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QUINLAN
& ASSOCIATES

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FOOL'S GOLD?

UNEARTHING THE WORLD OF CRYPTOCURRENCY



THE AUTHORS

BENJAMIN QUINLAN
CEO & MANAGING PARTNER
BCom (Hons 1) / LLB (Hons), *Macquarie*

HUGO CHENG
CONSULTANT
BA (Hons), *Cambridge*,
MSc (Distinction), *Imperial*

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CONTENTS

<u>EXECUTIVE SUMMARY</u>	6
<u>SECTION 1 THE EMERGENCE OF CRYPTOCURRENCIES</u>	8
INTRODUCTION	9
HOW IT WORKS	13
PROOF-OF-WORK VS PROOF-OF-STAKE	19
FORKING	21
EXAMPLES OF CRYPTOCURRENCIES	23
<u>SECTION 2 DEVELOPMENT OF RELATED INDUSTRIES</u>	26
OVERVIEW	27
WALLETS	29
EXCHANGES	32
BROKERS	37
PAYMENTS	39
MINING	42

SECTION 3 STAKEHOLDER PERSPECTIVES	46
OVERVIEW	47
GENERAL PUBLIC	48
GENERAL BUSINESSES	52
FINTECH START-UPS	55
BANKS	58
EXCHANGES AND FUND MANAGERS	61
GOVERNMENTS AND REGULATORS	66
SECTION 4 CRYPTOCURRENCIES: CURRENCY OR ASSET?	70
INTRODUCTION	71
CRYPTOCURRENCY AS A CURRENCY	72
CRYPTOCURRENCY AS A FINANCIAL ASSET	78
FROM SPECULATIVE ASSET TO LEGITIMATE CURRENCY	80
SECTION 5 IS BITCOIN A BUBBLE?	82
BTC PRICE RISE IN CONTEXT	83
DRIVERS OF BTC PRICE (2017)	87
TECHNOLOGY ADOPTION CURVE	91
MINSKY'S FIVE STEPS OF A BUBBLE	93

<u>SECTION 6 VALUING BTC</u>	95
MARKET PREDICTIONS	96
OUR VALUATION OF BTC	99
VERDICT	113
2020 PRICE FORECASTS	114
FUTURE VALUE	119
<u>SECTION 7 CRYPTOCURRENCY SURVEY</u>	120
<u>SECTION 8 BLOCKCHAIN AS A PAYMENT SYSTEM</u>	130
INTRODUCTION	131
SECURITY	132
COST	133
EASE-OF-USE	134
VERDICT	135
<u>SECTION 9 THE FUTURE OF CRYPTOCURRENCIES</u>	136
INDUSTRY OUTLOOK	137
CONCLUSION	147

<u>SECTION 10 HOW WE CAN HELP</u>	149
<u>SECTION 11 APPENDIX</u>	151
APPENDIX A: EXAMPLE CRYPTOCURRENCIES	152
APPENDIX B: CRYPTOCURRENCY EXCHANGES	155
APPENDIX C: STAKEHOLDER PERSPECTIVES	157
APPENDIX D: VIEWS ON BITCOIN BY COUNTRY	158

EXECUTIVE SUMMARY

Cryptocurrencies have been heralded as the revolution of the financial system since its proof of concept by Wei Dai and Nick Szabo in 1998, followed by Satoshi Nakamoto's whitepaper detailing a 'peer-to-peer electronic cash system' and open source code, which is now known as Bitcoin.

Underpinned by blockchain technology, cryptocurrencies promised an end to third party institutions and barriers to financial transactions. And in recent years, they have exploded onto the scene at an exponential rate. At its 2017 peak, there were over 1,300 cryptocurrencies in existence, with a combined market capitalisation of nearly USD 650 billion, rivalling the GDP of nations such as Saudi Arabia. Bitcoin (BTC) itself, the most popular cryptocurrency, has touched market capitalisations similar to economies such as Malaysia and Vietnam.

The sudden rise of the cryptocurrency market has generated heated debate by both believers and critics alike for its value, future potential, and use cases. At the centre of this discussion is BTC, with its meteoric price rise capturing daily headlines in mainstream and social media alike, with speculators rushing to the market in the hopes of joining the wave of overnight millionaires. A plethora of inter-related industries have also been spawned, including wallets and payment services, crypto exchanges, and mining, as entrepreneurs across the globe look to capitalise on new revenue pools that have opened up on the back of this technological revolution.

To appreciate the recent rise of cryptocurrencies and their future potential, one must understand the underlying technology, surrounding ecosystem, and the place of cryptocurrencies in financial markets (and the wider economy). Our report details the aforementioned criteria, utilising BTC as the exemplar for current cryptocurrencies in place

at the time of writing. We also drew further insights from interviews with a wide range of industry stakeholders, as well as survey responses from over 1,500 individuals working predominantly in financial services, FinTech, consulting, and technology.

Most current iterations of cryptocurrencies are, at their core, meant to operate as currencies (be it fiat replacements or within their own ecosystem). However, currencies have, for many centuries, needed to meet a number of specific criteria to be recognised as such – namely, acting as a unit of account, a medium of exchange, and a store of value. Despite fulfilling most of the characteristics of a traditional fiat currency, cryptocurrencies are largely being utilised as speculative investment assets, leading to considerable volatility in their value. This lack of stability, together with soaring valuations, means they are rarely used for payments. In order to achieve status as a legitimate currency, the public must spend cryptocurrencies widely to determine a credible benchmark for their actual value, encouraging businesses to accept them as a medium of payment (hence making them more liquid in the long run). Until then, most cryptocurrencies, including BTC, will continue to exist in a speculative capacity, with all the undertones of being a bubble.

2017 saw the price of BTC surpass the asset price inflation of the 17th century tulip mania, while rendering "bubbles" such as dotcom a mere blip by comparison. Its strong – albeit slowly unwinding – correlation to alternative cryptocurrencies also indicates a collapse in the price of BTC could lead to a rapid downfall for the broader non-fiat cryptocurrency market.

