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

With the Bank Holiday interrupting printing schedules, I wrote today's column on Friday, 23rd August 2019 in the South of France. Consequently published market prices are as at the time of writing and might well have changed considerably by today.

Bitcoin (BTC) is down from last week at US$10,126.20; Ethereum (ETH) is at US$190.81; Ripple (XRP) is at US$0.2714; Binance (BNB) is at US$27.06 and Cardano (ADA) is at US$0.04982. Overall Market Cap is at US$266.22bn (data source: www.CryptoCompare.com)

Staying in France, all eyes are on Biarritz for the meeting of the G7 and it would appear they have a lot to discuss in the world right now! Global macroeconomic factors are arguably more important than ever.

The Hong Kong protests see no sign of halting anytime soon; the Kashmir crisis is ongoing; Iranian tensions remain high with task forces en route; the worst fires for decades are decimating the Amazon Rainforest; the German economic situation not looking too healthy which could spread throughout the Eurozone and obviously the Brexit deadline is growing ever closer with no concrete signs of an agreement - although Prime Minister Johnson saw glimmers of hope for amending the Withdrawal Agreement.

All this uncertainty fuels discussion for safe haven investment with gold punching through $1,500 again. Bitcoin having had a boost from the announcement that Intercontinental Exchange-owned Bakkt will launch on the 23rd September will be evermore attractive as an alternative to gold and not just amongst millennials.

Closer to home, I caught up with Oliver Hibbs-Brockway, Founder & CEO of Nodal as featured in the Crypto AM Spotlight on 30th April (see www.cityam.com/crypto-insider) who expanded on his recent Forbes article for his vision of the future for the freelancer market.

Speaking on the phone from Nodal's London HQ he explained that "blockchain has fundamentally challenged old processes in almost every single industry. HR and recruitment, however, is still outdated and cumbersome.

The application of ledger technology not only automates systems such as invoicing and timesheets, as we're doing at Nodal, but it also has the potential to form digital identities of people while providing ownership back to the holder. The very nature of cryptography provides an ethical environment to gather data. Systems like the Sovrin Network give users control of public or private keys. In addition, zero-knowledge proofs allows users to share and authenticate their digital identity without revealing any sensitive information.

At Nodal, we're implementing such technologies that transform both the accessibility and ownership issues surrounding KYC and data, which has proven to be one of the most valuable assets ever. It's exciting to be part of a project that has a vision to truly decentralise the skills, talent and characteristics that make us all unique."

I'm particularly keen on the possibilities that Nodal's tech stack present - a proper British homegrown business! You can find out more by emailing Nodal Labs at hello@nodal.com.

HOW CRYPTOCURRENCIES ALREADY ADD VALUE TO SOVEREIGN NATIONS

Designed by Phill Snelling, Bowater Media

Cryptocurrencies are almost as old as money itself. Indeed, crypto simply means concealed or secret. So the first man (or woman) who tried to exchange some rocks for a sheep could be said to have been using a cryptocurrency. Up to that point a sheep had been worth 15 chickens. It's simple, really. You attribute a symbolic sense to something you do not see.

FINANCE HOUSES AND LIQUIDITY

Move on to the 1600s when after the Thirty Years War belief in what then passed for "money" was at a low. Something else had to be found, and it was, in the shape of strong finance houses with robust links to other similar houses. They issued their own currencies when the State currencies could no longer be trusted. Move on again to the American experience of the mid 1800s. There were over 8000 "currencies" – usually paper – being traded around the country with a big business in accepting and exchanging them. There had to be some form of currency to enable trade to take place as America expanded. These of course were seriously open to abuse and eventually the individuals and banks that had issued them had to bow to the Federal Government creating its own, reliable currency.

LIQUIDITY CREATED - WIR

In the 1930s there was to all intents and purposes no liquidity in any markets. Things were so bad that some of the good citizens of Zurich created their own currency to enable them to trade. This was called WIR and was, indeed, like those currencies before it, a cryptocurrency. Over the years it has prospered (perhaps one would expect a Swiss monetary instrument to do this) until today it is used by more than half a million people, over 70,000 businesses and transacts some CHF2.5billion annually – that's around half a percent of Swiss GDP. By doing so, it illustrates exactly what "Money" is – a trusted medium of exchange that others will accept, and a stable store of value.

