MCM Fintech Update[1]
Monday, October 29, 2018

The IMF and World Bank announced the Bali Fintech Agenda. The results of a DTCC pilot demonstrated that distributed ledger technology (DLT) can support the trading volumes seen in U.S. equity markets. Crypto-asset markets were subdued on dwindling volumes with prices finishing little changed on the month. Tether, a controversial stablecoin, became unpegged from the U.S. dollar. The Riksbank will start a central bank digital currency pilot next year.

The IMF-World Bank Bali Fintech Agenda was launched at the Annual Meetings. It proposes a 12-element framework that countries should consider in their own domestic policy discussions and aims to guide staff from the two institutions in their own work and dialogue with national authorities.

Innovation

Nouriel Roubini trashed crypto-assets and blockchain technology in his testimony before a U.S. Senate Committee and a follow-up article. In his testimony, he stated that "crypto was the mother of all scams and (now busted) bubbles, while blockchain is the most over-hyped technology ever, no better than a spreadsheet/database." The crypto community was quick to criticize his tone and claim he made many factual errors.

In practice, experiments with DLT continue, highlighting benefits and limitations. On the positive side, a DTCC pilot project demonstrated that DLT can support typical U.S. equity market trading volumes. The study found that the basic functionality of DLT can process an entire trading day's volume at peak rates. Also, tests on the Digital Asset platform by GFT Technologies showed that a DLT-based platform can handle peak U.S. equity trading volumes, and the Deutsche Bundesbank and the Deutsche Bourse completed a successful trial of a DLT-based settlement platform. In addition, Canada's Project Jasper announced promising results of its integrated payments and securities infrastructure using DLT.

However, the World Payments Report concluded that DLT is not currently capable of meeting financial market requirements given the lack of interoperability standards, lack of regulatory clarity, scalability issues including lengthy times to add blocks, security, and implementation cost. Also, DLT-related solutions are not mentioned in the Federal Reserve Board's call for comments on actions the Fed could take to support faster U.S. payments. Australia's Digital Transformation Agency explored blockchain technology applications within government services, finding that existing technologies are more suitable.

An International Swaps and Derivatives Association white paper identified steps for determining whether smart derivative contracts can increase market efficiency, and which terms are suitable for automation. Smart derivative contracts embed in executable computer code legal documentation provisions that can be performed automatically. An

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[1] Prepared by John Kiff and Hunter Monroe, reviewed by Tommaso Mancini Griffoli and cleared by Fabio Natalucci (all MCM) with a special contribution from Jess Cheng (LEG). This issue covers developments since the September 28 edition. The information herein has not been verified through official channels. For an explanation of fintech concepts, see Fintech and Financial Services: Initial Considerations.

example of the types of operational clauses that could be automated include requirements that an amount be payable on a payment date equal to the product of a calculation amount, a floating rate (plus or minus a spread) and a day count fraction.

Authorities in several countries are actively reaching out to the private sector to better understand Fintech developments. The U.S. SEC launched the Strategic Hub for Innovation and Financial Technology (FinHub), and the Federal Deposit Insurance Corporation will be setting up an office of innovation to help banks deal with fintech challenges. The Bank of Canada launched the Partnerships in Innovation and Technology (Pivot) program by which central bank staff will collaborate with external partners for six-month periods.

Three companies are now making commercial use of Ripple's xRapid platform. Two of the firms were cross-border payment service providers (MercuryFX and Cuallix) and the other was a U.S.-based credit union (Catalyst). xRapid uses Ripple's XRP crypto-asset as a cross-border payment bridge currency to reduce the cost and increase the speed of these payments by boosting liquidity, while eliminating the need for pre-funded nostro accounts.

The IMF's 2018 Financial Access Survey (FAS) found that low-income countries continue to lead the way in mobile money, with twice as many mobile accounts as bank accounts. Progress in closing the financial inclusion gender gap has varied widely, and non-branch retail agent outlets play a key role particularly in Latin America and South Asia.

Regulation

The Financial Stability Board concluded that crypto-assets do not pose a material risk to global financial stability at this time, but vigilant monitoring is needed in light of rapid market developments. Based on its assessment of the primary risks present in crypto-assets and their markets (low liquidity, leverage use, price volatility, and operational risks) it concluded that crypto-assets lack the key attributes of fiat currency.