A number of factors underpinned BTC's price rise in 2017. In the earlier part of the year, many of the gains could be tied to ongoing discourse around its potential regulatory legitimacy. Since then, however, its popularity – and infamy – has

appeared to fuel a widespread “fear of missing out” (FOMO), a classic characteristic of most bubbles. Yet, consensus regarding its future value remains literally non-existent, with valuations ranging from USD 0 to as high as USD 1,000,000. Moreover, the majority of these predictions do not appear to be based on any robust, quantitative methods, but are more a reflection of individual opinion.

To determine whether BTC is indeed a bubble, we looked to calculate its value using two overarching approaches: (1) as an asset; and (2) as a currency.

As an asset, we valued Bitcoin using a cost of production approach and a store of value approach, resulting in values of USD 2,161 and USD 687 respectively. To value BTC as a currency, we estimated its utilisation for both legal, retail transactions payments and payments in the black market, as well as functioning as an international FX reserve. After significant testing, we calculated the price of BTC 1 to be USD 1,780.

Irrespective of the valuation methodology employed, we found the price of BTC deviates significantly from its current price of ~USD 14,000. For the longer-term, we are even less optimistic around the future price of BTC and believe it will ultimately be ruled out as a mainstream form of payment. We see this exerting greater downward pressure on its price and forecast it to trade at ~USD 810 by 2020, if not even lower. We therefore believe that BTC, at its current valuation, is a bubble waiting to burst.

While our views on the price (and future applications of BTC) remain muted, our outlook

for the broader cryptocurrency industry remains much more sanguine. Existing cryptocurrencies that were designed to replace fiat currencies, such as BTC, are unlikely to act as viable substitutes to the money or currency system we have in place today, due to their inherent challenge to central bank and government functions – namely, fiscal and monetary policy. However, cryptocurrencies with associated utility applications (such as Ethereum’s ETH), as well as fiat cryptocurrencies attached to a sovereign nation, are likely to grow in significance, given the ability of the underlying blockchain technology to provide meaningful enhancements to current payment systems, as well as their broader applications beyond being used as speculative assets (e.g. facilitating the execution of smart contracts).

Although a sharp decline in the price of BTC in 2018 is likely to take the value of other non-utility cryptocurrencies with it, we see the correlation with utility cryptocurrencies being much less pronounced. While we anticipate valuations to decline in the short-term in response to the widespread unwinding of the digital currency space, valuations of utility cryptocurrencies are likely to recover and dominate the market in the long-term. We forecast total market capitalisation of private cryptocurrencies to be USD 407 billion by 2020. We also see fiat cryptocurrencies gaining momentum as governments accelerate their research and piloting efforts, with potential to be a USD 150 billion market by 2020.

While we believe BTC can largely be viewed as fool’s gold at present, digital currencies will continue to unearth major enhancements to the global payments system in years to come.

SECTION 1

THE EMERGENCE OF CRYPTOCURRENCIES

INTRODUCTION

In October 2008, an entity known as Satoshi Nakamoto published a paper entitled *Bitcoin: A Peer-to-Peer Electronic Cash System*,¹ proposing a revolutionary money and payment system in which transactions are conducted using cryptocurrencies and recorded on a public ledger, called the blockchain, eliminating the need for a trusted third party. Because of the characteristic of not requiring a third party or central administrator, these cryptocurrencies are sometimes called decentralised digital currencies.

Instead of using a third party, a network of computers, which serve as interconnected “nodes” within the network, maintains and verifies a record of consensus of transactions. These transactions are then encrypted and stored in linked blocks on the nodes, creating a cryptographic audit trail. As a result, all nodes in the network have access to the distributed ledger, a shared, single source of truth.²

Following the release of the paper, Satoshi Nakamoto released Bitcoin as an open-source software on 3 January 2009, marking the start of a new era in the money and transaction space. Since then, a plethora of cryptocurrency enthusiasts and companies created their own cryptocurrencies, known as altcoins (short for “alternative coins”), which are alterations or enhancements of Bitcoin.

As at 31 December 2017, there were over 1,300 cryptocurrencies with a combined market capitalisation of USD 569 billion listed on CoinMarketCap³ (see Figure 1). At its 2017 peak, the market capitalisation of all cryptocurrencies neared USD 650 billion,⁴ higher than the 2016 GDP of countries such as Saudi Arabia (USD 646 billion) and Sweden (USD 514 billion).⁵

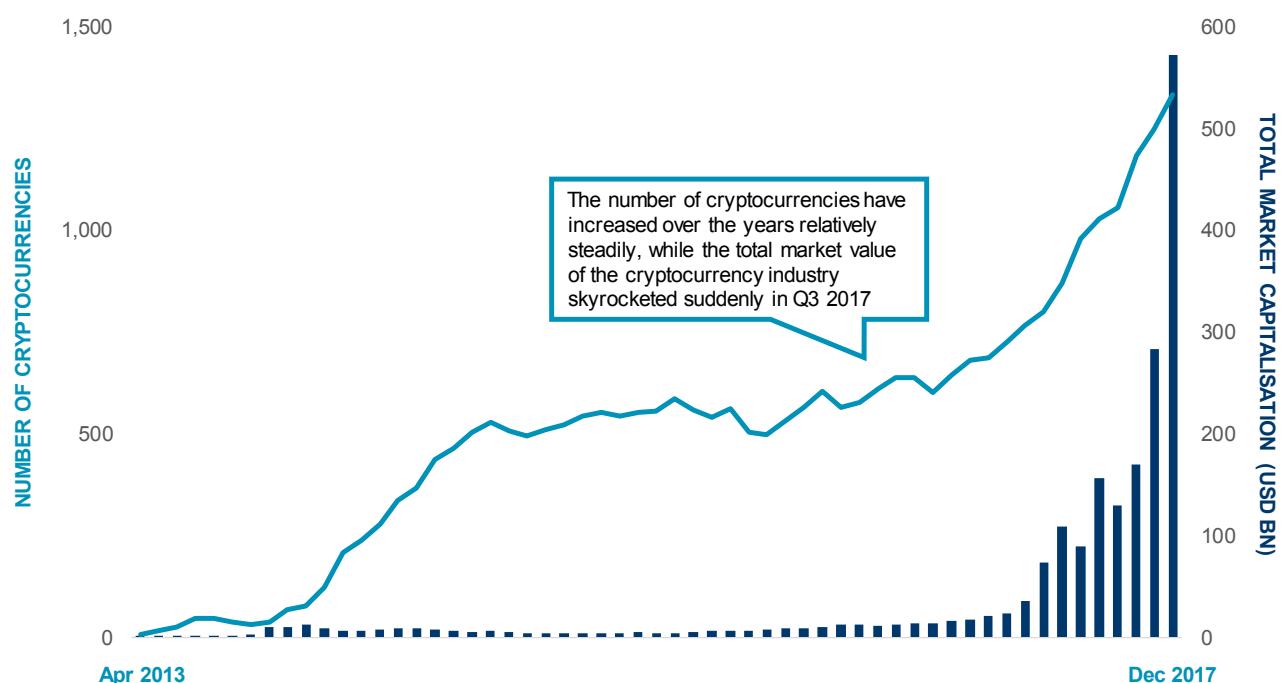
¹ Satoshi Nakamoto, ‘Bitcoin: A Peer-to-Peer Electronic Cash System’, 31 October 2008, available at: <https://bitcoin.org/bitcoin.pdf>
² Quinlan & Associates, ‘From KYC To KYT’, available at: <http://www.quinlanandassociates.com/wp-content/uploads/2016/12/Quinlan-Associates-From-KYC-to-KYT.pdf>

