Cryptocurrencies and why policy makers will need to adopt ‘cross-sector’ thinking

Policy Pulse June 2018 compendium
This article forms part of the June 2018 EY Policy Pulse compendium. A collection of six articles that cover key topics which will become increasingly important to UK policy makers and regulators, company boards and investors. Policy Pulse aims to help ensure boards know about these topics and the associated changes, challenges and opportunities that lie ahead.

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The cryptocurrency phenomenon, which began with the creation of Bitcoin in 2009, has gained worldwide press coverage and captured the imagination of the public. It has created an asset class, in the form of digital currency underpinned by cryptography, and focussed attention on new types of decentralised electronic architecture, including the concepts of blockchain and distributed ledger technologies more broadly.

More recently, the phenomenon of initial coin offerings (ICOs), involving the creation of crypto-assets (i.e., ‘coins’) with certain characteristics, either in exchange for money or more commonly other cryptocurrencies, has arisen as a new and intriguing method of funding ventures; albeit one that has highlighted significant risks concerning investor protection.

These types of assets and architectures represent important ‘inventions’ in the digital economy and, while at a very early stage of evolution, they are also of major regulatory public policy significance given the increasingly digitised and networked nature of modern century economic activity.

Cryptocurrencies provide opportunities to support innovative business models and economic relationships, but also present challenges to policymakers. Cryptocurrencies introduce fundamentally new concepts and technologies, cut across multiple policy areas (including, but not limited to, financial regulation) and pose risk when not managed correctly. To harness the full potential of cryptocurrencies, we need to draw on lessons from both the technology and the financial services sector as well as considering altogether new concepts in digital finance.

Additionally, as companies focus on how to embed technologies like blockchain into their financial processes, auditors will need to innovate the external audit to meet their evolving needs and those of investors. For example, in April 2018 we announced the pilot of the EY Blockchain Analyzer, a suite of blockchain audit technologies that enhances the ability to perform an in-depth review of cryptocurrency business transactions. This proprietary technology is designed to support EY audit teams as they perform audits for companies using cryptocurrencies and also lay the foundation for testing of blockchain assets, liabilities, equity and smart contracts as companies adopt blockchain technologies. However, this is clearly only the beginning of the evaluation of external audit for these new technologies, and regulators and auditors will need to work closely together to deliver an appropriate response.

### Why should policymakers pay attention?

To start with an important clarification, neither cryptocurrencies nor blockchain technology have yet delivered on their initial promise of meeting the needs of consumers or business with anything approaching widespread adoption. Commentators point, in particular, to the slow speed and high energy consumption of the bitcoin network, rendering limited value as a day-to-day means of payment. By extension, therefore, some may question the merits of policy interventions in this market, as it may simply be a fad that runs its course.

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**Bitcoin 101**

The bitcoin network was originally proposed in a paper by Satoshi Nakomoto, and created for the very first time a decentralised, peer to peer payment network, based on digital assets. These digital assets are akin to bearer instruments in that position of a piece of cryptographic code (to so-called ‘private key’) denotes possession of the asset. The private key can be stored on an electronic device, entrusted to a third party, or even (in theory) committed to memory, and then handed directly to third parties by way of payment. Transactions need to approved by the bitcoin network which avoids the problem of potential ‘double spend’ of cryptocurrency.

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1 The US Department of Commerce, Bureau of Economic Analysis defines ‘digital economy’ as including *(1)* the digital-enabling infrastructure needed for an interconnected computer network to exist and operate, *(2)* the digital transactions that take place using that system (‘e-commerce’), and *(3)* the content that digital economy users create and access (‘digital media’).

2 The Harvard Business Review, in its article The Truth About Blockchain, January 2017, describes blockchain as being: “The technology at the heart of bitcoin and other virtual currencies, blockchain is an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.”
We believe this thinking is wrong as it fails to reflect the very early stage of developments of these technologies. Indeed, we are not yet a decade on from their first conception in Satoshi Nakamoto’s October 2008 white paper (see page 6). Moreover, to assume there is no role for crypto-assets in the digital economy of the future is to assume that intermediated forms of payment or exchange will always be superior to those conducted peer-to-peer via a truly digital transaction. While there are few truly digital peer-to-peer payment network models today, we believe these models will find their uses, for example in the case of micropayments and in the creation of limited purpose tokens to pre-fund and operate certain market utilities.

Increasingly networked commercial structures are leading to large volumes of information flows which cause potentially large administrative burdens. New collaborative approaches, including distributed databases and systems architecture, with innovative consensus methods and sharing records as ‘one version of the truth’ (where one ledger is shared between multiple parties), are surely bound to become increasingly common models of economic cooperation.

In short, in a global digital economic system, we cannot foresee a future that is without a role for digital (or crypto) assets. Moreover, due to their digital nature, these assets have an additional advantage: you can embed features into the code, commonly referred to as ‘smart contracts’, which may obviate the need for the (manual) performance monitoring and control that is required under a traditional contract. The extent to which participants are willing to be bound to the scheme will, however, ultimately determine its efficiency and success.

The regulatory challenge

To date, the regulatory response to the emergence of cryptocurrencies has largely been jurisdictional. We have seen regulators move from ignoring ICOs to banning them altogether. While some regulators regulate the ICO in accordance with the nature of the token, others continue to view them as unregulated. The interpretation of the nature of the token can also vary greatly between countries e.g., property, shares, right-to-claim and currency.