Japan's Financial Services Agency gave the crypto-asset industry self-regulatory status. The Japan Virtual Currency Exchange Association has been given rights to set non-binding rules to improve market practices to safeguard customer assets, prevent money laundering and set operational guidelines, and monitor compliance. It is not mandatory for a registered exchange to become the member of the self-regulatory organization (and the SRO cannot impose investigation and regulatory actions). Also, the Japan Financial Services Agency is considering putting stringent leverage caps on exchange-based margin trading.

The Financial Action Task Force (FATF) adopted changes to its standards regarding virtual assets and firms involved in crypto-asset related activities. Exchanges and wallet providers will be expected to implement AML/CFT controls, be licensed or registered, and supervised or monitored by national authorities. Given the speed of innovation, and to ensure that the FATF Standards remain relevant, the FATF will review its standards as they apply to the virtual asset sector in 12 months.

Chinese peer-to-peer (P2P) lenders continue to come under regulatory pressure. New stricter licensing requirements are expected to pare the 1,500 firms operating in China's $120 billion P2P lending market down to as few as 50 deemed able to meet the new requirements.

Also, U.K. P2P property lender Lendy is facing large losses on mounting non-performing loans, as the Financial Conduct Authority also looks to crack down on the industry.

India's largest Bitcoin exchange moved to Malta to escape regulation. Two thirds of financial service practitioners failed Malta's cryptocurrency licensing exam.

Market Developments

Crypto-asset market capitalization finished little changed on the month at $210 billion on dwindling trading volumes (Figures 1 to 3). Bitcoin traded in a narrow range finishing the month virtually unchanged from end-September at $6,500. The major altcoins were weaker with both Ethereum and Ripple dropping about 12 percent on the month. There are now over 2,000 altcoins, compared to 1,335 at end-2017. The U.S. Securities and Exchange Commission announced that the review of nine prospective Bitcoin exchange-traded funds has been extended to end-October.

Several stablecoins (crypto-assets pegged to fiat currencies) became unpegged from their underlying fiat currencies (Table 2). U.S. dollar-linked Tether which has been the subject of much controversy, traded as low as $0.93 in October, finishing at around $0.99. Meanwhile, the Gemini Dollar spiked to $1.19 before settling back to around $1.01. Both are reportedly backed one-to-one with U.S. dollars, but there are also crypto-asset backed fiat-pegged stablecoins, and uncollateralized stablecoins that algorithmically adjust supply based on demand to maintain a constant price.
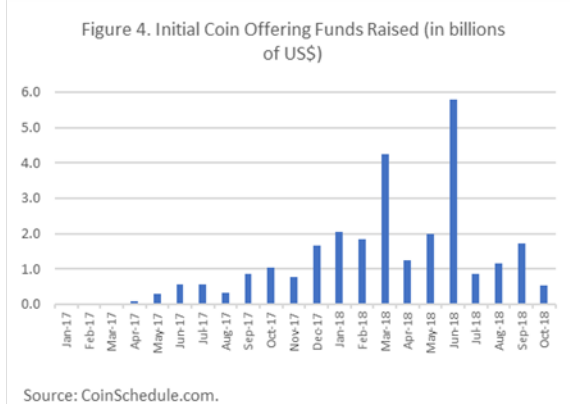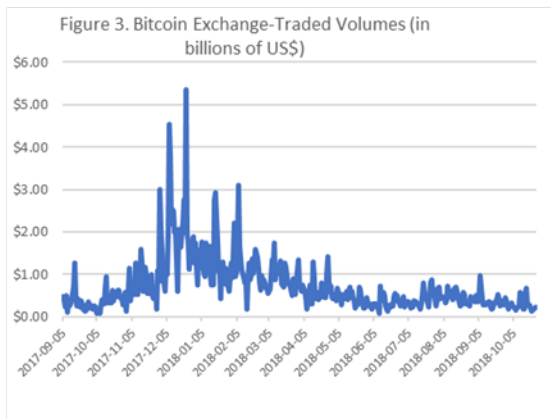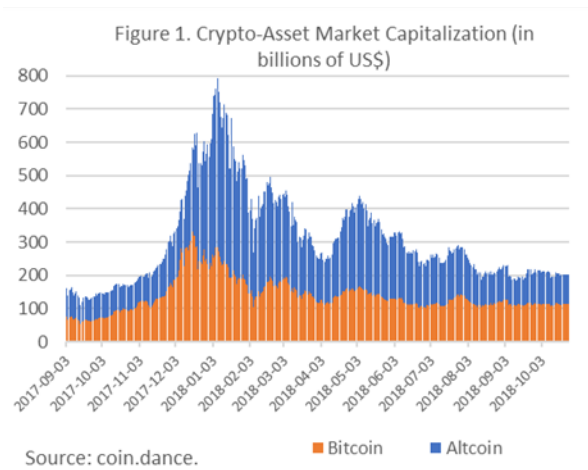
Sweden's Riksbank will start a pilot next year to develop a tested and ready e-krona that could be introduced should the bank wish to do so. The initial focus will be on an e-krona that constitutes a prepaid value without interest and with traceable transactions. The Riksbank is also proposing that legislation be put in place to force all banks and credit institutions to offer cash services to their customers. The People's Bank of China is said to be hiring blockchain experts as part of its central bank digital currency (CBDC) development initiative. However, Reserve Bank of Australia and Bank of Japan officials effectively reiterated their intentions not to move ahead with CBDC issuance plans.

