

Institutional Cryptoasset Trading: Looking for the Missing Bits

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IMPACT POINTS

- Based on extensive interviews with 25 market participants, this report examines five essential areas of the crypto market that could impact institutional participation:
 - Market structure and regulations
 - Security and custody
 - The role of credit
 - Innovation in technology and pricing
 - Liquidity
- There are several barriers to institutional market adoption of cryptoassets, including regulatory uncertainty, market capitalization of cryptoassets, immature market infrastructure, and ongoing concerns over reputational risk and security issues.
- One respondent whom Aite Group interviewed sets a target on bitcoin of US\$25,000, first reached in late December 2020, as the price necessary to attract the attention of institutional players and traditional Tier-1 banks.
- The lack of a standardized global regulatory framework in the cryptoasset market
 has been identified as the biggest obstacle for institutional market participants to
 actively engage in crypto trading, according to the interview respondents.
- While there is no industry standard when it comes to security associated with custody of cryptoassets, most interview respondents indicate that cold storage has become the most popular custody method to date and is viewed as the most acceptable for the institutional market.
- Most respondents indicate that the current lack of margin providers or prime services should not be a barrier for institutional participation in crypto trading, but access to credit is viewed as a critical component of the asset class and necessary for wider institutional adoption.
- Respondents also mention that institutional participation would require greater adoption of enterprise-grade, redundant technology infrastructure and usage of widely accepted operational practices and industry standards, such as FIX.
- Respondents note that when considering various factors that can positively impact overall liquidity in the cryptoasset market, market cap came out on top, followed very closely by price transparency and ease of market access.
- Obstacles to institutional adoption still exist, but these barriers are gradually coming
 down thanks in large part to innovative crypto-native market participants that have
 risked the survival of their business on the initial growth of the institutional
 cryptoasset market. The final wave of growth must be led by the traditional
 institutional market participants and driven by increasing regulatory clarity,
 improved market infrastructure, and cutting-edge technology.

INTRODUCTION

The cryptoasset market has been on a wild, unpredictable ride over the last five years. Building on the growth of 2016, the market experienced an incredible bull run in 2017 only to collapse during the so-called crypto winter of 2018. The market has been on a long, gradual road to recovery since the collapse, and to a certain degree, the bottoming out of the market in 2018 could be considered the pivotal point when cryptoassets began their march toward institutional legitimacy and a much stronger foundation as a viable asset class. The great bitcoin market rally that started during the second half of 2020 appears to validate this thinking, with the price reaching record highs. The question is no longer if but rather when institutional participation will finally occur.

One interview respondent colorfully characterized his view on the state of the market as such: "There's a dot way out on the horizon that represents a mature institutional market for cryptoasset and digital assets. It's sort of like we're not really sure how we'll get there, how long it'll take, and what we'll find when we do—but we've pointed the boat at the dot and set sail."

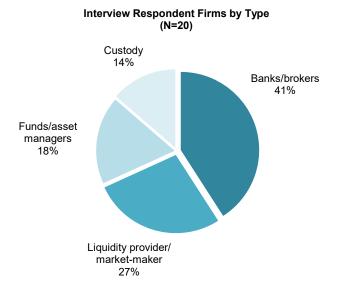
This Impact Report examines the key developments and trading landscape of the cryptoasset market, identifying key challenges to institutional market adoption and seeking potential answers that would pave the way for greater adoption among the institutional asset management and trading community.

METHODOLOGY

This report is based on 25 anonymous, qualitative interviews with senior executives from leading liquidity providers, brokers, exchanges, crypto funds, asset managers, and global technology vendors. These interviews were conducted during Q3 2020. Figure 1 represents a breakdown of interview respondents, not including exchanges and technology vendors. Sample profiles of interview respondents include the following:

- Top five crypto-native liquidity providers
- Leading traditional liquidity providers with significant presence in the cryptoasset trading market
- Top tier I and II banks
- Leading interdealer brokers
- Actively trading crypto-native funds (average assets under management of US\$20 million)
- Leading crypto-native and traditional exchanges with significant market share
- Global asset managers

Figure 1: Interview Respondent Firms by Type



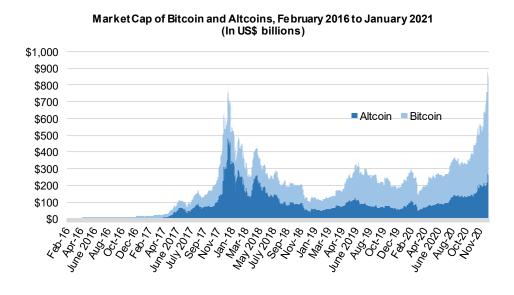
CURRENT MARKET REALITY

While the cryptoasset market continues to evolve, it is still very immature compared to traditional markets, with debate around the lack of security, liquidity, and regulatory clarity still dominating the industry discussion. For some, the cryptoasset market resembles the wild west of the global retail FX market prior to various regional regulatory frameworks that helped legitimize the highly leveraged marketplace. It is very clear that market education is an important part of this process, as is the continued development of essential elements of a market infrastructure.

