

2019 Crypto-in-Review

Closing out the first decade of the revolution.

January 2020

EXECUTIVE SUMMARY

Crypto spring was in full bloom in 2019 as the industry delivered new infrastructure and reinvigorated efforts toward mainstream adoption. In this year's Crypto-in-Review, we discuss four themes that shaped the industry narrative in 2019, along with our views going forward. Despite a tough start to 2019, the industry overcame a prolonged bear market and saw the rise of novel crypto use cases, headlined by decentralized finance (DeFi) applications. Additionally, though progress on industry legitimization and regulatory certainty remains challenged, we were struck by the overwhelming breadth and number of financial and technology titans that began to embrace blockchain technology. Surely, the chorus of nation states, central bank leaders, and countless pundits must mean the cryptocurrency industry has threatened the status quo.

As we enter 2020, we remind ourselves that what began as a hobby project just over ten years ago has since evolved into an industry that has touched tens of millions of people on a trajectory to billions. Get ready for the revolution ahead.

+ Crypto Fintech: rise of the crypto bank. The industry made strides towards the ethos of "be your own bank" in 2019. The DeFi sector flourished, featuring smart contract-enforced savings & loan services. Benefiting from the tailwind of broader crypto lending market growth, DeFi now boasts a total of \$850 million of locked collateral value. Of this, \$620 million is allocated towards lending services, \$157 million towards derivatives, and \$8 million towards payments (Lightning Network).¹ We see continued growth in this sector, underpinned by new collateral acceptance, lower collateral thresholds, and ongoing demand for yield. Stablecoins also saw tremendous growth, with USD-pegged stablecoin supply growing 117% year-over-year in 2019, up to 5.6 billion. We see continued growth in this category driven by the entrance of new players, including the Libra Association, and global demand for USD-denominated assets.

+ Institutional Investors: slow on the uptake. The ever-elusive institutional investor remained sidelined in 2019 despite the fact that institutionally-gearred products and services like derivatives and custody continued to improve. Despite an impressive 84% year-over-year growth in regulated crypto derivative notional volume, much of the industry's appetite for derivatives gravitated towards unregulated venues with more action, higher leverage, and diverse product offerings. In fact, the mix of notional volume from regulated derivatives fell to 5% in 4Q 2019, a 1-year low and a significant decline from the 2019-high of 10% in 2Q 2019. Much of this is attributable to the launch of popular platforms like Binance Futures and FTX. We view the recent availability of physically-settled futures contracts as a positive catalyst for natural hedging, which may catalyze further market development and organic institutional participation. Custodial offerings and insurance continued to proliferate in 2019; notably, incumbents such as Fidelity, BNY Mellon, and State Street have begun to explore and/or service the crypto market. Approval of a bitcoin ETF in the US remains a low-probability event in 2020, following a slate of delays and denials in 2019. We believe most of the structural limitations for institutional participation have been largely addressed since 2018 as we patiently await for the narrative on the crypto industry to shift positively.

¹ Total value locked in DeFi applications, DeFi Pulse (<https://defipulse.com/>)

DISCLOSURES

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+ **Regulation: more blockchain, less bitcoin.** Global regulatory organizations spent much of 2019 addressing basic definitions and standardization to combat illicit use of cryptocurrencies. This included recommendations to impose “travel rule” regulations on digital asset service providers. General acceptance and interest in cryptocurrencies differed region-by-region, though the threat of Facebook’s foray into the crypto industry with the Libra Association sparked a universal outcry from public officials and regulatory bodies. Thankfully, the response focused on the threat of big tech entering the financial industry, leaving the broader crypto industry out of the debate. We continue to see little-to-no progress in federal legislative efforts in the United States, particularly during the election year, though state-level initiatives remain quite promising. Europe has become more fragmented among member countries with respect to their legislative approach. Asia remains conservative, with Japan and South Korea formally regulating the crypto industry and China continuing to outright prohibit the exchange of cryptocurrencies. Around the world, we’re seeing a pickup in central banks advancing initiatives towards a central bank digital currency (CBDC). Unfortunately, we continue to see reactionary legislative and regulatory efforts, which implies slower progress while frameworks develop around government-favored initiatives.

+ **Going Mainstream: slow and steady wins the race.** A flurry of global institutions and organizations, both established and relatively new, began rolling out crypto-related products and services targeting the masses. The traditional financial services sector, international payment platforms, and social trading & investing applications integrated cryptocurrencies into their offerings. Whether it’s targeting existing institutional investors, businesses, or consumers, companies brought crypto to users that have historically had little exposure to the industry. Financial services giants such as Fidelity and JPMorgan focused on institutional clients through the launch of their own digital asset services. Payment processors and consumer brands targeted both business clients and end consumers. Visa launched its own B2B blockchain platform and Bakkt joined forces with Starbucks to accept bitcoin payments via an app sometime in 2020. MoneyGram partnered with Ripple to disrupt the global remittance market. Popular fintech and investing platforms like Square’s Cash App, eToro, and Revolut expanded crypto-related functionality. From buying and selling to transferring cryptocurrencies, these platforms are leading new interactions between individuals and the crypto industry. We believe this is just the beginning of a mainstream integration and we expect to see a growing number of consumer-facing businesses bridge the gap between consumers and cryptocurrencies going forward.

Crypto Fintech: rise of the crypto bank

Key Takeaways:

- » DeFi applications introduced traditional financial services on the blockchain through novel smart contracts
- » USD-backed stablecoin supply grew by 117% to 5.6 billion and project count by 19% to 235 in 2019
- » Demand for stablecoins may represent a proxy for global capital flows into USD-denominated assets in the future

Much like 2017 and 2018, when initial coin offerings defined the crypto industry, DeFi and stablecoin projects took the industry by storm in 2019.

Smart contract protocols like ethereum served as launchpads for open financial applications, including basic banking functions within a decentralized environment. A host of DeFi dapps were introduced to automate lending, borrowing, asset exchange, derivatives, and payments, all without a centralized financial intermediary. Notably, the MakerDAO Foundation, a bellwether for the DeFi space, launched the multi-collateral dai (MCD) in November 2019, which now allows users to collateralize ether and basic attention token for dai and subsequently earn the dai savings rate (DSR). Dai continues to lead all DeFi applications with the total value of collateral locked in the smart contract growing 19% in 2019 to \$348 million. Dai recently reached its 100 million debt ceiling in November 2019, which has since been raised to 120 million,² and currently has over 105 million³ multi collateral dai outstanding.

Though not quite “DeFi,” private crypto lenders grew significantly throughout 2019, with companies like Genesis Capital, BlockFi, and Celsius seeing user growth and attracting institutional interest. Estimated loan originations from these private providers now exceed \$4 billion, proving out market demand for crypto savings & lending services.⁴ Amidst this backdrop, pure DeFi platforms such as Compound and dYdX currently have over \$144 million⁵ and \$16 million⁶ of collateral earning interest, respectively.

Synthetic assets, a product that allows end users to gain derivative exposure to both traditional and digital assets, also saw a boom. Notably, the Synthetix network, which had \$1.6 million of collateral value locked in the network as of February 2019, grew to a peak of \$178 million by December 2019.⁷

In total, the DeFi space has attracted over \$850 million of collateral value into smart contracts, up 166% from the \$320 million of collateral logged in January 2019, with no signs of slowing down.⁸ Ironically, the level of growth in DeFi has stimulated conversation in the development of decentralized insurance markets to insure against smart contract bugs or hacks. Blockchain Capital, a crypto venture fund, shared a prediction that we could see up to \$5 billion locked in DeFi platforms in 2020.⁹ Looking ahead, we believe adjustments to collateral requirements, including the acceptance of additional collateral types, will drive future growth in the DeFi space. Collateralization thresholds are another limiting factor. Collateral requirements exceed well above 100%, which limits the capital efficiency of these applications and encourages quasi-rehypothecation, where individuals leverage assets across various DeFi services. This level of cross collateralization poses stability risks, and considering the prevailing level of volatility in crypto markets, including ether, these adjustments may play out slowly. The level of market competition among DeFi networks on collateralization requirements will be something to watch.

