Feature

KEY POINTS

- 2017 has witnessed a so-called bitcoin bubble, as entrepreneurs and professional investors rushed into the market to take a bet on the upcoming cryptocurrency age. The price of a bitcoin exceeded $19,300 in December 2017, worth only $0.06 in July 2010.
- The popularity of bitcoin mining and trading activities has raised legal and regulatory concerns pertaining to anti-money laundering, evasion of forex regulations, the illegal fundraising of start-ups by Initial Coin Offerings (ICOs), as well as a potential financial crisis.
- Global financial regulators have acted proactively to regulate bitcoin. Most recently, China, once accounting for 90% of bitcoin trading volume, issued an immediate ban of ICOs and ordered the reorganisation of three major bitcoin exchanges: OKCoin, Huobi and BTCC. Over-The-Counter (OTC) transactions have not been affected.
- Financial authorities in certain countries have been testing state-backed cryptocurrencies.

Author Dr Lerong Lu

Bitcoin: speculative bubble, financial risk and regulatory response

In this article, the author tracks developments in bitcoin trading and considers regulatory responses.

The history of finance is filled with asset bubbles, from the Dutch tulip bubble in the 1630s to the US housing bubble before the 2007/08 global financial crisis. The most recent example, however, can be found in the overheated bitcoin market, a decentralised virtual currency operating outside the realm of any monetary authority.

On 16 December 2017, the price of a bitcoin exceeded $19,300, whilst it was only worth $0.06 in July 2010.[1] Nonetheless, the market has seen a major correction recently, as the bitcoin price was more than halved to $7,000 in February 2018.

In 2008, the concept of bitcoin was invented by Satoshi Nakamoto who published an online paper advocating a new form of electronic cash that people can send to each other without going through disgraced banks.[2] The system of bitcoin is peer-to-peer in its essence, for transactions occur among users directly without the involvement of traditional financial intermediaries. Each user is a tiny fraction of the whole bitcoin universe. The creation and exchange of bitcoins takes place in a blockchain, a decentralised public ledger system. Clearly, bitcoin and the underlying blockchain technology not only represents the very frontier of the ongoing fintech revolution, but also echoes the spirit of Adam Smith's free-market ideology.

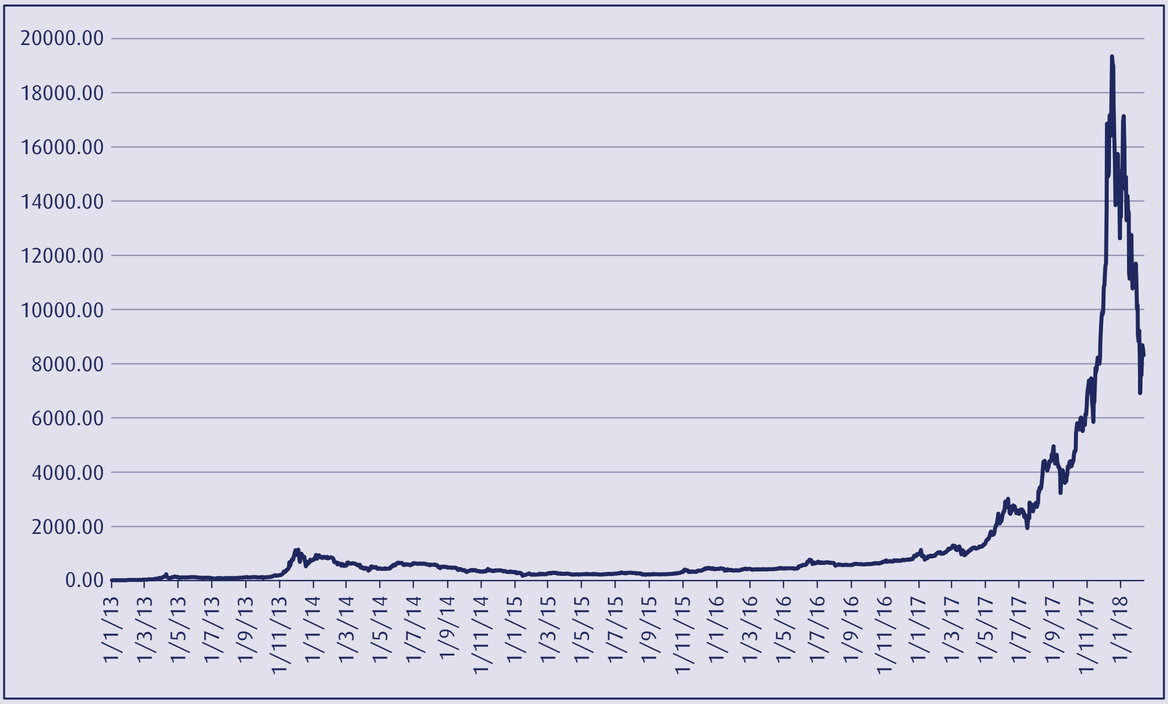
This article discusses and analyses the bitcoin trading and mining mania. It explores relevant legal and regulatory issues relating to anti-money laundering, evasion of foreign exchange controls, the illegal fundraising activities of start-ups by Initial Coin Offerings (ICOs), as well as a possible financial meltdown in the cryptocurrency market. It then considers the latest regulatory changes around the world, including various approaches in determining the legitimacy of ICOs, the restructuring of top bitcoin exchanges, and the forthcoming state-backed digital currencies.