Despite some challenges, the cryptoasset market continues to march forward. In late October 2020, the Federal Reserve Chair Jerome Powell spoke on a panel dedicated to digital currencies and acknowledged that a central bank digital currency could lead to significant improvements and opportunities. In addition, it has been widely reported that the Securities and Exchange Commission (SEC) is considering the approval of crypto exchange-traded funds (ETFs). And PayPal now enables its roughly 340 million users to buy, sell, and hold bitcoin and other cryptoassets.

Since the launch of bitcoin in January 2009, the bitcoin-only market has grown from a single-asset market with an insignificant market cap to one that encompasses thousands of various cryptoassets. The combined market cap of bitcoin and altcoins which stood at just below US\$400 billion in September 2020, recently reached approximately US\$1 trillion, surpassing the previous high of near US\$800 billion in January 2018 (Figure 2).

Figure 2: Market Cap of Bitcoin and Altcoins



Source: Coin Dance

It is hard to think of another asset class that has seen such high market cap growth as high as cryptoassets in the same time frame. The sizeable market share of altcoins over the past few

years is testament to the rising interest in the wider asset class and not just bitcoin. The resilience of bitcoin, expressed as a percentage of market share, can be explained by confidence in the coin on the part of investors, who prefer the relative safety of the instrument, particularly in an already volatile market. Bitcoin also has the benefit of being the most well-known cryptoasset, with some of Aite Group's interviews revealing that holding bitcoin has become a status symbol. The fixed total supply of bitcoin at 21 million coins means that some investors think of their bitcoin holdings like they would precious metals such as gold or silver.

ASSESSING THE POTENTIAL FOR INSTITUTIONAL PARTICIPATION

The first movers into the cryptoasset trading space from the traditional client side have been the smaller, leaner funds that are more systematic in their investment and trading approaches. From the institutional market, recent interest is coming from high-net-worth individuals, family offices, and a few institutions. In today's market reality, with historically low interest rates and margin/fee pressures, these investors are looking to diversify and allocate a portion of their portfolio into digital assets, and this trend appears likely to accelerate over the next few years.

Despite the increasing interest and potential for growth, the crypto market still faces an uphill battle in terms of attracting institutional participation. One of the barriers is the fragmented ecosystem, which makes it difficult for traditional players to flip a switch and start a crypto trading desk. Trading bitcoin spot or altcoins would require new connectivity to brokers and exchanges that are mostly crypto-native. Risk and balance sheet management takes on a new meaning for market participants who are unfamiliar with digital assets and unprepared to trade them while clearly lacking traditional market infrastructure.

Based on extensive interviews with 20 market participants, this section examines five essential areas of the cryptoasset market that could impact institutional participation:

- Market structure and regulatory certainty
- Security and custody
- The role of credit
- Innovation in technology and pricing
- Liquidity

MARKET STRUCTURE AND REGULATORY CERTAINTY

The lack of a regulatory framework in the crypto market is a strong underlying theme and the biggest obstacle for institutional market participants to engage in cryptoasset trading. Various types of authorities, such as central banks, financial supervisory bodies, government departments, tax administrators, legislatures, and anti-money laundering (AML) regulators, often issue guidance. In addition, multiple regulatory authorities can be active within a single jurisdiction. When different regulators claim the activity falls under their purview, the industry experiences confusion. The interview respondents do not have a specific preference for how crypto should be categorized or which regulatory body should have overall supervision. Instead, respondents emphasize the need for consistency throughout the various regulatory jurisdictions, which would simplify and stabilize the way they could conduct business, thereby paving the way for a more credible and legitimate business environment related to cryptoassets. Areas of focus highlighted by respondents include a transferable definition of cryptoassets, reasonable know your customer (KYC) and AML procedures related to cryptoasset trading business, and end-consumer protection rules.