2 Executive Vote: Lower the Stability Fee by 0.5% to a total of 5% per year and raise the Debt Ceiling by 20 million to 120 million Dai, MakerDAO (<https://blog.makerdao.com/executive-vote-stability-fee-debt-ceiling-nov-7/>)

3 Dai Stats (<https://daistats.com/>)

4 The Crypto Credit Report Q3 2019 Issue 2, Graychain (<https://reports.credmark.com/TheCryptoCreditReport-q3-2019.pdf>)

5 Compound Finance, Market Overview (<https://compound.finance/markets>)

6 dYdX exchange overview, Defi Pulse (<https://defipulse.com/dydx>)

7 Synthetix overview, Defi Pulse (<https://defipulse.com/dydx>)

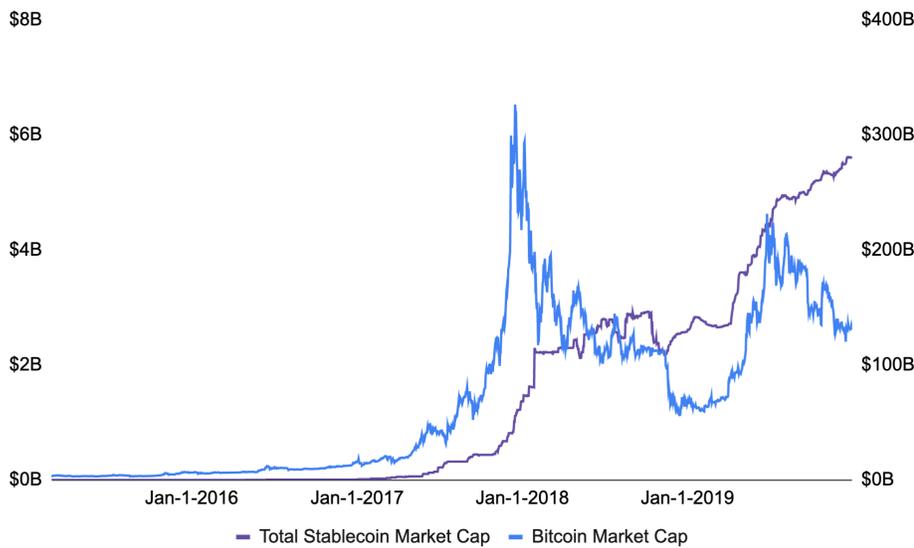
8 Total value locked in DeFi applications, Defi Pulse (<https://defipulse.com/>)

9 Blockchain Capital 2019 Year in Review (<https://twitter.com/blockchaincap/status/1205249159147638784>)

Moving past the DeFi craze, stablecoins also saw a major rally in 2019. Total circulating supply across major USD-pegged stablecoins (tether, USD coin, paxos standard, gemini dollar, and trueUSD) grew from 2.6 billion to 5.6 billion, a 117% increase.¹⁰ Additionally, the number of stablecoin projects grew 19% in 2019, now totaling 235.¹¹ Figure 1 aptly depicts a decoupling between circulating stablecoin supply and bitcoin’s market cap; in fact, stablecoin supply grew a further 28% since the June 2019 local peak in bitcoin market cap.

Tether remained the top contender in stablecoin markets in 2019, representing over 80% of market value in USD-pegged stablecoins (see figure 2). This is despite a mid-2019 lawsuit subsequently revealing an \$850 million shortfall in available and accessible reserves¹² due to fraud perpetrated by the now-indicted leadership of Crypto Capital¹³ and competition from other reputable service providers. The market quickly regained confidence in tether when Bitfinex announced an exchange token sale of unus sed leo (LEO), allegedly raising \$1 billion in contributions in May 2019.¹⁴

Figure 1: Bitcoin vs. stablecoin market cap



Source: CoinMarketCap, Stablecoin Stats, Tronscan

Figure 2: List of top 20 stablecoins

Rank	Name	Market Cap
1	Tether (USDT)	\$4.65B
2	USD Coin (USDC)	\$448.58M
3	Paxos Standard (PAX)	\$209.91M
4	TrueUSD (TUSD)	\$139.24M
5	Multi-collateral DAI (DAI)	\$101.23M
6	STASIS EURO (EURS)	\$35.69M
7	Single Collateral DAI (SAI)	\$26.79M
8	Binance USD (BUSD)	\$23.67M
9	USDK (USDK)	\$28.61M
10	CryptoFranc (XCHF)	\$10.53M
11	Anchor (ANCT)	\$8.19M
12	sUSD (SUSD)	\$6.42M
13	bitCNY (BITCNY)	\$6.21M
14	USDQ (USDQ)	\$5.49M
15	Gemini Dollar (GUSD)	\$4.12M
16	EURBASE (EBASE)	\$3.05M
17	USDx stablecoin (USDx)	\$2.55M
18	Constant (CONST)	\$2.53M
19	StableUSD (USDS)	\$1.68M
20	bitUSD (BITUSD)	\$1.64M

Source: Cryptoslate

Note: data as of January 26, 2020

Based on our analysis of top stablecoin holders in figure 3, we estimate anywhere between 30% to 40% of circulating stablecoin supply is held by exchange providers with significant ties to Asia. Note that this figure does not include identified individuals or non-exchange service providers. According to the Institute of International Finance, net errors and omissions in the balance of payments, seen as a proxy for concealed capital outflows from China, saw a record high of \$131 billion in 1H2019. This is notably greater than the average \$80 billion recorded in the same period in 2015 and 2016, when capital flight last intensified in China.¹⁵ We suspect that the demand for stablecoins may be driven in part by global capital flows into USD-denominated assets, particularly from nations with heightened capital controls. If this is the case, and assuming the US dollar remains a haven amidst a slowing global economy, we may see continued strength in the stablecoin market, particularly those that can best capture this flow of funds.

10 Stablecoin Stats (<https://stablecoinstats.com/>)

11 Tron blockchain explorer (<https://tronscan.org/>)

12 Stable Report (<https://www.stable.report/>)

13 New York Office of the Attorney General application for an order and injunctive relief against iFinex Inc. (https://iapps.courts.state.ny.us/fbem/DocumentDisplayServlet?documentId=vlexA1b0spKOnK_PLUS_ZUGTJ3A==&system=prod)

14 "Crypto Capital Principal Indicted on Fraud, Confirming Bitfinex Allegations," CoinDesk (<https://www.coindesk.com/crypto-capital-principal-indicted-on-fraud-confirming-bitfinex-allegations>)

15 "China's Hidden Capital Flight Surges to Record High," Bloomberg (<https://www.bloomberg.com/news/articles/2019-10-11/china-hidden-capital-flight-at-a-record-in-2019-iiif-says>)

Figure 3: Top stablecoin holders by asset

Exchange	USDT (ERC20)	USDT (Omni)	USDT (TRC20)	USDC	TUSD	PAX	GUSD	Total
Binance	149,660,629	385,367,485	602,272,000	84,484,463	44,264,811	38,831,517	0	1,304,880,906
Huobi	239,396,784	236,219,621	105,802,000	9,317,605	4,216,381	5,313,745	401,802	600,667,938
Bitfinex	64,602,130	0	83,561,800	1,301,443	0	0	54,729	149,520,103
OKex	23,752,890	0	38,243,300	0	725,255	1,813,282	1,235,788	65,770,514
Poloniex	15,108,358	0	34,237,800	8,924,491	0	0	0	58,270,650
Bittrex	44,136,095	0	0	0	5,310,425	0	0	49,446,519
Gate	12,812,466	0	3,928,170	0	0	700,000	0	17,440,636
Kraken	0	13,286,027	0	0	0	0	0	13,286,027
Kucoin	0	0	2,087,460	1,222,719	772,730	1,512,926	0	5,595,835
TOTAL	549,469,352	634,873,133	870,132,530	105,250,721	55,289,603	48,171,470	1,692,319	2,264,879,128

Source: Kraken Intelligence, Etherscan, Tronscan, Tether

No discussion on stablecoins would be complete without mentioning Facebook and the Libra Association. Libra was formally announced in June 2019 and designed as a fiat-backed stablecoin.¹⁶ This announcement coincided with a sharp rise in crypto markets, which subsequently cooled in response to significant scrutiny and criticism from global government officials and politicians. Facebook's entrance into the crypto industry represents a significant shift in big tech's participation in fintech disruption. In particular, Facebook's Calibra wallet could, in theory, be promoted across a network of over 2.4 billion monthly active users.¹⁷ The implications of Facebook's participation brought forth a flurry of hard line responses by regulators in the US and the EU. In the US, a new legislation known as the Managed Stablecoins Are Securities Act of 2019 was proposed, which seeks to regulate stablecoins as securities.¹⁸ This would subject all stablecoins and its project issuers to the jurisdiction of the SEC. In the EU, Libra was heavily criticized for its potential to impact current financial systems. The EU's finance ministers raised serious concerns in a joint statement addressing stablecoins, suggesting Libra should delay their launch until after all risks and concerns are addressed.¹⁹ Such sustained global pressure led to an exodus of founding members of the Libra Association, namely payments giants Visa, Mastercard, eBay, and Stripe, among others.²⁰ This ongoing debate revealed much of the regulatory discussion surrounding stablecoins seems to stem from political theater between big tech and government.

Lastly, the topic of stablecoins advanced at the national level in the form of central bank digital currencies (CBDCs). Namely, the UAE, Saudi Arabia, the European Union, and the Eastern Caribbean Central Bank announced intentions to explore the development of CBDCs. Currently, there are around 18 CBDCs either launched or in-development.²¹ Stablecoins in this context are seen as an improvement in the traditional banking system relating to cost, speed, and reach of money transfer.