WHY VIRTUAL CURRENCIES BECAME POPULAR?

In recent years, the demand for virtual currencies has taken off for a multiplicity of reasons.

- First, an increasing number of start-up companies are choosing to raise money through ICOs. An ICO is, to some extent, akin to an IPO. Issuers sell digital coins (cryptocoins) to investors who, for fiat or virtual currency, obtain a stake in the start-up, such as a right to use the service or software provided by the start-up.[3] However, unlike global capital markets, the price of the digital coins largely depends on the valuation of their issuers and a small community of investors. Thus, for many new digital currencies, the price hike has been considered as self-dictated, as the limited number of potential buyers means low market liquidity. The price of the cryptocoins will probably face a sudden collapse at any time.
- Second, the bitcoin bubble is a speculation carnival for investors and traders across the world. It remains controversial whether bitcoin fits into the traditional concept of currency, but for global investors, it seems a perfect object on which to take a bet on its ever-growing intrinsic value. This is because there is a theoretical maximum number of all bitcoins circulated, which is around 21 million (20,999,999.9769 BTC). Therefore, as time lapses, it will cost more and more time and money to mine new bitcoins, leading to their skyrocketing price. As of August 2017, the market capitalisation of all bitcoins was estimated to be $73.5bn.[4]
- Finally, the rapid rise of the bitcoin price is partly due to strict foreign exchange controls in some countries. For example, the Chinese government in 2016 introduced several exchange control methods to curb capital outflows, including complex approval procedures for sending money out of the country.[5] Due to the difficulty of transferring money between countries through official banking channels, some businesses and individuals try to convert Renminbis into bitcoins first, and then exchange bitcoins into the currency of destination. This is a feasible and

DIAGRAM 1
Bitcoin Close Price in USD (01/01/2013 – 11/02/2018). Data Source: Coindesk.com



convenient way of moving large amounts of money outside the country without being caught by law enforcers, despite the potential market risk (the price fluctuation of bitcoins).

BITCOIN MINING CRAZE

Aside from the market speculation, bitcoin has also attracted a large number of so-called digital "miners" to dig new coins and seek fortune. The process of creating new bitcoins is called mining, for miners use special software to solve maths problems (the difficulty of which increases over time) in exchange of new coins. In the early days, miners solved maths problems by using their personal computers and processors. Later, miners tried to employ graphics cards for gaming and making 3D animation which are more efficient in running bitcoin algorithms. Most recently, application-specific integrated circuits (ASICs) have been used for bitcoin mining which has a stronger computing power but consumes less electricity. It was estimated, in 2014, that at least $1bn has been invested in mining equipment.[6] As more and more miners joined the bitcoin network, the likelihood for individuals to solve the maths problems decreased, so miners started to collaborate through mining pools. Each member of the pool will be rewarded a certain number of bitcoins in proportion to his or her workload. Mining plays an important and indispensable role in the bitcoin world, contributing to the system's efficiency, stability and security.

Numerous miners and investors have become multi-millionaires overnight, as a result of the bullish market. The wealth effect, in turn, has drawn more entrepreneurs, professional investors and tech talents into the bitcoin arena. For example, some IT programmers in the US have turned the basements of their houses into bitcoin mining fields, equipped with sophisticated computer hardware and monitors with scrolling lists of seemingly random numbers and letters.[7] According to the BBC, some Chinese investors have set up bitcoin mines with complex computing systems in small towns high up in the mountains where visitors have to bring their own cans of oxygen.[8] This is because of the Chinese government's unclear attitudes towards the legitimacy of bitcoin mining, as the large amount of money flowing from such mines is beyond state control. A 24-hour mine like this can produce around 50 bitcoins per day, which approximately equal $500,000 based on the current market price. Clearly, China has become the centre of the cryptocurrency universe, for at its peak bitcoin trading in the country accounted for 90% of the world's total transactions.[9]

VIRTUAL CURRENCIES' LEGAL AND REGULATORY ISSUES

The rapid rise of bitcoin and other virtual currencies increasingly raises legal and regulatory concerns. As said, bitcoins have been widely used as a practical method to transfer money internationally, so as to evade national forex regulations. It has resulted in capital flight in some jurisdictions and thus violated financial regulatory rules.

