In depth
A look at current financial reporting issues

September 2018

Cryptographic assets and related transactions: accounting considerations under IFRS

At a glance

Cryptographic assets, including cryptocurrencies such as Bitcoin, have generated a significant amount of interest recently, given their rapid increases in value and volatility. As activity in cryptographic assets has increased, it has attracted regulatory scrutiny across multiple jurisdictions.

At issue is how to recognise, measure and disclose activities associated with the issuances of, and the investment in, the various types of cryptographic assets. Since there are no accounting standards that specifically address cryptographic assets, one must look at the existing IFRS and apply a principles-based approach. In this publication, we highlight some of the accounting questions that are currently being debated and share our views on how IFRSs could be applied.

The issues that arise are diverse and highly dependent on specific facts and circumstances. While the examples and considerations illustrate generic principles, cryptographic asset transactions are rapidly evolving. As guidance and practices in this area evolve, this publication might be updated from time to time and expanded to capture further areas of interest (such as crypto mining). We therefore recommend that you consult your professional advisers or the authors of this publication for the latest developments.

1. Introduction

1.1. Background

Cryptographic assets are transferrable digital representations that are designed in a way that prohibits their copying or duplication. The technology that facilitates the transfer of cryptographic assets is referred to as a 'blockchain' or distributed ledger technology. Blockchain is a digital, decentralised ledger that keeps a record of all transactions that take place across a peer-to-peer network and that enables the encryption of information. Cryptographic assets and the underlying technology provide opportunities to digitise a variety of 'real world' objects. The benefits of digitisation (such as ease of access, transfer, etc.) have resulted in cryptographic assets growing from an obscure curiosity to a technology that is proliferating into a variety of business uses.

當前財務報導議題

加密資產及相關交易：IFRS 下之會計考量

2018 年 9 月

概述

近期以來，因為加密資產(包括加密貨幣，例如比特幣)迅速增加之價值及波動性，使大眾產生高度的興趣與關注。隨著加密資產的活動增加，也吸引了各地區監管單位的詳細審視。

關於與發行及投資不同型態加密資產的相關活動應該如何認列、衡量及揭露的會計議題，目前並沒有一個專門處理加密資產的會計準則，因此必須要參考現有的國際財務報導準則(IFRS)，並以原則為基礎之方式決定適用的會計處理。本文將聚焦於一些我們近期討論的會計問題，並分享對於這些問題可能如何適用 IFRS 的觀點。

這些議題非常多元化且高度仰賴特定事實與情況，當本文釋例與考量因素闡明一般通則的同時，加密資產交易仍然在快速發展中。隨著此領域的指引和實務的逐步形成，本文也會隨時更新，並且開展到更多引人關切的領域(例如加密挖礦)，請確保您與專業顧問或本文作者群諮詢最新發展。

1. 介紹

1.1. 背景

加密資產係一種被設計為禁止拷貝或複製的可移轉數位表徵，使用於移轉加密資產的技術被稱為「區塊鏈」或分散式帳本技術。區塊鏈係一數位的、去中心化的帳本，持續記錄發生於點對點網路中的所有交易，並可對資料進行加密。加密資產以及分散式帳本技術提供現實世界裡各式各樣標的數位化的機會。數位化的好處（例如：容易存取、移轉⋯等）使大眾對加密資產從原本難以理解的好奇心態轉變為現今大量用於各種商業用途。

There is no legal definition of cryptographic assets, as there is for securities in various jurisdictions; however, some cryptographic assets can legally be considered securities by local regulators. It is important to note that there are various subsets of cryptographic assets. Cryptographic assets are used for a variety of purposes, including as a means of exchange, as a medium to provide access to blockchain-based goods or services, and as a way to raise funding for an entity developing activities in this area.

One of the most commonly known subsets of cryptographic assets are cryptocurrencies, which are mainly used as a means of exchange and share some characteristics with traditional currencies. The markets are evolving fast, but currently two of the most prominent cryptocurrencies are Bitcoin and Ether.

These transformative technologies have not gone unnoticed by the standard setters. The topic of digital currencies was identified as a potential new project for the IASB in 2015 through the Board's Agenda Consultation process. However, the Board decided not to act immediately but to continue to monitor developments.

As part of that process, the Accounting Standards Advisory Forum ('ASAF'), an IFRS Foundation advisory forum consisting of representatives from national and supra-national accounting standard setters, discussed digital currencies at a meeting in December 2016. The debate was focused on the classification of a cryptographic asset from the holder's perspective. Conversations have continued in various accounting standards boards, but no formal guidance has been issued by the IASB at this point.

At the July 2018 Board meeting, the IASB reached an agreement to ask the IFRS Interpretations Committee to consider guidance for the accounting of transactions involving cryptocurrencies, possibly in the form of an agenda decision on how an entity might walk through the existing IFRS requirements.

The Interpretations Committee discussed two technical papers prepared by the staff of the IASB at its meeting in September 2018. These papers addressed the accounting by an entity holding cyptocurrencies and the accounting by an entity that issues cryptographic assets in an initial coin offering. The Committee was not asked to make any decisions, but the members broadly supported the explanations in the staff papers. These explanations are consistent with the principles in this publication. The Committee also discussed an IASB staff paper that explored various standard setting options. The Committee's insights will be discussed by the IASB at a later date.

There are many judgemental areas that will require further investigation as entities determine the applicable accounting treatment and as the technologies and markets continue to develop. For some topics, no uniform or definitive answers currently exist.

1.2. *Frequently used terms*

Some terms used in relation to cryptographic assets will also be used in this publication. This section explains these terms.

<u>Coin/Token</u>
A cryptographic asset might be described as either a 'token' or a 'coin'. The difference is based on the asset's functionality but, in practice, the terms can be used interchangeably, because no universally accepted definition of either exists. Currently, the term 'coin' generally refers to a cryptographic asset that has the express purpose of acting solely as a medium of exchange, while the term 'token' refers to an asset that gives the holder additional functionality or utility. The rights conveyed by a token are typically set out in a whitepaper or similar document by the issuing organisation.

不同於證券，許多司法管轄領域內的加密資產沒有法律定義，但是某些加密資產會被地區監理機構於法律上認定為證券。重要的是加密資產有很多不同的類別。加密資產被用於各種不同目的，包括作為交易的工具、作為媒介提供途徑取得以區塊鏈為基礎之商品或服務、以及作為發展此領域活動之個體募資的方式。

加密資產最為人所知的類別便是加密貨幣，主要係作為交易的工具，並與傳統貨幣具有一些共同特性。加密貨幣的市場正在快速發展，其中兩種最有名的加密貨幣為比特幣和以太幣。

這些創新技術沒有被準則制定者忽略。2015 年時，數位貨幣這個主題透過國際會計準則理事會(IASB)的議程諮詢程序被指定為一項潛在新計畫。但理事會決定不立即開始行動，而是持續監督其發展。

過程中，會計準則諮詢論壇(ASAF)— 一個由國家及跨國會計準則制定機構代表組成的 IFRS 基金會諮詢論壇於 2016 年 12 月的會議上討論了數位貨幣，當時討論著重於以持有者觀點出發的加密資產的分類。其後，不同的會計準則理事會仍持續討論，但是 IASB 尚未發布任何正式指引。

2018 年 7 月的理事會會議中，IASB 達成共識請國際財務報導解釋委員會將涉及加密貨幣交易之會計處理之指引納入考量，可能以議程決議之形式闡述個體如何將加密貨幣交易適用現有的 IFRS 要求。

解釋委員會在 2018 年 9 月的會議中討論了兩篇 IASB 幕僚人員準備的技術論文，這些論文探討個體持有加密貨幣的會計處理，以及個體在首次代幣發行加密資產的會計處理。解釋委員會並沒有被要求作出結論，但委員們普遍支持幕僚人員在論文中的解釋。該等解釋與本文中的原則一致。委員會也對一篇 IASB 幕僚人員探討不同準則制定選項的技術論文進行討論，委員會的見解將於未來在 IASB 討論。

由於技術和市場持續不斷發展，當個體決定可適用的會計處理方式時，許多判斷領域需要進一步研究。對於某些議題，目前尚不存在統一和確定的答案。

1.2. 常用詞彙

一些與加密資產相關之詞彙也會出現於本篇文章，本段落將解釋這些詞彙。

<u>幣(Coin)/代幣(Token)</u>
加密資產可能被敘述為「代幣」或「幣」，根據資產的功能不同而有不同的名稱，然而實務上二者可以互相替換，因為目前並沒有全球通用的定義存在。目前，「幣」一般係指僅作為交換媒介的加密資產，「代幣」則為提供持有者其他用途和功能的資產。代幣所傳達的權利通常會闡述於發行組織的白皮書或類似文件中。

Whitepaper

A whitepaper is a concept paper authored by the developers of a platform, to set out an idea and overall value proposition to prospective investors. The whitepaper commonly outlines the development roadmap and key milestones that the development team expects to meet.

Platform

The term platform refers to software that provides a utility or services to users of the software. To facilitate the use of the software, users must own or use a particular coin or token.

Initial Coin Offering

Initial Coin Offerings or 'ICOs' have become a prevalent means for developers to sell blockchain tokens or coins to investors. When an ICO is undertaken, the issuer receives consideration in the form of cash or another cryptographic asset (most commonly, a cryptocurrency such as Bitcoin or Ether). In exchange, the developer might issue (or promise to issue) a digital token to the parties that provided contributions for the development of the digital token.

It should be noted that ICOs might be subject to local securities law, and significant regulatory considerations might apply.

Fiat currency

A fiat currency denotes paper money or coins of little or no intrinsic value in themselves and not convertible into gold or silver, but made legal tender by fiat (order) of the government (such as US Dollar or Euro).

1.3. Relevant characteristics for accounting purposes

For the purposes of determining which accounting standard applies and discussing the related accounting issues, it is useful to classify cryptographic assets into defined subsets based on their characteristics.

A single, generally accepted framework for the classification of these varied cryptographic assets does not currently exist. There is consequently no generally applied definition of a cryptographic asset. This reflects the broad variety of features and bespoke nature of the transactions in practice. However, based on our observations, there are some characteristics that can be used to classify cryptographic assets into similar types. We believe that similar types of cryptographic asset should be accounted for in a similar way.

The characteristics that we observe being most relevant for classifying cryptographic assets for accounting purposes are:

- the primary purpose of the cryptographic asset; and

- how the cryptographic asset derives its inherent value.

Although a range of other characteristics exist, we view these as not being fundamental to determining a common accounting treatment.

白皮書

白皮書係平台開發者所撰寫的計畫書，旨在對潛在投資者闡明概念及整體價值主張。白皮書通常也會列出發展計畫以及開發團隊預計達成的重要里程碑。

平台

平台係指一套提供使用者功用或服務之軟體。為了使用軟體，使用者必須要擁有或使用特定代幣。

首次代幣發行

首次代幣發行或「ICO」已成為開發者銷售區塊鏈代幣予投資者的普遍作法。ICO 時，發行者收到以現金或其他加密資產(最常見是加密貨幣，如比特幣或以太幣)形式支付之對價。作為交換，發行者會發行或承諾發行數位代幣予對開發數位代幣有貢獻之另一方。

必須要注意的是，首次代幣發行可能必須遵循當地證券法規，且可能適用重大監管規範。

法定貨幣

法定貨幣是本身僅有一點或毫無內含價值的紙幣或硬幣，無法轉換為黃金或白銀，而是藉由政府法令使之變成法定貨幣(例如：美元或歐元)。

1.3. 與會計目的相關之特性

為了決定適用之會計準則以及討論相關會計議題，將加密資產依其特性歸類到明確定義的類別有助於進一步討論。

目前並不存在一個單一且普遍被接受的架構可用來分類這些不同的加密資產，因此加密資產並沒有普遍適用的定義。這也反映了這些交易實務上廣泛多元的特性，及預定的性質。但是，根據我們的觀察，有一些特性可以將加密資產歸屬於相似的類別。我們相信這些類似型態的加密資產應該適用相似方式進行處理。

會計目的下將加密資產作分類，我們發現與之最攸關的特性為：

- 加密資產的主要目的；及

- 加密資產如何產生其固有價值。

儘管加密資產還有很多其他特性存在，我們將之視為對於決定一般會計處理非重要的特性。

Based on the characteristics detailed above we have defined four specific subsets of cryptographic assets, as set out in the following table:

Subset	Purpose	Inherent Value
Cryptocurrency	Cryptocurrencies are digital tokens or coins based on blockchain technology, such as Bitcoin. They currently operate independently of a central bank and are intended to function as a medium of exchange.	None – derives its value based on supply and demand.
Asset-backed token	An asset-backed token is a digital token based on blockchain technology that signifies and derives its value from something that does not exist on the blockchain but instead is a representation of ownership of a physical asset (for example, natural resources such as gold or oil).	Derives its value based on the underlying asset.
Utility token	Utility tokens are digital tokens based on blockchain technology that provide users with access to a product or service and derive their value from that right. Utility tokens give holders no ownership in a company's platform or assets and, although they might be traded between holders, they are not primarily used as a medium of exchange.	Value is derived from the demand for the issuer's service or product.
Security token	Security tokens are digital tokens based on blockchain technology that are similar in nature to traditional securities. They can provide an economic stake in a legal entity: sometimes a right to receive cash or another financial asset, which might be discretionary or mandatory; sometimes the ability to vote in company decisions and/or a residual interest in the entity.	Value is derived from the success of the entity, since the holder of the token shares in future profits or receives cash or another financial asset.