ICO issuance continued to fade from the recent $1 billion per month pace (Figure 4). The slowdown reflects poor performance and concerns about market misconduct. Ernst & Young analyzed the performance of 141 ICOs that represented 87 percent of total 2017 ICO funding, finding that 30 percent have lost nearly all value. An investor purchasing a portfolio of this "Class of 2017" ICOs on January 1, 2018 would have lost 66 percent of his or her investment. (See below a special feature on U.S. ICO legal developments.)

Also, according to Group-IB, hackers have stolen 10 percent of the funds raised by ICO platforms since early 2017, with phishing the most common means of attack. The study also found that hacker group "Lazarus," reportedly funded by North Korea, is behind $571 million of $882 million crypto-assets stolen from online exchanges over the same time period. Out of fourteen separate exchange breaches, five have been attributed to the group, including the $532 million Coincheck hack this January.

Products and infrastructure continued to be developed favoring institutional crypto-asset investment. Fidelity Investments is offering enterprise client crypto-asset custody and

trading services, and U.S.-based Coinbase and U.K.-based G4S are offering crypto-asset custody services. OTC crypto-asset dealer Genesis Trading is facilitating hedging and short selling by lending crypto-assets. It has $130 million of such loans to hedge funds and other institutional investors. Tabb Group estimates that the OTC crypto-asset market is three times larger than the exchange-traded market. Also, several large U.S. university endowment funds are investing in crypto-asset funds. BlockFi lends U.S. dollars against Bitcoin, Litecoin and Gemini Dollars. A number of crypto-asset-backed lenders have sprung up this year. The Intercontinental Exchange (ICE) announced that it would begin offering bitcoin futures contracts on its Bakkt crypto-asset trading platform on December 12.

Figure 1. Crypto-Asset Market Capitalization (in billions of US$)

Source: coin.dance.

Figure 2. Crypto-Asset Prices (in US$)

Figure 3. Bitcoin Exchange-Traded Volumes (in billions of US$)

Figure 4. Initial Coin Offering Funds Raised (in billions of US$)

Source: CoinSchedule.com.

Sources:
Figure 1: https://coin.dance
Figure 2: https://coinmetrics.io
Figure 3: https://blockchain.com
Figure 4: https://coinschedule.com

Special Feature: Applying U.S. Federal Securities Laws to ICOs (Jess Cheng, LEG)

This is a follow-on to the June 1, 2018 special feature on initial coin offerings (ICOs). In an ICO, tokens are issued for sale to the public, often in connection with a to-be-launched digital project. Funds are typically raised with speculative expectations that the token's value will later increase in connection with the project, allowing ICO purchasers to earn a return by selling in the secondary market. In July 2017, the U.S. Securities and Exchange Commission (SEC) issued an investigative report concluding that tokens issued in an ICO may be securities subject to U.S. federal securities laws (the DAO Report).

The SEC has brought a number of enforcement actions against ICOs, mostly involving garden-variety fraud. The pattern is familiar: investors are lured into taking part in an ICO with deceptive claims about the promoter's operations (e.g., false claims of regulated entity status or regulatory approvals; inflated business projections and executives' credentials; fabricated ties to market stakeholders and customer testimonials; and fictional business relationships and viability claims). The SEC has issued numerous investor alerts to warn "Main Street investors" of the risks associated with unregistered or fraudulent ICOs.

Also an SEC priority is market manipulation in violation of U.S. federal securities laws, though the SEC has yet to bring a case with regard to _ICO_ trading activity. Gathering sufficient supporting evidence poses unique challenges, as crypto-assets are not traded on centralized stock exchanges subject to regulation. Trading can be conducted from locations beyond authorities' jurisdictional reach. The SEC, however, has taken action on suspect _stock_ transactions of companies which have made misleading statements of an anticipated ICO launch and suspiciously-timed announcement of a purported crypto business acquisition.