The lack of a fungible global regulatory framework when participants still face high fraud risks has certainly not helped or encouraged overall institutional presence in the cryptoasset market. With very little short-term prospect for global harmonized and uniform laws and regulations, current groups of active crypto market participants have assumed a certain level of risk. The inherent difficulties in developing a sound regulatory regime for the cryptoasset trading market include cryptoassets' decentralized issuance, pure digital form, and global and 24/7 marketplace.

In the United States, regulatory fragmentation has dominated the cryptoasset trading market with discrepancies emerging even with the definition of a cryptoasset, with the Internal Revenue Service (IRS) deeming it a property, the Commodity Futures Trading Commission (CFTC) viewing it as a commodity, and the SEC as a security. Just to confuse things even more, the Financial Crimes Enforcement Network (FinCEN) and other groups have issued guidance saying that virtual currencies should be treated as real currencies. The U.S. Office of the Comptroller of the Currency (OCC) has taken the initial lead in this area, recently confirming that national banks and federal savings associations can provide cryptoasset custody services for customers as well as concluding that national banks may provide banking services to businesses engaged in cryptoasset operations. None of the respondents have preferences for how cryptoassets should be classified; instead, the respondents care more about consistent classification and requirements so that they can engage in business activities under a predictable regulatory framework.

For the most part, regulators in other regions are moving faster than those in the United States, with a few countries trying to position their jurisdiction as friendly to crypto-oriented businesses. One example of this would be the Gibraltar Financial Services Commission (GFSC), which introduced the DLT license on January 1, 2018, providing a regulatory framework for companies that use distributed ledger technology (DLT) to participate in business activities for the transmission or storage of value belonging to others, such as virtual currency exchanges. Another example is in Liechtenstein, one of the smallest countries in Europe, which in 2019 passed the Token and Trustworthy Technology Service Providers Act (TVTG). This act provides a comprehensive regulatory framework for the token economy within Liechtenstein.

While there are very few crypto-related regulations in the books, those that exist tend to focus on the AML and KYC aspects of the cryptoasset trading life cycle. Table A provides a sample list of regulations or directives that are currently in place in select locations and that were mentioned most often by the interview respondents.

Table A: Key Crypto Regulatory Movements

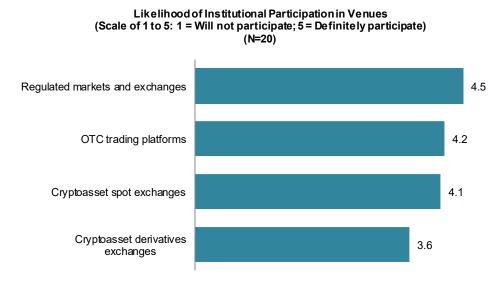
Regulation	Jurisdiction	Description	Status
BitLicense	New York State	A New York State Department of Financial Services (NYSDFS)-issued business licenses to regulate virtual currency activities; regulatory oversight limited to activities involving the state of New York or a New York resident	Live since 2014
Anti-Money Laundering Directive 5 (AMLD5)	EU	Amends the fourth AMLD and designed to further prevent terrorist funding and money laundering via the financial	Live since January 2020

Regulation	Jurisdiction	Description sector; requires cryptoasset exchanges and custodians to register with their local regulator and demonstrate compliance with KYC and AML procedures	Status
Markets in Cryptoassets Regulation (MiCA)	EU	A new EU licensing regime for cryptoasset issuers and service providers, along with conduct of business and consumer protection requirements; MiCA also introduces an EU-wide passport available to market participants	Proposed by EU Commission
Expansion of Recommendation 16 (Travel Rule)	G-7	Recommendation by the Financial Action Task Force (FATF), to expand Recommendation 16 (which only required banks to share information about their customers and report suspicious activities) to virtual asset service providers (VASPs); VASPs required to verify user identities and share with one another when involving any virtual asset transfers valued at US\$1,000 or more	Live since June 2020

Source: Various regulators

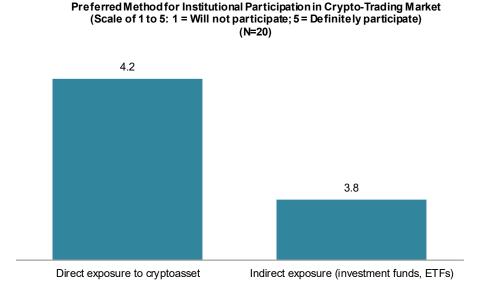
When asked about their preference of execution venue types for institutional participation, regulated markets, such as the CME futures market, came out on top, followed by interacting with OTC market-makers and cryptoasset spot exchanges (Figure 3). Nonregulated derivatives exchanges ranked last, illustrating the general hesitancy of institutional market participants.