It should also be noted that some cryptographic assets might exhibit elements of two or more of the identified subclasses. These result in hybrid cryptographic assets that will have to be assessed further. This document focuses on cryptographic assets that carry simple features, instead of hybrid tokens.

PwC observations:

Before determining the accounting treatment of a transaction from the issuer's or owner's perspective, it is important to understand the purpose and utility of the cryptographic asset. There is diversity of rights and obligations associated with cryptographic assets. Reading the whitepaper can provide insights into the terms/characteristics of the cryptographic asset that might result in differences in the accounting model applied.

根據上述特性，我們將加密資產定義為如下表所示之四種類別：

類別	目的	固有價值
加密貨幣	加密貨幣係以區塊鏈技術為基礎之數位代幣，例如比特幣。目前它們獨立於中央銀行之外運作，用以作為交易的媒介。	無- 價值係根據供給及需求產生。
資產支持代幣	資產支持代幣係以區塊鏈技術為基礎之數位代幣，其價值之表徵及產生並非由存在於區塊鏈中之資產而來，而是代表對某種有形資產之所有權，例如：黃金或石油等天然資源。	價值係根據其標的資產而產生。
功能型代幣	功能型代幣係以區塊鏈技術為基礎之數位代幣，提供使用者取得某種商品或服務的途徑，其價值由此權利而來。功能型代幣並非給予持有者企業平台或資產的所有權，即使功能型代幣可能於持有者間交易，但它們的主要用途並非交易的媒介。	價值來自於對發行者所提供的服務或商品的需求。
證券型代幣	證券型代幣係以區塊鏈技術為基礎之數位代幣，與傳統證券有相似的特性。它們提供對法律個體的經濟利益: 有時是得到現金或其他金融資產的權利(可能為自由決定或強制性)，有時候是參與公司決策之投票權及/或取得該個體剩餘權益之權利。	價值來自於個體的成功程度，因為代幣持有者可享有個體的未來利潤，或收取現金或其他金融資產。

應留意的是，某些加密資產可能會呈現 2 個或更多可辨認的類別特徵，因此產生混合類別加密資產，而需要進一步評估。本文聚焦於單純特性的加密資產而非混合類別代幣。

PwC 觀察:

在以發行者或持有者的觀點決定交易的會計處理之前，了解加密資產的目的及功用非常重要。加密資產相關的權利及義務相當多樣化，閱讀白皮書可以洞悉加密資產的條款/特性，不同的條款/特性可能導致適用不同的會計模型。

2. Cryptographic assets held by an entity

2.1. General observations

IFRS does not include specific guidance on the accounting for cryptographic assets and there is no clear industry practice, so the accounting for cryptographic assets could fall into a variety of different standards. Consideration should also be given to the entity's purpose for holding the cryptographic assets to determine the accounting model. We explore below the accounting standards and other considerations that might be relevant to the subsets of cryptographic assets.

2.2. Cryptocurrencies held for own account

2.2.1. Applicable standard

A few standards come to mind when considering the accounting for cryptocurrencies held by an entity for its own account.

Cash or a currency
IFRS contains no explicit definition of the terms 'cash' or 'currency'. There might be an argument that, for accounting purposes, the words 'cash' and 'currency' are interchangeable. IAS 32, 'Financial Instruments: Presentation', makes a connection between currency and cash, and IAS 21, 'The Effects of Changes in Foreign Exchange Rates', makes a connection between cash, currency and monetary items.

Judgement is therefore required to determine whether cryptocurrencies can be considered cash or a currency.

Cryptocurrencies do not have some of the common properties of cash and currency, especially:

- cryptocurrencies are not legal tender and mostly are not issued or backed by any government or state; and

- cryptocurrencies are currently not capable of setting prices for goods and services directly. In other words, cryptocurrencies might be accepted to settle some transactions, but they are not directly related to the setting of prices for goods or services in an economy.

The assessment should consider the facts and circumstances for each cryptocurrency. At the time of writing (September 2018), we have not seen a cryptocurrency that could be considered cash or a currency under IFRS. We note that Venezuela has launched a government-backed cryptocurrency; companies holding units of this cryptocurrency might need to consider whether it meets the definition of cash or a currency by taking into account the factors described above, as well as any relevant legal and regulatory questions regarding its validity.

Financial asset – other than cash
Holding a unit of a cryptocurrency typically does not give the holder a contractual right to receive cash or another financial asset, nor does the cryptocurrency come into existence as a result of a contractual relationship. Moreover, cryptocurrencies do not provide the holder with a residual interest in the assets of an entity after deducting all of its liabilities. Therefore, cryptocurrencies that we have seen so far (September 2018) do not meet the definition of a financial asset.

Property, plant and equipment
Cryptocurrencies do not fall into the scope of IAS 16, 'Property, Plant and Equipment', because they are not tangible items.

2. 個體持有之加密資產

2.1. 綜觀

IFRS 沒有針對加密資產會計處理的指引，也沒有明確的產業實務，加密資產的會計處理可能分散在許多不同的準則中。為決定適當的會計模型，必須將個體持有加密資產的目的納入考量。我們探究以下可能與加密資產分類相關的會計準則和其他考量。

2.2. 個體本身帳戶持有的加密貨幣

2.2.1. 可適用準則

考量個體本身持有之加密資產之會計處理時，可聯想到幾個會計準則。

現金或貨幣
IFRS 對於現金或貨幣沒有明確的定義，有些觀點認為，會計目的中「現金」及「貨幣」兩個詞彙可以互相替換使用。IAS 32「金融工具：表達」連結了貨幣及現金，IAS 21「匯率變動之影響」連結了現金、貨幣和貨幣性項目。

因此，決定加密貨幣是否可視為現金或貨幣需要判斷。

加密貨幣缺乏現金或貨幣某些共通的屬性，尤其：

- 加密貨幣非法定貨幣，大多不是政府發行且不受政府保證；且

- 加密貨幣目前無法直接為貨物或服務定價。換句話說，加密貨幣可以被接受用來結算交易，但與經濟體系中貨物或服務之定價無直接相關。

評估時需考量每一加密貨幣之事實及狀況。撰寫本文時（2018 年 9 月）我們尚未見到可被 IFRS 視為現金或貨幣的加密貨幣。我們注意到委內瑞拉剛發起政府支持的加密貨幣，持有這些加密貨幣的企業可能須考慮其是否符合現金或貨幣之定義，除將上述因素納入考量外，還需考量與其有效性相關的法律及管制問題。

金融資產一 除現金外
持有一單位加密貨幣通常並不會給予持有者收取現金或其他金融資產的合約權利，加密貨幣也非因合約關係而存在。此外，加密貨幣並不提供持有者對於某個體資產減掉負債後的剩餘權益。 因此截至目前(2018 年 9 月)所觀察到的加密貨幣並不符合金融資產的定義。

不動產、廠房及設備
加密貨幣不是有形資產，故無法落入 IAS 16「不動產、廠房及設備」的範圍。

Inventory

IAS 2, 'Inventories', does not require inventories to be in a physical form, but inventory should consist of assets that are held for sale in the ordinary course of business. Inventory accounting might be appropriate if an entity holds cryptocurrencies for sale in the ordinary course of business. An entity that actively trades the cryptocurrencies, purchasing them with a view to their resale in the near future, and generating a profit from fluctuations in the price or traders' margin, might consider whether the guidance in IAS 2 for commodity broker-traders should be applied.

However, if the entity holds cryptocurrencies for investment purposes (that is capital appreciation) over extended periods of time, it would likely not meet the definition of inventory.

> **PwC observations:**
>
> If it is determined, based on the entity's business model, that inventory accounting is appropriate, inventories would typically be measured at the lower of cost and net realisable value. An entity that holds cryptocurrencies to sell them in the near future, generating a profit from fluctuations in prices or traders' margin, might apply the commodity broker-trader exception in IAS 2. The term 'commodity' is not defined in IAS 2, but a broker-trader that concluded a cryptocurrency was a commodity would measure the inventory at fair value less cost to sell with changes in fair value recognised in profit or loss.

Intangible asset

If a cryptocurrency does not meet the definition of any of the above categories, it will likely meet the definition of an intangible asset under IAS 38, 'Intangible Assets', because:

- it is a resource controlled by an entity (that is, the entity has the power to obtain the economic benefits that the asset will generate and to restrict the access of others to those benefits) as a result of past events and from which future economic benefits are expected to flow to the entity;

- it is identifiable, because it can be sold, exchanged or transferred individually;

- it is not cash or a non-monetary asset; and

- it has no physical form.

IAS 38 applies to all intangible assets except those excluded specifically from its scope, for example inventories.

2.2.2. Measurement considerations

The analysis above suggests that there are a number of different asset standards that might apply for cryptocurrencies.

The chart below summarises the different possible classifications and their associated measurement considerations:

Applicable standard	Initial measurement	Subsequent measurement	Movements in carrying amount
Inventory (IAS 2) – other	Cost	Lower of cost and net realisable value	Movements above cost – N/A Movements below cost – Profit and loss

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存貨

IAS 2「存貨」不要求存貨必須有實體存在，但存貨必須是持有供正常營運過程中出售之資產。若個體持有加密貨幣係為了在正常營業過程中出售，則採用存貨之會計處理可能適當。若個體積極交易加密貨幣，購買加密貨幣係為了在未來短期內再出售，從價格波動或交易商差價賺取利潤，則需考量是否應適用 IAS 2 對於大宗商品經紀-交易商之指引。

但是，若個體長期持有加密貨幣係以投資為目的（即資本增值），則該加密貨幣可能無法符合存貨的定義。

> **PwC 觀察：**
>
> 若根據個體經營模式決定採取存貨會計處理係屬允當，存貨通常以成本或淨變現價值孰低衡量。個體若持有加密貨幣的理由係為了於未來短期內再出售，從價格波動或交易商差價賺取利潤，則可能適用 IAS 2 大宗商品經紀-交易商之例外。IAS 2 中並無「大宗商品」之定義，但若經紀-交易商認定加密貨幣為大宗商品，則以公允價值減出售成本衡量其存貨，並將公允價值變動認列為損益。

無形資產

若加密貨幣無法符合上述任一項目的定義，則可能符合 IAS 38「無形資產」下無形資產的定義，因為：

- 加密貨幣係個體由於過去事件所控制的資源（即個體有權取得資產產生的經濟效益，也可以限制他人取得該效益），並預期未來的經濟效益會流向該個體；

- 加密貨幣可辨識，因為加密貨幣可被個別出售、交換或移轉；

- 非現金或非貨幣性資產；和

- 沒有實體。

IAS 38 適用於所有無形資產，除了那些特別排除於範圍之外之資產，例如:存貨。

2.2.2. 衡量考量

根據以上分析，加密貨幣可能適用幾個不同的資產準則。

下表彙整了不同的可能分類及相關衡量考量：

適用準則	原始衡量	後續衡量	帳面價值變動
存貨(IAS 2)—其他	成本	以成本與淨變現價值孰低衡量	增加超過成本－無須調整 減少低於成本－認列於損益

Inventory (IAS 2) – Commodity broker-trader exception	Cost	Fair value less costs to sell	Profit and loss
Intangible assets (IAS 38) – Revaluation model (accounting policy choice but requires existence of active market)	Cost	Fair value less any accumulated amortisation and impairment*	Movements above cost – Other comprehensive income Movements below cost – Profit and loss
Intangible assets (IAS 38) – Cost model	Cost	Cost less any accumulated amortisation and impairment*	Movements above cost – N/A Movements below cost – Profit and loss

* in most cases, no amortisation is expected for cryptocurrencies

PwC observations:

The range of possible classifications, as well as their associated measurement, indicates the importance of understanding the nature and characteristics of the cryptocurrency, as well as the entity's business model/purpose for holding the asset. This increases the importance of implementing specific accounting policies and ensuring their consistent application to similar transactions, as well as appropriate disclosures. Where an entity can evidence the existence of clearly distinguished portfolios of similar assets held for different purposes, different treatments might apply within an entity.

2.3. Cryptographic assets other than cryptocurrencies held for own account

2.3.1. Applicable standard

A similar thought process will apply when considering the accounting for cryptographic assets other than cryptocurrencies. Those cryptographic assets include security tokens, asset-backed tokens and utility tokens (together referred to as 'crypto tokens') held by an entity for own account.

Cash or a currency
Crypto tokens are issued not as a general-purpose medium of exchange, but to provide holders with other rights, including rights to goods or services or certain underlying physical assets.

Judgement is required to determine whether crypto tokens can be considered cash or a currency. However, since crypto tokens generally lack the properties of cash (described in section 2.2.1 above), they are unlikely to be considered cash or a currency under IFRS.

