out-Corporate-Income-Taxes/Specific-topics/Income-Tax-Treatment-of-Virtual-Currencies/
[7] e-Tax Guide on GST: Digital Payment Tokens by IRAS, 19 November 2019

2. Accounting for cryptoassets by the holder

Cryptoassets have different rights and obligations attached which require careful evaluation by the holder to determine their appropriate accounting treatment.

The accounting standards do not specifically address cryptoassets. Selecting the most appropriate accounting standard for the accounting of cryptoassets may require significant judgment.

After the identification of digital currencies as a topic which might not be captured within the scope of any IFRS Standard, the International Accounting Standards Board (IASB) was asked to consider undertaking a project on holdings of cryptocurrencies or initial coin offerings. After due deliberation and research on their prevalence among IFRS reporters, the IASB decided in November 2018 not to add a project on holdings of cryptocurrencies or initial coin offerings to its work plan; but instead, it would monitor the development of cryptoassets. This decision was reconfirmed in its meeting in November 2019.

Additionally, the IASB asked the IFRS Interpretations Committee (IFRIC) to consider publishing an agenda decision on how entities apply existing IFRS Standards to holdings of cryptocurrencies. In June 2019, the IFRIC published its agenda decision "Holdings of Cryptocurrencies".

In Section 2(A), we will set out the agenda decision published by the IFRIC which is relevant for entities that hold cryptocurrencies and report using Singapore Financial Reporting Standards (International) (SFRS(I)s), International Financial Reporting Standards (IFRSs) or Financial Reporting Standards (FRSs) issued by the Accounting Standards Council (ASC).

In Section 2(B), we will cover the accounting considerations for holdings of cryptoassets other than cryptocurrencies.

(A) Holdings of cryptocurrencies

IFRIC's agenda decision – holdings of cryptocurrencies

Background

The IFRIC works with the IASB in supporting the application of IFRS Standards.

In response to IASB's request, the IFRIC published an agenda decision in June 2019 on how entities should apply existing IFRS Standards to holdings of cryptocurrencies.

IFRIC noted that a range of cryptoassets exist. For purposes of IFRIC's discussion, IFRIC considered a subset of cryptoassets with all of the following characteristics that the agenda decision refers to as a "cryptocurrency":

a. a digital or virtual currency recorded on a distributed ledger that uses cryptography for security;
b. not issued by a jurisdictional authority or other party; and
c. does not give rise to a contract between the holder and another party.

IFRIC's conclusion

Below is a summary of the IFRIC's conclusions:

- A holding of cryptocurrency is not a financial asset because it does not meet the definition of a "financial asset" under paragraph 11 of IAS 32 *Financial Instruments: Presentation*. In particular, IFRIC concluded that a holding of cryptocurrency is not cash because cryptocurrencies do not currently have the characteristics of cash.

- A holding of cryptocurrency may be accounted for as inventory under IAS 2 *Inventories* or as an intangible asset under IAS 38 *Intangible Assets*, depending on whether the cryptocurrency is held for sale in the ordinary course of business.

  In other words, the holding of cryptocurrency is accounted for as inventory under IAS 2 if an entity holds cryptocurrency for sale in the ordinary course of business or if the entity is a broker-trader of cryptocurrencies. If IAS 2 is not applicable, the holding of cryptocurrency is accounted for as an intangible asset under IAS 38.

IFRIC also highlighted the disclosure requirements within existing IFRS Standards that are relevant to holdings of cryptocurrencies in the agenda decision.

Below is the IFRIC's agenda decision[8] that was published in June 2019:

Holdings of Cryptocurrencies – June 2019

The Committee discussed how IFRS Standards apply to holdings of cryptocurrencies.

The Committee noted that a range of cryptoassets exist. For the purposes of its discussion, the Committee considered a subset of cryptoassets with all the following characteristics that this agenda decision refers to as a 'cryptocurrency':

a. a digital or virtual currency recorded on a distributed ledger that uses cryptography for security.
b. not issued by a jurisdictional authority or other party.
c. does not give rise to a contract between the holder and another party.

Nature of a cryptocurrency

Paragraph 8 of IAS 38 *Intangible Assets* defines an intangible asset as 'an identifiable non-monetary asset without physical substance'.

Paragraph 12 of IAS 38 states that an asset is identifiable if it is separable or arises from contractual or other legal rights. An asset is separable if it 'is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability'.