Looking to 2020, we believe fiat-pegged stablecoins will remain a core asset category in the crypto market. We anticipate stablecoins will begin to make inroads into the payments sector, particularly in cross-border payments, offering near-instant transfers globally without reliance on correspondent banks. Additionally, we expect more conversation around stablecoin usage in remittance markets and interest in USD-pegged stablecoins from residents of politically and financially unstable nations. Conversely, while there is demand for crypto-collateralized stablecoins, we anticipate they will achieve widespread adoption more slowly due to scalability challenges associated with collateral requirements and volatility.

16 Libra whitepaper (<https://libra.org/en-US/white-paper/>)

17 Facebook Q3 2019 earnings presentation, Monthly Active Users, slide 3 (https://s21.q4cdn.com/399680738/files/doc_financials/2019/q3/Q3-2019-Earnings-Presentation.pdf)

18 Managed Stablecoins Are Securities Act of 2019 (https://sylvia.garcia.house.gov/sites/sylvia.garcia.house.gov/files/wysiwyg_uploaded/Managed%20Stablecoins%20are%20Securities%20Act%20of%202019%20Bill%20Text_3.pdf)

19 Joint Statement by the Council and the Commission on "Stablecoins," Council of the European Commission (<https://www.consilium.europa.eu/en/press/press-releases/2019/12/05/joint-statement-by-the-council-and-the-commission-on-stablecoins/>)

20 "Mastercard, Visa, eBay Drop Out of Facebook's Libra Payments Network," Wall Street Journal (<https://www.wsj.com/articles/mastercard-drops-out-of-facebook-s-libra-payments-network-11570824139>)

21 "At Least 18 Central Banks Are Developing Sovereign Digital Currencies," The Block (<https://www.theblockcrypto.com/linked/51526/at-least-18-central-banks-are-developing-sovereign-digital-currencies>)

Institutional Investors: slow on the uptake

Key Takeaways:

- » Notional volume for crypto derivatives on regulated markets grew 82% year-over-year to \$84 billion in 2019
- » Crypto custody and insurance offerings grew in 2019, yet uptake has been slow and insurance market remains fairly nascent
- » Bitcoin ETF approval odds in the US remain low (<10%) in 2020, given concerns over the level of regulatory oversight

Several institutionally-focused crypto products and infrastructure improvements came to market in 2019, though we believe institutional inflow remains below industry expectations. Some may argue that institutions are likely still waiting for more complete, robust offerings to enter the space en masse, but we believe a shift in longer-term prospects around regulatory certainty and adoption are more likely to encourage organic growth in institutional participation.

Derivatives

Perhaps driven by a slowdown in spot exchange activity, we've seen a pick-up in the number of available crypto derivative offerings during 2018 and 2019, many of which now extend beyond bitcoin. Historically, derivatives have been viewed as an institutional product, but much of the development and growth in derivatives during 2019 took place on offshore platforms with retail exposure. Touted features include high leverage and bespoke indices, like FTX's "Shitcoin Index."²²

Figure 4: Derivatives trading platforms

Regulatory status	Company	Crypto derivatives launch	Domicile	Products	Settlement
Unregulated	BitMEX	2014	Republic of Seychelles	- bitcoin-settled bitcoin, ether, litecoin, bitcoin cash, ripple, cardano, EOS, and tron futures - 100x leverage	Cash
Unregulated	Deribit	2016	The Netherlands	- crypto-settled bitcoin and ether options and futures - perpetual contracts - 100x leverage	Cash
Unregulated	OKEx	2017	Republic of Malta	- crypto-settled bitcoin, ether, litecoin, bitcoin cash, bitcoin SV, EOS, ripple, tron, tether, and ethereum classic futures - 100x leverage	Cash
Unregulated	Bybit	2018	British Virgin Islands	- crypto-settled perpetuals on bitcoin, ether, ripple, and EOS - coin swaps - 100x leverage	Cash
Unregulated	Huobi	2018	Singapore	- crypto-settled bitcoin, ether, litecoin, bitcoin cash, bitcoin SV, EOS, ripple, tron, and many other futures - 20x leverage	Cash
Unregulated	FTX	2019	Antigua and Barbuda	- crypto-settled bitcoin, ether, EOS, ripple, tether, and many other futures - 101x leverage	Cash
Unregulated	CoinFLEX	2019	Republic of Seychelles	- physically-settled bitcoin, bitcoin cash, ether, and tether futures - 20x leverage	Physical
Unregulated	Bitfinex	2019	British Virgin Islands	- crypto-settled perpetuals on bitcoin and ether - 100x leverage	Cash
Unregulated	Binance	2019	Malta	- acquired JEX and launched proprietary futures platform - crypto-settled bitcoin, ether, bitcoin cash futures - 125x leverage	Cash
Regulated	Kraken Futures	2015	UK	- acquired CryptoFacilities - crypto-settled bitcoin, ether, litecoin, bitcoin cash, and ripple futures - 50x leverage	Cash

22 FTX Index (<https://ftx.com/trade/SHIT-PERP>)

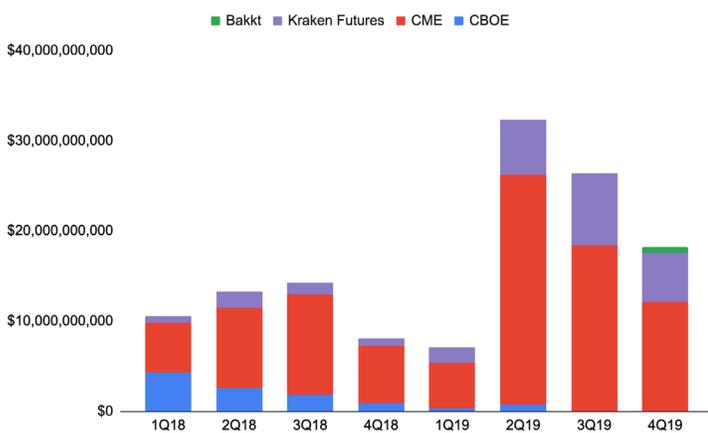
Regulated	Bitflyer Lightning	2015	Japan	- bitcoin-settled bitcoin futures, including perpetual - 4x leverage	Cash
Regulated	CME	2017	US	- cash-settled bitcoin futures with multiple expirations - options on bitcoin futures	Cash
Regulated	LedgerX	2017	US	- physically-settled bitcoin swaps and options	Physical
Regulated	Bakkt	2019	US	- physically-settled bitcoin futures	Physical
Regulated	ErisX	2019	US	- physically-settled bitcoin futures	Physical
Regulated	Gate.io	2019	Japan	- crypto-settled bitcoin, ether, EOS, litecoin, bitcoin cash, bitcoin sv, tether and many other perpetuals - integrated spot exchange - 100x leverage	Cash

Source: CoinGecko, exchange websites

Regulated derivatives venues saw 82% year-over-year growth in notional volume to a total of \$84 billion in 2019. Looking to figure 5, much of this growth is attributed to an uptick in activity on the Chicago Mercantile Exchange (CME) bitcoin contracts as well as 343% year-over-year growth in notional volume traded on Kraken Futures. In March 2019, the Chicago Board Options Exchange (CBOE) announced it would cease bitcoin futures trading by June 2019 to reassess their approach to crypto assets.²³ Two months later, the CME reported a record trading month in May 2019 for their bitcoin futures, recording over \$11 billion of notional volume.

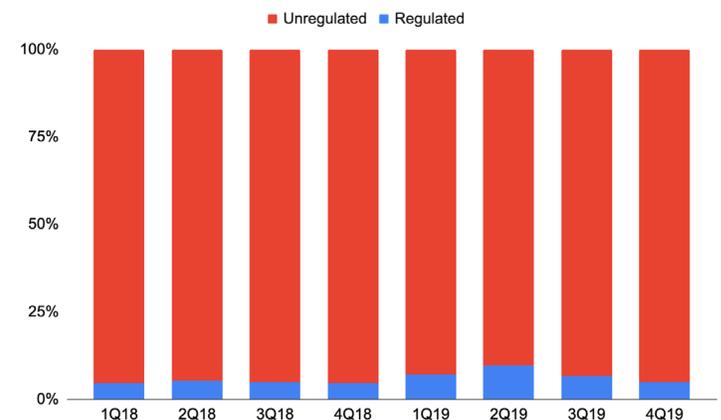
During 2019, we saw the pent-up launch of the Intercontinental Exchange’s (ICE) crypto venture: Bakkt. Shortly after the receipt of a trust charter by the New York Department of Financial Services (NYDFS),²⁴ Bakkt self-certified and released an industry-first physically-settled bitcoin futures contract.²⁵ A few months later, Bakkt expanded its product suite to include regulated bitcoin options trading and cash-settled futures contracts.²⁶ Around the same time, the CME announced it would list bitcoin options in 1Q 2020,²⁷ while rumors swirled that the NASDAQ plans to release bitcoin futures in 2020.²⁸