CRYPTO TODAY

The present crop of crypto currencies rely on digital technology to give them credibility. You can't have a run on the "Bank" for example – there isn't one. Despite being relatively small in terms of value (only some 0.1% of total world assets) they already show what digital and crypto currencies can do to enhance people's lives. As an example, if you want to send £1million to anywhere in the world, that will cost you between £20-30,000. Using a digital currency, it can be done for 50p. In fact, the Philippines is looking to create a Bitcoin transfer system for its overseas citizens. Using this system would save their economy over USD1.5 Billion a year – a significant sum in a poor country.

The three cryptos no one talks about

There are three interbank tools that are in effect digital currencies and have been for years. These are:

1. Target2 - the ECB system, the old Bundesbank system which is currently so politically in focus in respect of Italy
2. IMF SDRs - Special Drawing rights
3. The highly secret interbank settlement system at the BIS in Basel.

These three were absolutely crucial in getting the world through the 2007 crisis.

Hyun Song Shin of the BIS argued last year that cryptos (and he was specifically talking about Bitcoin) had issues with scalability and finality. At that time he was right as you would expect, but he was talking about first generation blockchain. We have since had second generation in Hyperledger, and now third generation called Permissioned Decentralised Blockchain. Facebook's Libra will largely use this system and there can be no doubt this will revolutionise the use of digital and crypto currencies world-wide. We've gone from around 35 million wallets to a potential 2.7 BILLION. But Shin's central thesis holds good – you need people to USE these new currencies to make them both trusted and useful, and having exchanged goods for the currency, the person TAKING the currency needs to find someone else to take it as well.

CASH DECLINING

The use of cash has been declining for years in most western countries, and the Central Banks have realised that it will have to be replaced with something. To this end both Sweden and Uruguay have run full scale crypto trials which have largely been successful, though not set for full implementation anytime soon.

The use of cryptocurrencies can and should mean social inclusion. Whilst Central Banks' attitude remains "Bitcoin is not a good idea," the idea behind it continues to fire imaginations all around the world.

THE BRIXTON POUND

This remains a very positive initiative which is making a real difference within Brixton. Arguably it's as old as Bitcoin. People are prepared to use it and pass it on – and the money stays in Brixton. That is different from the likes of Bitcoin which is world-wide, but it doesn't detract from the social inclusiveness of it. We look to history for lessons on the nature of money and the role of central banks in building trust in the use of money in society. The issue of trust has again come to the fore in debates on the durability of cryptocurrencies such as Bitcoin, and how far private money can supplant central bank money as a medium of exchange.

FUTURE PAYMENT NEEDS

In the future, physical cash or even bank transfers as we currently know them are unlikely to be the main answer. Central banks are already working on systems and digital currencies that will be trusted and used. Existing crypto-assets have exhibited a high degree of volatility and are considered an immature asset class given the lack of standardisation and constant evolution. They present a number of risks for banks, including liquidity risk; credit risk; market risk; operational risk (including fraud and cyber risks); money laundering and terrorist financing risk; and legal and reputation risks. But new know your customer and anti-money laundering rules will mitigate much of this.

In many ways, the African sub-Saharan region has become a leader in mobile money resulting in a radical change in the delivery of financial services and significant gains in financial inclusion. Where there is a lack of payment infrastructure, the use of crypto currencies immediately enhances trade and social inclusion. You only have to think of Eastern Europe which hardly had a fixed line telephone system before 1989, and suddenly every man and his dog had a mobile phone, leapfrogging to a new world.

Christine Lagarde in an excellent speech to the November 2018 Singapore Fintech Conference, has posed the question - should central banks issue a new digital form of money?

Arguably they already have. As such, it

Temple Melville, CEO of The Scotcoin Project CIC, in conversation with James Bowater.

For more information visit www.scotcoin.com Temple's LinkedIn profile is https://www.linkedin.com/in/temple-melville-81273328/

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CRYPTOCOMPARE MARKET VIEW

SEC cracking down on actors from 2017 boom

Last week opened with the news that Binance is proposing to launch an "independent regional version" of Facebook's Libra token, maintaining the celestial theme with the name Venus. The project includes the issuing of a set of stablecoins pegged to fiat currencies in several as-yet-undefined regions. The news follows the issuance of a GBP-backed stablecoin through the exchange's Jersey-based subsidiary in July of this year.