Figure 3: Likelihood of Participation in Execution Venue Types



Still, most respondents indicated that their current preferred method for participation is direct exposure to the cryptoasset market by trading spot or futures (Figure 4). However, this response could have been influenced by the fact that, in today's market, there are no regulated funds or ETFs available, as the SEC has not yet approved any cryptoasset ETFs due to ongoing concerns over potential fraud and market manipulation. General feedback from most interview respondents about the potential launch of regulated funds and ETF products was quite positive, with most respondents believing that the availability of reputable funds and ETF products would go a long way toward helping the institutional market grow.

Figure 4: Preferred Method for Institutional Participation

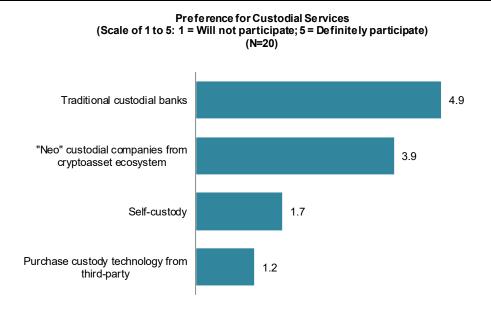


SECURITY AND CUSTODY

Crypto-native custodians dominate today's market in terms of numbers. It is very clear that most respondents would prefer to see traditional custodians proactively enter the market (Figure 5). One of the major reasons that institutional players are looking for traditional custodians to enter the market is to get legal recourse, just in case something goes wrong.

Traditional institutional players want to make a decision on exposure and be able to trade in and out without having to worry about the technical complexity and risks of storing their own keys. They want the custodian to hold the exposure and know that it is there and safe. Safety of assets is very important, and those custodians that are able to apply a traditional custodial framework for digital assets, including robust audit and security, strong operational processes, white-glove service, and dedicated support, would inspire a lot of much-needed confidence in the institutional market. The demand for traditional custodians' participation in the digital-asset market is less about their technical expertise in this space and more about their industry reputation and market clout as the ultimate safekeepers of client assets.

Figure 5: Preferred Providers of Custodial Services



Source: Aite Group interviews of leading market participants, Q3 2020

Fidelity has already entered the market, and earlier in 2020, Standard Chartered announced its intention to provide cryptoasset custody services before the year's end. DBS Bank, the largest bank in Singapore, announced in October 2020 its intention to launch a cryptoasset exchange and institutional-grade digital-asset custody services for clients. Numerous respondents commented that It is not surprising to see second-tier custodians entering the market, as those custodians would view this as an opportunity to pick up some market share of traditional asset classes from the global custodians. Bottomline is that as these traditional players enter the

market, more credibility can be built from the perspective of institutional managers and that will ultimately benefit all market participants in the cryptoasset market.

There is no industry standard when it comes to security associated with custodial services, but most respondents mentioned cold storage as the gold standard because, by its nature, it is meant to keep the assets secure and offline. As a result, cold storage has become the most popular custody method to date and is viewed as the most acceptable for the institutional market. The potential wide usage of a hot wallet for storage, which is the preferred method in the retail market for its easy support of transactions, is typically dismissed by interview respondents as inappropriate for the institutional market, for which safety of assets would take precedence over ease of access.

THE ROLE OF CREDIT

In regard to the role of credit and margin for the institutional market, most respondents indicate that the lack of margin providers or prime brokers should not be a barrier for institutional participation, as the market size of cryptoassets (approximately US\$350 billion at the time of interviews) is not perceived to be large enough for credit to play a big role. However, access to credit is viewed as a critical component of the asset class and necessary for wider institutional adoption.

The current fully collateralized cryptoasset trading model (i.e., prefunded) can be viewed as inefficient. Certain liquidity providers provide their own credit to clients to trade with them. Some market participants only trade with OTC desks and not on exchanges, citing lack of access to credit as one of the reasons, and complexity in post-trade settlement as another. This complexity in post-trade stems from the fact that trading of cryptoassets in exchanges does not get recorded on a blockchain. Instead, exchanges end up managing private keys in a centralized manner. However, the clearing and settlement of crypto trades, triggering ownership change, occur on corresponding counterparties' blockchains, at times leading to hours of delay for settlement confirmation.