Paragraph 16 of IAS 21 *The Effects of Changes in Foreign Exchange Rates* states that 'the essential feature of a non-monetary item is the absence of a right to receive (or an obligation to deliver) a fixed or determinable number of units of currency'.

[8] https://www.ifrs.org/-/media/feature/supporting-implementation/agenda-decisions/holdings-of-cryptocurrencies-june-2019.pdf

The Committee observed that a holding of cryptocurrency meets the definition of an intangible asset in IAS 38 on the grounds that (a) it is capable of being separated from the holder and sold or transferred individually; and (b) it does not give the holder a right to receive a fixed or determinable number of units of currency.

Which IFRS Standard applies to holdings of cryptocurrencies?

The Committee concluded that IAS 2 *Inventories* applies to cryptocurrencies when they are held for sale in the ordinary course of business. If IAS 2 is not applicable, an entity applies IAS 38 to holdings of cryptocurrencies. The Committee considered the following in reaching its conclusion.

Intangible Asset

IAS 38 applies in accounting for all intangible assets except:

a. those that are within the scope of another Standard;
b. financial assets, as defined in IAS 32 *Financial Instruments: Presentation*;
c. the recognition and measurement of exploration and evaluation assets; and
d. expenditure on the development and extraction of minerals, oil, natural gas and similar non-regenerative resources.

Accordingly, the Committee considered whether a holding of cryptocurrency meets the definition of a financial asset in IAS 32 or is within the scope of another Standard.

Financial asset

Paragraph 11 of IAS 32 defines a financial asset. In summary, a financial asset is any asset that is: (a) cash; (b) an equity instrument of another entity; (c) a contractual right to receive cash or another financial asset from another entity; (d) a contractual right to exchange financial assets or financial liabilities with another entity under particular conditions; or (e) a particular contract that will or may be settled in the entity's own equity instruments.

The Committee concluded that a holding of cryptocurrency is not a financial asset. This is because a cryptocurrency is not cash (see below). Nor is it an equity instrument of another entity. It does not give rise to a contractual right for the holder and it is not a contract that will or may be settled in the holder's own equity instruments.

Cash

Paragraph AG3 of IAS 32 states that 'currency (cash) is a financial asset because it represents the medium of exchange and is therefore the basis on which all transactions are measured and recognised in financial statements. A deposit of cash with a bank or similar financial institution is a financial asset because it represents the contractual right of the depositor to obtain cash from the institution or to draw a cheque or similar instrument against the balance in favour of a creditor in payment of a financial liability'.

The Committee observed that the description of cash in paragraph AG3 of IAS 32 implies that cash is expected to be used as a medium of exchange (i.e. used in exchange for goods or services) and as the monetary unit in pricing goods or services to such an extent that it would be the basis on which all transactions are measured and recognised in financial statements.

Some cryptocurrencies can be used in exchange for particular good or services. However, the Committee noted that it is not aware of any cryptocurrency that is used as a medium of exchange and as the monetary unit in pricing goods or services to such an extent that it would be the basis on which all transactions are measured and recognised in financial statements. Consequently, the Committee concluded that a holding of cryptocurrency is not cash because cryptocurrencies do not currently have the characteristics of cash.

Inventory

IAS 2 applies to inventories of intangible assets. Paragraph 6 of that Standard defines inventories as assets:

a. held for sale in the ordinary course of business;
b. in the process of production for such sale; or
c. in the form of materials or supplies to be consumed in the production process or in the rendering of services.

The Committee observed that an entity may hold cryptocurrencies for sale in the ordinary course of business. In that circumstance, a holding of cryptocurrency is inventory for the entity and, accordingly, IAS 2 applies to that holding.

The Committee also observed that an entity may act as a broker-trader of cryptocurrencies. In that circumstance, the entity considers the requirements in paragraph 3(b) of IAS 2 for commodity broker traders who measure their inventories at fair value less costs to sell. Paragraph 5 of IAS 2 states that broker-traders are those who buy or sell commodities for others or on their own account. The inventories referred to in paragraph 3(b) are principally acquired with the purpose of selling in the near future and generating a profit from fluctuations in price or broker-traders' margin.

