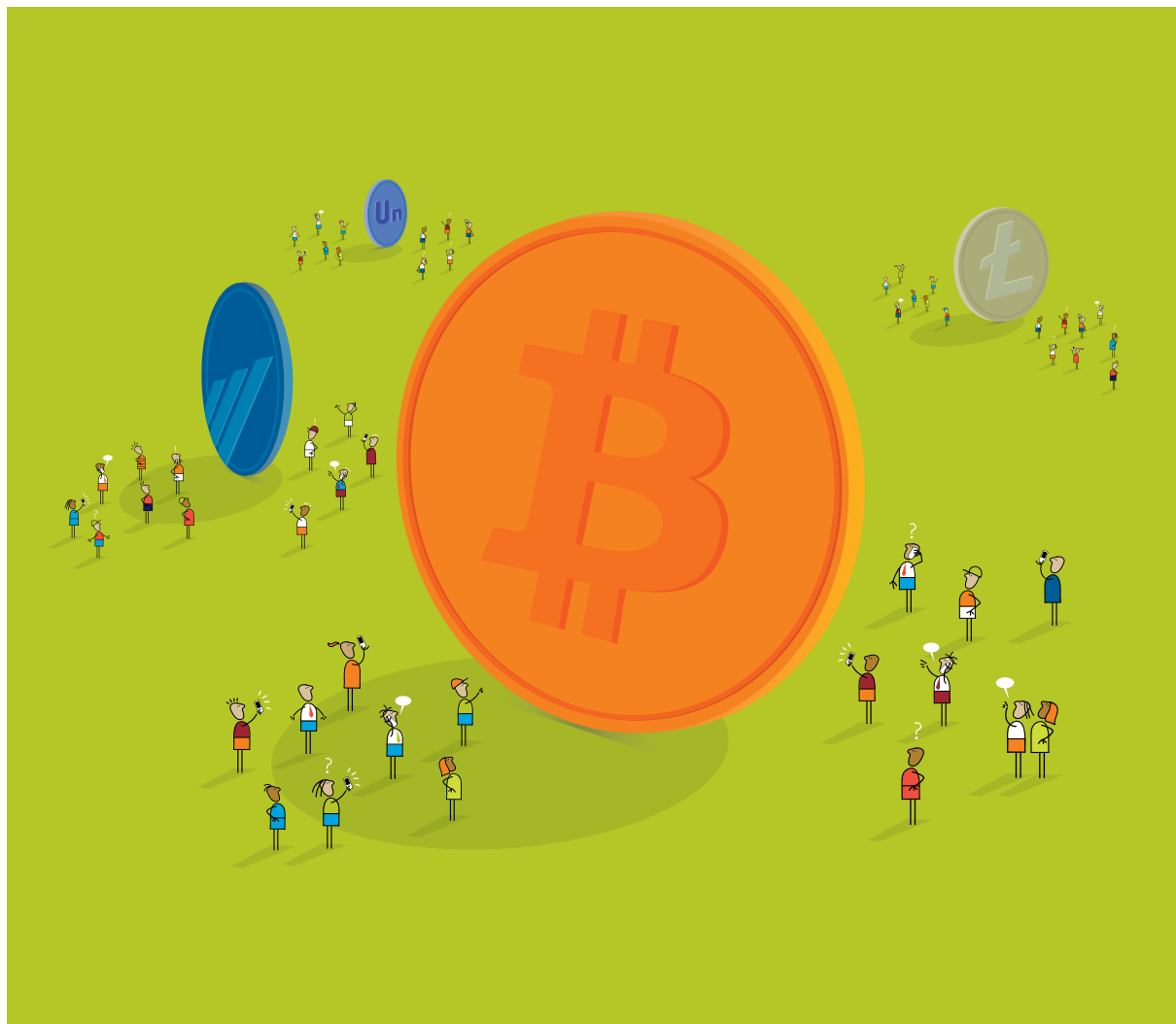

DIGITAL CURRENCIES: WHERE TO FROM HERE?



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future [inc] FOREWORD

A PLAN FOR AUSTRALIA + NEW ZEALAND'S PROSPERITY

Since the first coins were used as money in Lydia, Asia Minor in 640 BC, each chapter in our history has spurred a renaissance of money or methods of exchange – from cattle, to cowrie shells, from silver ingots to coins, from barter to Bitcoins.

Large scale technological innovation is one such chapter, which coupled with changes in retail and consumer expectations, has caused a seismic shift in the options available to consumers with which to pay for goods and services. Digital currencies are one payment option, the most widely recognised of which is Bitcoin. This exciting and potentially revolutionary currency has been welcomed by many, but its wholesale acceptance by the majority hinges on some fundamental questions being answered. How do we regulate digital currencies? What are the tax implications? Do we trust the system? Can they really be used in every day commerce, or are they the preserve of social networks, on-line gaming, and entrepreneurial on-line business?

Modern commerce hinges largely on centrally controlling the money supply. Bitcoin is de-centralised. This challenges our long held belief and faith in what money is and how it works. It's a psychological as well as economic challenge for many potential adopters.

This latest paper in **future[inc]** outlines the current state of play for digital currencies. As we have found, it's been challenging because this market turns, quite literally, on a sixpence.

However, one thing is clear. Whilst the mainstream uptake of digital currencies is a way off, the reality is that they are here to stay. We need to start thinking now about how they might transform the foundations of our financial system as we know it.

Enjoy the read.

Fred Hutchings

President,
Chartered Accountants ANZ



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AUSTRALIA + NEW ZEALAND

charteredaccountantsanz.com/futureinc



Virtual currencies, perhaps most notably Bitcoin, have captured the imagination of some, struck fear among others, and confused the heck out of many of us...

Fundamental questions remain about what a virtual currency actually is, how it should be treated, and what the future holds.

Some proponents believe virtual currencies can prove valuable to those in developing countries without access to stable financial systems. Others believe it could prove to be a next generation payment system for retailers both online and in the real world.

At the same time, however, virtual currencies can be an effective tool for those looking to launder money, traffic illegal drugs ...

While virtual currencies have seen increased attention from regulators, law enforcement, investors, and entrepreneurs in recent months, **THERE ARE STILL MANY UNANSWERED QUESTIONS AND UNRESOLVED ISSUES.**

US SENATOR THOMAS R. CARPER¹
NOVEMBER 2013

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SUMMARY

THE RISE OF BITCOIN

- Bitcoin, the most popular of the digital currencies, was created in 2008 with the purpose of providing an alternative, instantaneous and safe payment system.
- Since that time, Bitcoins have grown significantly in scope and function. At the start of February 2015 the Bitcoin market capitalisation exceeded \$US3 billion and will continue to grow as more bitcoins are created digitally.²
- Additionally, tens of thousands of retailers have started using Bitcoin in order to save money on payment and processing fees.
- As a result, nearly \$US300 million has been invested in Bitcoin-related businesses such as clearing houses and processing businesses.

RETAIL

- Bitcoin carries a great number of benefits for retailers. Safer, faster and cheaper processing can help small businesses enter new markets and scale at rates previously unavailable.
- However, Bitcoins are still in their infancy. The collapse of trading houses including Mt. Gox is evidence of this, and due to its volatility, the stability of the currency can not yet be relied upon by retailers.
- The prospects for Bitcoin as a mainstream consumer technology are large and indeed, working in practice. Given the tentative and hesitant reactions from retailers, banks and the general public, despite recent advancements, it may be a significant amount of time before Bitcoin is adopted by the mainstream as a legitimate currency alternative.

ECONOMY

- Digital currencies are similar in nature to other third party services such as credit cards and PayPal and at this point in time are complementary to traditional currencies.
- Traditional currency must meet three criteria: it is a store of value, a medium of exchange, and a unit of account. Currently, Bitcoin can serve as a beneficial medium of exchange and within the Bitcoin economy it is a unit of account. However, given the large fluctuations in Bitcoin prices, Bitcoin falls short when it comes to being a good store of value.
- Due to the current shortcomings of digital currency structures, Bitcoins do not pose a material risk to global monetary stability. However, central banks have signalled that they will continue to monitor and assess future risks that digital currencies may cause to the economic environment.

GOVERNMENT

- Governments tend to be concerned about four major issues around digital currencies – monetary policy and banking regulation, consumer protection, combatting organised crime and terrorist financing activities, and government revenues (i.e. tax).
- Bitcoin's decentralised and anonymous nature means that it is difficult to protect the public against potentially exploitive behaviour via traditional consumer protection mechanisms. Consumers have experienced significant losses – the collapse of the Mt. Gox exchange is a well-known example.
- As the Bitcoin system is decentralised, it is unlikely that any one jurisdiction will have the ability to impose comprehensive regulation. Notwithstanding this, the explosion of businesses supporting the use, storage and trade of Bitcoins should be subject to regulation like other operations. With any application of regulation it is important to consider the impact on legitimate businesses – any regulation should be balanced by the burden it creates.