Figure 5: Quarterly notional volumes of regulated exchanges



Source: Kraken Intelligence, Bloomberg, Kraken Futures

Figure 6: Quarterly notional volumes of regulated vs. unregulated exchanges



Source: Kraken Intelligence, Bloomberg, Kraken Futures, CoinMarketCap, CoinGecko

23 CBOE bitcoin futures product update (http://markets.cboe.com/resources/product_update/2019/New-CFE-Products-Being-Added-in-March-2019-Update.pdf)

24 NY Department of Financial Services press release on Bakkt charter approval (https://www.dfs.ny.gov/reports_and_publications/press_releases/pr1908161)

25 "Cleared to Launch," Bakkt (<https://medium.com/bakkt-blog/cleared-to-launch-8dfc3e6f9ed0>)

26 "Expanding the Bakkt Bitcoin Product Complex" Bakkt (<https://medium.com/bakkt-blog/expanding-the-bakkt-bitcoin-product-complex-68000faea6b3>)

27 "CME Group Announces Jan. 13, 2020 Launch for Bitcoin Options" CME Group, PR Newswire (https://www.cmegroup.com/media-room/press-releases/2019/11/12/cme_group_announcesjan132020launchforbitcoinoptions.html)

28 "Nasdaq Plans to Pursue Bitcoin Futures Despite Plunging Prices" Bloomberg (<https://www.bloomberg.com/news/articles/2018-11-27/nasdaq-is-said-to-pursue-bitcoin-futures-despite-plunging-prices>)

Looking to figure 6, we saw an interesting divergence in notional volume traded on unregulated venues relative to their regulated peers. We believe this speaks to the lack of significant institutional interest in specific regions like the US and Europe. Unregulated venues have several advantages, including: a global trader base (except restricted regions), lower margin requirements, and a barrage of novel derivative instruments. In terms of notional volume, regulated venues represented 7% of market share in the derivatives category in 2019.

Looking to 2020, we are paying close attention to the uptake in physically-delivered futures contracts, which offers a more effective way for natural hedgers, including crypto mining operators and merchant services, to sell down their crypto FX exposure. Longer-term, the success of these regulated products is contingent on further growth in institutional interest to crypto exposure. A study conducted by Fidelity Investments found that 47% of surveyed institutional investors found digital assets are worth holding in portfolios, while 22% already own digital assets.²⁹ Similarly, according to Oxford Economics, 94% of State Street’s clients hold digital assets or crypto-related products and 38% of respondents seek to increase their allocation in 2020.³⁰ These findings, though encouraging, indicate that institutional appetite has not saturated the market to-date. We believe a shift in the industry’s long-term prospects, including broader adoption and regulatory certainty, will encourage institutional allocators to reconsider the perceived risk-reward favorably and take action, though the timing is nearly impossible to predict.

Custody & Insurance

In prior years, crypto insurance and custody were regarded as the primary roadblocks to mainstream institutional adoption. During 2019, we saw further advancements in both areas.

Big name insurers have stepped into crypto insurance as the custody market expanded and matured. Lloyd’s of London created an insurance policy to provide coverage for exchanges or custodial services’ crypto holdings via its registered broker Aon,³¹ while Chubb,³² Marsh & McLennan,³³ and XL Group were also reported to be expanding coverage options for crypto-related businesses or have been involved in crypto-related claims. However, given the heightened risk associated with custody of cryptocurrencies, most insurance policies involve high premiums and narrow coverage to insure assets held in cold storage. Though crypto insurance solutions are progressing, there remains a lack of comprehensive coverage against risk, and it will be interesting to observe how novel risks associated with crypto custody, including staking services, are received. With \$243 billion of total market cap, currently only \$1 billion of crypto assets are estimated to be insured.³⁴ We continue to expect the insurance market to mature slowly and expect premiums to remain high for the foreseeable future due to a lack of loss history and triggering events.

Figure 7: 2019 custody & insurance announcements timeline

Jan. 23	Feb. 20	Mar. 6	Apr. 2	Apr. 30	Sept. 24	Nov.11
Crypto custodian Anchorage announces launch	BitGo announces a \$100M crypto insurance policy with Aon	AXA XL and tech insurance start-up Assurely announce a new insurance program for STOs and equity crowdfunding	BitGo launches custody for BCAP token	Chubb releases factsheet on processed claims related to crypto and mining	Coinbase announces a \$255M crypto insurance policy with Aon	Bakkt opens its institutional custody service, <i>BAKKT Warehouse</i> , to all institutions
Jan. 19	Feb. 20	Mar. 19	Apr. 30	Oct. 18	Dec. 17	
Chubb releases factsheet on processed claims related to crypto and mining	BitGo announces a \$100M crypto insurance policy with Aon	BitGo launches custody for BCAP token	Bakkt partners with BNY Mellon to offer private key storage	Fidelity rolls out crypto custody service	State Street partners up with Gemini to launch Digital Asset Pilot	

Source: Chubb, BitGo, AXA XL, Coinbase, Prnewswire, Gemini, Thebitcoinmag

29 "More than 20% of institutional investors already own digital assets, Fidelity survey finds" MarketWatch (<https://www.marketwatch.com/story/more-than-20-of-institutional-investors-already-own-digital-assets-fidelity-survey-finds-2019-05-02>)
 30 "State Street: 38% of Clients Will Put More Money into Digital Assets in 2020" Coindesk (<https://www.coindesk.com/state-street-38-of-clients-will-put-more-money-into-digital-assets-in-2020>)
 31 "On insurance and cryptocurrency" Coinbase (<https://blog.coinbase.com/on-insurance-and-cryptocurrency-d6db86ba40bd>)
 32 Chubb CyberClaim Scenarios (https://www.chubb.com/uk-en/_assets/documents/uk7379-jd_07_18_cyber_claims_scenarios_edition_2_factsheet_lowres.pdf)
 33 "In Rare Deal, Crypto Custodian Wins Insurance on Full Value of Client Assets" Coindesk (<https://www.coindesk.com/in-rare-deal-crypto-custodian-wins-insurance-on-full-value-of-client-assets>)
 34 "Bitcoin \$20,000 By Xmas; Hacks Spur Crypto Insurance Boom" Forbes (<https://www.forbes.com/sites/cryptoconfidential/2019/09/08/bitcoin-20000-by-xmas-hacks-spur-crypto-insurance-boom/#3de9583d623d>)

Custodial services, particularly those operated by fiduciaries, saw continued expansion in 2019 to meet potential demand by institutional investors. In 2018, crypto native companies acquired broker-dealer licenses and trust charters to offer regulated custodial services directly in an untapped market. In 2019, we saw a wave of new digital asset custodial offerings, many developed by traditional financial institutions with long histories acting as financial custodians. As of year-end, major platforms such as Bakkt,³⁵ Fidelity, State Street, BitGo, Anchorage, Citigroup, Bank Frick, SwissCrypto Vault, Coinbase, Gemini, itBit (now Paxos), Goldman Sachs, BNY Mellon, JPM Chase, Koine, Northern Trust, Prime Trust, and Kingdom Trust³⁶ are operating or exploring their own crypto custody solutions.

Exchange-Traded Funds (ETFs)

ETFs have also been perceived as a barrier to institutional investment, particularly those limited to investments in liquid, exchange-traded securities. We highlighted last year that we expected a very low likelihood of SEC approval for a bitcoin ETF in 2019. Unfortunately, 2019 proved to be another tough year for issuers as the SEC delayed-and-denied several bitcoin ETF applications, highlighting concerns in custody, regulatory oversight, and market surveillance. In contrast, various countries in Asia and Europe have introduced crypto and blockchain exchange-traded products.

Two applications by VanEck & SolidX and Bitwise were denied in 2019 and subsequently withdrawn. As per figure 8, they join a long list of denied or withdrawn applications as of January 2020.