Disclosure

In addition to disclosures otherwise required by IFRS Standards, an entity is required to disclose any additional information that is relevant to an understanding of its financial statements (paragraph 112 of IAS 1 *Presentation of Financial Statements*). In particular, the Committee noted the following disclosure requirements in the context of holdings of cryptocurrencies:

a. An entity provides the disclosures required by (i) paragraphs 36–39 of IAS 2 for cryptocurrencies held for sale in the ordinary course of business; and (ii) paragraphs 118–128 of IAS 38 for holdings of cryptocurrencies to which it applies IAS 38.
b. If an entity measures holdings of cryptocurrencies at fair value, paragraphs 91–99 of IFRS 13 *Fair Value Measurement* specify applicable disclosure requirements.
c. Applying paragraph 122 of IAS 1, an entity discloses judgements that its management has made regarding its accounting for holdings of cryptocurrencies if those are part of the judgements that had the most significant effect on the amounts recognised in the financial statements.
d. Paragraph 21 of IAS 10 *Events after the Reporting Period* requires an entity to disclose details of any material non-adjusting events, including information about the nature of the event and an estimate of its financial effect (or a statement that such an estimate cannot be made). For example, an entity holding cryptocurrencies would consider whether changes in the fair value of those holdings after the reporting period are of such significance that non-disclosure could influence the economic decisions that users of financial statements make on the basis of the financial statements.

What should entities do next?

As the broad policy intention of the Accounting Standards Council of Singapore is to adopt the IFRS Standards as issued by the IASB, the agenda decision above on the application of IFRS Standards is also relevant to Singapore entities reporting under SFRS(I)s or FRSs.

The agenda decision includes explanatory material to facilitate greater consistency in the application of the IFRS Standards. Entities should consider the agenda decision (including the explanatory material) and evaluate whether a change in the entity's accounting policy is necessary and whether additional disclosures on the potential impact should be included in the financial statements. Where necessary, entities should also engage professional advisors.

In summary:

The holding of a cryptocurrency is accounted for as inventory under FRS 2 *Inventories* if an entity holds it for sale in the ordinary course of business or if the entity is a broker-trader of cryptocurrencies. If FRS 2 is not applicable, the holding is accounted for as an intangible asset under FRS 38 *Intangible Assets*.

Example 1 – accounting for holdings of cryptocurrencies

Cryptocurrency W, which is hosted on a blockchain, is a means of payment to certain merchants who accept it as consideration in return for the sale of their goods and services. Other than this, there are no other rights or obligations attached to holding Cryptocurrency W. Exchange E is an active market for buying and selling Cryptocurrency W using fiat currency[9].

Entity A acquires six Cryptocurrency Ws using fiat currency. Entity A does not intend to hold these cryptocurrencies for sale in its ordinary course of business. Accordingly, they are not considered inventory.

As they may be exchanged for other assets or used to settle a liability, there are future economic benefits flowing from the Cryptocurrency Ws. They also meet the definition of intangible assets and as a result, Entity A applies FRS 38 to account for its holding of Cryptocurrency W. As there is an active market for Cryptocurrency Ws, Entity A may also make an accounting policy choice of applying the revaluation model and measure its holding of Cryptocurrency W at fair value[10].

[9] Fiat currency is defined as "government-issued currency that is not backed by a physical commodity, such as gold or silver". (Source: *Investopedia*)
[10] Refer to FRS 113 *Fair Value Measurement* for the requirements in the determination of fair value for financial reporting purposes.

(B) Holdings of cryptoassets other than cryptocurrencies

The agenda decision on holdings of cryptocurrencies sets out important considerations which could apply to the holdings of other cryptoassets.

Utility tokens

Holding a utility token provides the holder with the rights to obtain access to a product or service, to be provided in the future. Notwithstanding this, the entity would still apply FRS 2 if the utility token is held for sale in the ordinary course of business, or FRS 38 if the utility token meets the definition and recognition criteria of an intangible asset.

In certain situations, the utility token could represent a contract to buy or sell a non-financial item that can be settled net in cash or another financial instrument, or by exchanging financial instruments. The entity should consider paragraphs 2.4 and 2.5 of FRS 109 *Financial Instruments* which could lead to the application of FRS 109.

If the standards above are not applicable, expenditure on it should be recognised as an expense when it is incurred unless it represents a prepayment, i.e. a payment for goods or services before their delivery. Recognition as a prepayment is provided for in FRS 38 paragraph 70:

"… when payment for goods has been made in advance of the entity obtaining a right to access those goods [when it owns them]… [or] when payment for services has been made in advance of the entity receiving those services…"

In summary:

If FRS 2, FRS 38 or FRS 109 do not apply, an entity considers recognising the utility token as a prepayment if it represents payment that has been made before receiving the product or service.

