CRYPTO A.M.

Our series on AI, Blockchain, Cryptoassets, DLT and Tokenisation

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PARTNER CONTENT

CITY A.M.'S CRYPTO INSIDER

JAMES BOWATER

I write ahead of the May Bank Holiday so the market prices cited here might have changed considerably. But, at the time of writing (3 May), Bitcoin (BTC) is trading at US$5,829.27; Ethereum (ETH) at US$170.28; Ripple (XRP) at US$0.3106; Binance (BNB) at US$23.57 and Cardano (ADA) at US$0.07009. Overall Market Cap is up at US$185.65bn (data source: www.CryptoCompare.com

Given the considerable jump in BTC price since last week, I asked my friend and Wall Street analyst Thomas Lee of FundStrat whether we are now out of Crypto Winter and into Spring. "There are ever-growing signs that Crypto Winter is over. Facebook looks to be developing a pretty extensive decentralised financial system relying on crypto currencies, clearly a positive. Fidelity Investments completed a survey showing considerable interest by institutions for crypto. Add to this the resilience shown by the market after the tether issues and the positive price developments on a technical basis and it looks like Crypto Winter has thawed and Spring has sprung."

Also this past week I sat with CryptoUK executive members Iqbal Graham (eToro) and Charles Hayter (CryptoCompare) to discuss why UK regulators should look at the French approach towards crypto. Many Cryptoasset businesses, including CryptoUK's members, can attest to the fact that the difficulty in accessing UK banking services is severely hindering the sector's ability to innovate and grow. Government and regulators, which are consulting on potential regulation of the Cryptoasset industry, would do well to look to France, which recently introduced new crypto regulation, guaranteeing a bank account to firms that opt in to be regulated.

The banking industry's reticence to embrace crypto has left many responsible and legitimate companies forced to consider moving their operations to friendlier, but riskier, jurisdictions abroad. Despite the Chancellor's recent assurances that the UK will remain a global fintech hub after Brexit, the growing crypto sector needs support from both regulators and the banking industry if it is to thrive in the UK.

Spending time in Fleet Street, newspapers' historic home, I had the pleasure of spending time with Fetch.Ai, who recently completed the first IEO through Binance Launchpad. Traditional commodity trading has a range of challenges, from high barriers to entry for customers to trade and limited risk management, to lack of system connectivity among markets, which makes it ripe for innovation.

Consequently Fetch.Ai is building an intelligent blockchain platform for launch in 2020 that will enable liquidity and hedging in a range of commodities markets, connecting different-sized stakeholders. By opening up trading in this way, risk is reduced for smaller producers who could not compete before due to limited liquidity.

Also present were *Crypto A.M.* contributors TokenMarket who are providing the KYC/AML component for the platform, which is legacy system and blockchain agnostic, ensuring as wide an audience for adoption as possible.

GOVERNMENT AND BLOCKCHAIN: THE ONGOING PROCESS OF REGULATION

Designed by Phill Snelling, Bowater Media

In New York this summer a book on double-entry bookkeeping will be auctioned by Sotheby's. The 15th-century text offers a definitive guide to the accounting practice and forms the basis of so much of what followed financially for the next half millennia. We now have the potential, with distributed ledger technology (DLT), to do something that should be as significant for the next half millennia.

A quick note on terminology: DLT is an umbrella term for all the technologies, including blockchain, that store, distribute and facilitate the exchange of value between users either privately or publicly. Blockchain is the most famous example as it is the technology that underpins Bitcoin.

GOVCOIN SPARKS INTEREST

I became interested in DLT not through Bitcoin speculation but from a Department for Work and Pensions (DWP) benefits pilot known as Govcoin. When first questioning the government on the subject in early 2017 it was clear that fellow legislators were not hugely engaged with this technology.

If using the quality of responses from the House of Lords Chamber as a barometer for general levels of interest and understanding I'm happy to report that there has been a significant improvement in the intervening years.

An early and excellent report by Sir Mark Walport had spelled out a compelling argument for investigating the potential applications of DLT and detailed some of the potential barriers. Inspired by my understanding of the benefits and potential of the DWP/Govcoin pilot I was determined to urge the government to explore potential use cases, invest in pilots, work cross-government and most of all consider this from the perspective of the public good. My report, *Distributed Ledger Technology for Public Good*, argues that much can achieved if we get the right combination of leadership, collaboration and innovation.