The US SEC has issued a cease-and-desist order against ICO Rating, a site popular during the ICO boom for its analysis of upcoming offerings, claiming that the company violated Section 17(b) of the Securities Act. According to the SEC, ICO Rating was compensated around $100k for its reviews, often deemed questionable by investors, without proper disclosures. The move is part of a campaign by the regulator to bring to account the unscrupulous actors from the 2017/18 token mania, which has included action against three notable ICOs to date.

Another major story from the week was the resignation of US internet retailer Overstock's CEO Patrick Byrne. Byrne became a prominent figure in the blockchain space both for his evangelism of Bitcoin and for integrating crypto into the listed company's operations. The announcement followed a New York Times' article in which Byrne made allegations against the US Government.

Finally, derivatives platform BitMEX announced it was restricting access to users in three jurisdictions, namely the Seychelles, Hong Kong and Bermuda, all of which are locations where its parent offices are located. The move is intended to ensure the safety of users' funds and is likely due to regulatory pressure being directed at the trading venue.

CRYPTO A.M. INDUSTRY VOICES

Modelling bitcoin's fair value with on-chain data

When I came across bitcoin in late-2014 I viewed it as a speculative asset whose price was driven by fear and greed. During the previous year it had gone from $12 to $1,200, an increase of 9,900%, before subsequently losing 85% the following year. The concept of a decentralized internet money was fascinating, but bitcoin appeared little more than an experiment.

Fast forward to 2017 and bitcoin had made a resounding comeback. Payment processors that facilitate bitcoin as a means of exchange were on the rise. Bitpesa, an FCA regulated company that enables cross border payments over the Bitcoin Network were on track for over $200MM of volume in 2017. In the US, Bitpay was closing in on $1Bn worth of bitcoin transactions for its second consecutive year. Bitcoin was no longer an experiment; it was the world's first digitally native currency.

Armed with a curious but critical approach, I began to search for data in order to quantify a valuation for the Bitcoin Network. I was not disappointed. Blockchains, unlike traditional payment networks like Visa and Mastercard, provide a vast array of relevant data about network usage to anyone who knows where to look. This data includes the value and velocity of transfers, the number of daily active users, the estimated profitability of the network guardians (or miners), the Profit/Loss position of individual bitcoin holders, total network demand, miners' net inventory positions and much more. All of which can be downloaded directly from the blockchain.

Once the data is downloaded, cleaned and processed it is possible to compute a range of metrics to extrapolate a value for bitcoin (and other similar crypto-asset networks). There are a number of different approaches to determine bitcoin's market value, including both price and non-price indicators.

One of the most interesting non-price models is the network effect. The model describes the positive relationship between the growth in active users and the network's value. The approach was first used by Robert Metcalfe to model the growth of social media platforms such as Facebook and Tencent. Similar to tech stocks, the Bitcoin Network facilitates interaction between users over a digital medium, gaining value as more people use it. Modelling the network effect over the past two years we can identify three points where the market price of bitcoin was within 5% of that derived through modelling it with this approach.

For those looking for a shorter-term signal, the Network Value to Transaction Ratio (NVT) is the kingpin for establishing bitcoin's fair market value. The NVT measures the value of bitcoin based on its utility as a payment network. Put another way, the NVT measures the market capitalisation of bitcoin relative to the total value transferred over the network in a given period. The NVT is comparable to a price to sales ratio and has proved highly effective at signalling when bitcoin is trading at a premium. Moving into a cash position when bitcoin reaches a premium to this fair value between 2018 to the present day would have seen an outperformance of +40% with significantly lower volatility than a buy and hold strategy.

Bitcoin's meteoric rise and subsequent fall in 2018 left many crypto-asset investors reeling. The problem wasn't that the technology was broken. It was that investors failed to quantify a reasonable valuation. As the technology has matured, so too have the analytics. Data companies such as ByteTree now provide a live window into the blockchain to provide network statistics and financial metrics in real-time. For the first time in the crypto-asset market investors are able to make informed, data-driven decisions.

James Bennett CEO at Bitassist & Head of Research at ByteTree.com Find out more about modelling bitcoin's value using on-chain data at www.bitassist.co.uk.