Example 2 – accounting for holdings of utility tokens

Token Xs, which are hosted on a blockchain, collectively represent a right to future use of the office units in an office building, for which the legal title is held by the issuer only. All historical transactions relating to Token Xs are recorded on the blockchain. Each Token X allows the holder to use one office unit in the office building for one month upon utilisation.

Entity B acquires six Token Xs using cryptocurrency. The Token Xs are not held for sale and immediately after, Entity B utilises Token Xs in return for the use of an office unit in the office building for its daily operations for a period of six months.

Each Token X allows Entity B to use an office unit for one month, but does not give it control over the office unit beyond the right to use the office unit for a month upon utilisation. Expenditure on Token X could be viewed as a payment in advance of the entity using the office unit. Accordingly, Entity B accounts for its expenditure for Token X as a prepayment for a lease. As the lease is less than 12 months, Entity B elects to account for the use of the office as a short-term lease under FRS 116 *Leases.*

Asset tokens

Holding an asset token provides the holder with the rights to an asset.

Control over a tangible or intangible resource could be exercised by controlling asset tokens on a blockchain that represent real-world resources. Being an immutable decentralised ledger means that, at any single moment, the blockchain for the asset tokens shows not only the current holdings by all parties, but also the historical records of transactions and transfers.

Further, transfers could be effected solely upon the automatic execution of "smart contracts", based on predetermined terms entered into by all parties to the contract and without the need for an intermediary.

The Conceptual Framework states that:

"An asset is a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity."

"In determining the existence of an asset, the right of ownership is not essential; thus, for example, property held on a lease is an asset if the entity controls the benefits which are expected to flow from the property. Although the capacity of an entity to control benefits is usually the result of legal rights, an item may nonetheless satisfy the definition of an asset even when there is no legal control."

Based on the Conceptual Framework and the characteristics of asset tokens, holdings of the asset tokens may be accounted for based on the underlying asset that the asset tokens represent even if there is no direct legal title or ownership of this asset.

The entity would then apply the FRS relevant to the underlying asset.

In summary:

An entity applies the FRS relevant to the underlying asset if the asset token represents control over the underlying asset.

Example 3 – accounting for holdings of asset tokens

Token Ys, which are hosted on a blockchain, collectively represent ownership of all the units in a freehold office building, and each Token Y represents ownership and control over a specific office unit within the office building. The holder is free to transfer its holding of Token Y to other parties on the blockchain, which would transfer ownership and control over the underlying office units to them. All historical transactions are recorded on the blockchain which also shows the current holders of Token Y.

Entity C acquires six Token Ys using cryptocurrency and in doing so, gains ownership and control over six particular units in the office building. Immediately after, it begins to use the office units for its daily operations.

Holding Token Ys effectively gives Entity C ownership and control over the underlying office units, and the office units become assets of Entity C. These assets meet the definition of property, plant and equipment in FRS 16 *Property, Plant and Equipment* paragraph 6, and accordingly, Entity C applies FRS 16 to account for its holding of Token Y.

Security tokens

Holding a security token provides the holder with the rights to a security.

By holding a security token, the entity could be entitled to a share of an asset's or entity's future profits or cash flows, which could be received in the form of cryptocurrency or additional security tokens, although it does not control the asset or entity. There is hence some parallel with the conventional financial assets such as equity or bonds, which could derive dividend or interest income, respectively.

However, in order for a security token to be recognised as a financial asset, it has to meet the definition in FRS 32 *Financial Instruments: Presentation* paragraph 11. One consideration is whether it gives rise to a contract between the holder and another party.

In this regard, based on FRS 32 paragraph 13:

"'contract' and 'contractual' refer to an agreement between two or more parties that has clear economic consequences that the parties have little, if any, discretion to avoid, usually because the agreement is enforceable by law. Contracts, and thus financial instruments, may take a variety of forms and need not be in writing."

Similar to asset tokens, notwithstanding the absence of a legal contract, the use of "smart contracts" could result in unavoidable clear economic consequences for both issuer and holder of the security tokens, hence giving rise to a contract or contractual right.

FRS 109 should be applied for security tokens that meet the definition of a financial asset in FRS 32 paragraph 11 to recognise and measure the holdings of such security tokens in the financial statements.

In summary:

An entity applies FRS 32 to consider whether a security token is a financial asset and if yes, applies FRS 109 to recognise and measure it in the financial statements.