Anti-money laundering dilemma

Aside from circumventing forex regulations, bitcoins have been criticised for aiding global money laundering activities. For instance, in July 2017, Alexander Vinnik, a Russian citizen who operates the bitcoin exchange BTC-e, was accused by the US authority of laundering over $4bn for criminal activities ranging from computer hacking to drug trafficking.[10]

Larry Fink, the CEO of BlackRock, the largest asset management firm in the world, recently commented that:

> "Bitcoin just shows you how much demand for money laundering there is in the world. That's all it is."[11]

Bitcoins seem to be a perfect tool for laundering criminal proceeds as all transactions bypass the regulated banking system, making the tracking of money movement difficult for public authorities. In contrast to the traditional financial industry bounded by disclosure and transparency rules, the bitcoin market allows 100% anonymity (or pseudonymity). The purchasing or selling of bitcoins does not require user identification, and bitcoin exchanges do not need to keep a proper documentation of their users and transactions. Moreover, bitcoin transactions can be executed through the so-called dark web by using "The Onion Router" (TOR) network, which hides the real IP address of users. What makes criminal investigations more difficult is the decentralised feature of bitcoin. A transaction typically spreads across multiple jurisdictions, creating uncertainty about which country's authority has the power to launch a criminal investigation. It also causes difficulty in terms of which country's anti-money laundering regulations should be applied.

The legitimacy of ICOs

The second regulatory concern relating to bitcoin is whether the ICOs are legitimate under securities regulation, and the answer varies across different countries.

On 29 September 2017, the US Securities Exchange Commission (SEC) charged a businessman and two companies running ICOs with fraud and selling unregistered securities (around $300,000).[12] However, in cases where large ICOs are backed by major law firms and Silicon Valley tycoons, the SEC tends to interpret such practices in favour of the fundraisers. Across the Pacific, the Chinese authorities have taken a tough stand on ICOs. On 4 September 2017, the People's Bank of China (PBOC) together with the

- China Banking Regulatory Commission;
- China Securities Regulatory Commission;
- China Insurance Regulatory Commission;
- Cyberspace Administration;
- Ministry of Industry and Information Technology; and
- State Administration for Industry and Commerce,

jointly issued the The Notice of Preventing Financial Risks Relating to Initial Coin Offerings (the Notice).[13]

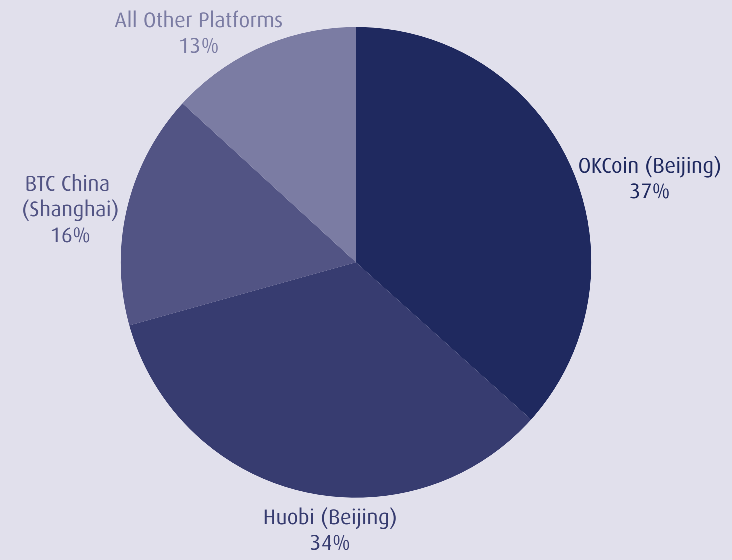
This piece of regulation plays a vital role in determining the legal status of ICOs in the world's largest market for bitcoins and other cryptocurrencies.

Article 1 of the Notice describes ICOs as unregistered and illegal public fundraising activities, which could result in criminal offences under People's Republic of China (PRC) Criminal Law including offences for illegal selling of tokens, illegal securities issuance, illegal fundraising, and for financial fraud and pyramid schemes. Article 2 has imposed an immediate ban on any new ICOs. Organisers of completed ICOs are required to set up repaying arrangements, so as to protect the interests of existing investors and to manage financial risks. As ICOs have been deemed illegal in China, the bitcoin price fell by 9% to $4,437 following the release of the Notice.[14]