Financial asset – other than cash
Certain crypto tokens give the holder a right to cash or a financial asset. This could be based on future performance of a platform, a residual interest in net assets, or the value of an underlying asset. However, further consideration is needed to verify whether such rights and obligations are legally enforceable, since financial assets can only arise from a legally enforceable contractual relationship.

Unless crypto tokens provide the holder with a right to cash or another financial asset, they will not meet the definition of a financial asset.

For the classification and measurement of crypto tokens that meet the definition of a financial asset, entities should follow the guidance in IFRS 9, 'Financial Instruments'.

存貨(IAS 2)—大宗商品之經紀-交易商之例外	成本	以公允價值減出售成本衡量	認列於損益
無形資產(IAS 38)— 重估價模式（會計政策選擇但要求存在活絡市場）	成本	公允價值減除任何累計攤銷及減損(註)	增加超過成本 — 認列於其他綜合損益 減少低於成本 — 認列於損益
無形資產(IAS 38)— 成本模式	成本	成本減除任何累計攤銷及減損(註)	增加超過成本 — 無須調整 減少低於成本 — 認列於損益

註：通常不預期對加密貨幣進行攤銷

PwC 觀察:

可能的分類結果範圍以及相關衡量皆指出了解加密貨幣之性質及特性，和個體經營模式/持有該資產目的的重要性。個體導入特定會計準則，並確保這些準則一致適用於相似交易以及適當揭露的重要性也隨之增加。當個體能證明對於不同目的持有相似資產組合存在明確區分時，其可能適用不同處理方式。

2.3. 個體本身持有的加密資產(加密貨幣除外)

2.3.1. 可適用準則

當考慮加密貨幣以外的加密資產會計處理時，可適用與上述類似的思考過程。這些由個體本身持有之加密資產包括證券型代幣、資產支持代幣和功能型代幣（統稱為加密代幣）。

現金或貨幣
發行加密代幣不是作為一般用途之交易媒介，而是為了提供持有者其他權利，包括對於商品或服務的權利，或是對特定標的實體資產的權利。

決定加密代幣是否為現金或貨幣需要判斷。然而，因為加密代幣通常缺乏現金屬性(如同 2.2.1 段所述)，它們不太可能於 IFRS 下被視為現金或貨幣。

金融資產— 除現金外
某些加密代幣給予持有者對於現金或金融資產的權利，可能根據平台的未來績效、淨資產之剩餘權利，或標的資產之價值而決定。但是，仍需進一步考量以確認該權利與義務在法律上是否可執行，因為金融資產必須由法律上可執行之合約關係產生。

除非加密代幣提供持有者對於現金或其他金融資產的權利，否則它們無法符合金融資產的定義。

若加密代幣符合金融資產的定義，則個體應遵照 IFRS 9 「金融資產」的指引處理分類和衡量等議題。

Property, plant and equipment

Cryptographic assets do not fall into the scope of IAS 16, because they are not tangible items.

Inventory

IAS 2 does not require inventories to be in a physical form, but inventory should consist of assets that are held for sale in the ordinary course of business. Inventory accounting might be appropriate if an entity holds cryptographic assets for sale in the ordinary course of business. An entity that actively trades the cryptographic assets, purchasing them with a view to their resale in the near future, generating a profit from fluctuations in the price or traders' margin, might consider whether the guidance in IAS 2 for commodity broker-traders should be applied.

However, if the entity holds crypto tokens for investment purposes (that is, capital appreciation) over extended periods of time, it would likely not meet the definition of inventory.

Measurement guidance for crypto tokens that meet the definition of inventory can be found in section 2.2 above.

Intangible asset

Depending on the rights associated with a crypto token, it could potentially also meet the definition of an intangible asset under IAS 38 if:
- it is a resource controlled by an entity (that is, the entity has the power to obtain the economic benefits that the asset will generate and to restrict the access of others to those benefits) as a result of past events and from which future economic benefits are expected to flow to the entity;

- it is identifiable, because it can be sold, exchanged or transferred individually;

- it is not cash or a non-monetary asset; and

- it has no physical form.

IAS 38 applies to all intangible assets except those excluded specifically from its scope, for example inventories.

Measurement guidance for crypto tokens that meet the definition of an intangible asset can be found in section 2.2 above.

Prepayment

Crypto tokens might provide the holder with a right to future goods or services. These tokens are a prepayment for future goods or services. A prepayment for future goods or services might meet the definition of an intangible asset.

Where the prepayment does not meet the definition of an intangible asset, the accounting will be similar to the accounting for other prepaid assets.

Measurement guidance for crypto tokens that meet the definition of an intangible asset can be found in section 2.2 above.

不動產、廠房及設備

加密資產不是有形資產，故無法落入 IAS 16「不動產、廠房及設備」的範圍。

存貨

IAS 2 不要求存貨必須有實體存在，但存貨必須是持有供正常營運過程中出售之資產。若個體持有加密資產係為了在正常營業過程中出售，則採用存貨之會計處理可能適當。若個體積極交易加密資產，購買加密資產係為了在未來短期內再出售，由價格波動或交易商差價賺取利潤，則需考量是否應適用 IAS 2 對於大宗商品經紀-交易商之指引。

但是，若個體長期持有加密代幣係以投資為目的（即資本增值），則該加密代幣可能無法符合存貨的定義。

若加密代幣符合存貨定義，其衡量指引可參考上述 2.2 段。

無形資產

視與加密代幣相關的權利而定，加密代幣可能符合 IAS 38 下無形資產的定義，若加密代幣係：
- 個體由於過去事件所控制的資源（即個體有權取得資產產生的經濟效益，也可以限制他人取得該效益），並預期未來的經濟效益會流向該個體；

- 可辨識，因其可被個別出售、交換或移轉；

- 非現金或非貨幣性資產；和

- 沒有實體。

IAS 38 適用於所有無形資產，除了那些特別排除於範圍之外之資產，例如:存貨。

若加密代幣符合無形資產定義，其衡量指引可參考上述 2.2 段。

預付款

加密代幣可能提供持有者取得未來商品或勞務的權利。這些代幣為對未來商品或勞務的預付款。對於未來商品或勞務之預付款可能符合無形資產之定義。

當預付款無法符合無形資產定義時，其會計處理將會類似於其他預付資產之處理。

對於符合無形資產的加密代幣的衡量指引，請參考上述 2.2 段。

Underlying asset
In some situations, crypto tokens provide the holder with an interest in an underlying asset. The underlying assets might be commodities (such as gold or oil), intangible assets (such as a licence or a patent), artwork or real estate. While some asset-backed tokens represent a real claim on the asset itself, others have no ability to redeem the actual underlying.

Where the crypto token represents a contractual right to receive cash equivalent to the value of the underlying asset, it might meet the definition of a financial asset. If the crypto token represents a right to the asset itself, it might be accounted for in a manner similar to the underlying asset.

Crypto tokens that are accounted for in a manner similar to the underlying asset will be measured following the relevant accounting standard for the underlying asset.

2.3.2. Application to categories of crypto tokens

When applying the thought process set out above to the categories of crypto tokens described in section 1.3 above, general observations can be summarised as follows:

(1) Crypto tokens with the characteristics of <u>asset-backed tokens</u>
Asset-backed tokens may give the holder a right to an underlying asset. These tokens may be used to transfer the ownership of underlying assets without physically moving them. It is a means to transact the underlying asset at minimal cost. As a result, the accounting will likely be driven by the nature of the underlying asset and the relevant accounting standard.

(2) Crypto tokens with the characteristics of <u>utility tokens</u>
Utility tokens usually give the holder a right to future goods or services. These tokens are a prepayment for goods or services. A prepayment for goods or services might meet the definition of an intangible asset and IAS 38 could be applied. Where it does not meet the definition of an intangible asset, it is accounted for similar to other prepaid assets.

(3) Crypto tokens with the characteristics of <u>security tokens</u>
Security tokens might give the holder a right to cash, based on the platform's future profits or a residual interest in the net assets. Such rights might be discretionary or mandatory and might be accompanied by the ability to vote to impact decisions relating to the underlying platform. A contractual right to cash or another financial asset may exist in these circumstances, in which case, these security tokens meet the definition of a financial asset subject to IFRS 9.

(4) Crypto tokens with <u>hybrid characteristics</u>
Crypto tokens exhibiting elements of two or more subclasses require further analysis and judgement is required to determine the applicable accounting treatment. Factors to consider will include the interaction of contractual clauses, their substance and relevance in the context of the overall characteristics of the token.

標的資產
在部份情況下，加密代幣提供持有者對一項標的資產的權利。標的資產可能為大宗商品(例如黃金或石油)、無形資產(例如執照或專利)、藝術品或不動產。有些資產支持代幣可以表彰對該資產本身的請求權，而其他的代幣則不具有兌換標的資產的權利。

當加密代幣表彰一項可收取與標的資產價值等額現金的合約權利時，其可能符合金融資產的定義。若加密代幣表彰對於資產本身的權利，則可能適用與標的資產相似的會計處理。

若加密代幣適用與標的資產相似的會計處理，應適用該標的資產相關之會計準則衡量。

2.3.2. 各類別加密代幣之應用

當對 1.3 段所描述的各種加密代幣類別適用上述思考過程時，一般性的觀察歸納如下:

(1) 具有<u>資產支持代幣</u>特性之加密代幣
資產支持代幣給予持有者對於標的資產的權利，這些代幣時常被用來移轉標的資產的所有權而無須實體移動該標的資產。這是用最低成本交易標的資產的方法。因此，其會計處理將依標的資產的性質以及其相關的會計準則而定。

(2) 具有<u>功能型代幣</u>特性之加密代幣
功能型代幣通常給予持有者對未來商品或服務的權利，這些代幣係對商品或服務的預付款。對商品或服務的預付款可能符合無形資產之定義，因此可能適用 IAS 38 之會計處理。當不符合無形資產之定義時，則依其他預付資產類似方式處理。

(3) 具有<u>證券型代幣</u>特性之加密代幣
證券型代幣可能根據平台的未來利潤或淨資產之剩餘權益給予持有者收取現金的權利。該等權利可能為選擇性或強制性，且可能伴隨著影響標的平台決策的投票權。對於現金或其他金融資產的合約權利可能存在，在此情況下，這些證券型代幣可能符合金融資產的定義而需依循 IFRS 9 之規定處理。

(4) 具有<u>混合特性</u>之加密代幣
當加密代幣展現 2 個或更多類別特徵時，需要進一步分析及行使重大判斷以決定適用的會計準則。考量的因素包括合約條款的交互影響、與代幣整體特性的實質及相關性。

2.4. Cryptographic assets held on behalf of third parties

2.4.1. Practical observations and resulting challenges

Cryptographic assets might also be held by an entity on behalf of its customers. Some examples are:

- An entity that operates a trading platform that enables its customers to exchange different cryptographic assets, or to exchange fiat currency for a cryptographic asset.

- An entity (such as a bank or similar financial services entity) that offers custodian services for its customers' cryptographic assets. In this case, customers lodge cryptographic assets with the entity for safe keeping.

Arrangements for holding such cryptographic assets vary. In most cases, there will be some indication (such as a contract, or a statement in a whitepaper) that the cryptographic asset is held on behalf of customers, and that sets out what customers need to do to access or use the cryptographic asset. The other features of the arrangement might vary, including (but not limited to) the following:

- The ability of the entity to 'borrow' the cryptographic assets to use for its own purposes. Even if such a right is not explicitly contained in the arrangements with the customers, it might be implicit depending on the degree of segregation of the customers' assets (see below).

- The degree of segregation of cryptographic assets held on behalf of customers from cryptographic assets 'owned' by the entity.

- The claims of customers, in the event that the entity is liquidated. They might vary or be unclear. Customers might have the status of unsecured creditors, with no preferential claim on the cryptographic assets held by the entity on their behalf.

- The security of the assets. Cryptographic assets held on behalf of customers might be held in either a 'hot wallet' (connected to the internet), a 'cold wallet' (not connected to the internet, and harder to access) or a 'warm wallet' (offline, but easier to connect than a cold wallet, often through the use of hardware). The customer or the entity might hold, and might be able to use, the private key to the wallet.

- The degree to which the exchange/the entity/the customer is able to identify specific misappropriated cryptographic assets through the blockchain technology.

- Whether cryptographic assets held on behalf of others are held in an account/wallet of the entity or in an account/wallet at a third party.

- The relevant law or regulations for cryptographic assets held on behalf of others.

- The extent to which the rights and obligations of the parties are unclear or not contractually enforceable (for example, if contained in a whitepaper). External legal opinions might be required to help establish these, but ultimately they might not prove conclusive.

The key accounting question is whether or not such holdings of cryptographic assets on behalf of customers should be recorded on or off the entity's balance sheet under IFRS.