Instead of bitcoin ETFs, we've seen the proliferation of blockchain-related ETF alternatives that offer indirect exposure to the crypto industry, including: Amplify Transformational Data Sharing ETF (BLOK), Reality Shares Nasdaq NextGen Economy (BLCN), First Trust Indxx Innovative Transaction & Process ETF (LEGR), Goldman Sachs Motif Finance Reimagined ETF (GFIN), Innovation Shares NextGen Protocol ETF (KOIN).³⁷ These US-based ETFs invest in companies that develop, use, or are exposed to blockchain technology, including members of the payments and semiconductor industries.³⁸

The Grayscale Bitcoin Trust (GBTC), sponsored by Grayscale Investments, continues to be the most popular ETF-like product traded on OTC markets. A grantor trust, GBTC is an investment vehicle that very recently became an SEC-reporting company.³⁹ However, GBTC charges a high annual fee of 2% of assets under management and has historically traded at a premium to its net asset value.⁴⁰

Outside of the US, the China Securities Regulatory Commission (CSRC) received its first application for a blockchain-themed ETF named Penghua Shenzhen Stocks Blockchain ETF, filed by Penghua Fund. This ETF will track companies with blockchain-related businesses and will be open to public investors, if approved.⁴¹

Figure 8: SEC approval status of major bitcoin ETFs

Issuer	Sponsoring Exchange	Status
SolidX Bitcoin Trust	NYSE Arca	Denied (2017)
Bitcoin Investment Trust	NYSE Arca	Withdrawn (2017)
Winklevoss Bitcoin Trust	Bats BZX Exchange	Commissioner Denial (2018)
ProShares	NYSE Arca	Denied (2018); Pending Commissioner Review
REX Shares	CBOE BZX Exchange	Withdrawn (2018)
First Trust	CBOE BZX Exchange	Withdrawn (2018)
GraniteShares	CBOE BZX Exchange	Denied (2018); Pending Commissioner Review
Direxion	NYSE Arca	Denied (2018); Pending Commissioner Review
REX BKCM	NYSE Arca	Withdrawn (2019)
VanEck & SolidX	CBOE BZX Exchange	Withdrawn (2019)
United States Bitcoin & Treasury Investment Trust	NYSE Arca	Pending Decision (Feb 2020)
Bitwise Asset Management	NYSE Arca	Withdrawn (2020)

Source: Kraken Intelligence, SEC

35 "Raising the Bar: Announcing Bakkt Institutional Custody" Bakkt (<https://medium.com/bakkt-blog/raising-the-bar-announcing-bakkt-institutional-custody-ed5e2ad0da9a>)
 36 "Institutional-grade crypto custody solutions have arrived. Now what?" Brave New Coin (<https://bravenewcoin.com/insights/institutional-grade-crypto-custody-solutions-have-arrived-now-what>)
 37 List of Blockchain ETFs (<https://etfdb.com/themes/blockchain-etfs/>)
 38 List of Blockchain ETFs (<https://etfdb.com/themes/blockchain-etfs/>)
 39 "Grayscale Bitcoin Trust Becomes SEC Reporting Company" GlobeNewswire (<https://www.globenewswire.com/news-release/2020/01/21/1973013/0/en/Grayscale-Bitcoin-Trust-Becomes-SEC-Reporting-Company.html>)
 40 Grayscale Bitcoin Trust (https://grayscale.co/bitcoin-trust/?utm_medium=pr&utm_source=release&utm_campaign=2020_q1_btc-form10)
 41 "China May Soon Have Its First Blockchain Exchange-Traded Fund" Coindesk (<https://www.coindesk.com/china-may-soon-have-its-first-blockchain-exchange-traded-fund>)

We continue to expect a less-than-10% probability of SEC approval for a vanilla bitcoin (or other crypto asset) ETF in 2020 with direct exposure to spot cryptocurrency or derivatives. In particular, we note that the SEC maintains a heightened set of expectations surrounding the development of the underlying spot market and further maturation of the industry. Given the expected turnaround, a compelling ETF application addressing the SEC's concerns would need to be filed by the beginning of 2Q 2020 for a decision by late-2020.

Regulation: more blockchain, less bitcoin

Key Takeaways:

- » Global regulatory bodies worked to standardize crypto oversight, focused on money laundering and terrorist financing
- » Europe and Asia continue to lead on legislative efforts; progress on US federal legislation likely stalled pending election year
- » Anticipate an uptick in regulatory pressure in mid-2020, in response to the travel rule and developments on Libra

Globally, nations spent much of 2019 addressing definitions and standardization of cryptocurrencies to better attempt to regulate the industry. Intergovernmental organizations such as the Financial Action Task Force (FATF) also issued “travel rule” guidance for digital currencies,⁴² focusing on anti-money laundering (AML) and counter-financing of terrorism (CFT) standards. The travel rule requires virtual asset service providers (VASPs) to collect and transfer user information pertaining to crypto transactions, which threatens to further strain businesses in the crypto industry. Per figure 9, Kraken’s transparency report indicates that Kraken received 710 law enforcement requests in 2019, a 49% increase since 2018.⁴³

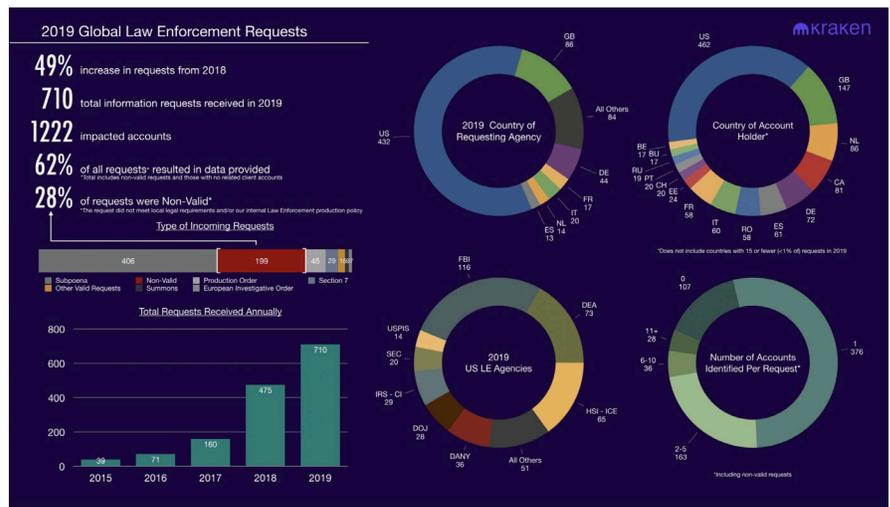
Though we had anticipated little progress on crypto regulation in last year’s [reflection](#), we enter 2020 with many of the same challenges, including a lack of standardized approach and coordination among regulators globally. We expect a key theme this year will be the implementation of the travel rule in FATF member countries by June 2020.

United States

Cryptocurrencies remained a controversial topic in the United States in 2019 with a new twist: big tech.

Off the back of Facebook’s major announcement regarding the Libra Association in June 2019, US government leaders moved quickly to take control of the narrative. Days prior to two scheduled Congressional hearings in July 2019^{44,45} with David Marcus, head of Calibra at Facebook, Congressional leaders pressed Federal Reserve Chair Jerome Powell for comments on Libra during testimony regarding the systemic importance of Libra on the financial system.^{46,47} The day before David Marcus’ Congressional appearance, Treasury Secretary Steve Mnuchin held a surprise press conference, expressing concerns regarding Facebook’s Libra currency and the need for AML and CFT safeguards.⁴⁸ Later in October 2019, Mark Zuckerberg, CEO of Facebook, provided testimony regarding Libra and Facebook’s participation.⁴⁹ The common theme -- Facebook’s involvement in the Libra Association and the threat of big tech taking on an increasingly important role in the financial system. Senators Sherrrod Brown and Brian Schatz, both members of the Senate

Figure 9: Kraken global regulatory and law enforcement requests



Source: Kraken Compliance

42 Virtual Assets and Virtual Assets Providers Guide by the FATF (<http://www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf>)
 43 Kraken Transparency Report (<https://twitter.com/krakenfx/status/1214354510077820928?s=20>)
 44 Examining Facebook’s Proposed Digital Currency and Data Privacy Considerations, US Senate Committee on Banking, Housing, and Urban Affairs (<https://www.banking.senate.gov/hearings/examining-facebooks-proposed-digital-currency-and-data-privacy-considerations>)
 45 Examining Facebook’s Proposed Cryptocurrency and Its Impact on Consumers, Investors, and the American Financial System, US House Committee on Financial Services (<https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=404001>)
 46 Monetary Policy and the State of the Economy, US House Committee on Financial Services (<https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=403999>)
 47 The Semiannual Monetary Policy Report to the Congress, US Senate Committee on Banking, Housing, and Urban Affairs (<https://www.banking.senate.gov/hearings/07/08/2019/the-semiannual-monetary-policy-report-to-the-congress>)
 48 Virtual Currencies and Online Marketplaces, US Treasury Secretary Steve Mnuchin Press Conference (<https://www.c-span.org/video/?462659-1/treasury-secretary-government-shutdown-looming-debt-ceiling>)
 49 Examining Facebook’s Proposed Cryptocurrency and Its Impact on Consumers, Investors, and the American Financial System, US House Committee on Financial Services (<https://financialservices.house.gov/calendar/eventsingle.aspx?EventID=404487>)

Banking Committee, went so far as to write letters to the management teams of Visa, MasterCard, and Stripe citing their concerns on the Libra Association, and noting that, “If you take this on, you can expect a high level of scrutiny from regulators not only on Libra-related payment activities, but on all payment activities.”⁵⁰ Several US payments institutions originally participating as a founding member of the Libra Association have since left.⁵¹ We anticipate rhetoric will pick up nearing mid-2020 as Libra moves towards launch, though timing remains uncertain. Further, we expect a continued and heightened level of scrutiny on any activities Facebook is involved in during 2020, given it is an election year. The market should pay close attention to whether the conversation centers around Libra or the broader crypto industry.

