

## MCM Fintech Update<sup>1</sup>

Friday, May 31, 2019

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*Stablecoins have been in the news this month. The general counsel of Tether, the largest stablecoin, revealed that it is only 74 percent backed by cash and cash equivalents, though its value in dollars has remained surprisingly stable. An IMF speech noted that, under certain conditions, a stablecoin backed by central bank reserves was effectively a central bank digital currency (CBDC) with various advantages. A Financial Stability Board report on crypto-assets concluded that risks currently appear manageable, but that continued monitoring is needed. The annual Consensus conference showcased stablecoin providers; the attached special feature provides an overview. Crypto-assets continued to surge from the 2018 slump, with total market capitalization up about 54 percent during May alone.*

### Innovation (see also Table 1)

**The World Bank and Commonwealth Bank [enabled](#) blockchain-based secondary market trading for their [bond-i](#) issue.** Also, in April, Societe Generale [sold](#) EUR100 million of mortgage-backed tokenized covered bonds, although the bank was the sole buyer. Currency.com will be [offering](#) tokenized Belarussian government bonds, and Fluidity will be [launching](#) Ethereum-based mortgages in California and New York. Figure Technologies also used similar technology to [obtain](#) a blockchain-based \$1 billion uncommitted line of credit with investment bank Jefferies.

**Central banks continued experimenting with blockchain-based payment systems.** The Bank of Canada and Monetary Authority of Singapore [linked](#) up their Jasper and Ubin blockchain pilots to allow direct cross-border settlement without an intermediary. The Bank of Thailand has developed a wholesale CBDC-based prototype for interbank settlements with eight commercial banks. China's State Administration of Foreign Exchange is reportedly [working](#) with ZhongChao Credit Card Industry Development to build a blockchain-based cross-border trade finance platform. Also, a number of new private sector blockchain-based cross-border payment networks were launched (Table 1).

**Microsoft [launched](#) the blockchain-based Project Identity Overlay Network (ION), a decentralized identity network.** ION will provide users with digital identities to act as an immutable replacement for email addresses and usernames, and potentially a vault for sensitive personal data. These identities will allow users to seamlessly access online applications while controlling who they share their personal data with, and which data they want to share. The technology could eventually be extended, for example to cryptographically verify the medical details of patients. A similar product, SecureKey Technologies's Verified.Me digital identity system [became available](#) for customers of five Canadian banks in May.

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<sup>1</sup> Prepared by John Kiff and Hunter Monroe with contributions from the MCM FR division and Sumiko Ogawa, reviewed by Tommaso Mancini Griffoli, and cleared by Will Kerry (all MCM). This issue covers developments since the April 26, 2019 edition. The information herein has not been verified through official channels. For an explanation of fintech concepts, see [Fintech and Financial Services: Initial Considerations](#).

## Regulation (see also Table 2)

**The Global Financial Innovation Network, jointly run by 35 international regulators, [has accepted](#) the first eight firms into its cross-border regulatory sandbox.** They will now develop plans for their trials for cross border financial applications and products in selected members, before being allowed to undertake tests. The U.S. Office of the Comptroller of the Currency [proposed](#) an Innovation Pilot Program to provide entities it supervises with early regulatory input. The South Korean Financial Services Commission [has authorized](#) nine fintech companies to operate in the country as part of its regulatory sandbox. Thirty companies [were approved](#) by the Central Bank of Bahrain for its regulatory sandbox.

**A Financial Stability Board report on crypto-assets [concluded](#) that risks currently appear manageable but that continued monitoring is needed.** More specifically it said that “crypto-assets are at a nascent stage and... that they do not present material risks to global financial stability at present [but recommended] that the G20 keep the topic of regulatory approaches and potential gaps, including the question of whether more coordination is needed, under review.” Similarly, the European Central Bank Crypto-Assets Task Force [concluded that](#) crypto-assets’ risks are currently limited and manageable on the basis of the existing regulatory and oversight frameworks.

## Commentary and Research

**An IMF speech and working paper explored retail central bank digital currencies (CBDC).** A recent speech by MCM Director Tobias Adrian [noted](#) that privately-issued eMoney, fully backed by deposits in central bank reserve accounts, could be considered as a “synthetic CBDC” offering certain advantages. For instance, a common settlement platform could ensure interoperability between eMoney issued by different providers. In addition, an IMF [working paper](#) argued that establishing electronic money as the unit of account would allow deeply negative policy rates. A separate IMF [working paper](#) discussed potential strengths and weaknesses of machine learning-based credit assessment.

