Institutional Investing 2.0

MIGRATION TO DIGITAL ASSETS ACCELERATES

2022 Survey of Global Institutional Clients | Asset Managers, Asset Owners, and Hedge Funds
SETTING THE STAGE

Digital assets are here to stay. At BNY Mellon, we are committed to supporting our clients as they adapt to this emerging asset class. Even with recent market volatility, our level of conviction remains strong, keeping our sights on the long-term opportunities and transformative potential of the underlying technology. We are on a journey towards a future where blockchain and related capabilities will transform the financial services landscape.

Today, financial institutions are at different stages in analyzing and integrating digital assets into their ecosystem. To uncover important themes and assess institutional needs as the sector matures, BNY Mellon commissioned Celent to survey 270+ institutional investors across the globe—asset owners, asset managers and hedge funds. The research explores the adoption of digital assets, priorities, challenges, and opportunities. It also drills down into products and services these investors value most.

Overall, the research reaffirms crucial themes that are foundational to our digital asset strategy and what we hear from our institutional clients—that trust, asset safety, regulatory clarity, and institutional-grade services are critical for sustained adoption of digital assets. Additionally, they value integrated services for digital and traditional assets, across the investment lifecycle.

The research shows 70% of respondents would increase their digital asset activity if services like custody and execution are available from recognized, trusted institutions. Despite the market downturn, 88% are moving forward with their plans. The study further indicates that almost all institutional investors (91%) are interested in investing in tokenized products.

At BNY Mellon, we see cryptocurrencies as the tip of the spear and recognize the opportunity this technology offers, extending to and beyond tokenized assets and digital cash.

We are in the early, yet formative, days of digital asset evolution. As with every other financial innovation, trust is essential.
Institutional Investing 2.0

MIGRATION TO DIGITAL ASSETS ACCELERATES

Key Findings from Celent’s 2022 Survey of Global Institutional Asset Managers, Asset Owners, and Hedge Funds

October 2022 | Monica Summerville

This report was commissioned by BNY Mellon, at whose request Celent developed this research. The analysis, conclusions, and opinions are Celent’s alone.
CONTENTS

A  Executive Summary and Key Findings

B  Supporting Data: Survey Results

C  Survey Methodology and Respondent Profile
EXECUTIVE SUMMARY AND KEY FINDINGS
We surveyed 271 Institutional Investors\(^1\) about their attitudes towards investing in digital assets. There’s significant interest, but key conditions must be met for research to turn into actual investment. The asset servicing and custody market is highly fragmented and evolving, and traditional firms have significant opportunity as investors look to eliminate uncertainty in a situation with many variables.

Institutional Investors expect to mix both traditional and digital assets in their portfolio and have a strong preference for fully integrated providers across all their digital asset needs. This will require significant upgrades to current investment management systems. High-level concerns around technology investment needed, capitalization of service providers, and corporate maturity also favor TradFi\(^2\) entrants.

**Custody and execution**

- 72% would like an integrated provider for all digital asset needs

**Tokenization**

- 97% agree that “tokenization will revolutionize asset management” and be “good for the industry”

**Digital cash**

- 88% of Institutional Investors are comfortable with digital representation of cash\(^3\) using blockchain-based technology

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1. We define "Institutional Investors" as traditional buy-side entities, including asset owners (pension funds, sovereign wealth funds, etc.), institutional asset management firms and hedge funds (excluding crypto-specific funds or alternative fund managers).
2. TradFi is short for "Traditional Finance," which operates in a centralized fashion, and the term has come to refer to financial institutions in this space. This is in contrast to digital native blockchain-based firms that seek to offer decentralized finance (DeFi) solutions.
3. Digital representation of cash using blockchain-based technology is "Digital Cash"; its most common forms today are settlement coins and stablecoins.
INVESTOR DEMAND AND MATURING INFRASTRUCTURE ARE ACCELERATING THE ADOPTION OF DIGITAL ASSETS

Custody and execution
The digital asset custody and execution market is fragmented and rapidly evolving

Tokenization
Tokenization will revolutionize asset management and has strong support among investors

Digital Cash
Institutions are increasingly comfortable using digital cash provided it is from a trusted player
THE CUSTODY AND EXECUTION MARKET IS FRAGMENTED AND RAPIDLY EVOLVING

Incumbents have significant advantages as Institutional Investors collectively desire integrated, full-service providers.