In order to meet this demand, crypto margin providers, hybrid business models, digital-asset exchanges, and lending platforms are stepping in to fill this gap. However, they are far from resembling traditional prime brokerage services, which are characterized by strong balance sheets. Instead, institutional players are looking for a reputable one-stop shop for everything that they do operationally, where they can park all of their bitcoins in one place and trade in a safe environment. In addition to financing, ease of access to liquidity sources (including all of the major OTC market-makers), capital introduction services, and the ability to structure trades would provide vital coverage for institutional market participants. The eventual entry of traditional players would provide much-needed credibility into this function, which would in turn boost opportunities for nontraditional providers looking to grab market share.

INNOVATION IN TECHNOLOGY AND PRICING

When asked about key factors in selecting execution venues for cryptoassets, most respondents emphasize the importance of the venue's market share or volume and an adherence to a

regulatory framework, followed by the venue's focus on security (Figure 6). Unlike what one would expect from exchanges offering traditional asset classes, for which speed is of the essence in today's low-latency trading environment, exchange latency is cited very few times. One of the respondents mentions that internal latency (between internal servers) is more important than worrying about the latency on the exchange side, as the ability to process the information captured from the exchanges is more important in terms of making profitable trading decisions. Instead, most firms pay attention to volume, number, and types of market participants to determine the quality of potential liquidity in specific venues. Certain sophisticated cryptoasset liquidity providers have also developed transaction cost analysis tools to analyze the adverse selection profile of each exchange and look at the profitability of each exchange and order type.

Figure 6: Key Factors for Trading Venue Selection

Source: Aite Group interviews of leading market participants, Q3 2020

While the likes of traditional exchanges, such as the CME, have robust institutional-grade connectivity options, most crypto exchanges are actually just websites offering users WebSocket APIs for computer-to-computer connectivity to exchange data and trade-related messages. As such, REST and WebSocket APIs are more widely used among cryptoasset trading than is FIX. Trading firms that hail from the traditional financial services ecosystem note just how different of an experience it is to interface, trade, and maintain connectivity and infrastructure with this new batch of trading venues. Apparently, exchanges in the cryptoasset space are often maintained like media or e-commerce websites, where API protocols may change and servers are rebooted without advance notice.

In mature markets, such as listed instruments and FX, infrastructure is typically enterprise-grade and redundant. Technology change management is directed with extreme care. As the level of technology maturity continues to improve driven by key cryptoasset technology providers and other market participants, institutional participants will become more comfortable trading.

As for preferred exchange pricing models, most respondents do not have strong opinions other than that they seek consistency, predictability, and a level playing field. There are no standards and regulated access fee structures across exchanges. But given that the maker/taker model is well established and viewed as the industry standard, most respondents agree that this should become the industry standard exchange pricing model as well.

As for market data, many respondents state that since so much of the cryptoasset market-related information is public, most venues do not or are not able to charge for market data, other than the CME. Firms tend to worry less about inside bid/offer, and there is no standard order size currently in the cryptoasset market. The lack of standardized quotes across exchanges makes it hard to determine the best offer and true cost of execution across multiple exchanges as well. Locked and crossed markets are characteristic of market structure for spot cryptoassets. Most firms comment that price discovery is best performed on the derivatives exchanges.

Most actively trading funds and liquidity providers are creating their own industry order book, leveraging feeds from various sources. One firm mentioned that it usually takes in in data feeds from the fastest exchanges and then develops order book dynamics to get market color and establish price discovery.

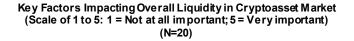
Not surprisingly, the cryptoasset trading space still lacks a widely adopted benchmark. The CME has led initial efforts in this area by participating in the creation of Bitcoin Reference Rate (BRR), a de facto regulatory cryptoasset benchmark. BRR is a daily reference rate of the U.S. dollar price of one bitcoin as of 4 pm London time. Each day, BRR aggregates the trade flow of major bitcoin spot exchanges during a specific one-hour calculation window. The adoption of this benchmark still remains low.

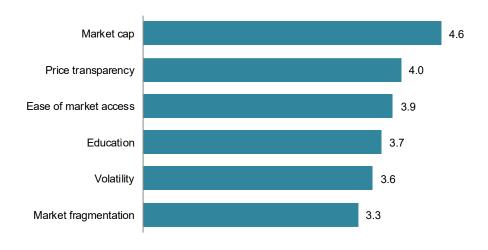
LIQUIDITY

A high degree of liquidity is a good indicator that the market structure has matured for a particular instrument. Respondents note that when considering various factors that can positively impact overall liquidity in the cryptoasset market, market cap came out on top, not surprisingly, with an average score of 4.6 out of 5 (Figure 7). Price transparency and ease of market access rounded out the top three. Price transparency is particularly important for the growth of the market as the overall reliability and accessibility of prices will help traders continue to engage in the market through ongoing volatility.