Crypto A.M. shines its Spotlight on Digitex Futures

Cryptocurrency derivatives are having a moment. The CME has reported all-time highs on its regulated bitcoin futures, and Bakkt has also recently obtained clearance to offer a physically-settled BTC futures contract.

Meanwhile, one company is eyeing up the market for retail cryptocurrency futures. Digitex has recently confirmed a launch date for the first-ever zero-fee futures trading platform, a move that could prove pivotal for the entire cryptocurrency exchange space.

WHAT IS DIGITEX?

The Digitex Futures exchange is the brainchild of former professional trader Adam Todd, who started his career in the City trading pits. There, he learned the art of scalping – a small profit, high-frequency trading style.

Later, Todd would apply the same technique to the betting markets. This led him to develop a tool called BetTrader, an online ladder trading interface connecting to Betfair, the world's biggest betting exchange.

Now, Todd is applying everything he learned to the development of Digitex. He's a firm believer that the existing crypto-derivatives markets are ripe for disruption, given that the maker and taker fee structure of the existing exchanges like BitMEX are prohibitive to his style of short-term trading.

By offering a zero-commission futures exchange, Todd believes he can lure in the long tail of retail traders wanting to scalp profits from the volatile cryptocurrency markets.

> "Digitex is set to truly disrupt the cryptocurrency futures industry."

Adam Todd, CEO of Digitex Futures

So how does a zero-fee exchange make money? Well, Todd has come up with a way of using a blockchain-based token, called DGTX, to generate funding to run the exchange.

How it works is that all trade settlements and account balances on the platform will be denominated in DGTX tokens. It won't be possible to trade on Digitex unless you own DGTX, and because the platform has the edge of its zero-commission model, this will continually generate demand. As there is a fixed supply of tokens, this demand will drive up the price. Therefore, the exchange can fund itself in the future by managing the quantity of DGTX tokens.

STANDOUT FEATURES

The exchange will feature the same ladder trading interface that Todd set up in BetTrader; the ideal setup for anyone wanting to focus on making instant trades that ride the markets. Traders can also take advantage of up to 100x leverage.

The company has reserved ten percent of circulating DGTX tokens for automated market makers, which are programmed to lose, creating a mechanical edge in favour of the trader.

Digitex is working alongside Moscow-based development team, SmartDec. An Ethereum smart contract auditing firm with a proven track record of working with some of the biggest names in the blockchain space.

With over 1.5 million subscribers to its waitlist, Digitex will ensure liquidity from day one. Digitex will launch to the public in test mode from 30th November with a full launch expected to happen a few months later.

Find out more at digitexfutures.com.

BLOCKCHAIN SHUTDOWN

Troy Norcross, Co-Founder Blockchain Rookies

Immutability is one of the core principles defining blockchains. Immutability means unable to be changed. But it doesn't mean permanent. If the blockchain is shut down, the data could go away, forever.

SO HOW COULD A BLOCKCHAIN BE SHUT DOWN?

In the simplest of terms, a blockchain can be shut down by turning off the entire network of computers which are required to verify and validate the data in the blockchain.

WHAT HAPPENS TO THE INFORMATION IN THE BLOCKCHAIN ONCE IT HAS BEEN SHUT DOWN?

The answer depends on what happens to the servers. If the data is erased from all of the servers and there is no backup, then the data is lost.

Shutting down the tens of thousands of computers running the Bitcoin network would be difficult, but it's not impossible. The more nodes, the harder it is to shut down. This is one of the reasons why it is so important to have a large number of globally distributed nodes (computers) supporting a public permissionless blockchain.

For a private blockchain, the number of nodes is typically far smaller making shut down of a private blockchain easier. For some enterprise customers it may be desireable to have a blockchain which only exists for a specific period of time.

Once shut down, can you turn it back on again? Possibly. If there are sufficient nodes with a current copy of the data when the blockchain was shut down, they may be able to reach consensus before resuming the work of adding new data to the blockchain.

The information on a blockchain is considered to be immutable. Immutable does not mean true. Equally, immutable does not mean forever.

Thanks to Richard Jackson t:@rncjackson for asking the question: How do you shut down a blockchain?

Get in touch with us info@blockchainrookies.com / Twitter @igetblockchain