2.4. 代第三方持有之加密資產

2.4.1. 實務觀察和挑戰

個體可能代客戶持有加密資產，例如：

- 個體營運一個交易平台，使其客戶可以在平台上交換不同加密資產，或為了交易加密資產交換法定貨幣。

- 個體(例如銀行或類似的金融服務機構) 向客戶提供加密資產的保管服務。在此情況下，客戶將加密資產存放於該個體做妥善保管。

持有這些加密資產的安排很多樣化。大部分情況下會有指示(如合約或白皮書內的陳述)說明加密資產係代表客戶所持有，並且說明客戶需要執行的活動以存取或使用加密資產。此類協議的其他特色可能也有許多不同樣態，包括(但不限於)以下：

- 個體能「借用」加密資產供自己使用的權利。即使該權利可能沒有明文包含於與客戶的協議內，也可能隱含在安排中，取決於客戶資產之隔離程度(詳下)。

- 代表客戶持有之加密資產與個體「本身持有」之加密資產之隔離程度。

- 當個體清算時，客戶擁有之請求權，但條件可能不明確。客戶的狀態可能為無擔保債權人，對個體代其持有之加密資產沒有優先請求權。

- 資產的保全。代表他人持有之加密資產可能置於「熱錢包」（連接網路)、「冷錢包」（沒有連接網路，較難進入)、或「暖錢包」(離線但較冷錢包容易連接網路，通常透過硬體之使用)。客戶或個體持有私鑰才能接觸錢包。

- 交易所/個體/客戶能透過區塊鏈技術辨識特定加密資產挪用之程度。

- 代表他人持有之加密資產是否置於個體之帳戶/錢包，或第三方之帳戶/錢包。

- 代表他方持有之加密資產具有相關法令規範。

- 各方之權利及義務可能不明確或不具合約的可執行性（例如：若包含於白皮書中）的程度。建立該等權利義務可能需要外部法律意見，但最終可能沒有確證。

關鍵的會計問題是，依據 IFRS 之規定，代客戶持有的這些加密資產是否應認列於個體的資產負債表上。

2.4.2. *Factors to consider when determining the accounting treatment*

There is no IFRS that directly provides guidance on whether an entity's holding of cryptographic assets on behalf of others should be presented on its balance sheet. We believe that such entities should consider the general guidance in IAS 8, 'Accounting Policies, Changes in Accounting Estimates and Errors', in developing an accounting policy for such assets.

This requires consideration of existing IFRS dealing with similar and related issues and the definitions in the Conceptual Framework (the 'Framework').

The Framework defines assets and liabilities as follows:

'An asset is a present economic resource controlled by the entity as a result of past events. An economic resource is a right that has the potential to produce economic benefits.'	'A liability is a present obligation of the entity to transfer an economic resource as a result of past events.'

In determining whether an asset and liability should be recognised on the balance sheet of the entity holding the cryptographic asset on behalf of customers, an entity considers:

- Whether it has the right (explicit or implicit) to 'borrow' the cryptographic assets to use for its own purposes. If the entity has such a right, it would seem that the definition of an asset set out above is met.

- The rights of customers to cryptographic assets held on their behalf if the entity is liquidated. In particular, if customers would have the status of unsecured creditors with no preferential claim on the cryptographic assets held by the entity on their behalf, this is a strong indicator that the cryptographic assets and the corresponding liability should be recognised on balance sheet, because the Framework definition of a liability would seem to be met.

In practice, the level of segregation of the customers' assets from the entity's assets is critical in determining which assets should be recognised on balance sheet (own assets and customer's assets that are not segregated) and which assets should be off balance sheet (assets that are segregated and that the entity holds as a custodian). Factors to consider include:

- Whether the rights and obligations of the entity and its customers are set out in a contract or whitepaper (if any); whether the rights and obligations are contractually enforceable; and whether external legal opinions are available as evidence.

- Whether there is a reconciliation between the cryptographic assets held by the entity on behalf of the customers and the individual holdings of each customer, as reflected in their account statement. Similarly, whether there is a reconciliation between the transactions in cryptographic assets carried out in the market and the orders executed on behalf of the individual customers, to assess whether each transaction could be attributed to the relevant customer. Also, how frequently such reconciliation is performed.

2.4.2. 決定會計處理時需考慮的因素

個體代他人持有之加密資產是否需要表達於資產負債表上，IFRS 沒有直接提供指引。我們認為個體應考量 IAS 8「會計政策、會計估計變動及錯誤」的一般指引以發展對該資產的會計政策。

這需要考慮現行 IFRS 如何處理相似或相關議題，以及財務報導之觀念架構(觀念架構)裡的定義。

觀念架構定義資產和負債如下：

「資產係指因過去事項而由個體所控制之現時經濟資源。經濟資源係一可能產生經濟效益之權利。」	「負債係指個體因過去事項所產生移轉一項經濟資源之現時義務。」

當決定代表客戶持有加密資產是否應於資產負債表上認列資產與負債時，個體應考量：

- 個體是否有權利(明確或隱含的)「借用」加密資產使用於個體的目的用途。若個體有此權利，則似乎符合上述對資產的定義。

- 當個體清算時，客戶對於個體代為持有之加密資產之權利。尤其是若客戶為無擔保債權人，對個體代為持有之加密資產沒有優先請求權，這將會是加密資產應被認列於資產負債表上的強烈指標，因為這符合上述觀念架構對負債的定義。

實務上，客戶資產與個體資產隔離的程度，對於決定哪一項資產應認列在資產負債表上(自有資產與客戶資產沒有隔離)、哪項資產不應認列在資產負債表上(自有資產與客戶資產隔離，個體係保管人)相當重要。需要考慮的因素包括以下：

- 個體與客戶之權利義務是否於合約或白皮書(若有)中敘明，權利義務是否依合約可執行，外部法律意見是否可用以作為證明。

- 個體代表客戶持有之加密資產總數，與代客戶持有反映在個別客戶帳戶明細之部分是否進行調節。同理，個體在市場中進行之加密資產交易，與代表個別客戶執行客戶指示之交易是否進行調節，以評估每筆交易是否可歸屬於相關客戶。又，此調節多久被執行一次。

-   Traceability to a dedicated blockchain address (not all transactions can be individually traced to a dedicated blockchain address). If the cryptographic asset is traceable to a dedicated blockchain address of the customer, this is more likely to indicate segregation.

-   The use of an account/wallet at a third party (in other words, whether the cryptographic asset is held in an account/wallet of the entity or at a third party) and whether the third party keeps a record of cryptographic assets held on behalf of customers. If the cryptographic asset is held in an account/wallet at a third party, this is more likely to indicate segregation.

-   The use of hot or cold wallets (in other words, whether the entity holds customers' cryptographic assets in hot or cold wallets). An entity might allow customers to hold some amounts in a hot wallet for frequent trading, and some other amounts from the same customer in a cold wallet for safe-keeping. Whether the customer or the entity holds and is able to use the private key to the wallet might also be relevant. If the cryptographic asset is held in cold wallets and the private key is held and can only be used by the customer, this is more likely to indicate segregation.

Given the above and the lack of an IFRS that specifically deals with this issue, assessing whether cryptographic assets held on behalf of the customers should be on or off balance sheet is a matter of judgement and might vary depending on the facts and circumstances listed above. As a result, there is not a 'one size fits all' answer.

-   專屬的區塊鏈地址的可追溯性(不是所有專屬的區塊鏈地址都能個別被追溯)。若加密資產可被追溯至客戶的專屬區塊鏈地址,則可能為資產隔離的指標。

-   使用第三方之帳戶/錢包(換言之,加密資產是否存放於個體或第三方的帳戶/錢包),以及第三方是否維護代表客戶持有之加密資產之紀錄。若加密資產之持有係存放於第三方之帳戶/錢包,則可能為資產隔離的指標。

-   使用熱錢包或冷錢包(換言之,個體將客戶之加密資產存放於熱錢包或冷錢包)。個體可能允許客戶將部分金額存放於熱錢包做為經常性交易使用,一部分存放於冷錢包以便妥善保管。客戶或是個體持有並能夠使用開啟錢包的私鑰也可能與此評估相關。若加密資產置於冷錢包,且私鑰僅被客戶持有及使用,則可能為資產隔離的指標。

目前缺乏專門處理此議題之 IFRS 準則,考量上述討論,評估代表客戶持有之加密資產是否應認列於資產負債表上涉及判斷,且可能根據事實及情況不同而做出不同結論,因此並沒有可以一體適用的答案。

3. Initial Coin Offerings and related issues

3.1. Practical market observations

An Initial Coin Offering ('ICO') is a form of fundraising that harnesses the power of cryptographic assets and blockchain-based trading. Similar to a crowdfunding campaign, an ICO allocates tokens instead of shares to investors/subscribers. These ICO tokens typically do not represent an ownership interest in the entity, but they often provide access to a platform (if and when developed) and can often be traded on a crypto exchange. The population of ICO tokens in an ICO is generally set at a fixed amount.

Each ICO is bespoke and will have unique terms and conditions. It is critical for issuers to review the whitepaper or underlying documents accompanying the ICO token issuance, and to understand what exactly is being offered to investors/subscribers. In situations where rights and obligation arising from a whitepaper or their legal enforceability are unclear, legal advice might be needed, to determine the relevant terms.

ICOs might be considered to be securities by a securities regulator, but it is important to note that there is no uniform global view. As a result, issuers should monitor regulatory developments closely and consider the impact that any changes might have on financial reporting.

3.2. Accounting for token pre-sale agreements

Entities looking to raise funds via an ICO sometimes make use of a 'Simple Agreement for Future Tokens' ('SAFT') to attract seed investors and lock in funding from interested parties in private sales prior to a public sale. A SAFT is an early stage investment, pre-ICO, where the investor provides upfront funding to the issuer in exchange for a promise to receive a variable number of tokens on a successful ICO. The number of tokens to be received by the SAFT investor usually depends on the ICO token price on issuance. As an incentive for investing in the pre-ICO entity, the SAFT issuer will typically settle the SAFT using an ICO token price that is discounted by a predefined amount (for example, a 10% discount to the ICO token price at issuance). Thus, on a successful ICO, the SAFT investor will receive a number of tokens equal to the value of what was originally invested, plus a return equal to the specified discount on the ICO token.

Terms of a SAFT can vary, impacting the determination of the accounting treatment. Factors to consider include (but are not limited to) the characteristics/features that the tokens will have, and the rights to which the future holders will be entitled.

3. 首次代幣發行及相關議題

3.1. 市場實務觀察

首次代幣發行(ICO)係一利用加密資產並以區塊鏈為基礎交易的募資方式。與群眾募資活動相似，ICO 分配代幣予投資者/認購者，而非股份。這些 ICO 代幣通常不代表對個體權益的所有權，但它提供進入平台(若有且於開發完成時)的途徑，且可於加密資產交易所中進行交易。通常 ICO 發行的 ICO 代幣數量是固定的。

每一個 ICO 都是定製的，且具有獨特的條款及條件，因此發行者複核白皮書或伴隨 ICO 代幣發行的文件，以了解代幣提供何種權利予投資者/認購者相當重要。當白皮書上所列的權利義務，和其是否具法律上可執行的能力並不明確時，可能需要法律意見以決定相關條款。

ICO 可能會被證管機關視為證券，但是值得注意的是目前全球仍沒有統一觀點。因此，發行者應密切關注此議題的發展，並考量任何法規要求可能對財務報導產生的衝擊。

3.2. 代幣預售協議之會計處理

想藉由 ICO 募資的個體有時會利用「未來代幣簡單協議」（SAFT）吸引種子投資者，並在公開銷售前先從有興趣的投資方鎖定資金。SAFT 係早期的投資，ICO 前的交易，投資者提供前端資金給發行者以換取未來 ICO 成功時變動數量之代幣。SAFT 投資者可收取的代幣數量通常取決於 ICO 代幣的發行價格。作為對首次代幣發行前個體的投資誘因，SAFT 發行者通常以預先定義的折扣 ICO 代幣價格交割(例如對 ICO 代幣發行價格給予 10%折扣)，因此，當 ICO 成功時，SAFT 的投資者將收到的代幣數量的價值，將等於原始投資金額加上等值於議定 ICO 代幣折扣的報酬。

SAFT 條款多變，因此會影響會計處理的決定，考慮的因素包括(但不限於)代幣有何特性/特色，以及授予未來持有者何種權利。

An illustrative example:

One common form of SAFT is a SAFT on utility tokens that entitles the investor to a discounted price for tokens compared to other investors at the time of an ICO. Typically, the SAFT terminates if the ICO does not happen on or by a stated date, at which time the entity is required to return to the investor the amount originally invested (or a portion thereof). The success of an ICO is not within the control of the entity – for example, the ICO is abandoned if the minimum fund raising goal (sometimes referred to as a 'soft cap') is not achieved. SAFT holders do not have rights to redeem their SAFTs prior to the stated date.

If the utility tokens underlying the SAFT clearly entitle the holder to future goods and services, those tokens would not be considered a financial instrument. It follows that from the perspective of the issuer, a SAFT to deliver a utility token might be viewed as not within the scope of IFRS 9, because it is usually not 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, as if the contracts were financial instruments" (IFRS 9 para 2.4). In such a case, the SAFT might be viewed as a customer's prepayment for future goods and services under IFRS 15, 'Revenue from Contracts with Customers'.

However, on the basis that the occurrence of a successful ICO is beyond the control of the entity, and the characteristics of the tokens to be issued might be unclear, some might view the SAFT as containing a financial obligation, because it represents a contractual obligation to deliver cash if the ICO does not occur by the stated date. In such a case, the SAFT might be viewed as a financial liability of the issuer in accordance with IAS 32 at initial recognition. There might also be other embedded features which require further assessment, such as embedded derivatives based on the specific terms of the arrangement.