On the other hand, overall volatility and market fragmentation represent the bottom two factors, though opinions on the ultimate impact of these two factors do vary depending on the type of firm. For example, generally speaking, liquidity providers express their views that price volatility and market fragmentation contribute to the market's liquidity by attracting participation. Banks and more traditional asset managers generally see volatility and market fragmentation as deterrents to institutional participation and increased liquidity.

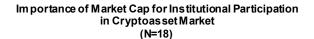
Figure 7: Important Factors Affecting Cryptoasset Trading Liquidity

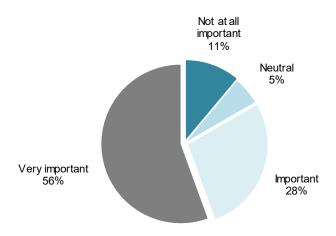




Related to the discussion above and noted earlier in this report, based on the views of the majority of respondents, the level of market cap is directly correlated to institutional market participants' propensity to engage (Figure 8). The harsh reality is that the overall market cap of the cryptoasset space, which has been averaging around US\$350 billion until recently (with a big chunk of the market cap being represented by bitcoin), is typically viewed as too small for institutional investors to include as part of their investment mandate, especially in light of the perceived and real regulatory risks, potential for fraud, and reputational issues. One respondent sets a price target on bitcoin of US\$25,000, well above the previous all-time high before the extraordinary rally of late December 2020/early January 2021, as the minimum price necessary to attract the attention of institutional players and traditional Tier-1 banks. Driven by the incredible bull run of the last few months, the bitcoin price has hit US\$40,000 in January 2021 and overall market cap of the cryptoasset space has reached US\$1 trillion. If the market can sustain this growth and stabilize, it will become increasingly difficult for the institutional players to ignore the cryptoasset market.

Figure 8: Importance of Market Cap for Institutional Participation

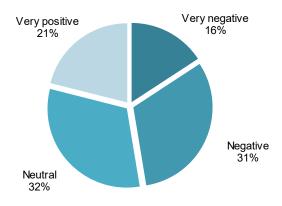




While most liquidity providers view market fragmentation as positive, several recognize that the current state of market fragmentation impedes institutional participation (Figure 9). Creating an aggregated and synthetic central order book from disparate venues is tough, and there is no standard or regulatory framework to adhere to. Various technology platforms have emerged to help aggregate access to and quotes across various execution venues, providing improved market and price transparency. These solutions should lessen the potential for problems, perceived or real, that institutional players may need to consider.

Figure 9: Impact of Market Fragmentation on Institutional Participation

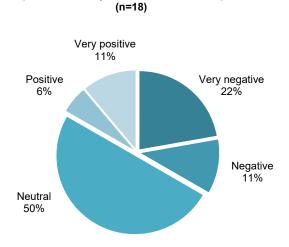
Im pact of Market Fragmentation on Institutional Participation (n=19)



The issue of volatility presents a double-edge sword, and answers depend on the type of respondent. Firms active in liquidity provisioning have a more positive perspective on volatility when considering benefits for their own operations. On the other hand, a significant percentage of the other types of respondents, including traditional brokers, buy-side firms, and custodians, clearly feel that volatility would be bad for institutional participation (Figure 10). Most participants also mention that the entrance of institutional players would go a long way toward smoothing out the overall market volatility.

Impact of Volatility on Institutional Participation

Figure 10: Impact of High Volatility on Institutional Participation



Source: Aite Group interviews of leading market participants, Q3 2020

CHALLENGES AND OPPORTUNITIES FOR INSTITUTIONAL PARTICIPATION

Based on feedback from the interview respondents, it is clear that institutional adoption of cryptoasset trading is at an inflection point. After years of hesitation driven by regulatory uncertainty and reputational risk, most of the traditional institutional market participants have been sitting on the sidelines, and many interview respondents of all types mention that there is limited first-mover advantage in this space from an institutional participant perspective. The ups and downs of the last three years, such as industry scandals, crashing market value, and high market volatility seem to validate that position.

Still, it feels inevitable that a regulatory framework will eventually emerge and enable institutional investors to feel safe as they wade into the cryptoasset pool. Firms face many challenges and opportunities as the market inches toward the institutional side, as highlighted in Figure 11.