Competition in the early stages of the evolving crypto-custody market is intense

More traditional investors are entering the digital asset market in response to client demand. Most of these investors are using more than one custodian, with 35% doing business with their traditional incumbent players. No one custodian was selected as a partner by more than 10% of respondents. 63% stated that they'd accept longer settlement times to deal with a highly rated traditional institution.

Institutional Investors are comfortable with traditional custodians and need integrated providers who can accommodate hybrid portfolios

63% of respondents are only comfortable trading tokenized assets with highly rated traditional institutions. Top pain points for those already investing are the product/feature set, the legal and regulatory framework, and having a consolidated view and management of traditional and digital assets. Pricing was the least-cited pain point. 70% say: “My crypto trading would increase if I could execute and custody with a recognized, highly rated institution.”

The search for yield provides an opportunity for staking and tokenization

Institutional Investors are searching for yield; DeFi may be a beneficiary of this. When selecting a digital asset service provider, respondents identified support for staking¹ and tokenization as key services. Nearly half of institutions prefer to use a TradFi custodian (48%) and/or are precluded from using a digital native firm for this (47%).

Investors use a wide variety of digital asset service providers; not all 29 used today will survive

72% prefer an integrated provider for all digital asset needs

77% would want access to staking pools for enhanced yield on crypto assets

¹. Staking is a feature of certain blockchain protocols that allows users to earn passive income.

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Private equity and hedge funds are the assets investors would most like to see tokenized

This will be driven by demand for yield and inflation protection and the emergence of new supply-side drivers, most notably the development of structures and delivery models designed to open access to retail wealth managers.

Most important tokenization benefits are access to new or non-standard asset classes and the immutability and transparency of data

Other benefits include increased liquidity and reduced friction (e.g., faster settlement). Support for fractional ownership and lower costs via tokenization were rated least important.

91% of respondents expressed interest in investing in tokenized products

Benefits of tokenization include removing friction from transfer of value (84%) and increasing access for mass affluent and retail investors (86%). Every asset manager surveyed with more than $1 TN assets under management (AUM) is interested in investing in tokenized products. Majority (60%) of respondents agree that they are interested but the large technology investment is an inhibitor.

97% agree that “tokenization will revolutionize asset management” and would “be good for the industry” 70% are willing to pay extra for increased liquidity and faster asset turnover.

1. Tokenization was defined for the participants as the process by which an issuer creates digital tokens on a distributed ledger or blockchain, which represent either digital or physical assets.
INSTITUTIONS ARE INCREASINGLY COMFORTABLE USING DIGITAL CASH PROVIDED IT IS FROM A TRUSTED PLAYER

Settlement and stablecoins allow 24/7/365 money movement

Digital cash fills a need in the market
77% of investors are already utilizing or exploring anytime cash movement. 49% would be willing to forego overnight yield on cash deposits to send domestic payments 24/7/365, while that increased to 69% for cross-border payments and remittances.

Most firms comfortable with digital cash
88% of Institutional Investors are comfortable with digital representation of cash using blockchain-based technology; for those who are uncomfortable, the top concern around digital cash is interoperability of coins between new and existing infrastructure. Cyber security risks and a lack of solutions from trusted players were the next most pressing concerns.

Investors value highly rated institutions
With so many volatile variables, investors are looking to reduce uncertainty where they can. More than two-thirds of respondents say that digital cash payment and settlement must transpire with an existing, highly rated institution.