PwC observations:

Facts and circumstances will need to be carefully evaluated in determining which view appropriately reflects the overall substance and economics from the issuer's perspective.

3.3. Accounting for ICOs by the issuer

When an ICO is undertaken, the issuing entity receives consideration. The form of the consideration varies (for example, cash or another cryptographic asset) and, for accounting purposes, it is key to understand the economics and characteristics of the transaction.

It is possible that an ICO could create a joint arrangement requiring further analysis based on IFRS 11, 'Joint Arrangements'. The fact that the subscribers provide the majority of the funding might suggest that the arrangement is a collaboration between the ICO entity and the subscriber. However, the subscribers are typically passive, which suggests that the arrangement might not provide the parties with joint control. Some issuers might grant veto rights over the future direction of the project to subscribers, typically, these are protective in nature and in most cases will not create joint control.

Where consideration for the ICO is not in the form of cash but another cryptographic asset, the transaction might be an exchange of similar goods or services. An exchange of similar goods might mean that no accounting is needed. However, we believe that it is unlikely that an ICO will be an exchange of 'similar goods or services', because no two cryptographic assets are generally alike.

Assuming that there is an exchange transaction and the arrangement does not create joint control, the consideration received by the ICO entity is recorded as the debit side of the journal entry. Depending on the form of the consideration, this might involve the thought process explained in section 2.2 and 2.3 above.

釋例:

SAFT 最常見的形式為授予投資者在 ICO 時，相較於其他投資者，能以折扣價格購買功能型代幣。通常若沒有在指定的日期(或之前)進行 ICO，SAFT 終止且個體必須退還投資人原本(或部分)投資的金額。ICO 是否成功不在個體可控制的範圍內— 例如：若募資的最低目標(有時稱為「軟上限」)無法達成，則募資終止。SAFT 的持有人於指定日期之前無權兌換 SAFT。

若 SAFT 的標的功能型代幣清楚授予投資者未來商品和服務，則不會被視為金融工具。由發行者的觀點看，交付功能型代幣的 SAFT 不在 IFRS 9 的範圍內，因為該合約通常不是一個「購買或出售非金融項目之合約，且以現金或其他金融工具作淨額交割或以交換金融工具之方式交割，使合約如同金融工具。」(IFRS 9 第 2.4 段)在這種情形下，SAFT 可能被視為 IFRS 15「客戶合約之收入」下對未來商品和服務的預付款項。

但是，基於 ICO 是否能成功不在個體控制的範圍內，而且將發行的代幣特性並不明確，可能有些人認定 SAFT 包含金融義務，因為若 ICO 未於指定日期(前)發生，它就代表一個交付現金的合約義務。於此情況下，根據 IAS 32，在原始認列時 SAFT 可能被視為發行者的金融負債，且可能還另有需要進一步評估的其他嵌入特性，如：根據協議中特殊條款的嵌入式衍生工具。

PwC 觀察:

當從發行方觀點決定何種論述才能允當反映整體經濟實質時，所有的事實及情況都必須謹慎評估。

3.3. 發行者對 ICO 的會計處理

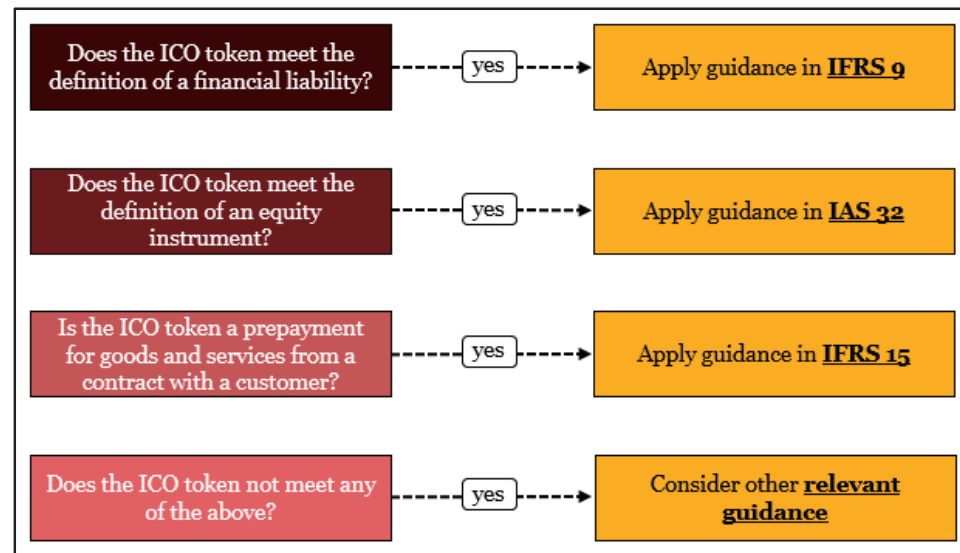ICO 進行時，發行個體會收到對價。實務上，對價的形式不盡相同(例如：現金或其他加密資產)，且就會計處理的目的而言，了解交易的經濟實質與特性相當重要。

ICO 的協議也可能構成聯合協議，這需要根據 IFRS 11「聯合協議」進一步分析。代幣持有者提供主要資金來源的事實，可能暗示這個安排是一個 ICO 個體和代幣持有者之間的合作。但是，持有者通常是被動的，顯示此安排沒有提供合約雙方聯合控制。有些發行者可能給予持有者某些對合作計畫未來方向的投票權，這些權利通常僅為保障性質，大部分情況下並不會構成聯合控制。

若 ICO 的對價不是以現金形式收取，而是另一個加密資產，該交易可能為交換相似商品或服務之交換交易，因為該交易係以一加密資產交換另一個加密資產。若此交換交易被視為相似商品的交換，則可能無需會計處理。儘管如此，我們相信此種交易不太可能會被認定為交換「相似商品或服務」，因為通常不會有兩個相似的加密資產。

假設發生一項交換交易，且該協議不構成聯合控制，ICO 個體所收取之對價將根據對價的形式記錄在會計分錄的借方，此涉及前述 2.2 段及 2.3 段所解釋的思考過程。

However, the key challenge for issuing entities is determining the accounting for the ICO token issued (that is, the credit side of the journal entry). This will depend on the nature of the ICO token issued, as well as the guidance of the applicable accounting standard.

The following figure provides a possible analysis framework of accounting models to consider when determining the nature of, and accounting for, the issued ICO token. Consideration of the contract terms is needed, to understand the obligations of the issuer.

Does the ICO token meet the definition of a financial liability?	--- yes --->	Apply guidance in **IFRS 9**
Does the ICO token meet the definition of an equity instrument?	--- yes --->	Apply guidance in **IAS 32**
Is the ICO token a prepayment for goods and services from a contract with a customer?	--- yes --->	Apply guidance in **IFRS 15**
Does the ICO token not meet any of the above?	--- yes --->	Consider other **relevant guidance**

<u>Financial liability</u>

An issuer of an ICO token should assess whether a token meets the definition of a financial liability. Specifically, an entity would consider the definition in IAS 32, which states that a financial liability is:
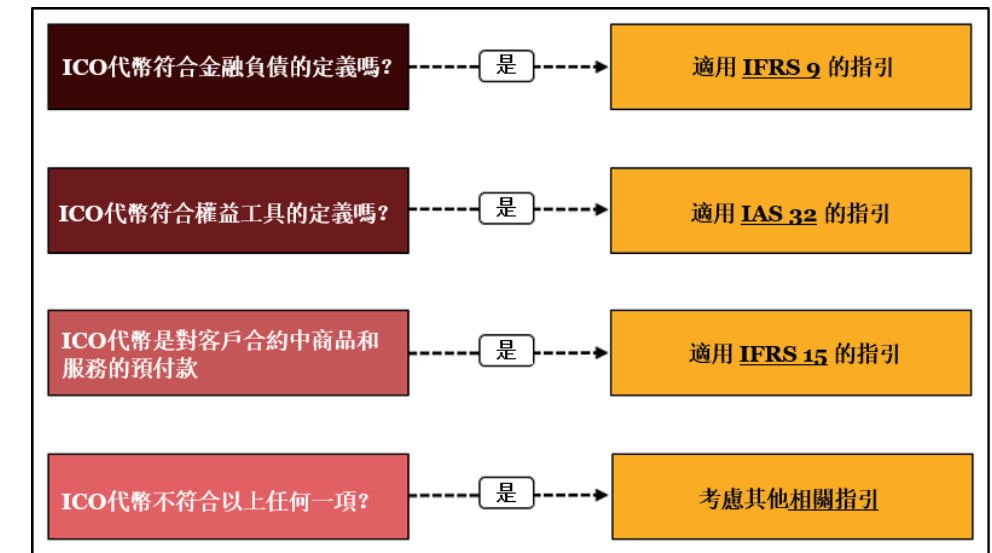
- a contractual obligation
    - to deliver cash or another financial asset to another entity or
    - to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavourable to the entity or
- a certain contract that will or might be settled in the entity's own equity instruments, such as those that violate the principle stated in paragraph 11 of IAS 32 (commonly known as the 'fixed-for-fixed' principle)

If the ICO token is a financial liability, the accounting would follow the applicable guidance in IFRS 9.

Many ICO tokens will not meet the definition of a financial liability, but there are situations where the terms and conditions might provide for a refund of proceeds up to the point of achieving a particular milestone. There might be situations in which the contract creates a financial liability at least up to the point at which the refund clause falls away.

然而，對於發行個體的重要挑戰是決定所發行的 ICO 代幣的會計處理 (即分錄的貸方)，此須取決於發行的 ICO 代幣的性質，以及所適用的會計準則指引。

當決定發行的 ICO 代幣性質和會計處理時，下表對於可能的會計模型提供可考量的分析架構，個體必須考慮合約條款以了解發行者的義務。

ICO代幣符合金融負債的定義嗎？	--- 是 --->	適用 **IFRS 9** 的指引
ICO代幣符合權益工具的定義嗎？	--- 是 --->	適用 **IAS 32** 的指引
ICO代幣是對客戶合約中商品和服務的預付款	--- 是 --->	適用 **IFRS 15** 的指引
ICO代幣不符合以上任何一項？	--- 是 --->	考慮其他相關指引

<u>金融負債</u>
ICO 代幣的發行者應評估代幣是否符合金融負債的定義。個體尤其要考量 IAS 32 的定義，該定義說明金融資產係:

- 一項合約義務
    - 以交付現金或其他金融資產予另一個體，或
    - 以按潛在不利於個體之條件與另一個體交換金融資產或金融負債；或
- 將以或可能以個體本身權益工具交割之合約，例如那些違反規定於 IAS 32 第 11 段原則的合約(一般稱為「固定換固定」原則)

若 ICO 代幣被視為金融負債，會計處理將遵循 IFRS 9 適用的準則指引。

許多 ICO 代幣可能無法符合金融負債的定義，但是在某些情況下，條款和條件提供達到一特定里程碑前可退款的機制。此情況下，至少在退款條款消失前，合約可能產生了一項金融負債。

Equity instrument

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities (IAS 32 para 11). Typically, ICO tokens do not provide the holders with such a residual interest; for example, they do not give the holders rights to residual profits, dividends, or entitlement to proceeds on winding up or liquidation. These ICO tokens might therefore lack the characteristics of an equity instrument. Careful consideration is needed to assess whether the rights to the cash flows only relate to a specific project or whether, in substance, they provide rights to residual cash flows of the ICO entity.

Revenue transaction/prepayment for future goods and services

The issuing entity should consider whether the ICO token issued is in substance a contract with a customer that should be accounted for under IFRS 15.

IFRS 15 would apply if (1) the receiver of the ICO token is a customer, (2) there is a 'contract' for accounting purposes, and (3) the performance obligations associated with the ICO token are not within the scope of other standards.

Appendix A to IFRS 15 defines a customer as "*a party that has contracted with an entity to obtain goods or services that are an output of the entity's ordinary activities in exchange for consideration*".

To determine whether a contract with a customer exists, an entity should consider whether the whitepaper, purchase agreement and/or other accompanying documents create 'enforceable rights or obligations' (IFRS 15 App A). To be a contract with a customer for the purposes of IFRS 15, such rights should be legally enforceable. This assessment might be challenging where the documentation provided by the issuer is not well defined. Entities should further evaluate all of the criteria in paragraph 9 of IFRS 15, to determine if a contract with a customer exists.

> **PwC observations:**
>
> Whitepapers are not the same as a standard legal contract or other offering documents such as a prospectus or offering memorandum. Entities should carefully examine the whitepaper or similar document, to make sure that there are, in fact, legally enforceable rights. Clauses that disclaim any legal obligation by the issuer require further investigation. In some situations, additional legal advice might be needed.

In many circumstances, issuers might use the consideration received in the ICO to develop a software platform. Hosting and maintaining the specific platform is often an integral part of the ICO's future business model. The token could provide the holder with access to the platform which might be operated as part of the entity's ordinary activities.