Figure 11: Challenges and Opportunities

 Momentum gaining toward development of regulated investment funds and ETFs

Opportunities

- Continued growth in digital asset market, including lending and interest around central bank digital currencies
- Healthy growth of cryptoasset derivatives market led by established traditional exchanges
- Continued development of market infrastructure, including prime brokerage and custodial services
- Entrance of institutional-grade trading platforms and services

- Global regulatory uncertainty
- Insignificant market capitalization

Challenges

- Lack of presence by traditional institutional banks, custodians, and other service providers
- Immature prime brokerage and custodial market
- Ongoing concerns over security and reputational risk
- Complexity of cryptoasset market and difficulties in valuation

Source: Aite Group

CHALLENGES TO FURTHER INSTITUTIONAL ADOPTION

In order for institutional adoption to take place, the following challenges must be addressed:

GLOBAL REGULATORY UNCERTAINTY

While there are many wrinkles still to be ironed out before growth can occur in the institutional segment, the most urgent and necessary step is development of a clear regulatory framework. Even basics such as clear and common terminology are still to be determined. For example, while "virtual currency" seems to be the regulator's term du jour, the possible terms are plentiful: bitcoin, electronic currency, cryptocurrency, digital currency, DLT asset, virtual asset, cryptoasset, and digital financial asset. Different market participants, including various regulators, tend to have their own interpretations of cryptoassets from an asset class perspective, if they view them as an asset class at all. Regulatory bodies from different jurisdictions have taken dissimilar, sometimes even opposite, stances on cryptoassets, making market practices siloed across jurisdictions and creating operational hiccups. While a single, global framework is clearly out of reach in the short term, it's inevitable that supernational (e.g., EU, United Arab Emirates) or intergovernmental (e.g., FATF) bodies will develop more coherent regulatory approaches, which will go a long way in adding more institutional confidence.

INSIGNIFICANT MARKET CAPITALIZATION

Until recently, cryptoassets remain insignificant compared to other asset classes in terms of market cap. Institutional participants were looking for substantial growth in this area as well as sustainable market stability. However, the current market growth which has led to a market cap of US\$1 trillion in a matter of months will no doubt entice an increasing number of institutional investors to take a closer look at investment opportunities in the cryptoasset space.

LACK OF TRADITIONAL SERVICE PROVIDER PRESENCE

Asset managers and hedge funds are used to interacting and getting full trade life cycle support from their traditional counterparties, ranging from market color to research to technology. Prime brokers and global custodians are essential parts of operations and risk management. While many of the global banks have launched various initiatives related to digital assets, they have been mostly focused around the area of payments, and, to date, the household names on the institutional sell-side have stayed away from supporting trading services. More regulatory clarity and consistency would go a long way in attracting traditional service providers, as will growing inquiries from traditional clients looking for exposure to cryptoassets.

IMMATURE PRIME BROKERAGE AND CUSTODIAL SERVICES

In the absence of traditional market players, many of the crypto-native services providers have stepped up to provide bits of prime brokerage and custodial services. Still, there is no true end-to-end prime brokerage offering in crypto-related financing, securities lending, capital introduction, clearing and settlement, and more. Most importantly, these services are not being offered by traditional players with strong balance sheets and industry reputations that can create confidence in the stability of the overall market structure.

ONGOING CONCERN OVER SECURITY AND REPUTATIONAL RISK

There are inherent institutional concerns over security and reputational risk associated with the cryptoasset market, almost creating a chicken and egg scenario for the industry. More institutional participation would go a long way toward minimizing these issues, but unless these

issues are clearly addressed, institutional participation will be limited. Enforcement is a growing risk, in particular, as regulators often employ enforcement as a way of setting boundaries for the rest of the industry they regulate.

CRYPTOASSETS ARE INHERENTLY DIFFICULT TO VALUE

One of the strongest and most common criticisms of cryptoassets has been that they bear no fundamental value; thus, it is difficult or impossible to determine their fair market price from an asset valuation perspective. Whether cryptoassets have value other than price speculation is a debatable issue, but the lack of a widely recognized valuation methodology creates a significant roadblock to institutional buy-in. Nevertheless, bitcoin has been used as an alternative source of yield and often referred to as digital gold with the potential to shave market share away from fiat money and other assets. Dollar debasement has caused investors to look at bitcoin. That narrative might have seemed farfetched only a few years ago, but after the pandemic outbreak in March 2020 and the global stabilization and stimulus efforts, renewed concerns over fiat currency have started to resonate again with investors. Inflows have been greater in 2020 than in previous years, but that's one of the major drivers.

POTENTIAL OPPORTUNITIES AHEAD

While clear challenges lie ahead, a few developments may just prove to be the catalysts needed to help drive institutional adoption.