TERMS OF ENGAGEMENT

We are now at a stage that although awareness is increasing many challenges remain. One is around the crucial issue of language and an agreed understanding of key terms. Blockchain and Bitcoin are less likely to be used interchangeably but the distinction between Initial Coin Offerings and Security Token Offerings or between coins, tokens and securities is a less clear. This is also, of course, a huge part of the regulatory puzzle.

Regulating DLT is a slight misnomer. Generally, you don't regulate the technology, you regulate the activities, services or operations of the technology. The internet is a good comparator because even now we are still getting to grips with 'internet regulation'. The Government last month published its *Online Harms White Paper*, which proposes a new regulatory framework for online platforms. Age-verification legislation for certain websites has also just come into force.

Last year, the Treasury (HMT), Bank of England and Financial Conduct Authority formed a Cryptoassets Taskforce to consider regulation of cryptocurrencies. The taskforce has promised guidance by the end of this year.

As well as investor/consumer protection it is likely that regulation of distributed ledgers will focus on issues around identity and privacy. Questions are being asked about whether distributed systems comply with privacy regulations, and the French Government have raised concerns about the incompatibility of this technology with specific regulations around privacy in GDPR.

GLOBAL APPROACHES

Globally, there have been three broad approaches to regulation. In the US there is a sense that everything new will fit in an existing bucket. In Asia they have tended to move faster in creating new legislation, either regulating or prohibiting. In Europe, and the UK, there is much more of a tendency to wait and see.

Although not rushing to regulate, in the UK the Government and regulators have been proactive in developing and exploring regulatory issues in a practical and collaborative way through the FCA Innovate Regulatory Sandbox and the Bank of England's FinTech Hub. It is fascinating that although not explicitly a blockchain initiative, 40 per cent of the firms selected for the fourth cohort were DLT-based.

But regulation and standards, each of which are essential, take time. The market will not stand still while these mature. Nor do I think we can anticipate all of the legal, regulatory and indeed social issues associated with this technology and the distributed systems they enable without getting on and actually doing stuff, exploring individual public and commercial use cases and ensuring the lessons learned, good and bad, are disseminated as widely as possible.

At this early stage in its development I do not think this can be left to the market. Commercial interests can (and are) getting in the way and the utility potential for this is at risk of being lost.

LOOKING TO THE FUTURE

My colleagues and I are looking to establish a collaborative framework for the UK in which this new, foundational technology can be tested and its value properly assessed.

We need to involve incumbents and challengers, financial and physical supply-chains, tech companies and third-sector groups and, crucially, we need government involvement – not necessarily in terms of taxpayers' cash, but through leadership, collaboration and ensuring the interests of UK citizens and businesses are upheld.

> Technology is far too important to be left to the technologists

There is no separate world of digital - it's not optional, it's inevitable. We must ensure that our political and regulatory institutions understand that and adapt, to transform, enable and empower. Technology is far too important to be left to the technologists.

I will continue to champion the exploration – for the public good – of all things DLT in government, and I applaud the DLT community for working together to collaborate, engage with policymakers and regulators, to educate and inform about the opportunities and potential of blockchain. *Carpe* DLT.

By Lord Holmes of Richmond MBE: www.chrisholmes.co.uk; on Twitter @LordCHolmes

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CRYPTOCOMPARE MARKET VIEW

Markets buoyant as FB plans coin

Plans were revealed last week for a cryptocurrency-based payments network on Facebook (FB). According to the *Wall Street Journal*, the social-media juggernaut is planning to launch a US-dollar backed stablecoin and is in talks with dozens of firms including Visa, Mastercard and payment processors First Data.

Internally dubbed 'Project Libra', the stablecoin will reportedly serve as the currency of the payments system, will aim to eliminate merchant credit-card fees and may act as a means of rewarding FB users for viewing advertisements or spending time on the platform.

The markets have recovered significantly after being knocked briefly into disarray following last week's allegations that Bitfinex exchange and its related stablecoin company – Tether – were engaged in an $850mn 'cover-up'. Markets dropped across the board by 5%, with bitcoin hitting a weekly low of $5,200 before a steady recovery. Bitcoin at the time of writing (3 May) is testing new highs for 2019 and pushing towards the $6,000 mark.