ACCOUNTING AND TAX

- Addressing the issues posed by Bitcoin can help the accounting profession deal with the wider changes produced by digital disruption. There are challenges and opportunities for accounting and assurance.
- One of the chief concerns in relation to Bitcoin, that owners of the currency are not personally identified or traceable, is counterweighted by the transparency of the distributed ledger, which makes public all transactions.
- A range of tax issues arise in relation to Bitcoins. Although currently the issues are confined to relatively small sectors of the market, with the increasing prevalence of the virtual currency, the subtleties of Bitcoin taxation are likely to become serious issues for consideration by both tax authorities and taxpayers.

THE FUTURE

- The lack of support from major banking institutions means many Bitcoin deposit institutions are not supported by traditional insurance schemes or government regulation. This may deter many consumers.
- However, adoption of Bitcoin by speculators and businesses continues to rise, particularly in the business to business space. The issues this raises should compel many countries to adopt new regulation regarding digital currencies. Inquiries, such as those being conducted in the United States, the United Kingdom and Australia, can be expected to occur on an increasing basis.
- As more jurisdictions host inquiries into digital currencies, a clearer picture of global adoption will emerge. Digital currencies harbour an immense amount of power, with inherent technology that could transform the foundations of the financial system as we currently know it.

INTRODUCTION: THE RENAISSANCE OF MONEY

MONEY IS IN THE MIDST OF REVOLUTION

The advent of online commerce in the 1990s was the beginning of a permanent shift in the mainstream consumer mindset. The popularity of paying online for goods has given way to the more advanced digital transformations of today – an age when access is valued over ownership, and traditional forms of distribution are breaking down, giving rise to on-demand services.

Mobile payments are a significant part of this change, and are set to spark a massive shift in the physical act of paying for goods. The pervasiveness of PayPal and other online systems has also allowed consumers to become used to the idea of putting their money into the hands of a virtual bank.

Complete virtual currency is the next step in that journey. Just as consumers have shifted to instant access for entertainment and other services, virtual currency has also developed to fit this 'on-demand' approach.

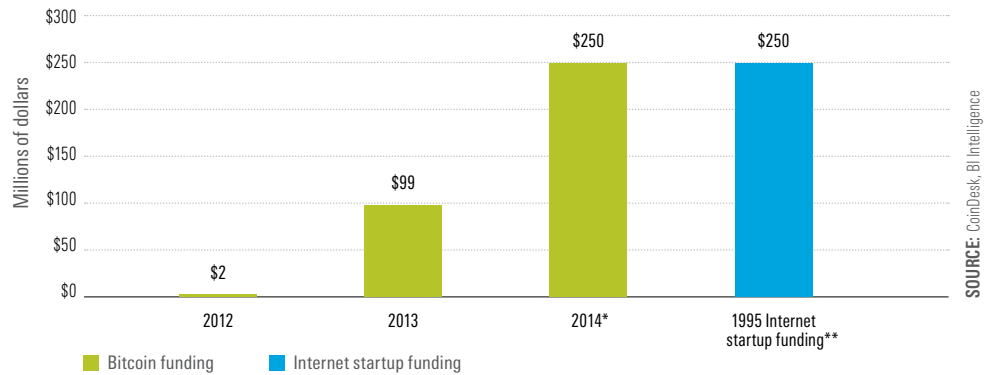
Since its creation in 2008, Bitcoin has risen from a hobby among internet enthusiasts to a powerful force, demanding response from business and government. It is by far the most widely circulated and scrutinised digital currency – and the source of the original experiment in purely digital money.

What began as a theoretical white paper from an anonymous source has now birthed hundreds of millions in investment for Bitcoin start-ups, parliamentary inquiries and a rethinking of how global money is processed.

The benefits of Bitcoin are numerous: near instantaneous transfer, a large reduction in transaction and interchange fees, higher security and it's relative ease of use.

The history of Bitcoin and other digital currencies has been characterised by both entrepreneurial success and innovation as well as steadfast resistance. This resistance has not been helped by recent investigations conducted by the American FBI resulting in the shut down of criminal trading rings using

FIGURE 1: GLOBAL BITCOIN STARTUP FUNDING



* Runrate as of June 2014 for global Bitcoin investments ** Early stage U.S. internet startup funding

SOURCE: CoinDesk, BI Intelligence

Bitcoin as currency, or by announcements from various international regulatory agencies. Both which have had a significant negative impact on the Bitcoin price.

Nevertheless, the total volume and value of Bitcoins continues to increase – as of February 2015 the total market value of Bitcoin currency reached \$US3.8 billion dropping from \$US5.8 billion in November 2014.³

In Silicon Valley and around the world, numerous Bitcoin entrepreneurs and businesses have been established. From a Bitcoin-backed debit card in Australia, to a bank in the United States which now insures Bitcoin deposits, investment has been growing.

In 2014 PayPal announced it will accept Bitcoins processed through select third parties. Other financial institutions such as Square, a POS software company, will now choose to accept Bitcoins as well.

Venture capital investment in Bitcoin businesses is on track to reach \$US300 million for 2014.

The implications of Bitcoin on the traditional understanding of privacy and the existing banking system are significant.

As the original 'manifesto' published by Bitcoin creator Satoshi Nakamoto⁴ describes, 'Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments'.

A decentralised, secure and efficient system would eradicate tens of billions in processing fees if used for large business to business transactions. Retailers could pass savings from reduced money transaction fees to customers – and could divert traditional currency exchange fees and services completely.

This is not without disadvantage for consumers. A deregulated system contains several challenges for consumers, and is more easily open to exploitation.

The full story of digital currencies has not yet been told. But the investment, attention and regulatory activity surrounding them demands attention and careful thought. 'Digital Currencies: Where To From Here?' aims to serve as a starting point for this important debate.

While the modern history of digital currencies appears to extend only so far back as 2008, when the manifesto for Bitcoin originally appeared online, it is actually rooted in many elements far older and more established within the retail space.

01 FROM DIGITS TO DOLLARS: THE RISE OF BITCOIN

Since 1981, when American Airlines introduced the concept of the 'frequent flyer', the retail industry has been closely aligned with the loyalty program. Colloquy's 2015 U.S loyalty census found that loyalty and reward program memberships increased by 25% between 2012 and 2014. The census found that there are now in excess of 3.3 billion loyalty memberships in the United States alone.

As a result, consumers are well adjusted to exchanging virtual 'money' for goods and services.

Indeed consumers are targeted as the main beneficiary of Bitcoins in the original white paper describing their formation. In 2008, a person or group under the pseudonym 'Satoshi Nakamoto' posted a research paper online outlining several weaknesses of modern financial systems – 'merchants must be wary of their customers, hassling them for more information than they would otherwise need'.

'A certain percentage of fraud is accepted as unavoidable. These costs and payment uncertainties can be avoided in person by using physical currency, but no mechanism exists to make payments over a communications channel without a trusted party.'⁵

Thus, the basis of Bitcoin and digital currency, as described in the white paper, is to provide:

'An electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party.'

'Transactions that are computationally impractical to reverse would protect sellers from fraud, and routine escrow mechanisms could easily be implemented to protect buyers.'

The Bitcoin system is comprised of three key elements. These elements work together and impact each other, forming a circle through which new Bitcoins are created, transactions are measured and Bitcoin commerce continues.

THE THREE ELEMENTS OF THE BITCOIN INFRASTRUCTURE

BUYERS

When a buyer wants to use Bitcoins in order to purchase a product, the transaction takes place just like it would with a traditional currency. The customer enters the details which enable them to use Bitcoins from their virtual wallet, executing the transaction.

From the consumer's perspective, little is different than using traditional currency, or another form of payment, such as PayPal.

The difference all occurs in the back-end.

MINERS

When the buyer initiates a purchase with Bitcoins, this transaction is then lodged and recorded. The Bitcoin algorithm keeps track of every single purchase ever made with Bitcoins.

Traditional accounting systems work on the 'two ledger' basis. That is, transactions, both ingoing and outgoing, are measured on a ledger recorded by an individual, or an organisation.

However, Bitcoins, being a digital currency, allow for a 'three ledger' system. When one person or organisation sends Bitcoins to another person or organisation, that transaction is automatically processed and archived – no person is involved in this process.

So when the buyer initiates a transaction, that transaction is added to a digital 'block' – a group of multiple Bitcoin transactions that are taking place roughly at the same time. They are grouped in order to make them easier to process.