Example 4 – accounting for holdings of security tokens

Token Zs, which are hosted on a blockchain, collectively represent an economic interest in an office building, for which the legal title is held by the issuer only, and each Token Z represents a share of the economic interest in the office building. The office building is solely managed and controlled by the issuer and there is no voting power attached to Token Zs.

Each Token Z entitles the holder to receive (i) a 1% share in the net income earned by the office building prior to its sale; and (ii) a 1% share in the gain on the sale of the office building. A "smart contract" will effect this distribution automatically. The payouts will be distributed on an annual basis in cryptocurrency using the prevailing exchange rate in Exchange F (which allows trading of cryptocurrencies with fiat currencies) at the payout date.

Entity D acquires six Token Zs using cryptocurrency. Holding Token Zs does not give Entity D control over the office building and they do not allow Entity D to influence the decisions over the office building. As such, the office building itself is not an asset to Entity D.

Entity D's holding of Token Zs meets the definition of a financial asset in FRS 32 paragraph 11. Accordingly, Entity D applies FRS 109 in accounting for its holding of Token Zs as a financial asset.

(C) Absence of an applicable FRS

If an entity concludes that there is no FRS that specifically applies to its holding of cryptoassets, FRS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* paragraphs 10 to 12 should be applied to develop an accounting policy that results in relevant and reliable information.

(D) Summary of applicable FRSs

The following table sets out a possible decision process to apply the most relevant FRS in accounting for a particular cryptoasset:

	Cryptocurrency	Utility token	Asset token	Security token
FRS relevant to underlying asset	Not applicable	Not applicable	If the asset token represents control over the underlying asset	Not applicable
FRS 32 *Financial Instruments: Presentation* and FRS 109 *Financial Instruments*		If it represents a contract to buy or sell a non-financial item that can be settled net in cash or another financial instrument, or by exchanging financial instruments	The relevant FRS depends on the underlying asset, and not the asset token	If it meets the definition of a financial asset in FRS 32
FRS 2 *Inventories*	If the entity holds it for sale in the ordinary course of business or if the entity is a broker-trader of cryptocurrencies	If the entity holds it for sale in the ordinary course of business or if the entity is a broker-trader of cryptocurrencies		Not applicable
FRS 38 *Intangible Assets*	If it meets the definition and recognition criteria of an intangible asset and FRS 2 is not applicable	If it meets the definition and recognition criteria of an intangible asset and FRS 2 and FRS 109 are not applicable		
FRS 116 *Leases*	Not applicable	If it represents a right to use an underlying asset for the lease term		
Prepayment		If it represents payment made in advance of the entity obtaining a right to access goods or receiving services		

FRS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* paragraphs 10 to 12 are applied to develop an accounting policy that results in relevant and reliable information if no FRS specifically applies

There may be cryptoassets which have terms and conditions and/or other characteristics that may not fit the general definition of any type of cryptoasset. The accounting for holding cryptoassets depends on the facts and circumstances of each individual case and may require the use of judgment with emphasis placed on the substance of the transaction over its form. Auditors or professional advisors should be consulted if necessary.

3. Other considerations

(A) Classification and measurement considerations

An entity is required to assess and apply the most relevant FRS in accounting for a particular cryptoasset. The classification and subsequent measurement basis of that cryptoasset would follow the requirements of the applied FRS.

The table below summarises the different possible classifications and their subsequent associated measurement basis:

Applicable FRS	Classification	Subsequent measurement basis
FRS 2 *Inventories*	Inventory	Lower of cost and net realisable value
	Inventory held by entity acting as broker-trader	Fair value less costs to sell
FRS 38 *Intangible Assets*	Intangible asset – cost model	Cost less any accumulated amortisation and any accumulated impairment losses
	Intangible asset – revaluation model*	Fair value at the date of the revaluation less any subsequent accumulated amortisation and any subsequent accumulated impairment losses[11]
FRS 109 *Financial Instruments*	Financial asset measured at amortised cost	Amortised cost
	Financial asset measured at fair value through other comprehensive income	Fair value through other comprehensive income
	Financial asset measured at fair value through profit or loss	Fair value through profit or loss
FRS 116 *Leases*	Right-of-use asset	Cost less any accumulated depreciation and any accumulated impairment losses; and adjusted for any remeasurement of the lease liability, unless the fair value model in FRS 40 *Investment Property* or revaluation model in FRS 16 *Property, Plant and Equipment* is applied
–	Prepayment	Cost less any accumulated impairment losses

** An entity can apply the revaluation model under FRS 38 to its holding of cryptoassets only if the fair value of the cryptoassets can be determined by reference to an active market.*

[11] The underlying assumption is that when the revaluation is performed at the balance sheet date, the revalued amount would include all impairment losses.