93% see value in extending current payment windows to move cash and securities 24/7/365 days a year
88% of Institutional Investors are comfortable with digital representation of cash using blockchain-based technology
69% would only engage in 24/7/365 payment and settlement mechanisms with existing, highly rated institutions
Both Hong Kong (HK) and Singapore were early movers in terms of token sales (Initial Coin Offerings (ICOs), tokenized funds), especially once restrictions around digital assets were put in by both China and South Korea. HK’s first tokenized fund launched in 2019.

Brazil’s focus to date has been more on retail investors.

In HK and Singapore, security tokens are subject to the existing securities regime, regulated by the Securities and Futures Commission (SFC) in HK and the Monetary Authority of Singapore (MAS). In Brazil, by contrast, digital currencies are an unregulated asset class, but retail investors can access numerous digital asset ETFs on the B3 exchange.

Hong Kong is a leading Asian bond hub, rated third in issuance volumes (ex-Japan). Early industry exploration often focuses on institutional fixed-income securities. Brazil, which has the second highest score here, offers numerous retail cryptocurrency products, e.g., listed ETFs. Its high inflation rate is cited as a factor in retail interest.

Several factors may explain this

Early embracers
Both Hong Kong (HK) and Singapore were early movers in terms of token sales (Initial Coin Offerings (ICOs), tokenized funds), especially once restrictions around digital assets were put in by both China and South Korea. HK’s first tokenized fund launched in 2019. Brazil’s focus to date has been more on retail investors.

Market structure
Hong Kong is a leading Asian bond hub, rated third in issuance volumes (ex-Japan). Early industry exploration often focuses on institutional fixed-income securities. Brazil, which has the second highest score here, offers numerous retail cryptocurrency products, e.g., listed ETFs. Its high inflation rate is cited as a factor in retail interest.

Regulatory clarity
In HK and Singapore, security tokens are subject to the existing securities regime, regulated by the Securities and Futures Commission (SFC) in HK and the Monetary Authority of Singapore (MAS). In Brazil, by contrast, digital currencies are an unregulated asset class, but retail investors can access numerous digital asset ETFs on the B3 exchange.

Market infrastructure
Both SFC and MAS recognize digital asset trading platforms, and in both cases these are limited to sophisticated investors (as per local definitions). Solutions providers are longstanding, too (e.g., Liquefy).
NORTH AMERICAN AND EUROPEAN INVESTORS PREFER INTEGRATED PROVIDERS

Singapore and Hong Kong are more amenable to the open-platform approach.

Servicing digital assets via an integrated provider is the preferred method globally; even in Asia, half of investors would opt for a one-stop shop. There’s additional interest in open integrated platforms from 10% of respondents.

While our survey did not offer an opportunity to discuss specific answers, this finding corroborates other trends Celent is seeing in the marketplace when it comes to adoption of emerging technology.

Firstly, the desire to move to more open platforms across the capital markets industry by both third-party providers and financial institutions is widespread, offering both reliability and stability combined with agility around meeting new business needs. The trend accelerates as the market matures.

Secondly, as early adopters build expertise, they also build the confidence to take more control of their platform and if they continue to look for competitive edge, may need the option to integrate third-party solutions onto their platform.

% of Institutional Investor firms in that region who said they would prefer an integrated provider for all their digital asset servicing needs

1. Size of data set for Brazil (4%) may not be statistically significant.
HEDGE FUNDS ARE BOTH EARLY ADOPTERS AND THE MOST WILLING TO ASSEMBLE THEIR OWN STABLE OF BEST OF BREED PROVIDERS

Q: When considering partners to support your digital asset strategy, which would you prefer?

- An integrated provider for all your digital asset needs
- An integrated provider with an open platform (to allow best of breed integration)
- Best of breed provider for each individual need

<table>
<thead>
<tr>
<th>Category</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Institutions</td>
<td>72%</td>
<td>10%</td>
<td>18%</td>
</tr>
<tr>
<td>Institutional Asset Managers</td>
<td>72%</td>
<td>17%</td>
<td>11%</td>
</tr>
<tr>
<td>Asset Owners</td>
<td>87%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>55%</td>
<td>4%</td>
<td>41%</td>
</tr>
</tbody>
</table>
WHAT NEXT?