ENTRANCE OF INSTITUTIONAL-GRADE TRADING PLATFORMS AND SERVICES

For the last few years, crypto-native and other more traditional trading technology vendors have started to develop and launch institutional-strength trading platforms and services with connectivity, trading/data access, and analytics for cryptoassets trading instruments.

MOMENTUM GAINING TOWARD DEVELOPMENT OF REGULATED INVESTMENT FUNDS AND ETFS

For those looking for indirect exposure to the crypto market, the success of GBTC has been a great case study for potential pent-up demand, especially from the private wealth part of the market. The eventual launch of regulated funds and ETFs will undoubtedly grow institutional acceptance.

CONTINUED GROWTH IN THE DIGITAL-ASSET MARKET

Additional developments in the digital-asset arena continue to pick up steam even as the institutional crypto market may be lagging behind. For example, according to several interview respondents representing liquidity providers and exchanges, crypto-lending business has seen significant growth in recent years. In crypto-lending, firms can loan out bitcoins in a manner similar to that of securities lending. However, the same group of respondents also mention that due to lack of regulations as well as lack of safeguards against potential fraud, there are lingering concerns about default and security risks. Certain liquidity providers have moved in this direction when faced with declining returns in trading. In addition, central banks around the world have

been toying with the idea of issuing a digital version of their currency for a decade, with a first inflection point in the volume of discussions and research starting in 2015. Commercial banks are likely to be more welcoming of wholesale central bank digital currencies, which could bring more efficiencies to cross-border payments and post-trade settlements in capital markets and help push the concept of digital assets into the mainstream.

HEALTHY GROWTH OF CRYPTOASSET DERIVATIVES MARKET LED BY ESTABLISHED TRADITIONAL EXCHANGES

While the closure of Cboe's bitcoin futures was clearly a step backward and acknowledgement of the general slowdown of the market coming out of the crypto winter, the likes of CME, Bakkt, and many other regulated and nonregulated derivatives markets have experienced good growth rates, providing a solid foundation for additional growth in the spot market. In fact, the CME recently announced the launch of Ether futures contracts in February 2021, validating the growing commitment by regulated exchanges.

CONTINUED DEVELOPMENT OF MARKET INFRASTRUCTURE

The entrance of more traditional players into the cryptoasset custody market has provided a much-needed jolt into the market infrastructure side of the cryptoasset trading business. Cryptonative prime brokerage and custodial service providers have been emerging in increasing numbers. No doubt, the industry can expect to see consolidation before the market establishes a more stable competitive landscape. And the potential entrance of other traditional players in this area can really help push the institutional adoption forward. The resulting legitimization of the cryptoasset market would go a long way toward strengthening the competitive positions of the existing crypto-native players that can take advantage of increasing market participation and overall trading activities.

CONCLUSION

To date, regulatory uncertainty, concerns over asset security, and a relative insignificance of cryptoasset market capitalization have tempered demand from institutional investors and traditional financial banks and intermediaries for cryptoassets. This is starting to change as traditional firms are seeking to gain first-mover advantage and/or manage fears of missing out when institutional usage becomes real. An unprecedented long period of quantitative easing around the globe and the COVID-19 pandemic and commensurate response by central banks, on top of the ongoing search for alternative sources of yield, are certainly contributing to strong interest in bitcoin and, subsequently, cryptoassets more widely.

The ecosystem is maturing, but at an uneven pace. The rate at which global infrastructure has developed to support a diverse base of retail cryptoasset trading has greatly outpaced the development of a platform required for institutional participation. But products and services for institutions are maturing and coming up the curve at such a pace that consolidation has already begun. Large players are grabbing specialized and niche assets in order to provide end-to-end solutions for institutional clients.

Obstacles to institutional adoption still exist, including lack of a harmonious global regulatory regime and a market size that is considered still too small, but these barriers are gradually coming down thanks in large part to innovative crypto-native market participants that have risked the survival of their business on the initial growth of the institutional cryptoasset market. The final wave of growth must be led by the traditional institutional market participants and driven by increasing regulatory clarity, improved market infrastructure, and cutting-edge technology.

To paraphrase the earlier statement made by one interview respondent, a mature institutional market for cryptoassets has been clearly identified as the target, and an increasing number of both traditional and crypto market participants have embraced a certain level of risk to take up the journey to reach that destination.

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Institutional Crypto-Trading Platforms: Blockchain Meets Block Trade, May 2019.

Institutional Cryptoasset Custody: The Players Incumbents Need to Watch, December 2018.

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