³ CoinMarketCap, ‘Cryptocurrency Market Capitalizations’, available at: <https://coinmarketcap.com/>

⁴ CoinMarketCap, ‘Total Market Capitalization’, available at: <https://coinmarketcap.com/charts/>

⁵ The World Bank, ‘World GDP’, available at:
https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2016&start=2016&view=bar&year_high_desc=true

FIGURE 1: NUMBER AND VALUE OF CRYPTOCURRENCIES (2013-17)



Source: CoinMarketCap, Quinlan & Associates analysis

In addition, the value of many cryptocurrencies increased significantly during 2017, with some experiencing over 10,000% gains (see Figure 2). By comparison, the gains in the stock markets, with the best performing S&P 500

stock gaining “only” 130%, look abysmal. Note that the price of XRP (the native cryptocurrency of Ripple) increased from ~USD 0.006 to ~USD 2.3 in 2017, representing a nearly 400-fold increase.⁶

⁶ CoinMarketCap, ‘Ripple’, available at: <https://coinmarketcap.com/currencies/ripple/>

SECTION 2

DEVELOPMENT OF RELATED INDUSTRIES

OVERVIEW

With BTC and other cryptocurrencies gaining significant traction, related industries are prospering, as entrepreneurs attempt to capture opportunities from this revolution.

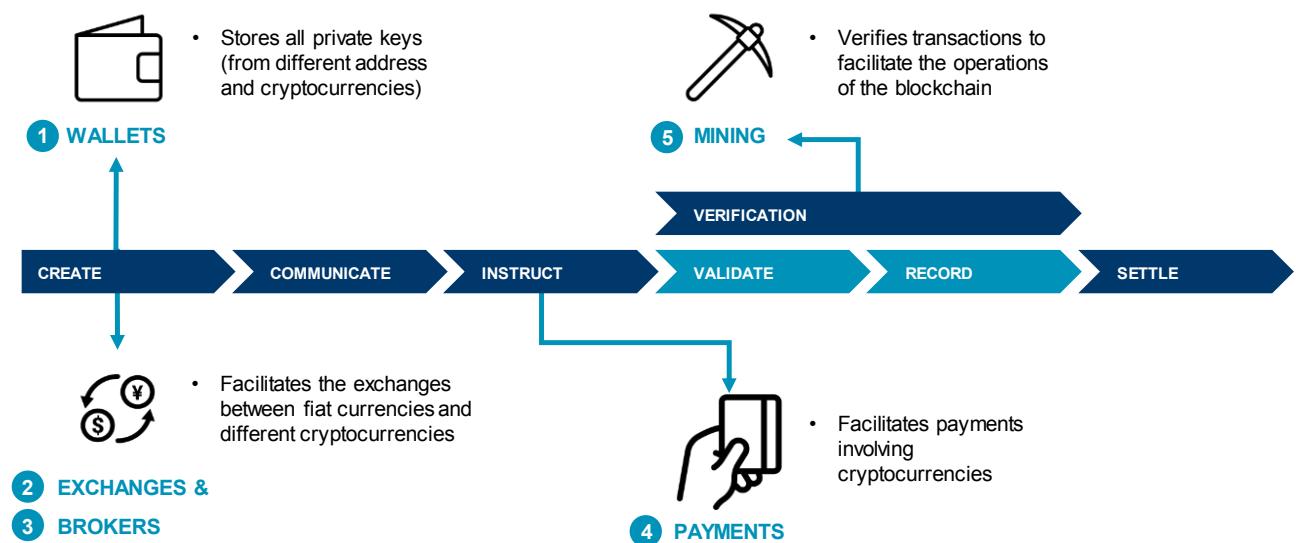
The five main industries that support and facilitate the operations of the blockchain are (see Figure 9):

1. Wallets;
2. Exchanges;
3. Brokers;
4. Payments; and
5. Mining.

Wallets, exchanges, brokers, and payments companies provide services to enhance the experience of cryptocurrency users, and can be treated as add-ons to the cryptocurrency, charging users for their services. There are an increasing number of companies which provide services in more than one industry – for example, some cryptocurrency exchanges provide wallet services to their users, and most wallet providers also offer payment services.

On the other hand, mining services are necessary for the operations and maintenance of the system, and are incentivised by rewards provided by the system itself (block rewards) and transaction fees provided by the users.