Financial stability concern

Financial stability has been the primary concern for global financial regulators when dealing with burgeoning virtual currencies. Although the $150bn cryptocurrency market only takes up a small proportion of the entire financial industry, the rapid growth suggests its increasing importance. The recent price hike indicates the formation of an asset bubble. Clearly, investors who entered the bitcoin market at an early stage have profited

DIAGRAM 2
Bitcoin Trading Volume by Global Exchanges. Data Source@ Bitcoinity.org



handsomely from the massive rally, but for new investors there seems to be more risks than prospective benefits. The continuing bullish market is, to a large extent, driven by pure speculation rather than the fundamentals of virtual currencies. A further price correction is expected in the near future. A decade ago, the burst of the US subprime housing bubble triggered the global financial crisis and subsequent economic recessions. The destructive power of a financial bubble is self-evident undermining people's confidence in the capitalist economy and liberal democracy. The Chinese central bank and securities regulator are particularly wary of any signs of a speculative bubble, as the country encountered a devastating stock market crash in 2015.[15] The burst of the bitcoin bubble could have a negative impact on the global economy and even cause social unrest, as the relevant investments are not covered by official financial protection schemes. As a result, when a crisis hits, bitcoin investors will have to bear all financial losses themselves.

Thus, in September 2017, the Chinese authorities ordered some top bitcoin exchanges (including OKCoin, Huobi and BTCC) to close down and submit plans for liquidating their businesses, so as to cool speculative activities and prevent the next financial crisis.[16] The market responded fiercely to the announcement, as the bitcoin price slumped by over 20%.[17] However, OTC transactions are still allowed, and mining activities have not been affected so far. Accordingly, whether such extreme regulatory methods are effective or not remains unclear. These methods could force investors to trade directly with each other or trade through foreign platforms, leading to extra financial risk and greater difficulty in monitoring and supervision.

WHAT'S NEXT? STATE-BACKED CRYPTOCURRENCIES?

As mentioned, one distinctive feature of cryptocurrencies is decentralisation and non-authority intervention. However, this is about to change as governments in several countries have been testing state-backed cryptocurrencies. The issuance of notes and the creation of new money had been the preserve of central banks for centuries until the recent invention of peer-to-peer virtual currencies, so it is unsurprising that monetary authorities feel reluctant to hand over this great power to individuals and companies which can easily create a new virtual currency simply with personal computers connected to the internet. An official cryptocurrency seems to be a compromise between financial innovation and state control. State-backed virtual currencies will make it easier for central banks and financial regulators to oversee the money flow and detect underlying financial risks. In addition, it could also facilitate the making, implementation and adjustment of monetary policies in particular jurisdictions.

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Since 2014, the PBOC has carried out several trial runs of its prototype cryptocurrency. The PBOC could be the first major central bank to issue virtual money endorsed by the state.[18] The Bank of Canada is also examining the possibility of introducing a government-issued digital currency.[19] A consortium of Japanese commercial banks has recently obtained a regulatory approval from their central bank and financial regulator to launch the "J-Coin", a quasi-official cryptocurrency which can be used to pay for goods and services as well as transfer money via smartphones.[20]

A TENTATIVE CONCLUSION

At present, it is difficult to ascertain how large the bitcoin bubble is, when it will burst, and what forms of governmental responses are needed. Clearly, over-optimism about the future of blockchain technology, bitcoin and other cryptocurrencies should be avoided, as irrational exacerbation often leads to financial disaster. In an ever-changing financial world, we should bear in mind the proverb: caution is the parent of safety. ■

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Biog box

Dr Lerong Lu is a Teaching Fellow in Financial Law at King's College London. Email: lerong.lu@kcl.ac.uk The author would like to thank Professor Michael Schillig for his comments on the draft of this article. The usual disclaimer applies.

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12 US Securities Exchange Commission, https://www.sec.gov/news/press-release/2017-185-0, accessed 4 November 2017.

13 People's Bank of China, http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3374222/index.html, accessed 4 November 2017.

14 Nan Ma, 'China halts virtual coin-based fundraising after declaring offerings illegal', *Financial Times*, 5 September 2017, p 18.

15 Lerong Lu and Longjie Lu, 'Unveiling China's Stock Market Bubble: Margin Financing, the Leveraged Bull and Governmental Responses' (2017) 32 *Journal of International Banking Law and Regulation* 146, 149.

16 *BBC News*, 'China orders Bitcoin exchanges in capital city to close', 19 September 2017, available at http://www.bbc.co.uk/news/business-41320568, accessed 5 November 2017.

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Further Reading:

- Regulating initial coin offerings (crypto-crowdfunding) (2017) 8 JIBFL 495.
- Governing the blockchain: how to determine applicable law (2017) 6 JIBFL 359.
- LexisNexis Loan Ranger blog: The keepers of the keys: remedies and legal obligations following misappropriations of cryptocurrency.