We noted last year that the market would likely be disappointed by securities guidelines produced by the Securities and Exchange Commission (SEC). In April of 2019, the SEC delivered its first such notice, providing insight into how they might analyze digital assets in the context of the *Howey Test*.⁵² Notably, the guidelines were published concurrently with the first no-action letter issued by the SEC relating to a token sale by TurnKey Jet.⁵³ The market soured shortly after an initial wave of positive reaction, stemming from the lack of “safe harbor” rules. Instead, the market was left to ask questions like, “what makes a network decentralized?” Adding salt to the wound, the SEC later charged Kik Interactive with conducting an unregistered securities offering,⁵⁴ entered into settlement agreements with Block.one⁵⁵ and Nebulous,⁵⁶ and halted Telegram’s distribution of gram tokens.⁵⁷ The SEC also denied several bitcoin ETF applications, citing the need for further developments in custody, regulatory oversight, and market surveillance. On a positive note, the SEC approved Blockstack’s token sale in the form of a Reg A+ securities offering.⁵⁸ Additionally, the SEC approved Securitize as a transfer agent, signaling potential interest in blockchain technology more generally.⁵⁹ Given competing priorities at the SEC and term expirations for chairman Jay Clayton (mid-2021) and commissioner Hester Pierce (mid-2020), we see little urgency or pressure for meaningful adjustments to the interpretation of securities regulations for the benefit of the cryptocurrency industry for the foreseeable future.

The CFTC continued to take a deliberately light-touch approach to the crypto industry over the course of 2019, with the highlight of the year being the launch of physically-delivered futures contracts on Bakkt. Despite CFTC leadership transitioning under chairman Heath Tarbert, we remain encouraged that the CFTC will continue to foster development of the cryptocurrency industry in 2020. Though we were early to call for ether futures in 2019 in our note last year, chairman Tarbert recently commented that he believes ether is not a security⁶⁰ and added that he believes ether futures could be a 2020 event,⁶¹ lending us greater confidence that 2020 is the year for regulated ether contracts.

Perhaps most notable for the US regulatory environment is the lack of momentum towards federal cryptocurrency legislation. Legal uncertainty remains a major area of confusion and frustration amongst market participants. We anticipate that most federal government agencies will be focused on implementing recommendations from the FATF. Given the impending national election, we anticipate little-to-no movement in the US federal legislative scene for 2020. Conversely, and in-line with our expectations from last year, we see bright spots emerging at the state level. Notably, Wyoming ushered in and passed two legislative measures that recognize digital assets as money⁶² and introduced the special purpose depository institution (SPDI)⁶³ for institutions providing financial services to consumers. Likewise, Utah created a regulatory sandbox targeted at blockchain technology.⁶⁴ New York is currently in the process of proposing new rules for its BitLicense concerning asset listings, which may take effect in 2020.⁶⁵ Other states continue to engage in workshops and exploratory programs designed to identify and advance innovative applications of blockchain technology.

50 Brown, Schatz Warn Payments Providers of Risks with Libra Association (<https://www.schatz.senate.gov/download/libra-letters-10-08-19>)
51 Mastercard, PayPal, Stripe, Visa, eBay have since left the Libra Association as Founding Members; Libra White Paper, June 2019 Web Archive (<https://web.archive.org/web/20190618085610/http://libra.org/en-US/white-paper/>)
52 Framework for “Investment Contract” Analysis of Digital Assets (<https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets>)
53 TurnKey Jet No-Action Letter (<https://www.sec.gov/divisions/corpfin/cf-noaction/2019/turnkey-jet-040219-2a1.htm>)
54 SEC Charges Issuer With Conducting \$100 Million Unregistered ICO (<https://www.sec.gov/litigation/complaints/2019/comp-pr2019-87.pdf>)
55 Block.one Administrative Settlement (<https://www.sec.gov/litigation/admin/2019/33-10714.pdf>)
56 Nebulous Administrative Settlement (<https://www.sec.gov/litigation/admin/2019/33-10715.pdf>)
57 SEC Halts Alleged \$1.7 Billion Unregistered Digital Token Offering (<https://www.sec.gov/news/press-release/2019-212>)
58 “SEC Clears Blockstack to Hold First Regulated Token Offering,” Wall Street Journal (<https://www.wsj.com/articles/sec-clears-blockstack-to-hold-first-regulated-token-offering-11562794848>)
59 “SEC Approves Blockchain Tech Startup Securitize to Record Stock Transfers,” Coindesk (<https://www.coindesk.com/sec-approves-blockchain-tech-startup-securitize-to-record-stock-transfers>)
60 “CFTC Says Cryptocurrency Ether is a Commodity, and Ether Futures Are Next,” Yahoo Finance (<https://finance.yahoo.com/news/cftc-says-cryptocurrency-ether-is-a-commodity-and-is-open-to-ether-derivatives-133455545.html>)
61 “CFTC Chair Says Ether Futures ‘Likely’ in 2020,” Coindesk (<https://www.coindesk.com/cftc-chair-says-well-likely-see-ether-futures-in-6-months>)
62 Wyoming SF0125 - Digital assets (<https://www.wyoleg.gov/Legislation/2019/SF0125>)
63 Wyoming HB0074 - Special purpose depository institutions (<https://wyoleg.gov/Legislation/2019/HB0074>)
64 Utah HB378 Regulatory Sandbox (<https://le.utah.gov/2019/bills/static/HB0378.html>)
65 NYDFS Proposed Guidance Regarding Adoption or Listing of Virtual Currencies (https://www.dfs.ny.gov/apps_and_licensing/virtual_currency_businesses/pr_guidance_regarding_listing_of_vc)

Europe

The UK kicked off the year with a Financial Conduct Authority (FCA)-sponsored consultation on cryptocurrency guidance, later followed up by final guidance in July 2019. The FCA aimed to address definitions and categories of cryptocurrencies across exchange tokens, utility tokens, and security tokens. In particular, the FCA indicated it would not regulate exchange tokens, including bitcoin or ether, which fall outside of their regulatory purview. Future publications will include guidance concerning retail access to cryptocurrency derivatives and Europe's Fifth Anti-Money Laundering Directive (5AMLD).⁶⁶ Despite criticism from several areas of the UK government, the nation has yet to deliver on dedicated measures or stringent containment of the crypto industry, instead opting for a fairly lenient approach.

Germany brought some clarity to crypto-related rules, passing a bill through the German federal parliament in November 2019 that could allow banks to sell and grant custody of cryptocurrencies beginning in 2020.⁶⁷ Though the nation still prohibits its financial institutions from facilitating the sale of crypto, this bill is expected to mark the nation a "crypto haven" should it receive consensus from all 16 states.⁶⁸

France joined the CBDC trend, swiftly shifting attitude on blockchain and cryptocurrencies as the governor of the Bank of France announced that the institution would be ready to launch a pilot project for its CBDC in 1Q 2020. Later in the year, the Minister of Economy, Bruno Le Maire, declared in September 2019 that crypto-to-crypto exchange transactions would no longer be taxable, while also signalling his opposition to Libra.⁶⁹ The French National Assembly adopted the PACTE bill, which established a framework for ICOs and licensing for digital asset service providers (DASPs).⁷⁰

Switzerland's FINMA issued a supplement to its guidelines for ICOs, which now includes details regarding stablecoins.⁷¹ This was done concurrently with an application by the Libra Association to pursue a Payment System License through FINMA.⁷²

China

China's regulatory posture seemed to shift sporadically in 2019. Central authorities accelerated the use of blockchain applications in financial institutions, simultaneously cracking down on cryptocurrency trading, reaffirming a ban levied in 2017. Core institutions like the Agricultural Bank of China now use blockchain technology to track transactions and provide transparency. People's Daily, a Chinese state media outlet, noted that governmental support of innovative blockchain technologies should not be misconstrued as an endorsement for cryptocurrency trading.⁷³ Currently, cryptocurrency trading is completely banned as the country continues to monitor and combat any virtual-currency related transactions.