This might result in the holders meeting the definition of 'customers', from the perspective of the ICO entity; accordingly, the proceeds from the ICO could be revenue of the issuing entity, which will likely be initially deferred.

Determining the performance obligations, how they are satisfied and the period over which to recognise revenue will be judgemental and will depend on the specific facts and circumstances of the ICO offering.

權益工具

權益工具係指表彰某一個體於資產減除所有負債後剩餘權益之任何合約 (IAS 32 第 11 段)。一般而言，ICO 代幣不提供代幣持有者此種剩餘權利，例如，對於剩餘利潤、股利的權利，或是取得結束業務或清算價款的權利。因此這些 ICO 代幣可能缺少權益工具的特性。評估現金流量的權利是否與特定計畫相關，或是實質上是否提供 ICO 個體的剩餘現金流量的權利時需要謹慎考量。

收入交易/對商品和服務的預付款

發行個體應考量發行的 ICO 代幣實質上是否是與客戶之間合約，而應該以 IFRS 15 進行會計處理。

若(1) ICO 代幣的收受者是客戶，(2) 有一個會計目的「合約」存在，以及(3)ICO 代幣相關的履約義務不在其他準則的範圍內，則此交易可適用 IFRS 15。

IFRS 15 的附錄 A 定義「客戶」為「與個體訂定合約，並以對價換得該個體正常活動所產出之商品或勞務之一方」。

為決定客戶合約是否存在，個體應考量白皮書、購買協議和/或其他附隨文件是否創造法律上可執行之權利或義務（IFRS 15，附錄 A）。IFRS 15 之下，符合客戶合約的要件是這些權利必須要於法律上可以被執行。這個評估可能會具有相當的挑戰性，若發行者提供的文件缺乏明確定義。個體應進一步評估 IFRS 15 第 9 段所規範的所有條件，以決定客戶合約是否存在。

> **PwC 觀察：**
>
> 白皮書不同於標準法律合約或其他發行文件(例如公開說明書或發行備忘錄)。個體應仔細檢視白皮書或相似的文件，確定實際上有法律上可執行的權利。任何發行者否認法定義務的條款都警示了應進一步調查的跡象。有些情形下，可能需要額外的法律意見。

許多情況下，發行者可能使用 ICO 收取的對價發展軟體平台，主持及維持這個平台會是 ICO 未來營運模式不可或缺的一部分。代幣提供其持有者進入平台的管道，而營運平台是個體的正常活動的一部分。

從 ICO 個體的觀點，這將使代幣持有者符合「客戶」的定義，因此由 ICO 取得的價款將是發行個體的收入，而該收入在一開始時很有可能被遞延。

決定履約義務、履約義務將如何被滿足、將遞延收入認列為收入的期間均涉及判斷，將視 ICO 發行時特定事實和情況而定。

Where none of the above considerations appear to be relevant, the hierarchy in IAS 8 should be considered in determining the appropriate accounting treatment. We believe that it is unlikely that issuers will receive consideration without taking on an obligation to the subscribers. Even if the arrangement does not give rise to a financial instrument or a promise to deliver goods or services to a customer, there is likely to be a legal or constructive obligation to the subscriber. This might result in the issuer recognising a provision in accordance with IAS 37.

3.4. Accounting for a purchase of goods or services by the ICO entity in exchange for ICO tokens issued

3.4.1. General considerations

Some issuers of ICO tokens might choose to keep some tokens generated through the ICO, to use as a means of payment for goods or services. Examples of the use of such ICO tokens include obtaining services in developing or operating the entity's platform, or to remunerate/incentivise employees. This is explored further in the following sections.

When an ICO entity allocates a specified number of ICO tokens for the purpose of its own use, it should consider the accounting for the generation of the ICO tokens itself.

The generation of ICO tokens for own use does not generate proceeds for the ICO entity. The act of generating ICO tokens is not, in itself, an exchange transaction.

Generating ICO tokens is similar to a retail store printing vouchers for discounts on future purchases at the store and not distributing them to customers. Therefore, it seems appropriate that such an event would not be considered for accounting purposes. This situation changes once the vouchers are provided to third parties in exchange for consideration – or, in accounting terms, once an exchange transaction takes place.

An ICO entity would not usually account for the generation of tokens until an exchange transaction has occurred.

3.4.2. Own cryptographic assets exchanged for third party services

Sometimes, ICO tokens are provided to third parties for services, such as developing a platform. The observations summarised in this section cover situations in which the receiving party is determined to be a third party (and not an employee as defined in IAS 19, 'Employee Benefits').

In order to determine the appropriate accounting treatment for an exchange transaction that takes place between an ICO entity and a third party, it is important to obtain a detailed understanding of the economic substance of the exchange.

Generally, the accounting will follow:

- the substance of what the ICO entity receives in return for cryptographic assets (debit side of the journal entry); and

- the characteristics of ICO tokens generated and delivered by the entity.

考慮其他相關指引
若上述的考量都不相關時，則應將 IAS 8 的階層納入考量以決定適當的會計處理。我們認為發行者不太可能收取對價而不相對認列對投資者的義務。即使該等協議不會構成金融工具或提供商品或勞務給客戶的承諾，仍然有可能對投資者具有法定或推定義務。因此發行者可能須依據 IAS 37 之規定認列負債準備。

3.4. ICO 個體以發行的 ICO 代幣購買商品/服務

3.4.1. 綜合考量

部分 ICO 的發行者可能會選擇保留一些 ICO 發行的代幣，作為支付商品及服務的工具。使用這些 ICO 代幣的例子包括個體取得發展及營運其平台的服務，或作為給付/獎勵員工酬勞，這些在後面的章節會進一步探討。

當 ICO 個體分配特定數量的 ICO 代幣保留做為自己的目的使用時，需要考慮發行的 ICO 代幣的會計處理。

發行 ICO 代幣保留自用，對發行者而言並無法產生收益，產生 ICO 代幣的行為就其本身而言並非一項交換交易。

產生 ICO 代幣的活動，與零售業商家印刷折價券提供未來客戶消費折扣，但卻尚未分發給客戶的行為相似。因此，此類活動在會計上不做考量似乎是適當的，但這個情況會在折價券提供給客戶以交換對價時改變，或是以會計術語來說— 當交換交易發生時。

直到交換交易發生前，ICO 個體無須對產生代幣進行會計處理。

3.4.2. 以自有之加密資產交換第三方服務

有時候個體為了取得服務而將 ICO 代幣提供予第三方(例如：平台開發)。對收取代幣的一方為第三方情況的觀察(非 IAS 19「員工福利」所定義的員工)彙總於此節。

為了決定 ICO 個體與第三方之間發生的交換交易的會計處理，詳細理解交易的經濟實質非常重要。

一般而言，會計處理會依循：

- ICO 個體提供加密資產所換取對價的性質(分錄的借方)，和

- 個體發行及交付的 ICO 代幣的特性。

When determining the debit side of the journal entry, an entity would consider the nature of the goods or services received and whether there are costs that can be capitalised as an asset, or if the costs are to be recognised as an expense. For example, if the payment is to develop software, can the costs be capitalised as part of the intangible, based on the applicable IFRS guidance, or should they be expensed (for example, research and development guidance under IAS 38)?

The credit side of the entry is determined by the obligations the entity incurred as a result of issuing the ICO tokens. This assessment determines the applicable standard, based on the promises associated with the ICO tokens. The thought process of the assessment will be aligned with the considerations described in section 3.3 above.

For example, where the ICO tokens provide an entitlement promise to deliver future goods or services to a customer (such as a discount on future services provided by the ICO entity), the credit side of the journal entry should be determined based on IFRS 15. In this case, the revenue from providing the ICO tokens should be measured at the fair value of the goods and services received by the ICO entity.

3.4.3. Own ICO tokens exchanged for employee services

Some ICO entities might reward their employees in the form of a specific number of tokens generated through the ICO. IAS 19 or IFRS 2, 'Share-based Payment', might need to be considered.

When assessing the accounting treatment of such arrangements, an entity considers the characteristics of the ICO tokens generated.

Unless the ICO tokens meet the definition of an equity instrument of the ICO entity (that is, a contract that has a residual interest in the assets of the ICO entity after deducting all of its liabilities), the arrangements would not meet the definition of a share-based payment arrangement under IFRS 2. Instead, they would fall within the scope of IAS 19 as a non-cash employee benefit.

當決定分錄的借方時，個體會將第三方提供的商品或服務的特性納入考量，以決定是否可被資本化為資產，或應被認列為費用。例如：若支付係用以開發軟體，成本是否得根據適用的 IFRS 指引被資本化為無形資產的一部分，或是應該被當作費用（如：IAS 38 下研究及發展相關指引）？

分錄的貸方應依據發行 ICO 代幣使個體承擔了何種義務而決定。這個評估係根據 ICO 代幣相關的承諾決定應適用的準則，此評估的思考過程與上述 3.3 段的考量相同。

舉例而言，當 ICO 代幣對客戶提供對未來個體正常營運活動產生的商品或服務的權利（如：ICO 個體提供的服務的折扣），分錄的貸方應根據 IFRS 15 決定。於此情況下，提供 ICO 代幣所得到的收入應以 ICO 個體收到的商品和服務的公允價值衡量。

3.4.3. 以自有之 ICO 代幣交換員工服務

一些 ICO 個體可能以 ICO 發行的特定數量代幣獎勵員工。IAS 19「員工福利」或 IFRS 2「股份基礎給付」可能需要納入考量。

當評估這些獎勵計畫的會計處理，個體應考量所發行 ICO 代幣的特性。

除非 ICO 代幣符合 ICO 個體的權益工具的定義(即表彰對 ICO 個體資產減除全部的負債後的剩餘權益之合約)，獎勵計畫不會符合 IFRS 2 股份基礎給付的協議，而是落入 IAS 19 非現金員工福利的範圍內。

IAS 19 will then determine the recognition, as well as the measurement, of the employee benefit, as shown in the following example:

<u>An illustrative example:</u>
An ICO entity rewards named employees in the form of a specific number of utility tokens generated (and currently held) by the ICO entity. Based on the nature and characteristics of the utility tokens, the entity concludes that they are, in substance, a contract with a customer that should be accounted for under IFRS 15, with the employee being the customer in this situation. The reward is 'paid' shortly after the end of the fiscal year in which the ICO was successfully executed to the employees who:

a) contribute to the success of the ICO; and
b) stay in their jobs until the end of the fiscal year in which the ICO was successfully executed.

<u>Recognition:</u>
The ICO entity determines that the substance of the arrangement is an exchange of employee services for goods and services to be delivered by the entity. This is accouted for as a short-term employee benefit (IAS 19 paras 11, 19–23) and non-cash consideration for goods and services (IFRS 15 paras 66–69).

The arrangement includes a condition that the employees should remain in their jobs at the ICO issuer during the vesting period. The ICO entity should recognise a liability and short-term employee benefit expense over the vesting period. The liability will be reclassified as deferred revenue when the employees obtain the right to access the utility tokens on their digital accounts.

This treatment is also consistent with the definition of a contract liability in IFRS 15, which states that a contract liability arises when the entity has received the consideration. In this case, this is when the employee services have been provided.

<u>Measurement:</u>
The ICO entity recognises the undiscounted amount it expects to pay in exchange for the services provided by the employees as a liability and an expense (IAS 19 para 11). The ICO entity could measure the amount it expects to pay using the fair value of the utility tokens to be delivered to the employees or using the estimated cost of the goods or services it expects to deliver in the future.

<u>Journal entries:</u>

As service provided over vesting period　　*When utility tokens issued from ICO*

Dr. Employee costs　　Dr. Short-term employee benefit liability
Cr. Short-term employee benefit liability　　Cr. Deferred revenue

<u>PwC observations:</u>

The circumstances of each transaction will need to be carefully evaluated in determining which view appropriately reflects the overall substance and economics, from the issuer's perspective especially, regarding the measurement of the benefits provided.