FIGURE 9: CRYPTOCURRENCY RELATED INDUSTRIES



Source: Quinlan & Associates analysis

FIGURE 11: TYPES OF CRYPTOCURRENCY WALLETS

WALLET TYPE	DESCRIPTION	ACCESS	SECURITY
ONLINE	<ul style="list-style-type: none"> Acts like an online account Holds private keys on the server 		
DESKTOP	<ul style="list-style-type: none"> An application on the desktop Holds private keys locally 		
MOBILE	<ul style="list-style-type: none"> An application on the mobile phone Holds private keys locally 		
HARDWARE	<ul style="list-style-type: none"> An external and portable hardware Holds private keys locally 		
PAPER	<ul style="list-style-type: none"> A piece of paper Printed with private key (the private key and QR code of the private key) 		

LOW HIGH

Source: Quinlan & Associates analysis

ONLINE WALLETS

Online wallets are similar to online accounts, which can be accessed by users through the internet. Some online wallets can also be linked to mobile or desktop wallets.

Due to its web-based nature, online wallets can be accessed from virtually anywhere. However, the details of the users (including the address and associated private key) are typically kept with the service provider, which means the service providers have easy access to the users' cryptocurrencies.

Online wallets are prime targets for hackers, as gaining access to the list of private keys gives hackers the ability to move all cryptocurrency fortunes to their own addresses.

DESKTOP/MOBILE WALLETS

Desktop wallets and mobile wallets are similar, both being an application installed on the users' electronic devices.

Desktop wallets tend to provide extra features, such as better security or a higher level of privacy, while mobile wallets are more portable and therefore provide better access. Both wallet types store the users' details locally, and are therefore more secure than online wallets, provided there is no malware present. However, hardware failure of the desktop or mobile phone will lead to the loss of private keys, and therefore backups are recommended.

Note also that there are online wallets which offer associated desktop or mobile applications, and in these cases, the service providers may have access to the users' private keys, compromising security.

SECTION 3

STAKEHOLDER PERSPECTIVES

Furthermore, as the cryptocurrency space remains largely unregulated, retail investors are susceptible to “pump and dump” activities, which are illegal in traditional markets. It was reported that cryptocurrency traders use a secure messaging app, Telegram, to coordinate large purchases for a cryptocurrency, artificially inflating the price to attract investors, then bulk selling the cryptocurrency for profit.³⁸

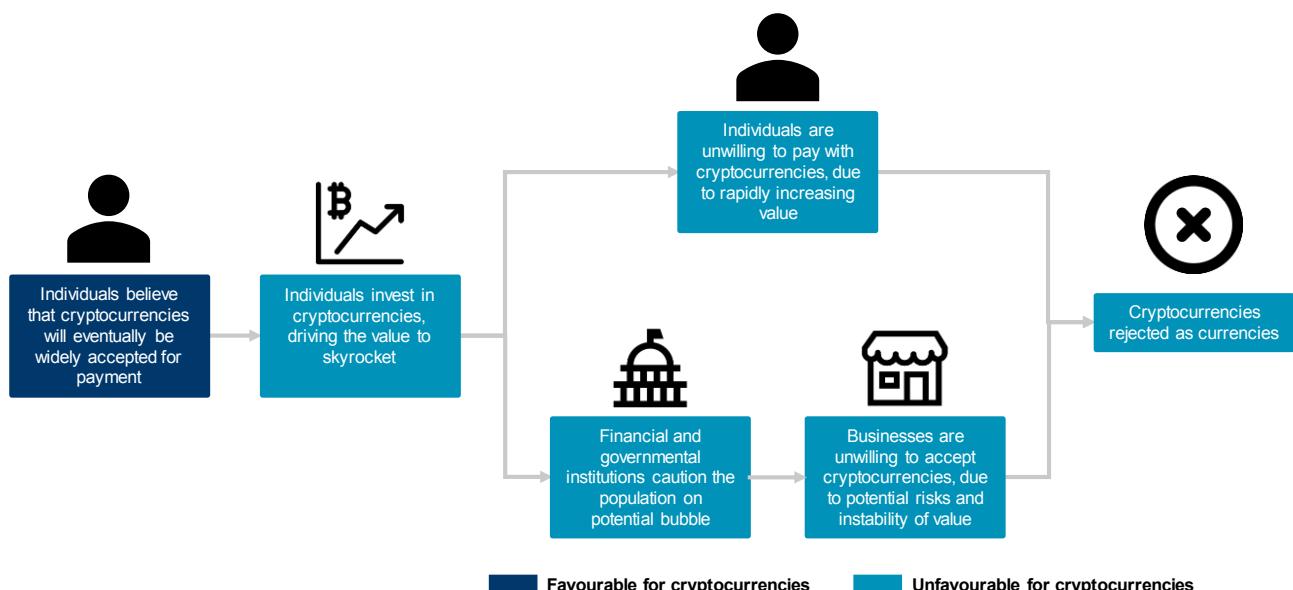
It is worth noting that, similar to fiat currency, the value of cryptocurrency stems from the population’s trust and confidence in it. The population believes a USD 1 banknote provides value equivalent to USD 1 because the US government, a trusted party, says so. In contrast, the value of cryptocurrency originates from investors’ confidence in the blockchain system and their belief that cryptocurrencies will

eventually be recognised and widely accepted. However, this confidence leads to higher levels of investment, pushing up prices. As a result, consumers are less likely to purchase goods and services with cryptocurrencies due to their seemingly ever-inflating values.

In addition, the rapid surge in prices has led to prominent financial and governmental figures cautioning about the potential of a bubble, leading to reluctance by businesses to accept cryptocurrencies as a form of payment.

Taken together, this all creates an interesting paradox, as the very belief that cryptocurrencies can be used as currencies has in fact led to actions that discourage their acceptance as currencies (see Figure 21).

FIGURE 21: CRYPTOCURRENCY PARADOX



Source: Quinlan & Associates analysis

³⁸ Business Insider, “Market manipulation 101’: ‘Wolf of Wall Street’-style ‘pump and dump’ scams plague cryptocurrency markets’, 14 November 2017, available at: <http://uk.businessinsider.com/ico-cryptocurrency-pump-and-dump-telegram-2017-11>

SECTION 4

CRYPTOCURRENCIES: CURRENCY OR ASSET?

1. CRYPTOCURRENCY AS A CURRENCY

It is evident from the name that cryptocurrencies were created to be used as currencies, instead of investment assets.