Miners are needed in order to process these blocks. Miners are individuals or groups of people working together, using specialised hardware, to process the information contained in these transaction blocks.

Originally, these transaction blocks were very easy to decrypt because of the small number of transactions taking place.

But as Bitcoin volume has increased, so has the computing power necessary for these blocks to be decrypted.

Once a miner has used their hardware to decrypt a block, three things occur:

1. The transaction is then 'confirmed', similar to the way a credit card transaction is confirmed in a retail store.
2. The record of that transaction is then stored in the 'block chain'. This is a record of every Bitcoin transaction ever made, entirely searchable by the public.
3. The miner is rewarded with Bitcoins for completing a 'block' of transactions.

RECIPIENTS

Once the transaction has been approved, the recipient – whether it be an individual or a business – receives the Bitcoins.

The benefit of this system is speed – it is faster than the current banking system and when the Bitcoins are sent, they are received relatively instantaneously. There are no chargebacks or cancellations.

HOW DO BITCOINS CREATE VALUE?

Bitcoins do not create value in and of themselves or carry inherent cost. The value of Bitcoins is created through scarcity. As each 'block' is processed, fewer Bitcoins are created, thus creating an artificial shortage, and subsequently, value. Once all Bitcoins are mined number of Bitcoins in existence will not reach a number higher than 21 million.

At this point, some Bitcoin proponents suggest the value of the currency will be sustained through small transaction fees. However, as this is not anticipated to occur for another 100 years, Bitcoin advocates suggest there is more time to create a system to sustain value.

THE BITCOIN LIFECYCLE

- Customer pays for product on a website using Bitcoins
- This transaction is electronically placed in a 'block', awaiting processing
- That block is processed by a miner, using hardware to process transactions
- The transaction is approved, or 'confirmed'
- The miner is rewarded with Bitcoins for processing the block.

MOVING ON

From a small base, Bitcoin's influence has grown exponentially. As of February 2015, there were 13.8 million Bitcoins in trade, worth approximately \$US220 each to create a total market value of more than \$US3.8 billion.

The motivations for enthusiasts to adopt Bitcoin as a currency are clear: Cost savings for merchants (reduced or eliminated chargeback fees, assessment fees and interchange fees), higher benchmarks of security for individuals and ease of the actual spending process – consumers aren't mandated to provide personal details, unlike the current system.

Proponents also argue the eventual stabilisation of the currency will increase as more countries adopt Bitcoin as legitimate methods of payment and form tax policies and rulings. Currently many countries do not have an official position on Bitcoin, and as such international trade and the laws therein remain unclear.

Trading volume has increased continuously since the currency's inception – although the currency's price has been volatile. Bitcoins hit a price peak of just over \$US1100 in 2013, to approximately \$US350 in late 2014. Dramatic price differences are often measured in a single day due to an array of regulatory decisions from jurisdictions still coming to terms with the existence of virtual currency.

As a result, nations have their own and often contradictory interpretations of whether Bitcoin represents money or property. Both Australia and the United States, for instance, view Bitcoin as property and liable to capital gains tax. In Canada, Bitcoin is subject to the same tax laws as barter transactions.

Speculation and landmark decisions from government and banking authorities have also had significant effects on prices. In 2013, the FBI raided the Silk Road black market website – which primarily accepted Bitcoins for purchasing illegal narcotics, weapons and other materials – sending the global Bitcoin price down a substantial amount.

Decisions from various central banks, including an announcement from China in December 2013 that it would place more stringent regulations on Bitcoin transactions, has also negatively influenced Bitcoin prices.

Additionally, Bitcoin trading exchanges have been the subject of intense scrutiny from both consumers and regulators alike – the closure of the Mt. Gox trading exchange in February 2014 has prompted intense speculation as to the future of Bitcoin and the necessity of insurance on any Bitcoin deposits held by consumers, which proponents say is crucial for mainstream adoption.

**OCT**

The Bitcoin white paper is published through a mailing list, referencing Bitcoin.org

OCT

The first exchange rate for Bitcoins is established.

JUL

The Mt. Gox currency exchange market opens, which before its closure traded at times 90% of Bitcoin transactions in the United States.

OCT

The inter-governmental group, The Financial Action Task Force, issues a warning about the possibility of terrorist groups using Bitcoins to finance operations.

NOV

Bitcoin market capitalisation reaches \$US1m.

FEB

A member of an Australian Bitcoin forum offers to sell a 1984 Celica Supra for Bitcoins.

JUN

Bitcoin reaches another record price of \$US31.91, with a market capitalisation of \$US206m. It plunges to \$US10 just four days later. Two weeks later, the Mt. Gox trading market suffers a major breach and shuts down for seven days. 60,000 accounts had their details leaked.

MAY

An FBI report on Bitcoins and virtual currencies – and their subsequent risk in allowing illicit activity to go untraced – is revealed online.

JUL

A Bitcoin start incubator is launched.

NOV

Web publishing and hosting platform Wordpress starts accepting Bitcoins.

MAR

Prices reach a new high at \$US74.90. Days later the market cap passes \$US1bn.

MAY

The first Bitcoin ATM is unveiled. The United States Department of Homeland Security seizes \$US2.9m account belonging to a subsidiary of Mt. Gox for failing to register in the proper business category.

JUL

Tyler and Cameron Winklevoss start the Bitcoin Trust, an Exchange Traded Fund designed for investors to gain exposure to Bitcoin.

OCT

The Bitcoin price drops from \$US139 to \$US109 after the FBI shuts down trading site Silk Road.

NOV

A US Senate hearing on Bitcoin begins, sending the price above \$US1,000 to \$US1,242.

DEC

China's central bank bars Bitcoin transactions, causing the price to drop 20%.

JAN

Coinbase raised \$US75 million in Series C financing, the largest funding round to date for a Bitcoin company.

Three of the world's most respected financial institutions – The New York Stock Exchange, a subsidiary of USAA, and BBVA (a large multinational bank) also invested in the round alongside personal investments from former Citigroup CEO Vikram Pandit and former Thomson Reuters CEO Tom Glocer.

THE VISUAL HISTORY OF BITCOIN

Although Bitcoin is not yet a decade old, the retail and consumer markets have been an inherent part of its creation.

02 RETAIL, CONSUMERS AND DIGITAL CURRENCIES – WHERE ARE WE GOING?

In the original white paper outlining Bitcoin, the system was created with mass adoption in mind:

‘Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model.’

The opportunity for an instantaneous and relatively secure online payment system could fill this gap – providing cheap or free transactions and a secure payment environment would reduce costs significantly. Nicholas Tomaino, an executive at Bitcoin processing business Coinbase, argued in 2014 that accepting virtual currencies could save retailers giving up 3–5% of revenue to credit and debit card fees.⁶

The amount of mobile and digital upheaval among retailers is on the rise – in the United States, a barometer for the health of ecommerce, the percentage of total online sales as a proportion of total retail sales has reached nearly 6.8% as of the third quarter of 2014. In 2005 this number was at just 2.4%.⁷

Retailers also have no aversion to alternative forms of payment, especially online. The arrival of contactless payment systems and mobile payments (e.g. Apple Pay) has been welcomed by many. These options are on the rise in Australia and New Zealand, and South-East Asia. In Japan, for example, mobile payment systems have been popular since the early 2000s, when electronic payments were made available through the nation’s transit system.

As a form of currency, however, Bitcoins represent both opportunity and challenge for retailers. In the short-term Bitcoin volatility and the staggered regulatory responses make the road to mainstream Bitcoin adoption unclear.

For example, the Australian Taxation Office interpretation of Bitcoin classes them as an 'intangible asset', rather than as 'money' – meaning businesses accepting Bitcoins will need to charge Goods and Services Tax (GST) on their sales to consumers, but consumers will also need to pay GST on Bitcoin when they purchase it. This raises the question as to whether unregistered entities, and individuals, should bear the GST cost in acquiring Bitcoins. (Further information about the tax treatment of Bitcoins is in section 6).

CURRENT STATE OF THE MARKET

The rise of Bitcoin saw numerous small retailers accept Bitcoins as a novelty, more for the possible media attention rather than for any particular financial gain.

As Bitcoins have risen in value, and the number of Bitcoin users has increased, so has the number of retailers accepting them as currency. Currently, over one million users have control over a substantial amount of Bitcoins, with another one million holding insignificantly small amounts. According to Coinbase, over 36,000 businesses now accept Bitcoins as legitimate currency using their digital wallet alone.⁹

Currently several major retailers and websites including Expedia, OKCupid and Wordpress accept Bitcoins.