A virtuous circle is set to power an accelerated adoption of digital assets

For many years the biggest question in the crypto investing world has been: “When will Institutional Investors enter the market?” That question has been answered: It has begun.

What’s more interesting today is the ongoing level of engagement with digital assets. Our study provides a data-driven answer, showing significant numbers are investing, reaching a potential tipping point in adoption, but key conditions still need to be met for this to ramp up.

While crypto natives are looking forward to the day when all of capital markets infrastructure exists on an interoperable blockchain, the traditional Institutional Investor community has to date been less sure. This study shows that minds are changing, with traditional investors ready to imagine a world where up to one-third of their portfolios will contain digital assets.

This suggests a need to support hybrid portfolios combining traditional and digital assets. Integrating old with new is a task well suited to TradFi, who have traditional rails firmly in place, supported with robust and often mandated capital, cyber, regulatory and compliance processes, putting these entities in an enviable position to continue to build market share as the regulatory picture clears and more institutional infrastructure goes live.

We found a majority of firms are currently actively engaging with a broad spectrum of digital assets especially focused on tokenization, staking, and access to DeFi. This engagement includes activities such as investing in the adjacent space, conducting Proof of Concepts (PoCs) with service providers or investing in building out internal expertise and skills in preparation for entering this space.

Incumbent custody banks, often citing client demand, have been ramping up offerings to support this space. Despite entering the market recently as compared to digital native custodians, our study found that traditional asset servicing and custody banks are being used by 35% of our survey respondents for digital asset services. TradFi custody banks are now finding themselves well positioned to continue to gain traction.

Opportunities to do this are likely to keep coming. Despite the market downturn this year (our survey was conducted shortly after the TerraUSD/Luna collapse), 88% said they are still planning to move forward with current plans.

88% said they are still planning to move forward with current plans around digital assets despite market downturn.

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SUPPORTING DATA: SURVEY RESULTS
INTEREST FROM INSTITUTIONAL INVESTOR ENTITIES IN DIGITAL ASSETS IS STRONG BUT % AUM CURRENTLY ALLOCATED REMAINS LOW

Institutional Investors have high level of exploration across full range of digital assets

Q: Is your firm currently investing or exploring...
All institutions, N=271

- Crypto currencies directly owned: 76%
- Crypto currencies indirect exposure: 50%
- Tokenized securities: 53%

Q: Is your firm currently holding the following asset(s) in the firm’s portfolio...
All institutions, N=60

- Crypto currencies directly owned: 44%
- Crypto currencies indirect exposure: 47%
- Tokenized securities: 48%

Q: What % of AUM is allocated to this asset across your firm?
All institutions, N=60

- Crypto currencies directly owned: 2.6%
- Crypto currencies indirect exposure: 2.1%
- Tokenized securities and/or other assets: 2.3%

However, a majority of Institutional Investors are sitting on the sidelines when it comes to owning digital assets in firm’s portfolio

Even those that are investing are doing so at very small, exploratory levels

Note that totals may not add to 100% due to rounding.
THE COLLAPSE IN THE VALUE OF TERRA USD HAS NOT DERAILED LONG-TERM PLANS AROUND DIGITAL ASSETS FOR VAST MAJORITY OF RESPONDENTS

Q: Has the collapse in the value of Terra USD (an algorithmic stable coin linked to Luna) triggered your organization to revisit plans around digital assets?

<table>
<thead>
<tr>
<th>Response</th>
<th>Institutional Asset Management</th>
<th>Asset Owner (E.g., pension, endowment, insurance)</th>
<th>Hedge Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, this has no impact on our plans</td>
<td>9%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>No, we are moving forward but will monitor closely</td>
<td>36%</td>
<td>32%</td>
<td>36%</td>
</tr>
<tr>
<td>We’re taking a short-term pause to reassess but will likely continue soon</td>
<td>50%</td>
<td>40%</td>
<td>43%</td>
</tr>
<tr>
<td>We’re putting a hold on our plans and will reassess in 6 months or so</td>
<td>5%</td>
<td>15%</td>
<td>12%</td>
</tr>
<tr>
<td>We’re pausing all plans for the time being</td>
<td>0%</td>
<td>2%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Note that totals may not add to 100% due to rounding.