In other positive news, a survey released this week revealed that 47% of US institutional investors believe Cryptoassets to be worth investing in. Carried out by Greenwich Associates for Fidelity Investments, the survey quizzed 441 institutional investors to gauge how pensions, hedge funds, endowments, and family offices feel about investing in Cryptoassets. Conducted during the depths of the Crypto bear market between November 2018 and February 2019, the survey also showed that 22% of respondents already owned Cryptoassets.

Also, a new ad campaign from Grayscale Investments, a Cryptoasset management firm and subsidiary of the Digital Currency Group, urges investors to 'drop gold' in favour of bitcoin.

Finally, the CryptoCompare Digital Asset Summit will take place in London on 12 June. With keynote speaker Andreas M. Antonopoulos, the summit will feature presentations from some key figures in the space including Coinbase, Binance UBS and the Bank of England.

CRYPTO A.M. INDUSTRY VOICES

Why Quorum catches the eye

JP Morgan's venture into the blockchain world raised a lot of eyebrows in the Crypto community recently. Firstly this is due to the nature of JP Morgan being a 'big bank', the exact kind that blockchain maximalists tend to rally against. Secondly it's because their CEO Jamie Dimon has long been a vocal critic of Bitcoin.

But contrary to the raised pitchforks of Crypto 'gurus' everywhere, what you may not have known is that JP Morgan's interest in blockchain is nothing new. In fact, this project is something they have been working on since at least 2016.

It's easy to be sceptical of why a big bank would want to embrace blockchain, but banks have their own set of problems.

Sending money between banks often relies on a third-party service: usually something like SWIFT, which comes with its own fees and delays.

Banks often trade debt and other instruments that can have negative value, and are more complex to represent and trade.

Blockchain can help solve these issues by opening up new opportunities through tokenisation and smart contracts to trade and transfer these more complex kinds of assets. Smart contracts can automate processes, greatly reducing cost and facilitating compliance with laws and regulations.

So why would JP Morgan create their own blockchain instead of just picking something off the shelf like Ethereum?

With a public ledger like the Ethereum blockchain, transactions are open and transparent, but banks need to comply with a plethora of laws and regulations designed to keep financial data safe and activity legal. This means that these current solutions are a no-go area without addressing the need for private transactions and permissioned actions first.

JP Morgan's project is called Quorum. It's a fork of Ethereum and is updated in line with Ethereum releases, yet has some extra features built on top designed specifically for the financial industry.

The first addresses the performance issue. Quorum is built for enterprise-level scale and performance, able to process dozens to hundreds of transactions per second depending on how the network is configured.

Quorum also addresses the issue of privacy and permissions by allowing private transactions between parties while still maintaining the transparency that the transaction took place.

Since all players are known and approved in a private network, we don't necessarily need a consensus mechanism like proof of work. Quorum has support for several different types of consensus algorithm, such as RAFT, Istanbul BFT, or their own vote based Quorum-chain consensus.

Smart contract privacy is also increased with the introduction of private smart contracts whose state remains hidden from the rest of the network.

Quorum uses a stablecoin to facilitate inter-bank settlements in near real time, a huge improvement on the 24 to 48 hours that it takes on the SWIFT network and with a fraction of the fees.

In summary, Quorum is an open-source enterprise blockchain ecosystem that allows for private transactions, permissioned chains, and different consensus mechanisms. It is configurable for different use cases, and represents a significant step forward in institutional attitudes towards distributed ledger technology (DLT).

Quorum aims to solve the privacy, and scalablity issues of using something like Ethereum in an enterprise setting where the contents of data may be subject to data protection laws and regulations as well as needing larger throughput and performance.

JP Morgan have made an important contribution to the field: a robust yet flexible enterprise solution that solves the privacy and scalability issues that may have made institutions hesitant in exploring blockchain in the past.

Quorum delivers an open platform for institutions to explore blockchain technology on their own terms, learn how to live in a blockchain world, and operate with tokenised assets on their books.

By Spencer Dixon, leading software developer; Twitter @spencerldixon

Crypto AM shines its Spotlight on Wirex Business

A decade since the Bitcoin white paper popularised decentralised digital currency, consumers enjoy an extraordinary wealth of options for buying, exchanging and spending their cryptocurrency.

The ever-increasing number of fintech startups that offer digital payment services have helped open the market for more mainstream adoption, with one notable exception.

The reluctance of financial regulators to legislate for digital currency has restricted the scope for crypto-friendly business services. Today, many crypto and blockchain-focused startups struggle to find bank accounts that can accommodate their needs due to widespread institutional resistance.