IAS 19 將決定員工福利的認列和衡量方式，如下釋例所述：

釋例：
ICO 個體提供自己發行（目前持有的）特定數量的功能型代幣給予員工作為獎勵。根據功能型代幣的性質和特性，個體決定該代幣的實質為與客戶之合約，而應根據 IFRS 15 進行會計處理，此情況下員工即為客戶。獎勵紅利在 ICO 成功執行的會計年度結束後不久支付予符合下述條件之員工：

a) 對 ICO 的成功有貢獻；及
b) 在 ICO 成功執行的會計年度結束時仍在職者。

認列：
ICO 個體判斷獎勵紅利計畫的交易實質為提供個體之商品與勞務以交換員工服務。此交易以短期員工福利（IAS 19 第 11 段，第 19-23 段）及商品與勞務之非現金對價交易(IFRS 15 第 66-69 段)處理。

此協議包含一項條件，員工在既得期間必須在職。ICO 個體應於既得期間認列一項負債和短期員工福利費用，之後當員工在他們的數位帳戶裡得到使用功能型代幣的權利時，負債將會被重分類到遞延收入。

這樣的處理與 IFRS 15 裡合約負債的定義一致，該定義說明當個體預先收取對價時就產生了合約負債。在此案例中，係當員工提供服務時。

衡量：
ICO 個體認列預期要支付員工以交換其提供服務的未折現金額為負債和費用（IAS 19 第 11 段）。當 ICO 個體衡量預期將支付的金額，可採用將給予員工的功能型代幣之公允價值，或採用 ICO 個體於未來將交付的商品或服務的估計成本衡量。

分錄：

員工於既得期間提供服務時　　ICO 發行功能型代幣時

借方：酬勞成本　　借方：短期員工福利負債
貸方：短期員工福利負債　　貸方：遞延收入

PwC 觀察：

關於衡量所提供的福利，當決定何種見解能允當反映整體經濟實質時，每項交易的情況都需要謹慎評估，特別是從發行者之觀點。

4. Fair value considerations for cryptographic assets

4.1. The fair value hierarchy of IFRS 13

The fair value of a cryptographic asset might be accounted for or disclosed in financial statements. Fair value might be needed in a variety of situations, including:

inventory held by a broker-trader applying fair value less costs to sell accounting	expense for third party services paid for in cryptographic assets
cryptographic assets classified as intangible assets in cases where the revaluation model is used	expense for employee services paid for in cryptographic assets
revenue earned from the perspective of an ICO issuer	cryptographic assets acquired in a business combination
disclosing the fair value for cryptographic assets held on behalf of others	cryptographic assets held by an investment fund (either measured at fair value or for which fair value is disclosed)

IFRS 13, 'Fair Value Measurement', defines fair value 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*", and it sets out a framework for determining fair values under IFRS.

Fair values are divided into a three-level fair value hierarchy, based on the lowest level of significant inputs used in valuation models, as follows:

- **Level 1:** quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date;

- **Level 2:** observable inputs other than level 1 inputs; and

- **Level 3:** unobservable inputs.

Generally, IFRS 13 gives precedence to observable inputs over unobservable inputs. If a valuation is not based on level 1 inputs at the reporting date (for example, because there is not an active market at the date or time of reporting), the value will need to be determined using a valuation model. The goal in such valuations should be to estimate what the exit price of the entity's position at the valuation date would be.

It should be noted that the hierarchy level of a cryptographic asset might evolve over time. For example, it is possible that a cryptographic asset that was previously valued using level 3 inputs might become traded in an active market, or vice versa.

IFRS 13 contains a number of disclosure requirements depending on the level of the measurement hierarchy that a fair value measurement falls into, as well as the measurement basis used in the financial statements.

Given that markets for cryptographic assets are rapidly evolving, determining the fair value of cryptographic assets can be complex. IFRS 13 notes that, in making disclosures about fair value, the following factors should be considered:

- the level of detail necessary to satisfy the disclosure requirements;

- how much emphasis to place on each of the various requirements;

4. 加密資產的公允價值衡量之考量

4.1. **IFRS 13** 之公允價值層級

許多情況下，加密資產的公允價值需要被記錄或揭露在財務報表，可能包含下列情形:

經紀一交易商持有之存貨採用公允價值減出售成本衡量	以加密資產支付之第三方服務費用
分類為無形資產之加密資產採用重估價模式衡量	以加密資產支付員工服務之費用
ICO 發行者賺得之收入	企業合併取得之加密資產
揭露為他人代管加密資產的公允價值	由投資基金持有之加密資產 (以公允價值衡量或是揭露公允價值)

IFRS 13「公允價值衡量」定義公允價值係指「於衡量日，市場參與者間在有秩序之交易中出售資產所能收取或移轉負債所需支付之價格」，該準則於 IFRS 中訂定衡量公允價值之架構。

公允價值按使用於評價模型中具重要性之最低等級輸入值，被歸類為下列三等級:

- 第 1 等級：個體於衡量日對相同資產或負債可取得之活絡市場報價；

- 第 2 等級：非屬第 1 等級報價之其他可觀察輸入值；及

- 第 3 等級：不可觀察之輸入值。

一般情況下，IFRS 13 優先使用可觀察之輸入值。因此，如果價值衡量非基於報告日之第 1 等級輸入值(例如報告日當時未有活絡市場)，則須採用評價技術衡量公允價值。使用評價技術之目的在於估算評價當日個體之退出價格。

值得注意的是加密資產之評價等級會隨著時間演變。例如，原先使用第 3 等級輸入值衡量公允價值之加密資產，可能開始在活絡市場中交易，反之亦然。

IFRS 13 按公允價值衡量等級和衡量基礎囊括許多財務報表之揭露要求。

鑑於加密資產市場快速發展，加密資產公允價值之決定亦相當複雜。IFRS 13 指出，揭露公允價值時，應考量下列項目:

- 為滿足揭露規定所必要之詳細程度；

- 對每一不同規定強調至何種程度；

- how much aggregation or disaggregation to undertake; and

- whether users of financial statements need additional information to evaluate the quantitative information disclosed.

If the specific disclosures required by the standard are insufficient to meet the objectives of helping users to assess the fair values, IFRS 13 requires additional information to be disclosed to meet those objectives.

Many cryptographic assets show a high volatility of prices and markets might remain open 24/7. So the time at which a reporting entity values the cryptographic asset might be important. For example, is the valuation time 11:59 PM at the end of the reporting period, or the close of business on that day? How is the valuation time determined in groups with subsidiaries in different time zones? This might represent a significant accounting policy, in which case it would also have to be disclosed in the notes to the financial statements.

4.2. *Determining an active market*

The first step in considering the fair value of a cryptographic asset is to determine if an active market exists for that cryptographic asset at the measurement date (in other words, whether a level 1 valuation can be performed).

Appendix A to IFRS 13 defines an active market as one "*in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis*".

In some cases, there might be several markets for a particular cryptographic asset that meet the definition of an active market, and each of those markets might have different prices at the measurement date. In these situations, IFRS 13 requires the entity to determine the principal market for the asset.

The principal market will be the market with the greatest volume and level of activity for the relevant cryptographic asset which the entity holding the cryptographic asset can access. IFRS 13 also contains a tiebreaker, if there is not a clear principal market (that is, because there are several markets with approximately the same level of activity). In the case of a tie, IFRS 13 defaults to the most advantageous market within the group of active markets to which the entity has access with the highest activity levels.

A level 1 fair value input is defined in Appendix A to IFRS 13 as "*Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date*".

Although establishing whether an active market exists is relevant to a variety of items under IFRS, some specific challenges arise in relation to cryptographic assets. This is due to the fact that cryptographic assets are frequently traded primarily into other cryptographic assets, as opposed to fiat currencies.

- 進行彙總或細分至何種程度；及

- 財務報表使用者是否需要額外資訊以評估所揭露之量化資訊。

若依國際財務報導準則所提供之揭露原則，不足以符合協助財務報表使用者評估公允價值之目的，個體應揭露符合該目的之所需之額外資訊。

許多加密資產皆顯示出其高度的價格波動以及全天候開放交易之特性，因此個體衡量加密資產之時點顯得非常關鍵。舉例而言，評價時點是報導期間結束日晚間十一點五十九分或是該日之營業結束時間?當集團中子公司在不同時區內，評價時點如何決定?這可能是一個相當重要的會計政策，且必須於財務報表附註中揭露。

4.2. 決定活絡市場

評估加密資產公允價值的第一步是決定該資產在衡量日是否存在活絡市場(即是否可採用第 1 等級輸入值)。

IFRS 13 附錄 A 定義活絡市場為「有充分頻率及數量之資產或負債交易發生，以在持續基礎上提供定價資訊之市場」。

某些情況下可能發生特定加密資產有數個活絡市場符合上述定義，但每一個活絡市場在衡量日有不同交易價格之情形。在前述情況下，IFRS 13 要求個體決定該資產之主要市場。

主要市場係具個體持有之加密資產最大交易量及活絡程度之市場，且個體於衡量日可進入該市場。IFRS 13 亦指出若無明確的主要市場(例如多個活絡市場交易量及活絡度相近)，則在多個活絡市場中選擇個體於衡量日可進入且具高交易量及活絡程度之最有利市場。

IFRS 13 附錄 A 將第 1 等級輸入值定義為「企業於衡量日可取得之相同資產或負債於活絡市場之報價（未經調整）」。

雖然在國際財務報導準則下，是否存在活絡市場之確立攸關許多不同財務報表項目，但加密資產確實造成一些特有的挑戰。這是由於實務上加密資產之頻繁交易多存在於各類型加密資產間，而非與法定貨幣間之兌換。

This poses the question of which transactions to consider when determining an active market.

> **An illustrative example:**
>
> Assume that two cryptographic assets exist, asset A and asset B. Assets A and B are frequently converted into each other, based on a market where there are observable exchange ratios. These cryptographic assets are not considered currencies in the scope of IAS 21.
>
> Asset A is readily convertible to cash in an active market, but there is no active market where asset B can be converted to cash. In valuing asset B, would the transactions converting asset B to asset A on the active market be observable transactions that qualify for level 1 fair value measurements?
>
> There is not an active market, and hence not a level 1 fair value in the entity's functional currency (fiat) for asset B. This is because there is no active market where asset B can be directly converted to cash. Moreover, converting asset B to cash, via conversion to asset A, will generally incur costs or a spread that will be a non-level 1 input, and takes time during which the fair values of the assets might change. Since measurement in the fair value hierarchy requires the lowest level of significant inputs to the 'entire measurement' (IFRS 13 para 73), the 'entire measurement' in this case qualifies as level 2.
>
> Although the definition of an active market does not refer to fiat currency, the presumption is that, in order to qualify as a level 1 fair value measurement, the transaction should be measured in a fiat currency. Such fiat currency might be a foreign currency translated under IAS 21 to the reporting entity's functional currency. However, for financial reporting purposes, the valuation needs to be established in some unit that qualifies as a currency under IAS 21.

4.3. Valuation in the absence of an active market

4.3.1. Valuation techniques and inputs

Many cryptographic assets will not have an active market as described by IFRS 13, and so they will need to be valued using a valuation technique.

An appropriate valuation technique is one that works towards the objective of estimating the orderly transaction price to sell the asset or transfer a liability at the measurement date under current market conditions.

In some cases, multiple valuation approaches should be used. Ultimately, the appropriate valuation technique should consider how a market participant would determine the fair value of the cryptographic asset being measured.

In many cases, the market approach (IFRS 13 para B5) will be the most appropriate technique for a cryptographic asset, and this would be used by a market participant. However, there might be particular facts and circumstances where an entity could demonstrate that a market participant would use a different approach. We expect that the use of the cost approach (IFRS 13 para B8) or the income approach (IFRS 13 para B10) will be rare in practice.

In determining an appropriate valuation technique to use, IFRS 13 indicates that the technique should be appropriate in the circumstances, and it should maximise the use of relevant observable inputs and minimise the use of unobservable inputs.

For a cryptographic asset, observable inputs might include information obtained on bilateral transactions outside an active market, certain quotes from brokers, and other information, given that many markets are still unregulated.

此實務情形突顯出另一個問題，即在決定是否存在活絡市場時，那些交易需要被納入考量。

> **釋例：**
>
> 假設存在兩種加密資產 A 和 B，加密資產 A 和 B 之間經常依據市場上可觀察之兌換比率相互兌換。這些加密資產不被視為國際會計準則第 21 號(IAS 21)所定義之貨幣範圍。
>
> 資產 A 在活絡市場中可隨時被兌換成現金，惟對資產 B 而言並未存在可兌換成現金之活絡市場。於評價資產 B 時，在活絡市場中將資產 B 兌換成 A 之交易，是否符合第 1 等級可觀察交易之公允價值衡量？
>
> 鑑於加密資產 B 並無活絡市場可直接兌換成現金，因此對於加密貨幣 B 而言，不符合第 1 等級以個體功能性貨幣計價之公允價值。此外，透過 A 和 B 間之兌換將 B 換成現金，一般而言會產生非屬第 1 等級輸入值之成本及利差，且因費時而公允價值可能變動。由於公允價值衡量係按其整體被歸類在公允價值等級中對整體公允價值衡量具重要性之最低等級輸入值之相同等級(IFRS 13 第 73 段)，在本案例中整體公允價值歸類等級為第 2 等級。
>
> 雖然活絡市場的定義並不涉及法定貨幣，但為了符合公允價值等級中第 1 等級之公允價值衡量，該交易必須以法定貨幣計價為前提。該法定貨幣可能為外幣而須依據 IAS 21 轉換為報導個體之功能性貨幣。然而，基於財務報導之目的，價值評估必須建立在以符合 IAS 21 貨幣定義之單位計價。

4.3. 無活絡市場之公允價值衡量

4.3.1. 評價技術與輸入值

由於許多加密資產並無 IFRS 13 所定義之活絡市場，因此必須使用評價技術衡量其公允價值。

適當之評價技術可達成在衡量日之市場條件下，估計有秩序地出售資產或移轉負債之交易價格之目的。

部分加密資產必須使用多種評價方法。最終而言，適當之評價技術會將市場參與者如何決定加密資產的公允價值衡量納入考量。

多數情況下，市場法(IFRS 13 第 B5 段)是最適用於加密資產也是會被市場參與者採用之評價技術。然而，在某些特殊情況下，個體或許得論證市場參與者會採用其他評價技術。但一般預期實務上採用成本法(IFRS 13 第 B8 段)或收益法(IFRS 13 第 B10 段)為罕見的情況。

於決定所採用之適當評價技術時，IFRS 13 指出評價技術應適合該等情況，且應最大化攸關可觀察輸入值之使用並最小化不可觀察輸入值之使用。

對於加密資產而言，有鑒於目前許多市場仍不受監管，可觀察輸入值可能包括來自活絡市場以外的雙方交易取得之資訊或是來自經紀商報價及其他資訊。

Where broker quotes are used, these should be carefully evaluated. Broker quotes can be derived from models rather than being based on observable market transactions. However, at this time (September 2018) we have not yet observed broker quotes being used in this sector.