In effect, however, the total number of retailers whose stock is able to be purchased with Bitcoins is much higher. Bitcoins can be used to purchase gift cards from a number of providers, which can then be spent at the respective retailers. Gyft, an app through which users can buy gift cards for more than 200 retailers, such as Victoria's Secret, Target and BestBuy, accepts Bitcoins – and provides a 'points' incentive for customers. Electronic car manufacturer Tesla, which has gained notoriety for its direct selling model bypassing traditional car dealers, accepts Bitcoins for transactions.

Third party websites such as Bitfash allows users to buy fashion items at sites including ASOS and Zara using Bitcoin.

In January 2014, Overstock.com became the first major retailer to start accepting bitcoin directly as payments for its goods. CEO Patrick Byrne claims the opportunity to save money by eliminating thousands in processing fees is enormous. As at December 2014, Overstock reported that it was on track to record Bitcoin sales of \$US3m for the 2014 year.⁹

'If you're taking cards from a place like Russia, there is a monster surcharge tacked on because so much credit card fraud comes from there,' says Byrne.¹⁰

In total, tens of thousands of businesses accept the currency, and more are adding themselves to a list with the help of third-party transaction houses such as Coinbase, which has 2.0 million users as of February 2015¹¹ and corporate clients including Dell, Overstock and Expedia.

Retailers in Australia and New Zealand have started accepting Bitcoins, and a number of start-ups have focused on alternative methods of payment. Coinjar, an initially Australian-based processing company, has developed an EFTPOS card for Bitcoin payments, removing the need for retailers to accept a different form of payment altogether – an attempt to shorten the gap between consumers and alternate currency, which at first can often be uncomfortable to use.

Some Bitcoin businesses have already looked to the sharemarket for validation. The Melbourne-based Bitcoin Group, which manages an arbitrage fund, announced plans in October 2014 to list on the Australian Securities Exchange with the aim of raising \$20 million. The company's founder, Sam Lee, told the Australian Financial Review in 2014 he hoped the listing would 'legitimise' the industry.

THE THREE TYPES OF BITCOIN BUSINESS

BITCOIN EXCHANGES

These businesses act as clearing houses and trading floors for Bitcoins, allowing users to swap Bitcoins for other currencies. The largest of these was Mt. Gox before its collapse in early 2014.

BITCOIN WALLETS

These businesses allow users to store their Bitcoins online. While many of these businesses have been small and rudimentary, they are becoming more sophisticated. Circle, a recent business launched in the United States with \$US26 million in funding, is the first Bitcoin wallet to offer insurance for Bitcoin deposits – the business has a partnership with the Marsh brokerage firm.

PAYMENT PROCESSORS

Businesses such as Coinjar fit into this category, helping third-party retailers accept and process Bitcoins for payments for retail goods.

BENEFITS

The benefits of businesses moving to a Bitcoin system can be numerous:

LOWER TRANSACTION FEES

When accepting bitcoins, the traditional cost of accepting payment and transferring funds evaporates. For instance, Coinbase charges a 1% flat per-transaction fee to convert Bitcoins into local currency – after the first \$US1 million in merchant processing, and carries no setup or termination fees.

INSTANTANEOUS TRANSFER

Bitcoins are processed immediately. There are no delays due to banking transfers and other traditional processing roadblocks. This is a key incentive for many small businesses, the majority of which claim cashflow to be one of their biggest problems.

While Bitcoins have been used by individuals and a growing number of Bitcoin enthusiasts, the fact that Bitcoin transactions can be settled relatively instantly means that there is a greater possibility for their mainstream use among business-to-business transactions. Despite this some businesses may demur at the transaction being searchable through the Block Chain, and prefer a more private form of payment.

INTERNATIONAL COMPETITIVENESS

Many small businesses struggle to compete internationally due to the costs associated with accepting currencies and processing fees. Bitcoin essentially eliminates these concerns by operating on a purely digital format.

FRAUD PREVENTION AND REDUCED LIABILITY

While not completely fool proof, Bitcoins offer an element of fraud protection not offered by the 'traditional' monetary system. The use of Bitcoins do not require businesses to take personal information from customers, so significantly reducing the potential liability associated with the misuse of customer information through it falling into the wrong hands.

This may also provide a challenge for businesses that rely on consumers' personal information for marketing purposes.

BENEFITS OF BUSINESSES MOVING TO A BITCOIN SYSTEM include lower transaction fees, instantaneous transfer, international competitiveness, fraud prevention and reduced liability.

CONSUMERS

While low barriers to entry mean retailers may be willing to accept Bitcoins as a form of payment, consumers harbour a different set of hesitations. Overall consumers are distrustful of any new currency, and Bitcoin in particular suffers from a variety of issues.

The mainstream Bitcoin community is relatively small, although growing. Most consumers are not aware of Bitcoins and if they have heard of Bitcoins, they either do not understand how they work, or do not think that they have a need for them.

A number of consumer advocacy agencies have issued warnings for early Bitcoin adopters. In the United States, for example, the Consumer Finance Protection Bureau has outlined several key risks to consumers, including:¹²

- The significant losses associated with the collapse of the Japanese Bitcoin Exchange Mt. Gox (almost \$US400 million of customer funds were lost).
- Bitcoin transactions may not be entirely anonymous, due to the ability for IP addresses to be traced.
- Hacking is still an issue, especially as malware can infiltrate individual computers and steal details of a Bitcoin wallet as easily as taking another file – as long as it remains unencrypted.
- Although some institutions are beginning to insure Bitcoin deposits federal agencies do not typically protect Bitcoin deposits.
- As Bitcoin is relatively new and not easily understood, scams have targeted early Bitcoin users.
- Bitcoin ATMs, which appeared in several countries, do not work like traditional ATMs and reportedly charge high transaction fees.

As various reports have outlined, Bitcoin and digital currencies lack a universal infrastructure through which these various problems can be addressed. While the decentralised nature of the currency is an advantage to many consumers and is the cornerstone for key benefits, it also represents a challenge – it can elude the strict regulation seen in traditional banking systems.

At the same time, traditional banks are also wary of Bitcoin activities, with anonymity a hindrance to traditional banking facilities.

'In the United States, nearly half of consumers have heard of Bitcoins but do not trust it enough to invest, and are uncertain of its reliability.'

'The financial industry benefits greatly from disruptive technology, but security is unfortunately a bigger challenge than some new financial innovators expect.'

Tim O'Brien

Yodlee senior vice president of operations and information security¹³

03 WILL DIGITAL CURRENCIES CHANGE THE GLOBAL ECONOMY?

While the take-up of Bitcoin among consumers has not yet reached mainstream traction, the potential for savings among business to business transactions is significant. The rise of digital currencies represents the single biggest change to the modern financial system in recent decades.

In particular, the potential impact of mainstream Bitcoin adoption on the global economy is significant. Given low transaction costs and non-existent clearing fees, the financial services industry alone could be completely transformed by digital currencies.

According to a report from Goldman Sachs, the global economy could save \$US210 billion if mainstream transactions were made using digital currency.

Given this possibility, is it prudent to suggest Bitcoins could have a dramatic impact on the global economy if they continue to gain in scope, size and scale?

THE DEFINITION OF 'MONEY'

As defined by the school of monetary economics, money must meet three criteria: it is a store of value, a medium of exchange, and a unit of account.

- Money is a **store of value** in that its value fluctuates slowly over time. For example, the Australian dollar's value relative to other currencies certainly fluctuates over time, but it tends to do so very slowly so its purchasing power is more or less intact.
- Money is also a **medium of exchange** as we have agreed to accept it in exchange for goods and services.
- Money also serves as a **unit of account** as money provides a convenient and simple way for identifying value.

Economists largely define money by these three functions that it serves and not necessarily as something tangible (i.e. made of paper or metals).

How do Bitcoins fit within this definition? Bitcoin can serve as a beneficial medium of exchange – it is a way for two people to exchange value online without a third party intermediary.

However, as a store of value, Bitcoin falls short. Since its inception, the value of Bitcoins has been volatile and by nature, there is no central bank that can ease this volatility due to Bitcoin's decentralised design.

As a New Zealand Reserve Bank Deputy Governor explains:

'Large swings in the value of a Bitcoin means its purchasing power fluctuates considerably, and the finite number of Bitcoins possible mean that their scarcity value tends to make them more like speculative investment commodities than transactional payment instruments.'¹⁴

The fact that Bitcoins are thinly traded in an illiquid market is one reason for this. As at February 2015, the market capitalisation of Bitcoin was in excess of \$US 3 billion¹⁵, which when compared to many other currencies represents a relatively small market. When people hold Bitcoins for speculative purposes, the result of any one trade may impact on Bitcoin prices. It can be debated whether Bitcoins serve as a unit of account – it currently does in the Bitcoin economy but it does not have wider usage.