Fair value is defined in FRS 113 *Fair Value Measurement* as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date".

The most reliable evidence of fair value of an item is its quoted price in an active market. An active market is defined in FRS 113 as "A market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis."

Even if the cryptoasset is not held at fair value, the accounting standards could require for it to be carried at its realisable value in the financial statements. When the cryptoasset is accounted for as inventory, it will be measured at the lower of cost or net realisable value. When the cryptoasset is accounted for as an intangible asset carried at cost, it will be measured at its recoverable amount, i.e. higher of the asset's (or cash generating unit's) fair value less costs to sell and its value in use, where there is impairment loss recognised.

In determining and making reference to an "active market", the holder needs to assess if transactions for its cryptoassets are made with sufficient frequency and volume. Certain cryptoassets may also be only be exchanged for cryptocurrencies, and then exchanged for fiat currencies, via two or more exchanges. In such scenarios, the holder needs to assess if the exchanges qualify as "active markets" for purposes of determining fair value or ascertaining whether the revaluation model under FRS 38 can be applied.

If it is determined that no active market exists for the cryptoassets, the holder will need to rely on Level 2 or Level 3 inputs in the fair value hierarchy to reach the fair value measurement objective, i.e. "an exit price at the measurement date from the perspective of a market participant that holds the asset or owes the liability".

FRS 113 specifies disclosure requirements to help users of its financial statements assess "valuation techniques and inputs used to develop those measurements [for assets and liabilities that are measured at fair value]".

(B) Disclosure considerations

In the absence of any FRS specific to cryptoassets, it is important for the financial statements to contain disclosures relevant to an understanding of such assets.

In particular, the disclosure requirements listed out in the agenda decision above on holdings of cryptocurrencies should be provided in so far as they are also applicable to utility tokens, asset tokens and security tokens.

4. Glossary of terms used in this Financial Reporting Guidance

Term	Definition
Blockchain[12]	A blockchain is a digitised, decentralised, public ledger of all cryptocurrency transactions. Constantly growing as 'completed' blocks (the most recent transactions) are recorded and added to it in chronological order, it allows market participants to keep track of digital currency transactions without central recordkeeping. Each node (a computer connected to the network) gets a copy of the blockchain, which is downloaded automatically.
Cryptoasset[12]	A digital asset class that includes assets recorded on a blockchain. These could be intended to be used as a medium of exchange (i.e. cryptocurrencies) or may provide the holder with other rights (i.e. crypto tokens).
Cryptocurrency[12]	A digital or virtual currency that uses cryptography for security. A cryptocurrency is difficult to counterfeit because of this security feature. A defining feature of a cryptocurrency, and arguably its most endearing allure, is its organic nature; it is not issued by any central authority, rendering it theoretically immune to government interference or manipulation.
Crypto token[12]	Crypto tokens represent a particular fungible[13] and tradable asset or a utility that is often found on a blockchain.
Initial Coin Offering (ICO)[12]	An unregulated[14] means by which funds are raised for a new cryptocurrency venture. An Initial Coin Offering (ICO) is used by startups to bypass the rigorous and regulated capital-raising process required by venture capitalists or banks. In an ICO campaign, a percentage of the cryptocurrency is sold to early backers of the project in exchange for legal tender or other cryptocurrencies, but usually for Bitcoin.
Mining[12]	An integral part of a cryptocurrency network that performs two important functions. First, it is used to generate and release new cryptocurrency tokens for circulation via the cryptocurrency network, and secondly, it is used to verify, authenticate and then add the ongoing network transactions to a public ledger.

[12] Source: Agenda Paper 12D for the International Accounting Standards Board (IASB) meeting in July 2018 Appendix A—Glossary of cryptocurrency terms. *Investopedia* was the source of IASB staff's definitions, other than for cryptoasset which was defined by IASB staff.
[13] *Investopedia* was the source of IASB's definitions. Crypto tokens, such as non-fungible tokens (NFTs), have developed to represent non-interchangeable assets.
[14] *Investopedia* was the source of IASB's definitions. ICOs may be regulated in Singapore, for instance by the Monetary Authority of Singapore (MAS).