Overall, regulators tend to become more active and more likely to intervene if and when there are signs of material consumer harm or lawbreaking in areas including currency control, securities, anti-money laundering, tax and/or personal data. On the other hand there is also, in some countries, a sense that cryptocurrencies may present innovative opportunities which should not be lost.

Given the level of uncertainty associated with ICOs and cryptocurrencies generally, especially in the context of regulation, it comes as no surprise to us that they tend to be regarded, for now, as a comparatively less effective alternative to traditional currencies. Indeed, as an asset class which falls outside current investor protection regulation, it is definitely a case of ‘buyer beware’ and some commentators have taken the view that for the time being only the more sophisticated investors should be engaging in cryptocurrencies.

We are watching developments in this area very closely, and like most other business leaders we are also taking account of how the regulatory community and governments around the world are responding. In December 2017 we published the results of our research into this area (EY research: initial coin offerings (ICOs) December 2017). 2018 should see the development of more co-ordinated global approaches to the regulation of cryptocurrencies, with the G20 having asked a number of agencies to report in July 2018 on their work on crypto-assets.3 In the UK, HM Treasury has announced a taskforce involving the Bank of England and the Financial Conduct Authority, to explore further the risks of crypto-assets and the potential benefits of the underlying distributed ledger technology, and to drive regulatory and other official responses.

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3 https://g20.org/sites/default/files/media/comrique_-_fmcbg_march_2018.pdf
Should regulators regulate technology?

In certain spheres of technological and industrial economic activity, policymakers decide to regulate specific technologies (such as industrial or chemical technologies) in order to ensure they can be used safely. The technologies are not typically unsafe in themselves, but if applied without sufficient caution, could cause significant harm.

The concept of regulating technologies may appear unfamiliar to those in the financial services markets where specific activities are regulated, and firms have to obtain authorisation to carry on the regulated activities.

There are, of course, challenges to regulating digital technology due to its borderless characteristics which require globally coordinated policymaking. With new forms of technology entering the financial world, we believe it may be time to close the gap between these approaches to regulation. This principle may also have application in other fields such as artificial intelligence, where it may be desirable to apply certain restriction on where or in what ways technologies are used.

Should regulators regulate the electronic marketplace?

There are also some lessons that established parts of the financial services sector can bring to the broader digital economy, including cryptocurrencies.

Marketplaces and platforms are increasingly common in the digital economy. These marketplaces connect willing buyers and sellers of services, and in a financial services context willing providers and recipients of capital. In financial services, electronic markets for securities and other financial instruments are mature the UK (although still subject to ongoing development). The operation of a multilateral trading facility is a regulated activity, as is dealing (as principal or agent) in investments including securities and derivatives. These activities now fall under the Market in Financial Instruments Directive II and the Markets in Financial Instruments Regulation. Cryptocurrencies, however, fall outside of these rules entirely (although derivatives do not) as they are not a regulated investment: therefore, like many other platforms and marketplaces in the digital economy, there is no specific regulation covering the activities.

Many other forms of electronic marketplace, such as electronic platforms for exchange of goods and services and information, have emerged in recent years outside the financial services sphere and largely without any specific policy or regulation being applied to them. However, we believe there are learning points which we can take from financial services regulation and apply to these markets. For example, the structure of markets has to be clearly defined and codified (i.e., quote driven or order driven markets), creating transparent dynamics of price discovery. There is also recognition that certain types of behaviour by market participants or indeed the marketplace operator is not conducive to the orderly operation of the market, so practices such as ‘spoofing’ (i.e., feigning interest in undertaking a transaction in order to manipulate prices) are treated as market abuse.

As platform businesses and electric marketplaces, including cryptocurrency exchanges, become ever more important in the digital economy, we believe that policymakers should learn from the efficient regulated markets in order to provide protection of customers and systemic stability. There may also be a need to extend the scope of financial regulation to include certain types of markets, which are currently unregulated.

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Questions the board should be asking itself

► Does the company have a committee — with members drawn from all relevant functions including Legal, Risk and IT — to consider and approve the adoption of innovative technology? If so, does it have clear reporting lines to the Board?

► Has the Board considered accepting cryptocurrencies as a method of payment?

► If so, has the Chief Risk Officer assessed the legal, regulatory and risk management implications, including financial crime risk, cyber and data security and exchange rate risk?

Conclusion

There is currently what appears to be a global policy vacuum relating to cryptocurrencies. More broadly there seems to be a shortage of high quality policy thinking being applied to the platforms and electronic marketplaces upon which these asset are transacted and in which many other forms of economic activity are conducted. Technology is developing rapidly, creating new economic opportunities and risk.

The UK Government’s crypto-assets task force is a welcome development but international coordination, following the discussion of proposals at the July 2018 G20 meeting will be vital for their efforts to bear fruit.

Cryptocurrencies have not yet matured to the point of being useful for day-to-day transactions, and doubts remain about the long-term structure of digital or cryptographic instruments and the networks that will shape future economic activity. However, they have reached the point where they can teach us important lessons about both the digital economy and the increased pace and innovative thinking that is now needed in policymaking.
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