Controlled by a computer program, rather than a central bank, Bitcoin programming code controls the supply. The algorithm for mining Bitcoins is such that it increases at a declining rate and the number in circulation will never exceed 21 million. This constant increase of currency is similar in nature to well-known economist Milton Friedman's k-percent theorem.

As defined by the school of monetary economics, money must meet three criteria:
IT IS A STORE OF VALUE, A MEDIUM OF EXCHANGE AND A UNIT OF ACCOUNT.
 Economists largely define money by these three functions that it serves and not necessarily as something tangible (i.e. made of paper or metals).

FIGURE 2: BITCOIN MARKET PRICE (USD), 2014 – 2015

However, there is a lack of widespread acceptance of Bitcoin as a stand-in for traditional currency among various central banks:

- ‘Economies perform better when they have managed monetary policies,’ the Bank of England’s chief cashier, Chris Salmon, said at an event to discuss Bitcoin in November 2013. ‘As a result, it will never be more than an alternative [to state-backed money].’¹⁶
- In December 2013 the People’s Bank of China banned financial institutions from trading in Bitcoin, saying the government would act to prevent money laundering risks arising from use of the digital currency.
- ‘A currency has to be something everybody accepts as a medium of exchange, and its value has to be stable to some extent, its settlement has to be guaranteed... I don’t think you can say (Bitcoin) has such functions.’ – Haruhiko Kuroda, Governor of the Bank of Japan.¹⁷

- In a May 2013 report, the Reserve Bank of Australia noted Bitcoin’s ‘potential to pose a number of risks and concerns for policymakers’ however, these are ‘limited’ because it ‘has not been widely traded or adopted’.¹⁸
- ‘As the currency issuer, the Reserve Bank does not feel threatened by Bitcoin which seems to behave more like a commodity than a currency. However, I do not doubt that future digital currencies may become more realistic substitutes for cash.’
– Grant Spencer, Deputy Governor of the Reserve Bank of New Zealand.¹⁹

SO WHY THE RISE IN DIGITAL CURRENCIES?

Bitcoin is not pegged against any currency or precious metal, rather, Bitcoin markets are competitive and its value is determined by supply and demand. On the supply side, Bitcoins are created at a constant decreasing rate, which means that demand must follow this level of inflation to keep prices stable. As illustrated by the figure above, the price of Bitcoin has been very volatile.

There are **SIGNIFICANT BARRIERS** to any digital currency becoming the dominant form of money in an economy.

The limit to the number of Bitcoins that can be mined has been appealing to those that are watchful of high inflation as a result of stimulatory monetary policy of central banks, particularly in the United States, Japan, and the European Union.

However, due to the limited usage of Bitcoins in Australia and New Zealand to date, Australians and New Zealanders would have to start using the digital currency in far larger volumes before any real threat could materialise. Therefore, the risks at present to the Australian and New Zealand payments system appear to be limited.

FUTURE IMPLICATIONS OF BITCOIN

The future path of the money supply of Bitcoins is pre-determined and finite by design. By contrast, traditional currencies are backed by a central bank and money supply can change to counteract inflationary and deflationary pressures on prices.

This is because the primary role of central banks is to manage inflation through monetary tools. Central banks favour low but positive inflation for a reason – wages are considered ‘sticky’ meaning that it is highly unlikely that firms have the ability to cut their employee’s wages, rather the opposite tends to take place. With low, positive inflation, this has the same effect as lowering wages if the pace of a worker’s wage rises slower than inflation.

In an economy with fixed money supply, as is the case in the Bitcoin system, this may harm the macroeconomy by contributing to deflation of prices of goods and services.

Once money supply reaches its maximum potential (in the case of Bitcoin, 21 million units) then prices will naturally begin to fall. This is because in the long run money supply has a direct and proportional relationship with the price level.

With a finite money supply, effectively consumers will be able to purchase more goods and services with the same amount of digital currency, inherently lowering the price of goods and services. In addition, workers with ‘sticky wages’ (most employees) become increasingly costly and as this momentum continues, unemployment may rise.

There are significant barriers to any digital currency becoming the dominant form of money in an economy. For virtual currency to retain long-term value, there must be trust in the system as well as widespread adoption. Presently, digital currencies do not play a substantial role as money in society²⁰, but the status of digital currencies as money has the potential to develop over time. However, unless traditional currencies suffered from a total collapse in confidence, there is little incentive for the prices of goods and services to move away from traditional currencies.

In addition, incidents of digital wallets being hacked can clearly affect confidence in a relatively new currency system and can ultimately lead to a decline in usage.

Although digital currencies such as Bitcoin do not currently pose a material risk to global monetary stability, central banks can be expected to continue to monitor digital currencies and assess any future risks they may cause to the economic environment.

Despite the seemingly remote chance of digital currencies forming a viable alternative to traditional currency structures, the take-up of Bitcoin has demanded a response.

04 SHOULD GOVERNMENTS REACT TO BITCOIN?

Consumers have spent millions in Bitcoin currency, and more retailers are beginning to adopt the currency when buying and selling goods online. Some early investors have also been able to earn large sums of money by speculating on Bitcoin prices. Naturally, these developments have raised concerns with governments globally.

These concerns centre on the potential impacts to four key areas:

- Monetary policy and banking regulation (this issue is discussed in section 3)
- Consumers who trade and use Bitcoin in their jurisdictions
- Efforts to counter organised crime and terrorism, and
- Revenues (taxes) received by government (this issue is discussed further in section 6).

ARE CONSUMERS ADEQUATELY PROTECTED?

Bitcoin's decentralised system offers consumers great flexibility and efficiency in the transaction process – transactions can occur at any time, any place and with little or no transaction cost. Further, payments are made without personal information directly attributable to a transaction, thus protecting against the risk of identity theft.²¹

The rising prevalence of digital currencies has caused a rapid increase in investment in Bitcoin ventures with the growth of funds management (via Bitcoin wallets), miners, exchanges and marketplaces.

While the majority of ventures are legitimate, they are largely unregulated, leaving consumers potentially open to manipulation.

CASE STUDY 1: THE WORLD'S FIRST VIRTUAL CURRENCY HEIST – SHEEP MARKETPLACE

In December 2013, approximately 96,000 Bitcoins disappeared from Sheep Marketplace, equating to US\$105.8 million. It is believed that the theft took place by hijacking Sheep Marketplace's domain name system services and routing incoming traffic through a set of servers under their control.

Security breaches, including the hacking and stealing of Bitcoin wallets, are a key risk to consumers.^{22,23} Once lost (or stolen) – Bitcoins may be lost permanently, and consumers have few if any rights of recourse.²⁴

Another risk is the high volatility in Bitcoin price (as discussed in section 3). Such volatility leaves consumers exposed to significant market losses. Moreover these losses occur in an ecosystem that is currently unregulated, meaning investors often have varying degrees and quality of information. There are not, for example, the protections afforded to investors using licenced intermediaries like the Australian Stock Exchange and New Zealand Stock Exchange.²⁵

It remains unclear whether current consumer protection mechanisms (including oversight by central banks and other financial regulatory authorities such as the Australian Securities and Investments Commission or New Zealand's Financial Market Authority) are able to provide recourse to consumers.

At the core of this issue is the appropriate definition of digital currencies. Is Bitcoin a currency? A commodity? Is it something new? Do some of the actors in the Bitcoin ecosystem provide a financial service? Currently, many governments do not consider Bitcoin to be legal tender and therefore, many of the traditional regulatory frameworks may not apply to the key actors within the Bitcoin ecosystem.

The American state of New York is one jurisdiction looking at developing new regulation to apply to Bitcoin, via a BitLicense.

THE USE OF DIGITAL CURRENCIES BY ORGANISED CRIME

A recent report by the inter-governmental Financial Action Task Force noted that Bitcoin was potentially vulnerable to money laundering and counter-terrorist financing activities, particularly given the decentralised nature of the system and when activities occur in countries where anti-money laundering and counter-terrorist financing regulation is poor.²⁶

Some jurisdictions are already using their anti-money laundering regimes as a means of regulating Bitcoin. For example, the US Financial Crimes Enforcement Network (FinCEN) has issued recent rulings to apply its anti-money laundering requirements to some digital currency service providers.²⁷

In Australia, financial intelligence agency AusTrac has made several comments regarding the future of digital currencies, and indeed in a 2012 report highlighted the lack of accountability for Bitcoins under international anti-money laundering standards.²⁸ More recently, AusTrac CEO John Schmidt has said Bitcoin is not a priority for the organisation: 'At this point in time, when you consider all of the existing threats that we face from a criminal perspective, they are not top of the list.'²⁹

Governments have been exploring the opportunity to seize and control Bitcoins as the assets of those involved in criminal activities. In the United States, law enforcement seized 30,000 Bitcoins from the Silk Road marketplace and in a first for Australia, Victoria seized several million dollars' worth of Bitcoins.³⁰ During this process, the Victorian Government sought advice on the appropriate method of transferring ownership to the State, when the original owner's identity was largely untraceable.