The limited options that exist for business that want to make and manage digital currency come with their own pitfalls, including prohibitively high transaction costs, unnecessarily complex know-your-customer (KYC) journeys and no facility for holding funds under a legal entity name.

The outlook isn't entirely bleak, however. This February, Wirex launched the world's first FCA-licensed, crypto-friendly business account. Developed specifically to disrupt the way that businesses and consumers send and receive payments, the new product allows registered businesses to make and accept crypto and fiat payments around the world, free of charge. Forget multiple, arduous KYC processes for multiple platforms that offer individual products – Wirex Business enables companies to access a range of innovative services on one platform.

The platform opens up novel use cases beyond exchange and international remittance. Its counterparties feature gives users the ability to make their account details and wallet addresses public, enabling invoices, bills and employee salaries to be settled quickly and efficiently.

Wirex worked closely with corporate clients and their wider community to develop a user experience centred around control, transparency, flexibility and choice.

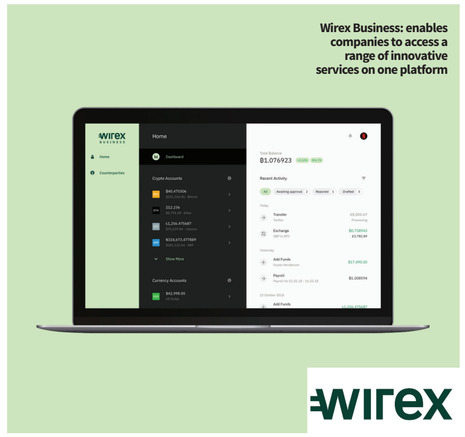
At the time of writing, Wirex Business features multi-currency accounts in four fiat (GBP, EUR, HKD and SGD) and with six cryptocurrencies (BTC, ETH, LTC, ETH, XML and DAI), with IBANs linked to registered company names.

Users can pay and get paid in any of these digital and traditional currencies through SEPA, SWIFT and blockchain payments. Unlike many competing platforms, Wirex offers a paid-monthly, subscription-based pricing model that provides complete transparency on cost. Business accounts are designed to be managed through flexible role and permission management, with the option to hide/unhide currency accounts depending on role.

Corporate products such as Wirex Business are vital for the growth of crypto-friendly businesses that have been stunted by existing market restrictions. The recent proliferation of similar companies is a clear indication of the gradual shift towards a decentralised token economy.

With well over 2,000 cryptocurrencies already in circulation, it's only a matter of time before established financial institutions join the crypto space – until then, Wirex Business provides a genuine and in many ways superior alternative to conventional corporate payment products.

For more information, see http://www.wirexapp.com



Wirex Business: enables companies to access a range of innovative services on one platform

> The platform opens up novel use cases beyond exchange and remittance

DECENTRALISATION: WHAT YOU NEED TO KNOW ABOUT THE JOURNEY

Jon Walsh, Associate Partner, Blockchain Rookies

One of the three main pillars of blockchain is that of 'decentralisation', the other two being distributed and immutable. However, many blockchain applications have a significant level of centralisation even if the underlying protocol maintains a decentralised and distributed structure and design.

We should start by looking at what we mean when we talk about decentralisation. No single party should have the power to stop, change, de-authorise parties, censor or otherwise control what happens on the blockchain.

If a single business entity is using blockchain and it's a fully centralised business or organisation, then there is no valid use case for blockchain. A database will not only suffice but would actually work far better.

Understanding that many projects start off as fully centralised, with an aim to be fully decentralised when mature is key.

Decentralisation should be thought of as a journey. For example, when Bitcoin was first created in January 2009 it was fully centralised, with Satoshi as the only miner, until news of this new digital money spread and there were mining nodes. Now there are circa 10,000 nodes around the world and bitcoin is considered to be decentralised.

If you are considering building a blockchain business or looking at putting together an industry consortium for enterprise, decentralisation should be top of mind.

Having a strategy as to how you would achieve that as the service grows is key. Decentralisation as a concept is a nirvana to reach for, understanding still that centralisation will nurture growth and adoption far more in the formative years. Centralised control should be ceded over time in a managed way, yet for many entrepreneurs in this new space, they may struggle to ever fully let go. It will be interesting to watch how they balance this challenge.

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