In the envisioned world of cryptocurrency creators, where the general population has adopted cryptocurrency as the norm, cryptocurrency does generally better satisfy the

three requirements of money: (1) unit of account, (2) medium of exchange, and (3) store of value, than known currencies, such as gold and fiat currency (see Figure 27). However, in the current environment, cryptocurrencies lack certain key characteristics or features, which makes them less desirable than fiat currencies.

FIGURE 27: CRYPTOCURRENCY AS A CURRENCY

	GOLD	FIAT CURRENCY	PERFECT CRYPTO	CURRENT CRYPTO
UNIT OF ACCOUNT	COUNTABLE	✓	✓	QUINLAN & ASSOCIATES
	DIVISIBLE	-	✓	
	FUNGIBLE	✓	✓	
	LIQUID	-	✓	
	RECOGNISABLE	*	✓	
	BACKING	✓	✓	
	TRANSFERABLE (PHYSICAL)	-	✓	
	TRANSFERABLE (REMOTE)	*	-	
	COUNTERFEIT-PROOF	✓	-	
	DURABLE	✓	✓	
	INHERENTLY VALUABLE	✓	*	
	STABLE	✓	-	
STORE OF VALUE	SECURE STORAGE	-	✓	

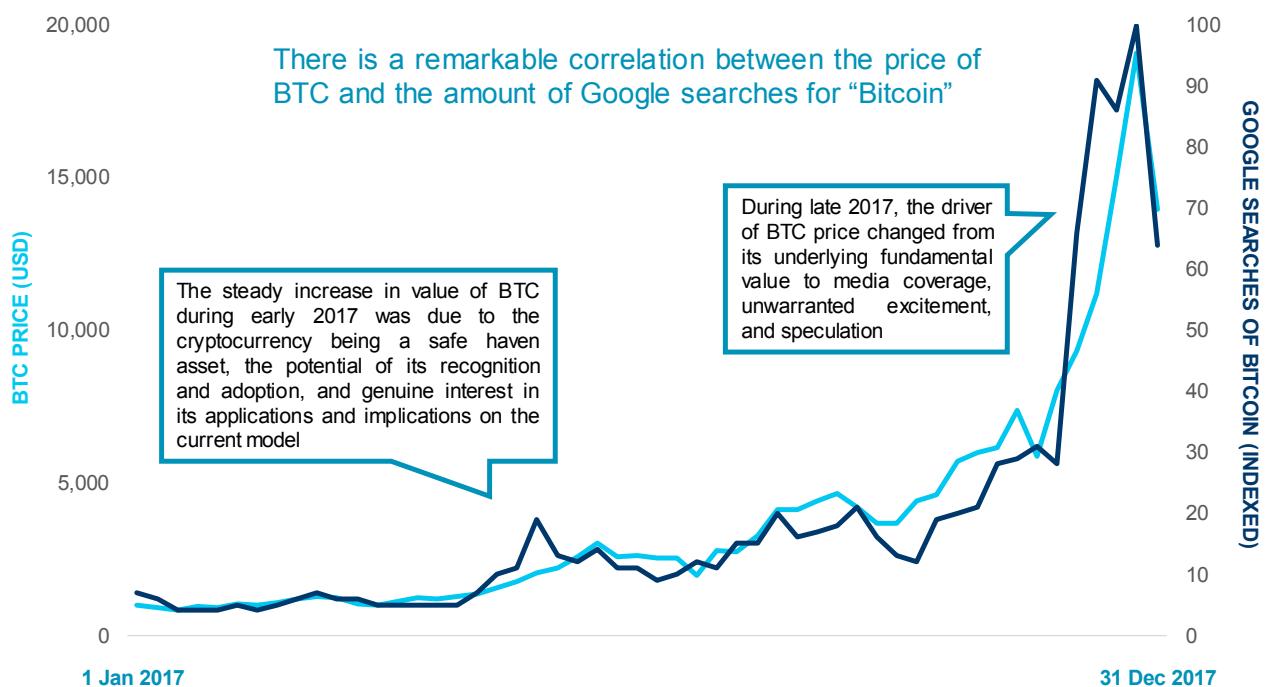
 * Unfavourable - Dependent ✓ Favourable

Source: Quinlan & Associates analysis

SECTION 5

IS BITCOIN A BUBBLE?

FIGURE 32: BTC PRICE VS GOOGLE HITS



Note the number of Google searches is indexed to the week with the most searches (w/c 17 December 2017)

Source: Coindesk, Google, Quinlan & Associates analysis

While the number of Google searches is not 100% indicative of the level of hype or public excitement, it serves as a good proxy of the public's broader interest in BTC and how FOMO appears to be highly correlated with its price.

In addition to the rush of retail investors, institutions have been paying increasingly close

attention to the cryptocurrency space. As mentioned in Section 3, just under 100 new funds focusing on digital assets were launched in 2017. The introduction of Bitcoin Futures by CBOE, CME, and potentially Nasdaq in Q2 2018, contributed to the recognisability of BTC, and attracted even more institutional money flow.

SECTION 6

VALUING BTC

VERDICT

We believe BTC current price of ~USD 14,000 deviates significantly from its true value, USD 2,161 (based on our cost of production valuation), USD 687 (from our store of value method), and USD 1,780 (as a currency).

It is clear from data that during October and November 2017, there was a massive surge in the level of public interest in BTC, along with a significant spike in BTC price (see Figure 32 – BTC PRICE VS GOOGLE HITS). Prior to this, both the level of interest in and price of BTC were relatively stable, experiencing a gradual and steady rate of increase.

It is therefore not unreasonable to believe that during Q1 to Q3 2017, BTC's value stemmed more from its potential future utility, while in the last quarter of 2017, the price of BTC was largely a function of outright speculation. All of this suggests that Bitcoin, in its current form, is a bubble waiting to burst.

We expect a significant price correction in the short-term as the speculative furore around the price of BTC subsides. However, it's longer-term value will largely depend on how regulators and the wider market choose to accept it in coming years.