WHAT SHOULD GOVERNMENTS CONSIDER IN REGULATION?

With the rapid and continued growth in the use of Bitcoins, it is widely acknowledged by Bitcoin supporters that there is a need for greater public protection around the Bitcoin ecosystem.³¹ As Bitcoin is inherently decentralised, it is almost impossible to apply regulation to Bitcoin itself and the process by which it is produced.

However, the use and storage of Bitcoins could be subject to regulation and this is being investigated globally.³² With this in mind, traditional regulatory practices are unlikely to be relevant and in seeking to apply an appropriate regulatory mechanism to digital currencies, it will be important to consider the definition of a Bitcoin and the roles of users, exchangers and administrators.³³

The regulatory balance comes in developing appropriate and low cost solutions that do not overly burden legitimate business uses and do not inhibit innovation.

Just as governments are being compelled to respond to the growing number of Bitcoin businesses and transactions, so too must the accounting industry take note.

05 FROM BEANS TO BITS: THE ACCOUNTING PERSPECTIVE

The growing rate of businesses using digital currencies poses a number of significant challenges for the accounting and audit industries.

There is an increasing need to decide upon the most appropriate accounting treatment for Bitcoin participants and how sufficient and appropriate levels of assurance can be obtained by the auditors in this new virtual world.

While inaction may run the risk of the profession falling behind, some see Bitcoin as a useful prompt in helping the accounting profession deal with the wider changes being produced by digital disruption. As some sectors struggle with managing this change, accounting leaders see an opportunity to be seized.

'Bitcoin poses opportunities to strengthen and expand the scope of what accountants do and how we do it. The complex technologies required for Bitcoin demonstrate that form and content are increasingly becoming inextricably linked.

This offers the potential for accountants to develop new specializations and accounting firms to expand business advisory services. As the Bitcoin system relies more upon cryptographic proof than on human trust, its transparent processes may eventually require different audit procedures, given the complexity of the technological environment.'³⁴

Fayez Choudhury, CEO, International Federation of Accountants

THE AUSTRALIAN SECURITIES AND INVESTMENTS COMMISSION RECOGNISES THE NEED TO ACT:³⁵

'In recent years, the use of electronic payment products and the range of payment channels has grown significantly. Mobile technology advances such as 'virtual wallets' will continue to evolve and make financial transactions more convenient.

Digital currencies (e.g. Bitcoins) will test regulatory boundaries as their popularity grows.'

The challenges for accounting and audit don't stop there. They extend into client money regulations, along with anti-money laundering and counter-terrorism financing rules.

Some regulators have taken on this challenge. For instance, one of the key planks of the Australian Senate Inquiry into Bitcoin and digital currency is 'how to develop an effective regulatory system for digital currency'.

IN CHALLENGES, LIE OPPORTUNITIES

Despite uncertainties in the accounting and tax treatment of Bitcoin and other digital/crypto-currencies, enterprising firms have launched products aimed at exploiting first mover advantage. These include LibraTax, which allows individuals and small businesses to meet the latest US Inland Revenue Service regulations and file returns reporting Bitcoin transactions, along with others such as PayByCoin and Strevus. PayByCoin in particular integrates with the Coinbase Bitcoin platform.

ACCOUNTING FOR BITCOINS

Given the main purpose of Bitcoins is to facilitate trade as a method of payment, accounting for Bitcoins in a manner consistent with cash would appear a logical starting point to explore the possibilities of an appropriate accounting treatment.

However, there are two reasons why Bitcoin does not appear to satisfy the definition of 'cash and cash equivalents' as specified in the suite of accounting standards used by many of the world's leading economies, International Financial Reporting Standards (IFRS). The first reason is the lack of general level of acceptance of Bitcoins as a currency and second is the significant level of volatility observed in their value.

A key feature of any currency is its widespread direct, (i.e. without prior conversion into another currency), acceptance as a means of payment. Currently, Bitcoin has not reached the level of acceptance and activity that would be sufficient to give it currency status. This is further supported by the fact that most financial institutions, including central banks, do not formally recognise Bitcoin as a currency. The German Finance Ministry has recognised Bitcoin as legal tender but authorities in Russia, Canada, China, Taiwan and India have not.

Additionally, officials in the United States, Australia and New Zealand have not yet formally recognised Bitcoin as currency.

To meet the definition of cash equivalents in accordance with IFRS, a short-term investment must be subject to an insignificant risk of changes in value. In light of the fact that the value of Bitcoins has ranged from US \$100 to US \$1,240 during 2013 strongly suggests that the value of Bitcoins are volatile, and hence subject to a more than insignificant risk of change in value. Therefore Bitcoins fail to satisfy this arm of the IFRS cash and cash equivalents definition.

Given Bitcoins do not satisfy the IFRS definition of cash and cash equivalents, transactions in Bitcoins that do not involve converting Bitcoins into cash are not recorded in an entity's Cash Flow Statement.

A FINANCIAL ASSET?

The volatility of Bitcoin pricing has led many investors to speculate on the valuation of Bitcoins and to approach this as an investment class. This then raises the question that if Bitcoins don't meet the definition of cash and cash equivalents, should they be classified as financial instruments in accordance with IFRS – just like an equity or debt investment and be carried at fair value?

IFRS define a financial instrument as 'any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity'. Whilst Bitcoin is now highly liquid, it does not embody any contractual right to receive cash or another financial asset whatsoever. Based on this reasoning, it appears Bitcoins do not meet the classification financial instrument and cannot be classified and measured as such under IFRS.

Such treatment parallels that of gold bullion, which whilst highly liquid, (and perhaps more liquid than most financial instruments), gives no contractual right to receive cash or another financial asset, and so is therefore a commodity, not a financial asset.

TRUST IS A MUST – THE AUDITING CHALLENGES PRESENTED BY BITCOIN

One of the chief concerns in relation to Bitcoin, that owners of the currency are not personally identified or traceable, is counterweighted by the transparency of the distributed ledger, which displays all transactions to everyone.

Bitcoins are stored in a digital wallet after they are received. The wallet can be cloud-based or stored on a local system. Auditors will require the help of an IT specialist auditor to test user access controls such as password protection over the wallets.

When Bitcoins are transferred from one address to another, they are recorded in what are called 'block' which contain information about transactions. Control of the addresses could be evidenced through walk-throughs as well as Bitcoin transfers to and from an address controlled by the auditors.

Existence over Bitcoin balances held in wallets could be tested by obtaining a confirmation letter from a third party wallet custodian where the Bitcoins are stored in a wallet on the cloud. Where the Bitcoins are stored on a local system, the existence over the Bitcoins could be verified by searching the 'block' chain for the company's addresses.

Whilst the fair market value can be relatively easily ascertained from active Bitcoin exchanges such as iGot, it is the significant volatility in the value of Bitcoins that will pose a challenge to the auditor especially if the value changes dramatically after year end.

Hedging may be a realistic option to reduce this volatility but only to the extent that Bitcoin-based hedge funds or speculators are willing to accommodate their needs – so far the longest maturity is approximately four months. Beyond that timeframe Bitcoin is considered too volatile.

Bitcoins are likely to cause disruption, complexity and further areas of inconsistency between the tax regimes of different jurisdictions.

06 THE VEXING MATTER OF HOW TO TAX BITCOINS

The current trends regarding increased focus on transparency, and removing inconsistencies and opportunities for arbitrage between global tax regimes is at odds with the emergence of crypto-currencies like Bitcoins.

Taxpayers and regulators are grappling with various challenges concerning the tax treatment of the virtual currency, including:

- The character of gains and losses obtained from Bitcoin transactions;
- The timing of revenue recognition;

- Valuation and volatility issues surrounding Bitcoins;
- Whether Bitcoins constitute a 'currency' for tax purposes; and
- Transparency, compliance and information reporting.

Certain tax authorities have sought to provide some clarity in relation to these areas by introducing draft guidance. However, uncertainties and inconsistencies between jurisdictions remain.