Despite the country's ongoing war with cryptocurrency trading, the People's Bank of China (PBOC) announced its commitment to the creation of a CBDC. The PBOC established the Digital Currency Research Lab specifically for the creation of a national cryptocurrency, claiming that it would become a technological inevitability.⁷⁴ Later in the year, as political tensions between China and the US grew, and perhaps due to potential threat of the Libra Association, the PBOC's deputy director noted that the launch of the bank's digital currency was imminent.⁷⁵ A month later in September 2019, the PBOC disclaimed a specific launch date and denied any readiness for launching a CBDC.⁷⁶ In October, the Congress of China passed The Cryptography Law which regulates government centralized password management via cryptographic technology, coming into effect on January 1, 2020.⁷⁷ Though seemingly unrelated to

66 Guidance on Cryptoassets, Feedback and Final Guidance to CP 19/3 (<https://www.fca.org.uk/publication/policy/ps19-22.pdf>)

67 German Bill on Cryptocurrency Custody in 2020 (<https://www.handelsblatt.com/finanzen/maerkte/devisen-rohstoffe/kryptowaehrungen-neues-geldwaeschesgesetz-banken-duerfen-bitcoin-verwahren/25276392.html?ticket=ST-3047044-ZjMg20xgMJ4E4RwtMF12-ap4>)

68 "Germany New Proposed Law Would Legalize Banks Holding Bitcoin" Cointelegraph (<https://cointelegraph.com/news/germany-new-proposed-law-would-legalize-banks-holding-bitcoin>)

69 "France Won't Tax Crypto-to-Crypto Trades, But Will Hit Gains Cashed Out," Bloomberg (<https://news.bloombergtax.com/daily-tax-report-international/france-wont-tax-crypto-to-crypto-trades-but-will-hit-gains-cashed-out>)

70 "Regulatory developments in the crypto space" Cryptofinance (<https://www.cryptofinance.ch/regulatory-developments-in-the-crypto-space/>)

71 "FINMA Publishes 'Stable Coin' Guidelines," FINMA (<https://www.finma.ch/en/news/2019/09/20190911-mm-stable-coins/>)

72 "Libra Association Pursues Payment System License Under FINMA Lead Supervision," Libra Association (<https://libra.org/en-US/wp-content/uploads/sites/23/2019/09/Libra-Communique%CC%81.pdf>)

73 "China state paper urges calm after blockchain stocks, bitcoin soar" Reuters (<https://uk.reuters.com/article/us-china-blockchain/china-state-paper-urges-calm-after-blockchain-stocks-bitcoin-soar-idUKKBN1X80MP?rpc=401&>)

74 "China not in hurry to develop digital currency: central bank" China Daily (<http://www.chinadaily.com.cn/a/201803/09/WS5aa256dfa3106e7dccc140b45.html>)

75 "New digital currency to launch in near future" China Daily (http://www.china.org.cn/business/2019-08/20/content_75117829.htm)

76 "China has no timetable to launch digital currency: central bank governor" Global Times (<http://www.globaltimes.cn/content/1165331.shtml>)

77 China's Announcement of Passing The Cryptography Law, CCTV (<http://m.news.cctv.com/2019/10/26/ARTIGGmMdaX5J5Fb355MSclG191026.shtml>)

cryptocurrencies, this legislation is seen by some as an attempt to set groundwork for a CBDC, as it would regulate every aspect of encryption in the use of cryptocurrencies.⁷⁸

A surge of activity followed remarks in October 2019 by president Xi Jinping, indicating that blockchain technology would play an important role in technological and industrial innovation.⁷⁹ By late-2019, following recent promotion of blockchain technologies in China, Beijing authorities released a notice reminding firms to refrain from engaging in cryptocurrency trading activities.⁸⁰

Outside of mainland China, Hong Kong's Securities and Futures Commission (SFC) provided formal regulatory clarity for cryptocurrency exchanges, detailing new requirements on custody and compliance with regards to KYC and AML guidelines. Specifics of the regulations require crypto exchanges to service only professional investors, the hiring of independent auditors to approve changes to existing or new offerings, and exclusion of non-custodial exchanges from licensing, among other things.⁸¹

Going forward, we continue to see a conservative attitude from China with respect to cryptocurrency trading in 2020 coinciding with ongoing implementations of novel blockchain applications. It's also possible that we see further developments towards a CBDC.

Japan

Japan, which has been at the forefront of cryptocurrency regulations after a series of major exchange hacks, spent most of 2019 touching up existing licensing and regulatory requirements. The Cabinet of Japan placed a cap on leverage in margin trading, limiting it to 2x - 4x initial deposits, in line with standards in FX trading.⁸² By mid-2019, Japanese lawmakers passed a bill requiring service providers to custody customer funds in reliable cold wallets.⁸³ A new self-regulating entity named the Japan Security Token Offering Association (JSTOA) was created to regulate and enable the launch of security tokens within a known regulatory framework. Legislators also proposed amendments to its Act of Settlement of Funds and Financial Instruments and Exchange Act (FIEA) to include tokens.⁸⁴ Japan's Financial Services Agency (FSA) proposed custodial services must be subject to the Payment Services Act (PSA), requiring registration as a "Crypto Asset Exchange Service Provider."⁸⁵ Going forward, we believe Japan will continue to lead and adapt clear regulatory guidelines, relying on self-regulating organizations to advance uniform regulatory applications across the region.

South Korea

South Korea further toughened its regulatory stance in 2019, plagued by another year of cryptocurrency exchange hacks and scandals. 2019 began with the Financial Services Commission (FSC) reiterating its ongoing ban on ICOs,⁸⁶ followed by the central bank's formal decision against the issuance of a South Korean CBDC, believing that it might threaten the stability of the financial market.⁸⁷ Due to the "real-name" account requirements, many domestic platforms shut down or were forced to seek alternatives as banks were less inclined to partner with smaller exchanges. In some cases, platforms used loopholes like recording individual transactions under business accounts, making them more vulnerable to security threats and hacking incidents. Despite these risks, the Seoul Central District Court accepted an injunction request to recognize the legal use of business accounts due to the inability to secure banking relationships.⁸⁸ By late-2019, the National Assembly passed an amendment to the Special Financial Transactions Information Act whereby cryptocurrency exchanges will be required to register with the FSC.⁸⁹ Despite the tense regulatory stance, the president of South Korea acknowledged blockchain technology as a catalyst for the "fourth industrial revolution," pushing for an initiative to create blockchain regulation-free zones.⁹⁰ For the foreseeable future, we believe that South Korea will maintain a cautious

78 "China Passes First-Ever 'Crypto Law'" Cointelegraph (<https://cointelegraph.com/news/china-passes-first-ever-crypto-law-going-into-effect-january-2020>)

79 "Xi stresses development, application of blockchain technology," Xinhua (http://www.xinhuanet.com/english/2019-10/25/c_138503254.htm)

80 "Beijing authorities issue warning: Firms must not conduct crypto business," The Block (<https://www.theblockcrypto.com/linked/51581/beijing-authorities-issue-warning-firms-must-not-conduct-crypto-business>)

81 HK FSC's Regulations on AML and KYC ([https://www.sfc.hk/web/EN/files/ER/PDF/20191106%20Position%20Paper%20and%20Appendix%201%20to%20Position%20Paper%20\(Eng\).pdf](https://www.sfc.hk/web/EN/files/ER/PDF/20191106%20Position%20Paper%20and%20Appendix%201%20to%20Position%20Paper%20(Eng).pdf))

82 "Japan clamps down on margin cryptocurrency trading" Nikkei (<https://asia.nikkei.com/Spotlight/Cryptocurrencies/Japan-clamps-down-on-margin-cryptocurrency-trading>)

83 "Japan Advances New Crypto Bill, Regulator Explains," Bitcoin.com (<https://news.bitcoin.com/new-cryptocurrency-bill-advances-japan/>)

84 "New Regulations in Japan on Security Token Offerings" The National Law Review (<https://www.natlawreview.com/article/new-regulations-japan-security-token-offerings>)

85 "FSA Proposes Bill to Amend Japanese Laws Regulating Cryptocurrency-Related Businesses" JD Supra (<https://www.jdsupra.com/legalnews/fsa-proposes-bill-to-amend-japanese-65407/>)

86 Korea's ICO Ban (http://www.fsc.go.kr/info/ntc_news_view.jsp?bbsid=BBS0030&page=1&sch1=&sword=&r_url=&menu=7210100&no=32932)

87 "Central bank-issued digital currency may undermine financial stability: report" Yonhap News (<https://en.yna.co.kr/view/AEN20190207003800320?section=search>)

88 "South Korea is Hoping for Regulatory Clarity as Crypto Laws Toughen" Cointelegraph (<https://cointelegraph.com/news/south-korea-is-hoping-for-regulatory-clarity-as-crypto-laws-toughen>)

89 "South Korea Takes Legal Step to Stamp Out Unregistered Crypto Exchanges," Coindesk (<https://www.coindesk.com/south-korea-takes-legal-step-to-stamp-out-unregistered-crypto-exchanges>)

90 "South Korean President Stresses Regulatory Innovation for Blockchain," Cointelegraph (<https://cointelegraph.com/news/south-korean-president-regulatory-innovation-is-question-of-survival>)

stance, especially with respect to cybersecurity risks due to concerns over North Korea.