In general, a valuation model should be applied consistently from period to period. The market for cryptographic assets is evolving rapidly, and so valuation techniques used by market participants are also likely to evolve. IFRS 13 permits an entity to change valuation techniques (or change weightings amongst multiple valuation techniques) where the change results in a measurement that is equally or more representative of fair value in the circumstances. Factors such as the following might result in changing valuation techniques:

- new markets develop;

- new information becomes available;

- information previously used is no longer available;

- valuation techniques improve; or

- market conditions change.

在使用經紀商報價時，應審慎評估。經紀商報價可能來自評價模型，而非基於市場上之可觀察交易。然而，目前(2018 年 9 月)我們尚未觀察到這個產業使用經紀商報價之情形。

一般而言，用以衡量公允價值之評價技術應一致地應用 。由於加密資產市場正快速地發展，因此市場參與者使用的評價技術亦一同演變。但若改變能導致於該等情況下同樣或更能代表公允價值之衡量時，IFRS 13 允許變動評價技術（或變動多種評價技術之權重）。評價技術之可能變動情形舉例如下：

- 新市場發展;

- 新資訊變成可得;

- 先前使用之資訊不再可得;

- 評價技術改善; 或

- 市場狀況改變。

4.3.2. *Calibration of valuation techniques*

IFRS 13 contains certain restrictions on determining fair values at initial recognition where this results from an arm's length transaction. This is because the acquisition transaction represents an observable transaction for the cryptographic assets.

> **An illustrative example:**
>
> A cryptographic asset not traded in an active market is purchased in an arm's length transaction, without other elements, for CU100 at the beginning of the day on 1 June.
>
> At the end of the day, the entity uses a valuation technique and determines that the value is CU104. Prior to considering the CU4 increase in fair value, the entity would firstly re-evaluate the appropriateness of the valuation technique/model used. Secondly, it would be required to determine whether its model was calibrated to the transaction price of CU 100 paid at the beginning of the day, as set out in paragraph 64 of IFRS 13. That is, the valuation model would need to be run at the acquisition time, to determine whether the transaction price differed from CU100.
>
> Now assume the valuation technique (using unobservable inputs) would show that the cryptographic asset should be valued at CU102 at the acquisition time, even though only CU100 was paid. In this case, the entity would likely consider that the difference between the valuation technique and the fair value at the beginning of the day amounted to CU102 – CU100 = CU2.
>
> Therefore, at the measurement time (the end of the day, in this example) the output of the valuation technique would be adjusted for that difference, to arrive at a fair value of CU104 – CU2 = CU102.

The more time that passes between the initial transaction date and the measurement date, the less relevant the initial transaction price might become. However, in measuring the cryptographic asset, entities should ensure that their valuation method provides a sensible result in the light of IFRS 13's calibration requirement.

It is important to note that not all appraisal reports obtained from third party valuation experts take into account these calibration requirements. When relying on a third party appraisal, an entity would need to ensure that the methodology used by the appraiser is consistent with all aspects of IFRS 13, including its calibration requirements.

The transaction price paid by the entity might also be relevant to the valuation of other units of the same cryptographic asset held at the measurement date.

4.3.2. 評價技術之校準

IFRS 13 針對決定公平交易所產生之原始認列時之公允價值訂有相關規定。這是因為對於加密資產而言，取得資產之交易意味著加密資產之可觀察交易。

> **釋例：**
>
> 一項不在活絡市場交易的加密資產，個體於六月一日凌晨在沒有附加條件下以公平交易 CU100 購入。
>
> 在六月一日結束之際，個體使用評價技術決定其公允價值為 CU104。在考量公允價值增加 CU4 前，個體應首先重新評估評價技術/模型之適當性。其次，應考慮該評價模式是否應予校準以使得原始認列時評價技術之結果等於交易價格 CU100 (IFRS 13 第 64 段)。亦即在取得資產時點需運用評價模型以評估交易價格是否不同於 CU100。
>
> 假設使用該評價技術(採用不可觀察輸入值)，顯示在取得時點該加密資產應被估價為 CU102，即便實際上僅支付 CU100。本案例中，個體極有可能認為評價技術與取得時點的公允價值間差異為 CU102-CU100 = CU2。
>
> 因此，在衡量時點（在此例中，當日結束之際）評價技術之輸出值將針對該差異進行調整，即衡量公允價值為 CU104-CU2 = CU102。

原始認列時點與衡量日間，歷經時間愈長，原始交易價格之攸關性愈小。然而，衡量加密資產時，個體應確保其使用之評價方法確實符合 IFRS 13 之校準規範，以提供合理之評價結果。

值得注意的是，並非所有第三方提供之鑑價報告皆會將 IFRS 13 關於校準之規範納入考量。因此當個體仰賴第三方鑑價報告時，應確保鑑價師所使用之方法論在各方面皆符合 IFRS 13 的規範，包含校準之相關規定。

此外，個體支付之交易價格也可能與衡量日持有其他單位之相同加密資產相關。

5. Disclosures

The accounting treatment of cryptographic assets and related transactions requires significant judgement and a thorough understanding of the underlying facts and circumstances, because there is no accounting standard specifically addressing the accounting for those types of asset. Therefore, there are no disclosure requirements specifically designed for cryptographic assets and related transactions.

However, that does not mean that no or limited disclosures are appropriate for cryptographic assets and related transactions. Apart from being a judgemental area, the main reason for transparency around the relevant facts and circumstances is that cryptographic assets and related transactions are a topic of significant interest for all stakeholders (especially shareholders, analysts and regulators). This becomes even more important, given that there might be different local expectations of those users.

As a result, entities should ensure that their financial statements contain a set of clear and robust disclosures. Those will include some of the applicable generic disclosures required by IFRS, depending on the accounting classification by issuer/holder.

The following table summarises some of the more common topics for disclosure. However, this list is not exhaustive and will need to be tailored to develop disclosures that are specific to the entity and the relevant facts and circumstances:

Topic	Examples
Involvement with cryptographic assets and related transactions, including purpose for transactions	• Description of the cryptographic assets held, including their characteristics • Business model for holding cryptographic assets • Details of ICO transactions undertaken (cash and non-cash transactions) • Success of project, especially with regard to the promises included in ICO whitepaper
Accounting policies, and judgements made in applying them (IAS 1 paras 117(b), 122)	• Accounting standard applied to cryptographic assets held • Measurement basis • On/off balance sheet treatment of cryptographic assets held for third parties, including rationale • Recognition of ICO proceeds (especially nature of credit in an ICO issuance) • Possible future regulatory developments, including changes in accounting standards and/or interpretations
Sources of estimation uncertainty (IAS 1 para 125)	• Non-level 1 fair values • Pattern of recognition of deferred revenue
Events after the reporting period (IAS 10)	• Major change in the value of cryptographic assets held • Achieving/not achieving an ICO or other significant milestones (such as key performance obligations)
Fair value of cryptographic assets (IFRS 13)	• Fair value of cryptographic assets held, especially that are not measured at fair value

5. 揭露

目前沒有針對加密資產的會計準則，此類資產及相關交易的會計處理需要仰賴判斷及對交易事實和情況的透徹理解。因此，亦沒有特別為加密資產和相關交易所制定的揭露要求。

然而，這並不代表加密資產和相關交易得不揭露或可有限度的揭露。除了因為加密資產和相關交易屬於需要判斷的範疇外，相關的交易事實和情況須透明化的主要原因是財務報表利害關係人對於此議題有極大興趣(尤其是股東，分析師和監管機構)。鑑於這些使用者可能存在不同的期望，使得揭露變得更加重要。

因此，個體應確保其財務報表包含明確且足夠充分的揭露資訊。這些將包括一些 IFRS 中適用的一般揭露，並視發行方/持有者之會計分類而定。

下表總結了一些揭露常見的主題。但這不是一份完整且詳盡的清單，仍須針對個體和相關事實及情況考量適當的揭露：

主題	範例
所參與之加密資產和相關交易，包括交易目的	• 描述所持有的加密資產，包括其特性 • 持有加密資產的經營模式 • ICO 交易的詳細資訊(現金和非現金交易) • 成功的項目，特別是 ICO 白皮書中所承諾的項目
所應用之會計政策和判斷 (IAS 1 第 117 段(b); IAS 1 第 122 段)	• 適用於所持有之加密資產之會計準則 • 衡量基礎 • 為第三方持有之加密資產的表內/表外會計處理，包括其理由 • 認列 ICO 價款(特別是 ICO 發行之貸方性質) • 未來監管的發展趨勢，包括會計準則或解釋的變動
估計不確定性的來源 (IAS 1 第 125 段)	• 非第 1 等級公允價值 • 認列遞延收入的模式
報導期間後事項 (IAS 10)	• 持有的加密資產之價值發生重大變動 • 達成/未達成 ICO 或其他重要里程碑(如關鍵履約義務)
加密資產之公允價值(IFRS 13)	• 持有的加密資產之公允價值，特別是非以公允價值衡量者

	• Level of the fair value hierarchy within which the fair value measurements are categorised • Description of the valuation techniques and inputs used to determine fair value
Risks and how they are managed (IFRS 7 – although not necessarily applicable – could be useful guidance)	• Nature and extent of risks arising from the holding of cryptographic assets • Risk management process, strategies and actions

Since this is an evolving area of accounting, entities should closely monitor the developments, so that they can align their disclosures with market expectations and requirements.

	• 被分類於哪一等級之公允價值層級 • 說明估計公允價值的技術和輸入值
風險及其管理方式 (IFRS 7 - 雖然不一定適用 - 可能是有用的指引)	• 持有加密資產所產生的風險性質和程度 • 風險管理流程、策略和行動

由於這是一個不斷變化的會計領域，個體應密切關注未來發展，才能將其揭露與市場預期和要求保持一致。

Questions?

PwC clients who have questions about this *In depth* should contact their engagement partner.

Authored by:

Ryan Leopold
Partner – Canada
Email: ryan.e.leopold@pwc.com

Pascal Vollmann
Director – Canada
Email: vollmann.pascal@pwc.com

Contributors:

Scott Bandura
Partner – Canada
Email: scott.bandura@pwc.com

Yvonne Kam
Partner – Hong Kong
Email: yvonne.kam@cn.pwc.com

Gary Berchowitz
Partner – South Africa
Email: gary.berchowitz@pwc.com

Elizabeth Paul
Partner – USA
Email: elizabeth.paul@pwc.com

Thomas Campione
Senior Manager – Luxembourg
Email: thomas.campione@lu.pwc.com

Anuj Puri
Director – Hong Kong
Email: anuj.puri@hk.pwc.com

Tony de Bell
Partner – United Kingdom
Email: tony.m.debell@pwc.com

Sandra Thompson
Partner – United Kingdom
Email: sandra.j.thompson@pwc.com

Ilaria Evans
Director – United Kingdom
Email: ilaria.evans@uk.pwc.com

Didrik Thrane-Nielsen
Partner – Norway
Email: didrik.thrane-nielsen@pwc.com

Yoonki Karen Hong
Partner – South Korea
Email: ykhong@samil.com

Rika Suzuki
Partner – Japan
Email: rika.suzuki@pwc.com

Kevin C. Jackson
Director – USA
Email: kevin.c.jackson@pwc.com

Stuart Wills
Manager – South Africa
Email: stuart.wills@pwc.com

Bronte MH Jim
Senior Manager – Hong Kong
Email: bronte.mh.jim@hk.pwc.com

Katie Woods
Director – United Kingdom
Email: katie.woods@pwc.com

聯絡我們

金融產業服務

郭柏如
資誠聯合會計師事務所
副營運長
ellen.kuo@tw.pwc.com
（02) 2729-6666 分機 26717

陳麗媛
資誠聯合會計師事務所
執業會計師
jessie.chen@tw.pwc.com
(02) 2729-6666 分機 25360

梁鴻烈
普華商務法律事務所
合夥律師
hung-lieh.liang@tw.pwc.com
(02) 2729-6666 分機 25350

會計專業諮詢服務

謝智政
資誠聯合會計師事務所
執業會計師
chih-cheng.hsieh@tw.pwc.com
(02) 2729-6666 分機 25215

王忻悌
資誠聯合會計師事務所
副總經理
hsinty.wang@tw.pwc.com
（02) 2729-6666 分機 21635

楊蘭曲
資誠聯合會計師事務所
協理
lan-chu.yang@tw.pwc.com
(02) 2729-6666 分機 23162