**BITCOIN IN ITS CURRENT FORM, IS A BUBBLE
WAITING TO BURST**

SECTION 7

CRYPTOCURRENCY SURVEY

Q&A SURVEY: DEMOGRAPHICS

GEOGRAPHICAL BREAKDOWN



9%
AMERICAS

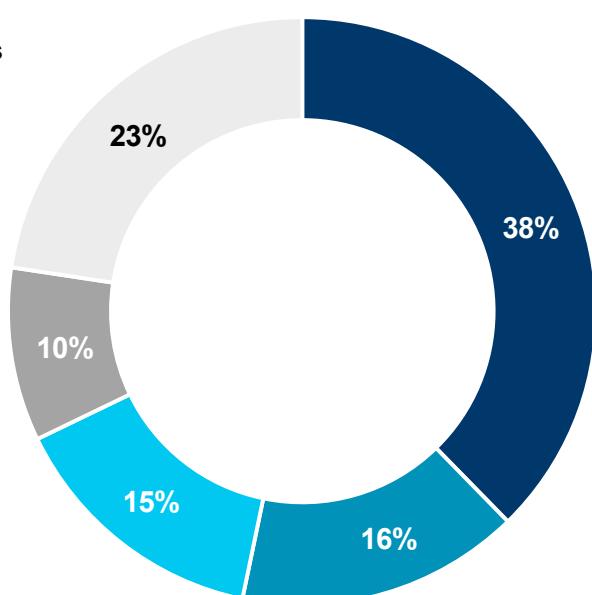
25%
EMEA

66%
APAC

INDUSTRY BREAKDOWN

- Financial Services
- Consulting
- FinTech
- Technology
- Others

Note: numbers may not sum to 100% due to rounding



Within financial services, 49% of respondents work in fund management (e.g. asset management, hedge fund, private equity), 26% are in investment banking, and 7% are regulators

Within consulting, 13% of respondents work in IT consulting

Of all FinTech respondents, 24% indicated that they work for cryptocurrency/blockchain-related firms

Source: Quinlan & Associates survey and analysis

SECTION 8

BLOCKCHAIN AS A PAYMENT SYSTEM

INTRODUCTION

No matter the view on cryptocurrency (i.e. whether it is a currency or an asset, or whether it is a bubble or not), the consensus is that blockchain technology can enhance current payment systems (see Figure 52). Note that the discussion uses a decentralised blockchain

system, such as Bitcoin's blockchain, instead of a bank-developed or country-developed system, in which a party (i.e. the bank or the country) has significant influence over the system.

FIGURE 52: BLOCKCHAIN AS A PAYMENT SYSTEM

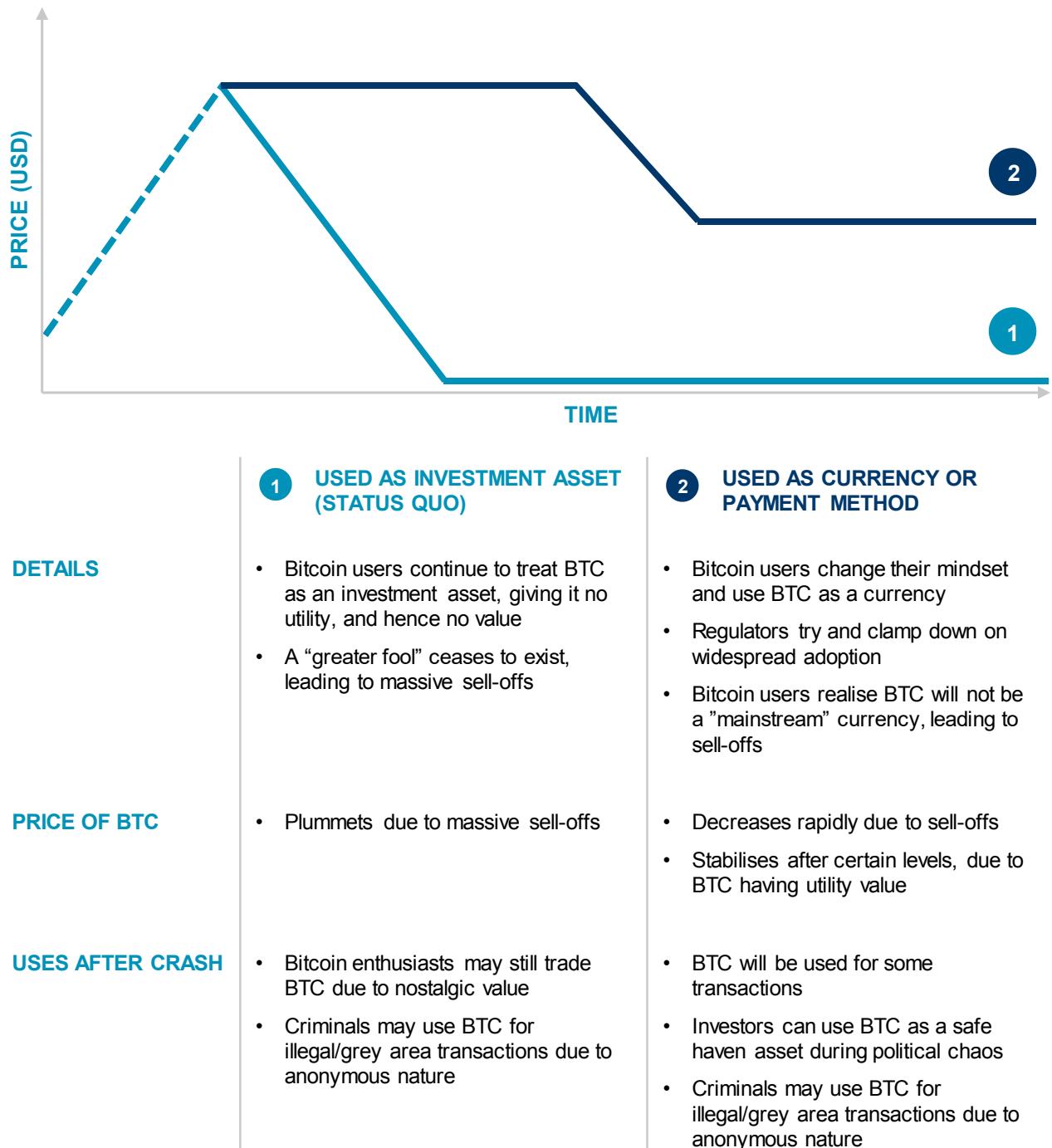
	CASH	CARD	PAYMENT SERVICE	BLOCK-CHAIN
EASE-OF-USE	PAYMENT SECURITY IDENTITY SECURITY PAYMENT CONTROL	✓ ✓ ✓	- ✗ ✗	- ✗ ✗
COST	TRANSACTION FEE EXCHANGE FEE	✓ ✗	- ✗	✗ ✗
EASE-OF-USE	TRANSACTION TIME DISTANCE CONFLICT RESOLVE	✓ ✗ ✓	- ✓ ✓	- ✓ ✓
QUINLAN & ASSOCIATES				
✗ Unfavourable - Dependent ✓ Favourable				