Figure 10: Regulatory overview

Country	Lawmaking Bodies	Regulatory Jurisdiction					
		Securities	Commodities	Money Transmission	Tech. & Internet	Courts	Other
USA	President & Congress	SEC & FINRA	CFTC	FinCEN	FCC	Supreme Court	State Legislatures, Regulators, and Courts. NFA, Fed & OCC
EU	Parliament & Council	ESMA	ESMA	EU Commission	BEREC	Court of Justice	Member State Parliaments, Regulators, and Courts. ECB, EBA & ESRB
Japan	Prime Minister and National Diet	FSA	METI & MAFF	FSA	MIC	Supreme Court	Bank of Japan
UK	Prime Minister and Parliament	FCA	FCA	PSR	Ofcom	Supreme Court	Bank of England, FPC, and PRA
China	Communist Party	CSRC	CSRC	CSRC & CBIRC	MIIT	Supreme Court	Prime Minister, National People's Congress & Standing Committee
South Korea	Prime Minister & National Assembly	FSC	FSC	FSC	KCC	Supreme Court & Constitutional Court	FSS & Bank of South Korea
India	Prime Minister & Parliament	SEBI	FMC	Reserve Bank of India	TRAI	Supreme Court	Reserve Bank of India, IRDAI & MCA
Canada	Prime Minister & Parliament	CSA	CSA	FINTRAC	CRTC	Supreme Court	IIROC, MFDA, Bank of Canada
Russia	Prime Minister & Federal Assembly	FCSM	FCSM	Central Bank of Russia	Minsvyaz	Constitutional Court	CRFIN, CROFR, FMRR & Naufor

Source: Kraken Intelligence

Going Mainstream: slow and steady wins the race

Key Takeaways:

- » Traditional financial institutions are integrating blockchain solutions to improve back-end reconciliation and settlement
- » Large consumer-facing applications and brands are exploring features to connect end customers with cryptocurrencies
- » The reach associated with these global institutions extends from millions to potentially billions of individuals

During 2019, we began to see the culmination of work produced by dozens of global organizations looking to integrate cryptocurrencies or blockchain technology into their products, services, and operations. Both established and new names entered the space to cater to a wider audience, addressing both consumers and businesses.

Within traditional financial services, Fidelity launched a crypto custody and trading service via its cryptocurrency business unit, Fidelity Digital Assets, catering to institutional investors.⁹¹ The crypto arm of the company went on to secure a New York state license to offer its crypto trading and custody services to companies based in the state of New York.⁹² Similarly, JPMorgan announced its own stablecoin, the JPM coin, to service institutional clientele in business-to-business money flows. The JPM coin is designed as an internal payments solution that runs on a private version of ethereum developed by JPM, known as Quorum.⁹³ JPM coin taps into a massive settlement network, spearheaded by a global financial intermediary that is responsible for moving \$6 trillion around the world daily on behalf of corporations.⁹⁴ Goldman Sachs listed a job requisition for a new Digital Asset Project Manager,⁹⁵ and its CEO later announced the group's extensive research around asset tokenization and stablecoins, though no specific projects have been announced.⁹⁶ Though several of these institutions are known to have been exploring blockchain integrations as early as 2016, we are in the early innings of launched initiatives that will continue to validate and expand on blockchain technology. With respect to major financial institutions like banks, we do not anticipate much effort towards offering cryptocurrencies like bitcoin due to their intimate relationship with sovereign monetary networks.

International payment platforms also joined the foray, bridging the gap between consumers, businesses, and cryptocurrencies. Payments processing giant Visa launched its own blockchain platform known as B2B Connect for cross-border transactions.⁹⁷ First announced in 2016, this blockchain-based network developed over 3 years will serve its B2B cross-border segment, an estimated \$125 trillion market.⁹⁸ With an initial launch in 30 markets, B2B Connect doubled its reach within two months of operation and plans on reaching over 100 countries by this year.⁹⁹ Crypto trading platform Bakkt is also targeting the masses, teaming up with Starbucks to create a consumer app for digital assets, slated for launch in 1H 2020. This app will allow consumers to checkout with bitcoin at Starbucks locations, one of the largest consumer chains in the world with a reported \$26.5 billion in revenue in 2019.¹⁰⁰ MoneyGram also joined the expanding list of consumer-facing financial services using cryptocurrencies after announcing a \$50 million stake acquired by Ripple.¹⁰¹ This partnership will take advantage of Ripple's xRapid liquidity solution for cross-border payments and taps into an estimated \$707 billion global remittance market.¹⁰² Apple Pay's vice president hinted at their interest in cryptocurrencies during a media interview, commenting on the long-term potential of crypto in transforming the payments space.¹⁰³ Though no product or offering has been planned, any future crypto-related developments by this service provider could bring crypto to its estimated 441 million global user base.¹⁰⁴

91 "Fidelity's new cryptocurrency company is up and running despite a bear market for digital coins" CNBC (<https://www.cnbc.com/2019/03/08/fidelitys-new-cryptocurrency-company-is-up-and-running-despite-a-bear-market-for-digital-coins.html>)

92 "Fidelity's crypto company secures New York state license" Reuters (<https://www.reuters.com/article/us-crypto-currency-fidelity/fidelitys-crypto-company-secures-new-york-state-license-idUSKBN1XT4C>)

93 JPM Coin (<https://www.jpmorgan.com/global/news/digital-coin-payments>)

94 "JP Morgan is rolling out the first US bank-backed cryptocurrency to transform payments business" CNBC (<https://www.cnbc.com/2019/02/13/jp-morgan-is-rolling-out-the-first-us-bank-backed-cryptocurrency-to-transform-payments-.html>)

95 "Goldman Sachs Ramps Up Development of New Secret Crypto Project" Cointelegraph (<https://cointelegraph.com/news/goldman-sachs-ramps-up-development-of-new-secret-crypto-project>)

96 "Chez Goldman Sachs, nous n'anticipons pas de crise financière majeure en 2020" Les Echos (<https://www.lesechos.fr/finance-marches/banque-assurances/chez-goldman-sachs-nous-nanticipons-pas-de-crise-financiere-majeure-en-2020-1033938>)

97 "Visa launches blockchain platform for corporate payments" FX Street (<https://www.fxstreet.com/cryptocurrencies/news/visa-launches-blockchain-platform-for-corporate-payments-201906120536>)

98 "Visa Enters The \$125 Trillion Global Money Transfer Market With New Blockchain Product" Forbes (<https://www.forbes.com/sites/jeffkaufman/2019/06/11/visa-targets-swift-with-new-blockchain-product-for-global-money-transfers/#3ea518393daa>)

99 "Visa B2B Connect Expands to 32 New Countries and Announces Integration With Infosys" Market Watch (https://www.marketwatch.com/press-release/visa-b2b-connect-expands-to-32-new-countries-and-announces-integration-with-infosys-2019-09-20?mod=mw_quote_news)

100 Starbucks 2019 Annual Report; fiscal year ending in September (https://s22.q4cdn.com/869488222/files/doc_financials/2019/2019-Annual-Report.pdf)

101 SEC filing on Ripple's Acquisition of MoneyGram (<https://www.sec.gov/Archives/edgar/data/1273931/000127393119000111/exhibit991112519.htm>)

102 "Data release: Remittances to low- and middle-income countries on track to reach \$551 billion in 2019 and \$597 billion by 2021" World Bank (<http://blogs.worldbank.org/peoplenews/data-release-remittances-low-and-middle-income-countries-track-reach-551-billion-2019>)

103 "Apple exec: 'We're watching cryptocurrency'" CNN (<https://www.cnn.com/2019/09/05/tech/apple-pay-vp-jennifer-bailey-table-interview/index.html>)

104 Estimated Number of Apple Pay Users, as of September 2019 (<https://www.statista.com/statistics/911914/number-apple-pay-users>)

Crypto's reach expanded even further with social trading and investing apps taking the plunge into crypto. eToro integrated cryptocurrency trading into their service,¹⁰⁵ while Square and Revolut broadened their offerings with additional functionality, including bitcoin deposits¹⁰⁶ and buy or sell exchange transactions.¹⁰⁷ Most of these applications offer crypto exchange services with no commissions, and target a predominantly millennial user base. Since integrating bitcoin into the Cash App, Square has processed nearly \$500 million in total bitcoin transaction volume as of 3Q 2019.¹⁰⁸ Taking a step further, Square Crypto created a crypto developer team dedicated to advancing open-source technological development for the crypto industry as a whole.¹⁰⁹

Though we've barely scratched the surface on many of these mentions, notwithstanding our earlier comments on the Libra Association, these examples prove significant headway into mainstream integration of cryptocurrencies and blockchain technology. We believe this will catalyze virtuous cycles for the maturation and growth of the crypto industry as more and more consumer-facing services build bridges to cryptocurrencies.

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For **OTC-related execution services or inquiries**, please direct your communication to otc@kraken.com or to your account manager.

105 eToro Markets (<https://www.eto.com/en-us/trading/markets/>)

106 "Square Cash App Mobile Users Can Now Deposit Bitcoin" PYMNTS (<https://www.pymnts.com/cryptocurrency/2019/square-cash-app-mobile-users-can-now-deposit-bitcoin/>)

107 Cryptocurrencies on Revolut (<https://www.revolut.com/exchange-cryptocurrency>)

108 See historical financial information for Total Bitcoin Transaction Volume on Square App (<https://squareup.com/us/en/about/investors>)

109 Tweet on Square Crypto Team (<https://twitter.com/sqcrypto/status/1174721064959709186?s=20>)

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