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INVESTORS EXPECT TO INCREASE ALLOCATIONS OVER TIME
Managers with AUM in the $500 BN–1 TN band were most bullish, along with those in Asia

Q: If the regulatory environment was favorable and the necessary infrastructure in place, what would be the highest percentage of AUM of the total portfolio that you would allocate to digital assets?

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All institutions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Now</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>In 2–5 years</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td><strong>$500 BN–1 TN AUM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Now</td>
<td>20%</td>
<td>23%</td>
</tr>
<tr>
<td>In 2–5 years</td>
<td>33%</td>
<td>35%</td>
</tr>
<tr>
<td><strong>Asia (Hong Kong and Singapore)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Now</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td>In 2–5 years</td>
<td>35%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Comments

- Across all institutions (N=271), respondents could imagine allocating up to 29% of their AUM to digital assets in the next 2–5 years if the regulatory environment was favorable and infrastructure in place.
- This would include all types of digital assets including tokenized traditional assets as well as new assets or digital cash tokens.
- This points to a need for investment management solutions and platforms to be able to support hybrid portfolios which contain a combination of traditional and digital asset types.
MOST INVESTORS PREFER INTEGRATED PROVIDERS
The convenience of one-stop shopping trumps specialization for many

Q: When considering partners to support your digital asset strategy, which would you prefer?  
N=271

The build vs. buy debate is ongoing in the digital asset space, with investors today showing a preference for working with integrated providers

Preference

72% would like an integrated provider

72% An integrated provider for all your digital asset needs

18% Best of breed provider for each individual need

10% An integrated provider with an open platform (to allow best-of-breed integration)
The most cited pain point is a custodian’s product/feature set. Their ability to understand and adhere to the local legal and regulatory framework was next, and third was the ability to offer a consolidated view and management of both traditional and hybrid assets.

Each pain point is an opportunity for custodians, and improvements in each of these areas will improve investor satisfaction. Even better news: Price is not an issue, at least today.
INVESTORS LIKE INCREASED YIELD THROUGH DEFI BUT ARE MINDFUL OF SECURITY

Q: With regards to staking, which of the following statements are TRUE? Select all that apply.

79% 20% 1% 3%

staking crypto collateral so long as the security interest in the asset can be perfected and that the recalled asset can be removed within a reasonable timeframe

77% 20% 3%

...access to staking pools for enhanced yield on crypto assets

48% 38% 47%

I prefer to use a financial markets custodian to access staking pools

The risk tolerance of our mandates precludes us from participating in staking

The risk tolerance of our mandates precludes us from using digitally native firms

Q: Select TRUE or FALSE or don’t know/not sure for each statement below, finishing this sentence “Would want/Would use/Are interested in…”

Would want/Would use/Are interested in…

77%

The risk tolerance of our mandates precludes us from participating in staking

48%

I prefer to use a financial markets custodian to access staking pools

38%

The risk tolerance of our mandates precludes us from using digitally native firms

1%
63% of respondents would only be comfortable trading tokenized assets with traditional institutions

Q: Why are you only comfortable trading tokenized assets with highly rated traditional institutions? (select all that apply; asked only of those who were comfortable) N=172

- There is lack of clarity around regulatory view of working with others 43%
- We only want to work with well-capitalized firms 42%
- The due diligence to onboard anyone else would be too onerous 41%
- We generally do not work with start-ups or new-to-market firms 26%
- Our compliance team would not approve a digital native vendor 19%
- Our mandate will only allow this 14%
CRYPTO TRADING IS BEING HELD BACK BY LACK OF ABILITY TO EXECUTE AND CUSTODY WITH A RECOGNIZED, HIGHLY RATED INSTITUTION