Source: Quinlan & Associates analysis

SECTION 9

THE FUTURE OF CRYPTOCURRENCIES

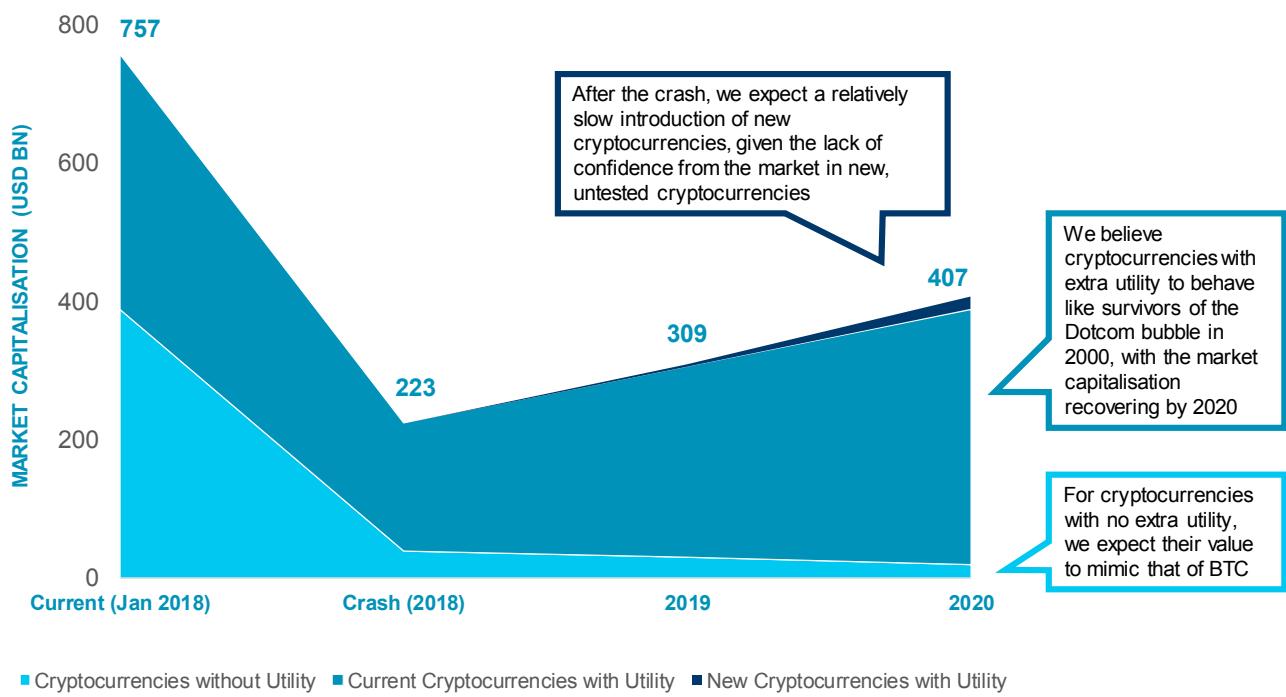
FIGURE 53: POTENTIAL SCENARIOS



Note visual is for illustrative purposes and is not drawn to scale

Source: Quinlan & Associates analysis

FIGURE 54: PRIVATE CRYPTOCURRENCIES MARKET CAPITALISATION



Source: Quinlan & Associates analysis

By end of 2020, we expect the market capitalisation of private cryptocurrencies to be ~USD 407 billion, representing a ~45% decrease from January 2018. However, a significant proportion of the current private cryptocurrency market is composed of cryptocurrencies without extra utility, and their

value is likely to be essentially negligible post-bubble burst. We expect private cryptocurrencies with utility, and hence functional value, to survive the bubble burst, and dominate the private cryptocurrency industry going forward, representing 95% of the market capitalisation.

With our views regarding cryptocurrency and the outlook for BTC, we see an interesting analogy which can be drawn with other realms of technology, such as social media (see Figure

55). While we recognise that internet and blockchain are completely different concepts, their value is built upon network effect (similarly for social media and cryptocurrency).

FIGURE 55: SOCIAL MEDIA AND CRYPTOCURRENCY

UNDERLYING TECHNOLOGY		
FUNCTION	<ul style="list-style-type: none">• Internet• Social media	<ul style="list-style-type: none">• Blockchain• Cryptocurrency
EXAMPLES	 	 

Source: Quinlan & Associates analysis

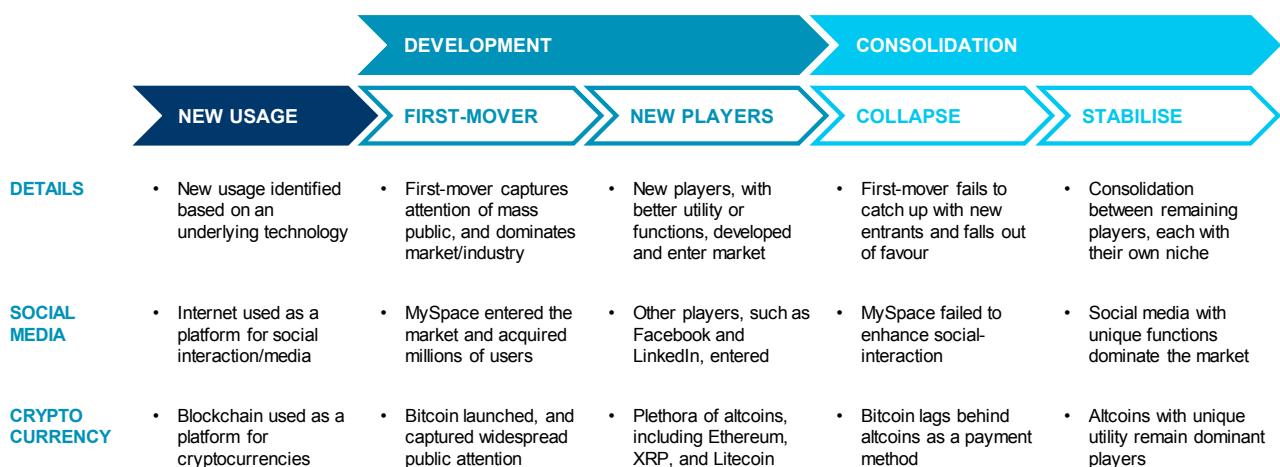
Social media is based on the technology of the internet, while cryptocurrency is based on blockchain technology. Examples of social media sites include MySpace and Facebook, while examples of cryptocurrencies include Bitcoin and Ethereum.