## Market Developments

**Crypto-asset [market capitalization](#) stood at \$260 billion, up 47 percent from end-April** (Figure 1). [Bitcoin](#) led the way, finishing May at about \$8,300 (up 51 percent over the month). Commentators [suggest](#) the increase may be due to continuing institutional investor involvement. A Fidelity [survey](#) found that around 22 percent of U.S. institutional investors have some exposure to digital assets, while 40 percent may do so in the next five years. Hedge funds ramped up their investments in [Grayscale](#) crypto-asset products from close to zero to almost \$24 million in the first quarter of 2019. Diar has [indicated](#) that institutional traders recently registered record volumes on bitcoin derivatives exchanges.

**Some [point](#) to market manipulation as explaining recent crypto-asset price spikes.** Focus has [been on](#) large Bitcoin purchase orders designed to trigger short sale covers on BitMEX, the most widely utilized crypto margin trading platform. During the month, a “flash crash” was [purportedly](#) triggered by a large sale order aimed at forcing liquidation of leveraged position on BITMEX. Fear of market manipulation is one of the main reasons for

the U.S. SEC’s reluctance to approve crypto-asset exchange-traded funds—they again delayed making a decision on proposals from [Bitwise](#) and [VanEck](#).

**Activity in the market for initial coin offerings (ICOs) picked up in May (Figure 2).** However, only about \$2 billion has been raised so far in 2019 versus \$22 billion in 2018. Initial exchange offerings (IEOs) are now on the rise. An IEO is a new version of an ICO that is offered via a cryptocurrency exchange, rather than over the counter. The total amount [raised](#) by IEO projects globally, since inception, stands at over \$1.6 billion, most of which (\$1.4 billion) was raised in 2019.

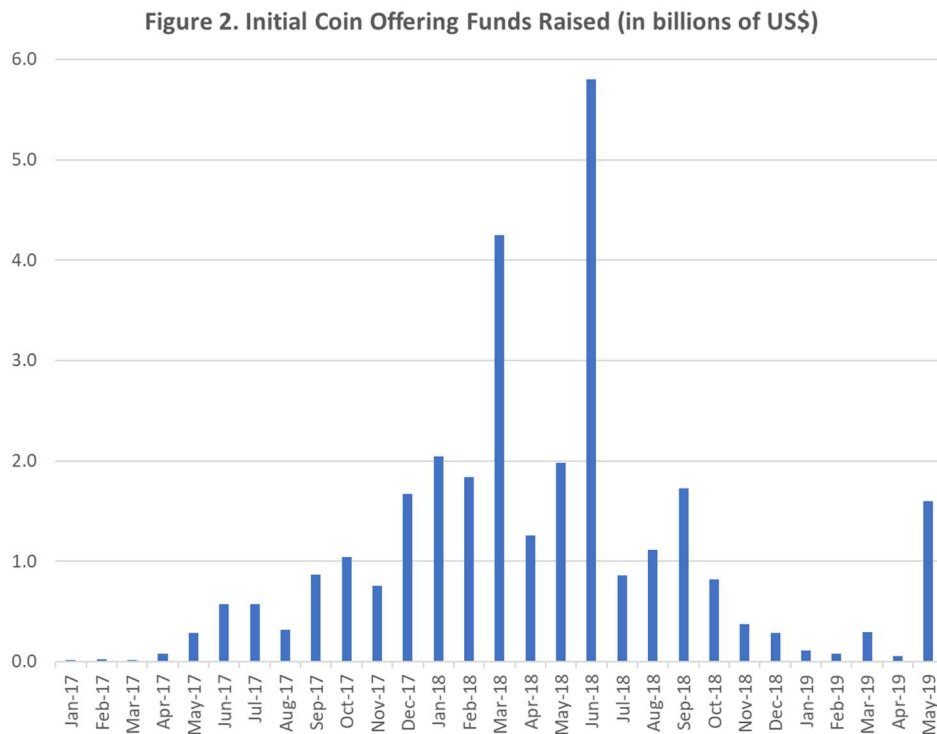
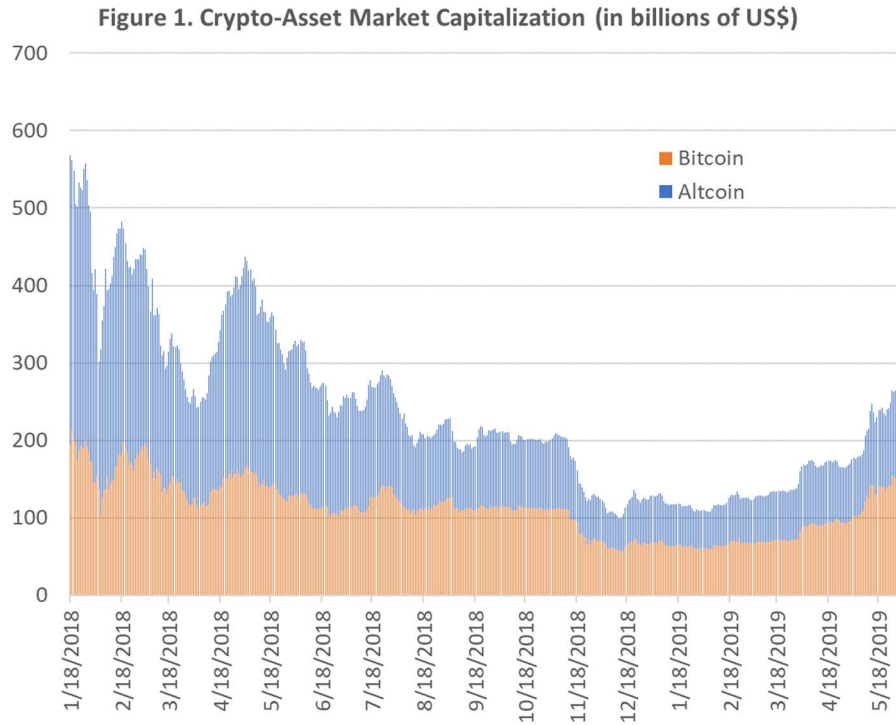
**The general counsel of Tether, the largest stablecoin with \$3 billion outstanding, revealed that it is only 74 percent backed by cash and cash equivalents.** Furthermore, Tether [reserves](#) the right to pay “in-kind redemption of securities and other assets” held in its reserves. As previously reported, the New York State Attorney General [sued](#) iFinex, the operator of Tether and the Bitfinex crypto trading platform, for covering up the loss of \$850 million client and corporate funds. Tether is by far the largest stablecoin, accounting for \$3 billion of the \$4 billion market and has surprisingly remained pegged to the U.S. dollar through these trials and tribulations (see text table below). Most other stablecoins are fully backed by liquid assets in commercial banks and allow immediate redemption of unlimited amounts of tokens for fiat currency.