AUSTRALIAN PERSPECTIVE

In December 2014, the Australian Taxation Office (ATO) published its final views on the Australian tax treatment of Bitcoins in the form of a guidance paper on the ATO website³⁶, four Tax Determinations (TDs) and a Goods and Services Tax Ruling (GSTR).³⁷ Broadly, the ATO's views are:

- Bitcoins do not constitute 'money', 'currency' or 'foreign currency' in the context in which those terms operate for the purposes of Australian tax law.³⁸ The flow-on implications from this determination are noted in the points that follow.
- Bitcoins are Capital Gains Tax (CGT) assets.³⁹ Accordingly, the disposal of Bitcoins to a third party may give rise to CGT consequences. For consumers who use Bitcoins for the purposes of personal use or enjoyment, the capital gain or capital loss will be disregarded to the extent that their cost base in the Bitcoins is \$10,000 or less.⁴⁰
- In the case of an isolated transaction involving the disposal of Bitcoins that is not carried out as part of a business operation, the gain will generally be ordinary income where the intention or purpose of the taxpayer in entering into the transaction was to make a profit or gain, and the transaction was entered into in carrying out a commercial transaction.
- Bitcoins, when held for the purpose of sale or exchange in the ordinary course of a business, should be treated as trading stock⁴¹ and are dealt with under the trading stock provisions of the tax legislation.⁴²
- Taxpayers in the business of mining Bitcoins or conducting Bitcoins exchange services should apply the trading stock rules to their exchanges of Bitcoins.⁴³
- In the case of an isolated transaction involving the disposal of Bitcoins that is not carried out as part of a business operation, the gain will generally be ordinary income where the intention or purpose of the taxpayer in entering into the transaction was to make a profit or gain, and the transaction was entered into in carrying out a commercial transaction.⁶
- Bitcoin received as a method of payment by any business that sells goods, will be considered to be trading stock of that business where the Bitcoin is held for the purpose of sale or exchange in the ordinary course of business.
- Bitcoins provided by an employer to an employee in relation to employment are considered to be a property 'fringe benefit', and not 'salary or wages', meaning that employers are required to apply the fringe benefits tax (FBT) provisions to the payments.⁴⁴
- Taxpayers receiving Bitcoins in exchange for goods or services as part of their businesses will need to recognise the fair market value, obtained from a 'reputable exchange', of the Bitcoins as assessable income (although 'reputable exchange' is not defined).⁴⁵
- Business purchases using Bitcoins may be deductible, based on the arm's length value of the item acquired⁴⁶ (whether this equates to the value of Bitcoins given remains to be seen).
- The transfer of Bitcoins by a Goods and Services Tax (GST) registered business gives rise to a supply for GST purposes, and can give rise to a taxable supply subject to GST under the basic rules. Input tax credits may be available on the acquisition of Bitcoins for GST registered businesses provided the normal rules are met.⁴⁷

Taxpayers and regulators are grappling with various challenges concerning the tax treatment of the virtual currency.

NEW ZEALAND PERSPECTIVE

New Zealand's Inland Revenue (IR) has not issued any formal guidance in relation to the tax treatment of crypto-currencies, which leaves uncertainty about the tax consequences for taxpayers and revenue officers in New Zealand.

There is some suggestion that Bitcoins will be treated as a foreign currency from a New Zealand tax perspective. This is based on the view that these 'transactions are assessable and deductible for income tax purposes to the same extent as other cash or credit transactions'.⁴⁸

In a recent Work Programme update, IR indicated that it would provide further guidance in this area, but the timing is yet to be determined.⁴⁹

INTERNATIONAL PERSPECTIVE

The table below summarises the current state of interpretation of Bitcoins in some other jurisdictions. More information about the tax treatment in these jurisdictions can be found in the Appendix.

FIGURE 3: COMPARISON OF TAX TREATMENT BY JURISDICTION

Jurisdiction	Are Bitcoins 'Foreign currency', 'currency' or 'money' for tax purposes?	Are Bitcoins Property/Goods/Products?	Are Bitcoins payments to employees subject to FBT or employment tax?	Are Bitcoins Financial instruments?	Does GST/VAT/Sales Tax apply to the supply of Bitcoins?	Has tax guidance around Bitcoins been released?
Australia	No	Yes (a CGT asset)	Yes	No	Yes	Yes
New Zealand	Possibly	–	–	–	–	No
United States	No	Yes	Yes	No	N/A ¹	Yes (IRS – federal)
New York	No	Yes	Yes	No	No	Yes (relating to Sales Tax)
California	No	Yes	Yes	No	Yes	Yes (relating to Sales Tax)
EU	–	–	–	–	–	No
UK	–	Yes	–	–	No	Yes
Germany	No ²	No	–	Yes (when traded)	–	Partially
Singapore	No	Yes (a product)	–	–	Yes	Yes
India	–	–	–	–	–	No
Indonesia	No ²	–	–	–	–	No
China	No ²	Yes	–	–	–	No
Japan	No ²	–	–	–	–	No
Hong Kong	No ²	–	–	–	–	No

1. The US does not have a federally mandated system, however by the IRS Notice declaring Bitcoins as property it may be possible for the states to apply sales taxes.

2. Based on Government or other announcements but the treatment may not have been confirmed/legislated.

EMERGING ISSUES

OVERALL POLICY CHALLENGES FOR REVENUE AUTHORITIES

Bitcoins give rise to a series of tax consequences and considerations that tax authorities are being compelled to address.

Due to the inherent anonymity that arises from the use of Bitcoins, it may be difficult in some circumstances for taxpayers and tax authorities to identify transactions involving Bitcoins, particularly cross-border transactions. As a consequence:

- The application of withholding tax (WHT) rules may be difficult where it is not clear if the recipient is a non-resident; and
- Whether supplies and corresponding payments should be subject to GST may be difficult to determine.

The US Inland Revenue Service has acknowledged some of these issues, for example in provisional rules requiring entities making payments in virtual currency to have a process in place to impose WHT if required.

TREATMENT OF MINING BITCOINS

Currently, there is not much guidance on the tax treatment of dividend mining. The US Inland Revenue Service expressed a view that when a taxpayer is successful in mining Bitcoins, the fair market value of the Bitcoins, as at the date of receipt of the Bitcoins, is to be included in that taxpayer's gross income, but questions may remain around the date of 'receipt'.⁵⁰ For example, are Bitcoins received once successfully mined, or when the Bitcoins are actually credited to the recipient's account? The ATO's position in terms of taxation of Bitcoins received from mining is not clear.

Other questions around Bitcoin mining income may include the country of source of the mining activity income and how this income will be identified in practice by revenue authorities.

CROSS-BORDER ASYMMETRY

If differences continue to emerge in the tax treatment of Bitcoins between jurisdictions, there may be the prospect of such differences being exploited (for example, a Bitcoin related gain in one jurisdiction being treated differently (such as a capital gain) to the corresponding loss in another jurisdiction (such as a deductible "revenue" loss). Different treatment across jurisdictions also results in unnecessary uncertainty and a heavier compliance burden for taxpayers. Ideally, a consistent approach across jurisdictions should be developed to mitigate asymmetry and uncertainty.

HEDGING BITCOIN RISK

As Bitcoins become increasingly popular, the demand for instruments to hedge the risk of volatility in the pricing of Bitcoins is also expected to increase. For example, in the US, TeraExchange (an entity that recently launched the first and only US regulated trading platform for swap contracts with Bitcoins) now offers a USD/Bitcoin swap. Questions will arise regarding the tax treatment of Bitcoin hedges. At this stage, there has been little interpretive material issued on the matter.

A range of tax issues arise in relation to Bitcoins. Although currently the issues are relatively confined to small sectors of the market, with the increasing prevalence of the virtual currency, the subtleties of taxation of Bitcoins are likely to become serious issues for tax authorities and taxpayers.

Currently, the guidance available to taxpayers is somewhat inconsistent between countries and limited. Bitcoins need to be addressed in a cohesive and coordinated way, potentially through a specific OECD project to provide a recommended tax framework, which member nations can adopt, to encourage international consistency and robustness in the taxation of Bitcoins.

The creation of Bitcoin and other digital currencies should not come as a surprise.

THE FUTURE: WHERE TO FROM HERE?

The modern digital economy has created an environment in which consumers favour access over ownership. This is observed in every industry, but the music and visual entertainment industries are notable examples. Collaborative consumption and the sharing economy have allowed consumers to become passive entrepreneurs. Equipment and property can be rented without the need for many traditional services contained in the services, retail and hospitality industries.

So it is with currency. The expansion of digital retail, which has also allowed businesses to focus their growth on a global market, has created a decentralised market. Additionally, consumers' use of smartphones and other mobile devices has shifted the main portal for banking online.

The existing monetary platform is not suited for such growth, resulting in an infrastructure which takes days and weeks to respond to a system that operates in seconds and minutes. Traditional banking stalwarts have recognised this weakness. In Australia, for example, the New Payments Platform is being developed specifically as a response to the sluggishness observed in the current system – for many consumers and businesses it is impeding productivity.