Apart from fraud, the SEC has brought action against an ICO where the company primed prospective purchasers' expectation of profit, such as through the company's own statements or endorsements of others' statements that the token would increase in value. Where a company launched an ICO related to its digital product (i.e., a to-be-improved iPhone app for reviewing restaurants, within which tokens could be used to buy goods or services) and touted its plans to build the network and increase the tokens' value, the SEC found the tokens to be securities under U.S. federal law. No fraud was alleged in that case; _nor_ did marketing the token as serving a practical purpose apart from its investment potential (i.e., a "utility token") shield it from enforcement. Given this precedent and the SEC's recent public remarks, more cases involving the unregistered offer/sale of tokens, with steeper penalties, may be ahead. Crypto exchanges and platforms listing such tokens may, in turn, be found to be unlawfully engaged in operation of an unregistered securities exchange.

These developments can serve as helpful data-points for national authorities that are considering how their existing legal principles may apply to ICOs and whether new legal provisions are needed, particularly those authorities examining ICOs on a case-by-case basis similar to the SEC's approach. The application of securities laws to ICOs—how such tokens are issued, distributed, and sold—is critical to whether there will be broader acceptance and use.

Table 1. Other Fintech/Blockchain Announcements
Hyperledger and the Enterprise Ethereum Alliance two of the three largest enterprise blockchain communities, agreed to develop common blockchain standards (the third is R3 Corda).
Visa is integrating open-source Hyperledger Fabric blockchain code ahead of the launch of its own blockchain service for enterprise payments in early 2019.
The South African operation of Virgin Money has upgraded its Virgin Money Spot peer-to-peer payment app using blockchain technology.
The United Nations World Food Programme is trialing blockchain technology for tracking food delivery in East Africa.
The Italian Banking Association has revealed they successfully passed the initial phase of testing their blockchain-powered interbank system.
The Israel Securities Authority has started to use blockchain to improve the cybersecurity of its messaging system.
The U.K. HM Land Registry is partnering with blockchain company Methods, which plans to build on R3's Corda framework to develop a platform able to store land registration information and streamline the process for buying or selling properties.
The Thai Ministry of Commerce has begun to conduct feasibility studies on the use of blockchain in copyright, agriculture, and trade finance.
The Commonwealth Bank of Australia has collaborated with the Commonwealth Scientific and Industrial Research Organization to develop a blockchain-based application that could potentially boost the efficiency of insurance payments.
Later this year, what purports to the world's first digital sukuk will launch and a second one, written on an Ethereum blockchain and focused on Indonesia's microfinance industry, is slated to launch in the first half of 2019.
Banco do Brasil is rolling out 11 types of transactions via WhatsApp, including access to account balances and credit card statements, money transfers, mobile phone top-ups.
The Gates Foundation is partnering with Ripple Labs and digital payments firm Coil to implement the Interledger Protocol, to explore the ways Mojaloop can support pro-poor payment systems. Mojaloop is an open-source mobile payment platform geared to promote mobile payments in the developing world and provide financial services for the unbanked.
The National Bank of Canada successfully completed a DLT-based trade finance pilot program.
Setl, a UK fintech group, received a licence from French regulators that will allow it to connect to the eurozone's Target2-Securities platform using its permissioned ledger technology.

Table 2: Actively-Traded Stablecoins (October 2018)			
Fiat-backed USD	**Market Cap ($mm)**	**3-month range**	**Collateral Custodian**
Tether (USDT)	2,053	$0.93 – 1.02	Unclear
True USD (TUSD)	169	$0.97 – 1.30	Undisclosed escrow accounts
Paxos (PAX)	42	$1.00 – 1.07	Paxos Trust Company
Circle (USDC)	24	$1.00 – 1.11	Not disclosed
Gemini (GUSD)	?	$0.97 – 1.19	State Street Bank
CKUSD (CKUSD)	?	$0.95 – 1.02	Not disclosed
Crypto-backed USD			
Dai (DAI)	64	$0.97 – 1.04	
bitUSD (BITUSD)	11	$0.97 – 1.14	
Havven (NUSD)	1	$0.86 – 1.02	
Nubits (USNBT)	1	$0.10 – 0.25	Broke link in June 2016
Algorithmic /1			
BitBay (BAY)	19	$0.02 – 0.04	n/a
Corion (COR)	?	$0.06 – 0.09	n/a
1. Algorithmic stablecoins maintain a constant price by adjusting their supply based on demand.			