Major Fully Fiat-Collateralized USD Stablecoins			
Issuer	Token	Outstanding	Custody of underlying fiat currency
<a href="#">Tether</a>	<a href="#">USDT</a>	\$3,098M	Undisclosed
<a href="#">Center</a>	<a href="#">USDC</a>	\$362M	Deposits at US-domiciled third-party trust banks
<a href="#">TrustToken</a>	<a href="#">TUSD</a>	\$235M	Deposits at US-domiciled third-party trust banks
<a href="#">Paxos</a>	<a href="#">PAX</a>	\$171M	Deposits at US-domiciled third-party trust banks
<a href="#">Gemini</a>	<a href="#">GUSD</a>	\$22M	Deposits at State Street Bank and Trust Company

**Stablecoin issuers are also working to facilitate payments in order to boost adoption (see special feature below).** Most firms are developing efficient on- and off-ramps to connect with fiat currencies. For instance, Gemini, has partnered with crypto-asset payments network [Flexa](#) to release [SPEDN](#), a crypto-asset wallet that allows users to spend [GUSD](#) stablecoins and other crypto-assets at major retailers, which are paid in USD. [Paxos](#) and [Coinbase](#) have partnered with VISA to issue a card allowing users to freely spend stablecoins anywhere in the world in local currency. Clearly, this is seen as a temporary solution until enough vendors come to view stablecoins as a safe store of value and thus accept payment in digital coins. Also, Facebook is [widely rumored](#) to be on the verge of launching its GlobalCoin stablecoin, along with its associated payments system, by the end of 2019, expanding to about a dozen countries by Q1 2020.

**CipherTrace [found](#) that losses due to crypto-asset thefts and fraud tally more than \$1.2 billion so far in 2019.** This includes \$356 million stolen from exchanges and the \$850 million Bitfinex loss. Also, hackers [withdrew](#) 7,000 Bitcoins worth about \$40 million via a single transaction in a “large scale security breach” at major crypto exchange Binance. One of the problems [faced](#) by crypto-asset service providers is that they are shunned by banks,

leaving them to turn to other, less experienced, financial institutions for payment processing. Interestingly, France's new crypto law [grants](#) Fintech firms the right to a bank account, provided they opt to being regulated.