Q: Please indicate TRUE or FALSE for each statement

- **My crypto trading would increase** if we could execute and custody with a recognized, highly rated financial institution: **70%**
- **Our crypto exposure is more a "buy and hold" strategy than systematic trading or arbitrage**: **86%**
- **We trade crypto due to client demand, it’s more tactical than a longer-term strategy**: **70%**
- **We’d accept longer settlement times to deal with a highly rated traditional institution**: **63%**
Most Institutional Investors interested in investing in tokenized products agree it will revolutionize asset management and be good for the industry.

Q: Do you agree or disagree with the following statements?

N=271

“Tokenization will...

...revolutionize asset management” 97%

...be good for our industry, if it removes friction from transfer of value” 84%

...be good for our industry, if it increases access for mass affluent and retail investors” 86%

Results were fairly consistent across respondent type and region, although overall asset managers had highest level of agreement around second point (removes friction) and asset owners had highest level of agreement for other two points.
CLIENTS ARE DRIVING INTEREST IN TOKENIZATION, BUT LARGE TECHNOLOGY INVESTMENT IS AN INHIBITOR FOR MAJORITY OF FIRMS

Q: When it comes to tokenization in general, please indicate TRUE or FALSE for each statement below

Clients expect us to offer exposure to tokenized assets  
We’re willing to pay extra for increased liquidity and faster asset turnover  
We’d only be comfortable trading tokenized assets with highly rated traditional institutions  
We’re interested but the large tech investment is an inhibitor

79%  
70%  
66%  
60%
**Investors See Biggest Benefit of Tokenization Around Alt Assets Although Increased Liquidity Could Benefit All Assets**

Benefits are focused on business drivers, while “lower costs” and “support for automation” were lower, indicating industry is excited more about the top-line potential of tokenization.

This correlates with the finding that tokenization will revolutionize asset management.

Regardless, the asset management industry will continue to focus on controlling costs and improving efficiency, which tokenization can also support.

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**Q: Please indicate your top three benefits and categorize remainder as nice to have or not important**

<table>
<thead>
<tr>
<th>Top 3 Benefits</th>
<th>Nice to Have</th>
<th>Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Access to new or non-standard asset classes (PE funds, real estate, NFTs, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Immutability and transparency of data, supporting tracking of token ownership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Increased liquidity of the underlying physical asset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduced transaction friction, e.g., faster settlement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support for automation via use of smart contracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved access to private assets/securities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support for fractional ownership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower cost</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Bubble size/depth of colour indicates ranking of that option within each category.
PRIVATE ASSETS AND FUND PRODUCTS ARE WHERE TOKENIZATION IS MOST WANTED

This correlates with previous result that the biggest benefit of tokenization will be increasing access to non-standard asset classes.

Oliver Wyman research identified Private Markets as a key opportunity with strong AUM growth to persist, achieving an estimated $13 TN by 2025. This will be driven by demand for yield and inflation protection and the emergence of new supply-side drivers, most notably the development of structures and delivery models designed to open access to retail wealth managers.

Q: Please indicate your top three asset classes and categorize remainder as nice to have or not important

1. Private assets, e.g., private equity, private securities/debt
2. Fund products, e.g., hedge funds, other funds
3. Equities
   - Money market funds
   - Precious metals
   - Loans
   - Public bonds
   - Structured products
   - Real estate
   - Collectibles, e.g., art, wine
   - Treasuries
   - Other commodities

Bubble size/depth of colour indicates ranking of that option within each category
TODAY’S MARKET IS IMMATURE AND HIGHLY FRAGMENTED; CONSOLIDATION IS INEVITABLE AS IT EVOLVES

Most firms currently engaging with digital asset service providers report having more than one service provider for digital assets, with TradFi entrants gaining traction with Institutional Investors.