Bitcoins and digital currencies eliminate these problems completely. They are more secure than the current system, erase existing processing fees and delays, and require less personal information for transactions. Retailers may and do use them to reduce credit and debt transaction fees imposed by banks.

Mainstream adoption of Bitcoin by consumers is not likely to occur in the short term. As the large take-up of loyalty programs indicates, consumers do not object to the idea of using a virtual currency. However the volatile Bitcoin environment and the current lack of widespread awareness about Bitcoin suggest any large-scale adoption will not occur for several years, barring a large acceptance among mainstream retailers.

Additionally, the lack of support from major banking institutions means many Bitcoin deposit institutions are not supported at all by traditional insurance schemes or indeed government regulation. This will deter many consumers.

However, adoption of Bitcoin by speculators and businesses will continue to rise, particularly in the business to business space. The issues created including those regarding assurance and taxation, will force many countries to adopt new regulation regarding digital currencies. Inquiries, such as those conducted in the United States, the United Kingdom, Canada and Australia, can be expected to occur on an increasing basis.

As more jurisdictions host inquiries into digital currencies, a clearer picture of global adoption will emerge. While still a novelty, digital currencies harbour an immense amount of power, with inherent technology that could transform the foundations of the financial system as we know and recognise it.

The modern digital economy has created an environment in which **CONSUMERS FAVOUR ACCESS OVER OWNERSHIP.**

APPENDIX:

SUMMARY OF TAX TREATMENT OF BITCOIN IN A RANGE OF JURISDICTIONS

CHINA

The Chinese Government is still in the process of determining appropriate regulations for the use of Bitcoins and the State Administration of Taxation in China is yet to release taxation guidance.

HONG KONG

In a press release of January 2014, the Government of Hong Kong noted that the Government and regulators would continue to closely monitor the use of Bitcoins in Hong Kong as well as global developments. The Inland Revenue Department of Hong Kong has not yet released any guidance on the taxation treatment or implications of Bitcoins.⁵¹

INDIA

In December 2013, the Reserve Bank of India (RBI) issued a public notice of the possible risks of the use of Bitcoins including cybersecurity attacks and money laundering related to the use of Bitcoins.⁵² Since then, the RBI has not released any explicit legal framework that regulates the use of Bitcoins or outlines their taxation treatment, apart from acknowledging that it is in the process of considering Bitcoins implications under the existing Indian legal and regulatory framework.

INDONESIA

Bank Indonesia, the Indonesian central bank, has released a statement confirming that it does not consider Bitcoins to be currency or a legal payment instrument in Indonesia, in addition to warning the public of its risks.⁵³ The Indonesian authorities are yet to release regulations or any taxation related guidance as to the impact of Bitcoins.

JAPAN

In March 2014 (post the collapse of Mt. Gox), the Japanese Government released a Cabinet decision regarding the legal treatment of Bitcoins stating that Bitcoins are not 'currency' or a bond.⁵⁴ This prohibits banks and securities companies from dealing in Bitcoins. Transactions involving Bitcoins should be subject to normal taxation including consumption taxes.⁵⁵

The Japanese Government has taken a somewhat leading and different stance on the matter by giving the Japan Authority of Digital Asset (JADA) authority to set guidelines, standards and codes of conduct that allow for the technology to determine its own course and for the 'self-regulation' of Bitcoins.⁵⁶ JADA has a number of purposes including setting security guidelines, consulting with governmental offices, digital currency companies and related organisations.⁵⁷ JADA will also issue guidelines that monitor Bitcoins' movement and will discuss taxation matters with the National Tax Agency of Japan.⁵⁸

SINGAPORE

Singapore's current position with respect to the tax treatment of Bitcoins is somewhat similar to that of Australia. The Inland Revenue Authority of Singapore (IRAS) view⁵⁹ is that Bitcoins will be subject to normal income tax rules in relation to remuneration or revenue (applicable to businesses). Businesses that buy or sell goods and services should record the sale or purchase based on the 'open market value of the goods or services in Singapore dollars'.⁶⁰

Where this cannot be identified, then the 'virtual currency exchange rate at the point of the transaction may be used'.⁶¹ Businesses that buy and sell virtual currencies as part of the ordinary course of business will be taxed on the profit derived from trading in the virtual currency (this includes the mining of Bitcoins).

As Singapore does not have CGT, where businesses hold the virtual currency for long term investment purposes, such a gain would not be subject to tax.

Singapore's current position with respect to the tax treatment of Bitcoins is somewhat similar to that of Australia. The Inland Revenue Authority of Singapore (IRAS) view is that **BITCOINS WILL BE SUBJECT TO NORMAL INCOME TAX RULES** in relation to remuneration of revenue (applicable to businesses).

UNITED STATES OF AMERICA (US)

The US Internal Revenue Service (IRS) has adopted the view that Bitcoins are property, for US federal income tax purposes and that transactions involving Bitcoins attract the application of general US tax principles.⁶² Taxpayers that exchange virtual currency should recognize a gain or loss in connection with that transaction. The character of the gain or loss will depend on whether the virtual currency is a capital asset in the hands of the taxpayer (i.e. is it an investment in the hands of the taxpayer) or on revenue account on the basis that it is mainly held for sale or trade in a business.

For taxpayers engaged in Bitcoin 'mining', the fair market value of the virtual currency mined must be included in gross income as of the date of receipt.⁶³ In addition, if the taxpayer's mining activities are of a sufficient level to constitute a trade or business and the activities are not undertaken by the taxpayer as an employee, the net income from the taxpayer's mining activities is subject to self-employment tax.

Payments made in cash or property are subject to domestic information reporting, withholding-at-source rules, and wage reporting.

The IRS draft guidance anticipates continued monitoring to address future questions, with the Treasury Department and the IRS requesting further comments from the public.

EUROPEAN UNION (EU)

The EU has not passed any specific legislation or other statutory measures regarding the taxation of Bitcoins. However, the European Banking Authority (EBA) released an opinion (the EBA Opinion)⁶⁴ on 4 July 2014 (which followed the EBA's public warning on 13 December 2013⁶⁵) identifying issues on the dangers associated with buying, selling and trading in Bitcoins. The EBA Opinion identified more than 70 risks across numerous areas and noted the following specific taxation risks:

- Due to the unclear and inconsistent tax treatment of virtual currencies, a holder of virtual currency could become liable to unexpected tax requirements such as being required to 'track and pay capital gains'.⁶⁶ The EU noted that the taxable event and geographic location may also be unclear.
- Due to the anonymity and accessibility and the unregulated nature of virtual currencies, it is easier for individuals to engage in criminal activity including tax evasion.⁶⁷

The European Court of Justice has been petitioned to consider the Value Added Tax (VAT) treatment of Bitcoin and other virtual currencies, particularly around whether the exchange of virtual currencies are taxable supplies, or whether an exemption applies.

UNITED KINGDOM (UK)

Her Majesty's Revenue and Customs (HMRC) has avoided making a general statement about the tax treatment of Bitcoins, instead stating that tax rules would be applied depending on the facts and circumstances, including the parties involved and the activities undertaken.⁶⁸

HMRC has noted that VAT will not be applicable on Bitcoins (which must be consistent with the EU and is pending further developments).⁶⁹ However, VAT will be due in the normal way from suppliers of any goods and services sold in exchange for Bitcoins.⁷⁰

The UK Treasury has launched a digital currencies work programme, which includes consideration of whether they should be regulated.⁷¹

GERMANY

The German Federal Financial Supervisory Authority (FFSA) has recognised Bitcoins as a 'unit of account' under German Law and therefore Bitcoins are classified as financial instruments under the relevant German Banking Act. However, Bitcoins do not qualify as e-money but have been described as a 'private means of payment' in barter transactions.⁷²

Importantly, the primary reason for the classification as a financial instrument seems to be to ensure that where Bitcoins themselves are traded, there is a requirement to gain authorisation providing a form of supervision by the FFSA.⁷³

The German tax authorities are yet to express a view on the tax treatment of Bitcoins.



... MAKE NO MISTAKE, DIGITAL CURRENCY IS NOT A CONCEPT OF FUTURE; DIGITAL CURRENCY IS A REALITY TODAY ... it should

come as no surprise that digital currency is attracting a lot of attention, attention from regulators who wonder what aspects may need regulating; law enforcement officials who see it as a way to purchase illegal goods, launder money or finance terrorism; and investors and entrepreneurs who wonder what happens if the exchange or bank they deal with declares bankruptcy like Mt. Gox ...

CANADIAN SENATOR IRVING GERSTEIN⁷⁴

MARCH 2014

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