Despite being one of the first-movers and, at its peak, the most dominant player in the market, MySpace now exists as a trailing player within the social media space.¹³⁸ Among the main reasons behind its downfall was its failure to keep up with new market entrants, who offered improved functionality and a better user experience.

Similarly, BTC, in its current form, trails behind several altcoins in terms of its function as a medium of exchange, given its slower transaction times, considerable transaction fees (despite technically being optional), and lower levels of privacy and anonymity. It also lacks additional utility beyond acting a medium of exchange, such as the ability to support smart contracts (like Ethereum). Consequently, as a technology, it trails many of its peers, and we believe it will gradually fall out of favour with investors and cryptocurrency users in favour of more technologically advanced altcoins (see Figure 56).

¹³⁸ Los Angeles Times, 'How MySpace fell off the pace', 17 June 2009, available at: <http://articles.latimes.com/2009/jun/17/business/fi-ct-myspace17>

FIGURE 56: SOCIAL MEDIA AND CRYPTOCURRENCY



Source: Quinlan & Associates analysis

If we look more closely at the social media space, we can see it is currently dominated by a handful of major players, who are surrounded by an ecosystem of additional, smaller players, focused on a specific niche.

Facebook, for example, has positioned itself as one of the most dominant players in the social media world, acting as a platform for users to deploy apps or other social media sites, such as dating apps or Instagram (through the “Login Using Facebook” function). Other platforms such as LinkedIn act as the world’s professional career and networking site, while Snapchat has carved out a niche as a “cheeky” version of social media.

We see the cryptocurrency space evolving in a very similar fashion. Cryptocurrencies that act as a “platform” for other applications, or those that provide additional utility such as Ethereum

(e.g. providing a network for dapps and smart contracts), are likely to take on the role as the Facebook of the cryptocurrency world. Cryptocurrencies like Monero (with its highly private and anonymous usage) and IOTA (with its free usage) will likely make up the market of remaining niche players, akin to the position of LinkedIn and Snapchat in social media, bringing niche functionality to the digital currency space.

As mentioned in Section 5, despite BTC having upgrades lined up, we see their development and implementation being significantly slower than many altcoins’. Therefore, while serving as a first-mover, we believe BTC is likely to become a technological straggler within the broader cryptocurrency ecosystem. As with any technological laggard, this will further reinforce downward pressure on its value, as well as the value of other private cryptocurrencies that fail to provide additional utility.

WITH AN EXTREMELY UNFAVOURABLE FUTURE FORECAST FOR THE PRICE OF BTC, AS WELL AS THE FACT THAT BITCOIN IS UNLIKELY TO EVER ACHIEVE THE STATUS OF A MAINSTREAM CURRENCY, CURRENT VALUATIONS SUGGEST THESE DIGITAL TULIPS ARE VERY MUCH FOOL'S GOLD

SECTION 10

HOW WE CAN HELP

HOW WE CAN HELP

Our consultants have the capabilities and knowledge to strategise, implement, and monitor systems related to cryptocurrencies.

As outlined in our report, there are several stakeholders who need to be proactive about ongoing changes occurring in the industry.

BANKS AND BROKERS

Position banks and brokers to successfully enter and compete in the crypto trading space:

- Identify appropriate arbitrage and market-making opportunities
- Develop a framework for cryptocurrency trading operations, including detailed risk and compliance controls
- Conduct comprehensive market sizing and shortlisting of potential clients and strategically suitable cryptocurrencies

FINTECH START-UPS

Identify opportunities to leverage technical know-how to outmanoeuvre the competition:

- Assist in preparation of whitepapers and design of token concepts to maximise firm valuation and long-term utility of technology
- Work with firms to facilitate Initial Coin Offerings (ICOs) to both the general public and institutional investors
- Carry out a market landscape analysis including industry and regulatory response

GOVERNMENTS AND REGULATORS

Determine appropriate regulatory stance to ensure sound market practices whilst encouraging continued innovation:

- Analyse uses of cryptocurrencies in conjunction with existing fiat currencies, including effects on monetary policy and the wider economy
- Design a roadmap for the development and deployment of fiat cryptocurrencies
- Evaluate and estimate the effect of different cryptocurrency-related taxation policies

EXCHANGES AND FUND MANAGERS

Identify opportunities for funds to capitalise on rising investor interest in cryptocurrencies:

- Define unique selling points and business models to effectively raise capital and funds
- Provide guidance on crypto-portfolio allocation and construction
- Calculate value of different types of cryptocurrencies to identify investment opportunities

VENTURE CAPITALISTS

Adaptations to business models to remain relevant in the wake of ICOs:

- Develop marketing strategy to attract FinTech start-ups in need of capital or in the process of Initial Coin Offerings (ICOs)
- Design valuation/investment assessment frameworks for FinTech start-ups and their tokens

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STRATEGY WITH A DIFFERENCE

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QUINLAN &ASSOCIATES

CONTACT US

- ✉ info@quinlanandassociates.com
- www.quinlanandassociates.com
- ☎ (+852) 2251 8725
- ✉ Level 19, Two International Finance Centre,
8 Finance Street, Central, Hong Kong SAR