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DESIRE TO EXPLORE NEW WAYS TO GENERATE YIELD IS DRIVING INTEREST IN DEFI

Enabling access to DeFi protocols to support lending and staking of tokens and stablecoins can offer above-market rates of interest.

Q: Looking beyond digital asset custody and execution, how would you rank the importance of these additional features and functionalities when considering a digital asset custodian?

Features / functionalities ranked by sum (in bold) of top three choices

<table>
<thead>
<tr>
<th>Feature/Functionality</th>
<th>1st Choice</th>
<th>2nd Choice</th>
<th>3rd Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeFi protocol interaction/DeFi engagement support</td>
<td>77</td>
<td>54</td>
<td>51</td>
</tr>
<tr>
<td>Staking of crypto assets</td>
<td>85</td>
<td>57</td>
<td>67</td>
</tr>
<tr>
<td>Tokenization of assets</td>
<td>80</td>
<td>50</td>
<td>23</td>
</tr>
<tr>
<td>Crypto financing and lending capabilities</td>
<td>20</td>
<td>47</td>
<td>72</td>
</tr>
<tr>
<td>Crypto collateral management</td>
<td>11</td>
<td>16</td>
<td>38</td>
</tr>
<tr>
<td>Support for stablecoins for payment including cross-border payment and settlement</td>
<td>29</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>
INSTITUTIONS ARE INCREASINGLY COMFORTABLE USING DIGITAL CASH, PROVIDED IT’S FROM A TRUSTED PLAYER

Q: Select TRUE or FALSE or don’t know/not sure for each statement

88% of respondents said “My firm is comfortable with digital representation of cash using blockchain-based technology”
My firm is comfortable with digital representation of cash using blockchain-based technology

Please rank your firm’s **top three concerns** around digital representations of cash using blockchain-based technology

1. Interoperability of coins and/or between new/existing infrastructure
2. Cyber security risks
3. Lack of solution from trusted players
4. Privacy
5. Lack of regulatory clarity

**Comments**

- Although 88% of investors are comfortable with digital cash, those expressing reluctance are most concerned about infrastructural interoperability
- Cyber security continues as a concern
- Increased activity from trusted players may allay the fears of some laggards
Survey Methodology
and Respondent Profile
BNY Mellon commissioned Celent to conduct an independent survey of the traditional institutional investment management community

Our Initial survey was conducted late May and June, 2022, N=271, with respondents comprising international asset managers, asset owners, and hedge funds.

The survey reach was global, with respondents whose core activities were based in North America (U.S., Canada), UK, Europe (Germany, Switzerland, France, Benelux), Brazil and Asia (Hong Kong, Singapore).

The methodology was a mix of online survey and computer-aided telephone interview (CATI) survey.

After we analyzed the results, we conducted a second targeted survey (N=60) in August/early September to the same mix of firm types, but focused on North America to better understand current level of holdings in the firms’ portfolios.

Half were recontacts with original survey participants in that region and half were new contacts.

Two questions specifically asked about current digital asset holding in their firms’ portfolios and the amount held.

These second surveys were conducted via the CATI method so we could collect additional color on their answers.

Both surveys focused on three types of Institutional Investor entities: asset managers, asset owners, and hedge funds.

Respondents outside of the Institutional Investment management community (e.g., family offices, crypto hedge funds, alternative asset managers) were excluded.
INITIAL SURVEY RESPONDENT PROFILE

N=271, conducted May–June 2022

Which of the following best describes the industry of the company/organization for which you work?

- Hedge fund
- Institutional asset management
- Asset owner, e.g., pension, endowment, insurance

What is total Assets Under Management at your firm?

- $1 BN–$50 BN AUM
- $500 BN–$1 TN AUM
- >$1 TN AUM

Which best describes your firm?