Sources: Figure 1: <https://coin.dance>; Figure 2: <https://coinschedule.com>

**Table 1. Other Fintech Innovation News**

The South African Reserve Bank, which recently <a href="#">concluded</a> a blockchain-based interbank payment system proof-of-concept, is <a href="#">seeking</a> interest from prospective retail CBDC solution providers.
The Central Bank of The Bahamas <a href="#">will enter</a> into an official agreement with the executives of NZIA Ltd. for the design and implementation of Project Sand Dollar on May 30.
Forbes <a href="#">identified</a> over 100 big companies, 50 of which have minimum revenues or valuations of \$1 billion, actively exploring blockchain via industry consortia and other proprietary projects,
A Deloitte <a href="#">survey</a> of 1,386 senior executives at large firms in a dozen countries, found that blockchain is a critical priority for 53 percent of respondents, with 40 percent willing to invest \$5 million or more in new blockchain initiatives over the next year.
A number of major international banks are <a href="#">investing</a> \$50 million in <a href="#">Finality</a> , the blockchain-based digital cash settlement system previously called the <a href="#">Utility Settlement Coin (USC)</a> . UBS initiated USC in conjunction with London developer <a href="#">Clearmatics</a> , which is also a shareholder.
The Brazilian Central Bank <a href="#">started the process</a> of implementing open banking in Brazil. It is also <a href="#">planning</a> to have QR code-based instant payments running by 2020.
Mastercard has <a href="#">introduced</a> its Innovation Engine, an API based plug-and-play digital platform that enables issuers and merchants a simplified path to rapidly deploying digital capabilities.
The World Economic Forum has <a href="#">teamed up</a> with over 100 global supply chain and logistics leaders to standardize blockchain apps in the food industry.
Ria Money Transfer, with customers in over 155 countries and \$40 billion in money transfer volume per year, <a href="#">joined</a> the RippleNet blockchain-based global payments network.
Austria's Raiffeisen Bank <a href="#">will pilot</a> R3's Marco Polo blockchain network for trade finance.
CULedger, a blockchain consortium and credit union service organization, <a href="#">has chosen</a> R3's Corda blockchain to underpin its forthcoming cross-border payments product.
Suncorp <a href="#">ran</a> IBM's Watson artificial intelligence (AI) engine silently alongside its consultants for six months, with the AI returning the most accurate insurance claims assessments.
Institutional crypto trading platform Bakkt <a href="#">acquired</a> crypto custodian service Digital Asset Custody Company, and filed a trust company application with the NY Department of Financial Services.
E*Trade <a href="#">is said</a> to be ready to let customers trade crypto-assets on its platform. The firm will start by adding Bitcoin and Ethereum and will consider adding other currencies in the future.
Swiss stock exchange SIX's digital exchange <a href="#">will go</a> live with a native token and an "initial digital offering" (IDO) service in 2020, following a trial that is expected to be completed late this summer.
Börse Stuttgart <a href="#">has listed</a> two crypto exchange-traded notes based on XRP and Litecoin and traded against the Swedish krona and euro.
South Korean bank Shinhan is <a href="#">using</a> blockchain technology to verify documents required for lending, such as qualifications or certifications, to speed up loan approvals.
VODACOM Tanzania <a href="#">partnered</a> with Amana Bank to launch a new M-Pesa mobile service dubbed "Halal Pesa" to reach out to the Muslim population not using current mobile money services.
The Central Bank of Iran, via its Informatics and Services Corporation, is <a href="#">developing</a> a national blockchain project for its banking and financial sector.
The Dubai Land Department, the real estate arm of the Executive Council of Dubai, <a href="#">has partnered</a> with UAE-based Mashreq Bank to release a blockchain-based mortgage platform.