- Asset owner, N=84
- Hedge fund, N=76

- Pension Manager with <$100 BN AUM
- Sovereign Wealth Fund
- Quantitative strategy, >$150 MN AUM
- Multi-strategy, >$150 MN AUM
- Discretionary long/short, >$150 MN AUM

- Pension Manager with >$100 BN AUM
- Insurance Asset Manager (internal or 3rd party)
- Funds of funds, >$150 MN AUM
- Discretionary long only, >$150 MN AUM

INITIAL SURVEY RESPONDENT PROFILE

N=271, conducted May–June 2022

Which of the following best describes the industry of the company/organization for which you work?

- Hedge fund
- Institutional asset management
- Asset owner, e.g., pension, endowment, insurance

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- Pension Manager with <$100 BN AUM
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- Quantitative strategy, >$150 MN AUM
- Multi-strategy, >$150 MN AUM
- Discretionary long/short, >$150 MN AUM

- Pension Manager with >$100 BN AUM
- Insurance Asset Manager (internal or 3rd party)
- Funds of funds, >$150 MN AUM
- Discretionary long only, >$150 MN AUM
INITIAL SURVEY RESPONDENT PROFILE
N=271, conducted May–June 2022

Which is the country/region where your company/organization performs its core activities?

- United States of America: 30%
- United Kingdom/Ireland: 14%
- France: 11%
- Brazil: 8%
- Germany: 6%
- Singapore: 4%
- Switzerland: 4%
- Benelux: 3%
- Hong Kong: 3%
- Canada: 3%
- Japan: 2%
- China: 2%
- Others: 3%

Which of the following best matches your title?

- CEO: 22%
- CFO: 16%
- Transformation/Innovation/Digital/Blockchain: 15%
- Head of Treasury/Treasurer: 15%
- Head Trader: 15%
- Chief Information Officer: 12%
- Chief Investment Officer: 10%
- COO: 7%

Which of the following describes your role regarding digital assets, including cryptocurrencies, tokenization and/or stablecoins?

- I am/would likely be involved with a Proof of Concept involving these: 33%
- I am/would be budget approver with regards to plans for these: 26%
- I am/would likely be involved in building a business case involving these: 22%
- I am/would likely be involved in strategy and decision making involving these: 16%
SECOND TARGETED SURVEY RESPONDENT PROFILE

N=60, conducted August–September 2022

Which of the following best describes the industry of the company/organization for which you work?

- Asset owner, e.g., pension, endowment, insurance (10%)
- Institutional asset management (55%)
- Hedge fund (35%)

What is total Assets Under Management at your firm?

- $1 BN–$50 BN AUM (12%)
- $51 BN–$499 BN AUM (12%)
- $1 TN AUM (12%)
- $500 BN–$1 TN AUM (3%)
- >$1 TN AUM (73%)

Which best describes your firm?

- Asset owner, N=6
  - Pension Manager with >$1 BN AUM (83%)
  - Insurance Asset Manager (internal or 3rd party) (17%)
- Hedge fund, N=21
  - Multi-strategy, >$150 MN AUM (57%)
  - Quantitative strategy, >$150 MN AUM (14%)
  - Discretionary long only, >$150 MN AUM (14%)
  - Discretionary long/short, >$150 MN AUM (15%)
- Asset manager, N=33
  - Multi-strategy, >$150 MN AUM (57%)
SECOND TARGETED SURVEY RESPONDENT PROFILE
N=60, conducted August–September 2022

Which is the country/region where your company/organization performs its core activities?
- United States of America: 80%
- Canada: 15%
- United Kingdom/Ireland: 5%

Which of the following best matches your title?
- Chief Information Officer: 25%
- Head of Treasury/Treasurer: 17%
- CEO: 18%
- COO: 13%
- CFO: 12%
- Transformation/Innovation/Digital/Blockchain: 8%
- Head Trader: 5%
- Chief Investment Officer: 2%

Which of the following describes your role regarding digital assets including cryptocurrencies, tokenization and/or stablecoins?
- I am/would likely be involved in strategy and decision making involving these: 50%
- I am/would likely be involved in building a business case involving these: 32%
- I am/would likely be involved with regards to plans for these: 11%
- I am/would likely be involved with a Proof of Concept involving these: 7%
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