<b>Table 2. Other FinTech Regulatory Developments</b>
Finland's Virtual Currency Service Providers Act <a href="#">clarifies</a> that the Financial Supervisory Authority will be statutorily required to register all crypto-asset service providers.
The Riksbank <a href="#">proposed</a> that a committee be tasked with reviewing the concept of legal tender and role of central bank money in a digitalized economy.
The Securities and Exchange Act of 2019, in effect since April 17, <a href="#">aims</a> to help Thailand introduce blockchain use in trade and security tokenization.
South Korea's finance ministry <a href="#">plans</a> to revise an ordinance to allow non-financial firms, such as financial technology firms, to provide mobile payment services overseas.
The Hong Kong Monetary Authority <a href="#">issued</a> virtual banking rights to 4 more companies: Ant SME Services (Hong Kong) , Infinium, Insight Fintech HK, and Ping An OneConnect.
The U.S. House of Representatives Financial Services Committee <a href="#">has formed</a> a Task Force on Financial Technology to examine the current legal framework for fintech.
The recently <a href="#">reintroduced</a> U.S. Token Taxonomy Act will create a de minimis tax exemption for crypto transactions under \$600.
The Hong Kong Monetary Authority and the Bank of Thailand have <a href="#">entered</a> into an MOU to foster collaboration between the two regulatory authorities in promoting financial innovation.
The Securities Commission of the Bahamas <a href="#">has filed</a> a draft of the new bill regulating token offerings not deemed securities.
The Financial Services Regulatory Authority of Abu Dhabi Global Market <a href="#">enhanced</a> its Guidance for the Regulation of Crypto Asset Activities.
The Japanese House of Representatives <a href="#">passed</a> amendments to two financial services-related laws that tighten crypto-asset regulations, passing them to the Upper House of the National Diet.
A new banking law <a href="#">drafted</a> for the Central Bank of Egypt would make it mandatory to obtain licenses in advance of creating or operating platforms for issuing or trading crypto-assets.
IOSCO <a href="#">published</a> a consultation paper on the issues associated with crypto-asset trading platforms, setting forth key considerations to assist regulatory authorities in addressing these issues.
The FSB is <a href="#">developing</a> a toolkit of effective practices relating to a financial institution's response to, and recovery from, a cyber incident.



## Stablecoins: Update from the Consensus 2019 Conference

*IMF staff attended the annual Consensus Blockchain and Cryptocurrency Conference in New York on May 13-15.<sup>2</sup> The event is considered one of the world's largest in the fintech space, attracting between 5,000 and 10,000 participants. Staff participated in a panel on central bank digital currency (CBDC), and lengthy discussions were held with industry participants, academics, investors, and regulators.*

**The IMF's perspectives on CBDC were discussed in a panel with Daniel Heller ([University College London](#)) and Kevin Werbach ([Wharton School](#)).**

**Stablecoins were one of the focal points of the event.** No clear definition of stablecoins emerged among participants. Most, however, associate stablecoins with blockchain-based tokens issued by private firms, with the goal of minimizing price volatility against a major fiat currency. To do so, most issuers back coins with collateral, some in full, while others rely on algorithms to control the stock of coin. Collateral can be provided in the form of fiat currency, currency baskets, crypto-assets, or commodities

**Staff met with multiple stablecoin issuers of different types.** [Circle](#), [Gemini](#), and [Paxos](#) issue coins fully backed by the U.S. dollar on the Ethereum Network. [Digital Swiss Gold](#) and [Novem](#) back issuance with gold stored in nonbank vaults. The advantage of holding gold-backed coins, as opposed to physical gold, is liquidity (i.e., they trade on token exchanges), low cost, and the ability to hold only small fractions of a gold bar (as little as 1/100<sup>th</sup> of a gram).

**Other settlement coins are backed by central bank reserves.** For example, Utility Settlement Coin ([USC](#)) is a bank consortium which issues coins on a private blockchain to settle intra-bank payments. [Soramitsu](#) is working with banks and central banks in Asia to develop similar solutions. A recent IMF [speech](#) by MCM Director Tobias Adrian introducing the notion of a “synthetic CBDC”.

**To be used as a store of value and means of payment, stablecoins must overcome various hurdles.** For one, they must inspire users' trust—that coin issuance is collateralized as advertised; that collateral cannot be seized by other creditors in case of bankruptcy; and that it is locked up in safe and liquid assets and cannot be encumbered.

**Most fiat-backed stablecoin providers rely on auditing firms to certify their security.** However, such audits are typically done only monthly. Some are looking for ways to ensure real-time monitoring, in partnership with the large auditing firms.

**Before adoption happens on a large scale, blockchain transactions must become more scalable and efficient.** New breakthrough technologies seem to be on the verge of delivering just that. For example, Hedera's [Hashgraph](#), which is still in the proof-of-concept stage, received significant attention at the conference. Many see promise in the [Lightning Network](#). The first works by seeking witnesses to a transaction and rapidly

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<sup>2</sup> Tommaso Mancini Griffoli and John Kiff were the IMF attendees.

sharing their information, and the second by allowing transactions between parties to temporarily occur off the blockchain.

**Another hurdle to the proliferation of stablecoins is interoperability.** [Center](#) has established a platform to set technology and operational standards, and to possibly facilitate settlement and redemption in fiat currency.