Teza Capital Management is a global quantitative asset management firm. We pride ourselves on attracting and retaining top talent, developing strategies with a data-driven and science-backed methodology, and continuously innovating in pursuit of alpha for our clients. Our Manager Insights pieces provide delve into our "quant's eye view" on markets, investment strategies, and industry developments.



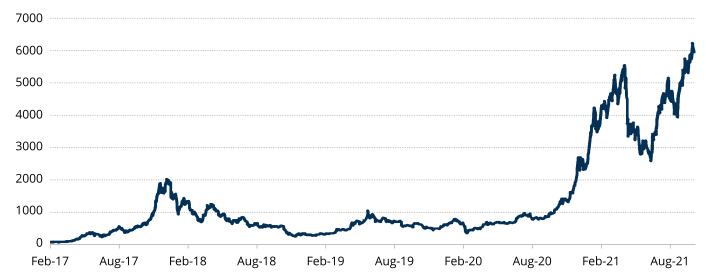
Rapid growth in decentralized finance ("DeFi") and cryptocurrencies has begun to put pressure on institutional investors. Their clients, board members, and the investor community at large want to understand their views on and plans for the "crypto" space. As a result, most institutional investors are warming to the idea of gaining crypto exposure in their portfolios.

A 2021 Fidelity Investments survey found that 7 in 10 institutional investors expect to invest in digital assets in the future. Even pensions, perhaps the most conservative of institutional investors, have begun to invest in crypto. Houston Firefighters' Relief and Retirement Fund's recent \$25mm invest-

ment in NYDIG, a Bitcoin-focused fund, garnered significant attention from the financial press. CIO Ajit Singh noted that crypto "became an asset class we could not ignore anymore." Ray Dalio's recent crypto interest has also been well-covered. Dalio has emphasized the value of cryptocurrencies in the context of global currency threats, advocating that Bitcoin should represent about 20% of investors' portfolios.

In response to institutional investor demand, an increasing number of asset managers are entering the crypto space. PwC's 2021 Global Crypto Hedge Fund Report found that there are currently between 150 and 200 active crypto hedge funds, and that four

Performance of S&P Cryptocurrency Broad Digital Market Index – Feb '17 – Nov '21



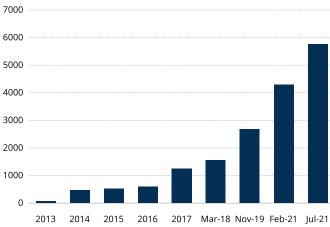
Source: Teza analysis of S&P Dow Jones Indices data.

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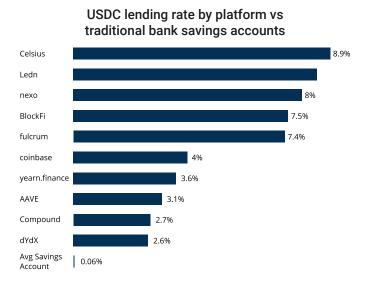
in every five of these funds were launched between 2017 and 2020. Crypto hedge fund AUM increased to nearly \$3.8bn in 2020 from \$2bn the previous year.

Despite widespread interest, certain industry vets remain skeptical of the asset class. Jamie Dimon, JPMorgan Chase chairman and CEO, has remained steadfast in his anti-crypto outlook, recently arguing that "bitcoin is worthless." Despite Dimon's personal views, JPMorgan has given its wealth management clients access to crypto funds, and they have built out a unit dedicated to blockchain projects. With impressive returns and widespread interest, it has become increasingly difficult for skeptics to overlook the asset class.

Growth in number of cryptocurrencies worldwide – 2013 to mid-2021



Source: Teza analysis of <u>Statista</u> data, 2013 to 2017: <u>GP Bullhound</u>, 2018: <u>Motley Fool</u>, 2019: <u>CoinmarketCap</u>, 2021: <u>Investing.com</u>.



Sources: Teza analysis of <u>DeFi Rate</u> and <u>Bankrate</u> data.

As with any emerging asset class, investors must consider where it fits in the portfolio. With a variety of coins available that provide a gateway into an exploding ~\$3T crypto market and ~\$270B total value locked DeFi space, crypto can now play several roles – from serving as a relatively low-risk yield-generating investment (e.g., by staking stablecoins pegged to the US Dollar) to a highly speculative bet on emerging tokens

It is our view that the most compelling crypto strategies can offer both alpha and yield. In an October 2021 interview with CNBC, Anthony Scaramucci phrased the alpha opportunity quite plainly – "if you had 1 cent in Bitcoin and 99 cents in cash over the last decade, you outperformed everything. Just think about that." These outsized returns apply not only to Bitcoin, but to a variety of non-meme coines, as indicated by the performance of broad-based crypto indices, such as the S&P Cryptocurrency Broad Digital Market Index.

While we believe that digital assets have an extremely bright future, it's difficult to identify the future Googles, Amazons, and Apples of the crypto world. Similar to the initial composition of the Dow Jones Industrial Average, the current crypto leaders are likely to vanish in the future to be replaced by unknown newcomers. As such, for the crypto-curious investor, we believe that index-like strategies that invest in several coins present the best opportunity. These strategies can provide exposure to growth in the overall asset class while diversifying risk across coins.

Though buy-and-hold crypto strategies can generate significant returns, investors should also consider the added value of yield farming. In a yield-scarce investment landscape, there is plenty of yield to be found in crypto. Crypto is a capital-starved asset class with tremendous demand for borrowing. Users who are able to lend or stake coins receive interest and other fees, generating yield and magnifying overall returns.

While index-like long-only strategies can provide crypto exposure to investors with long-term conviction in the space, more alpha-oriented crypto strategies also have a role in the portfolio. Many crypto alpha strategies aim for risk neutrality and capitalize on the relative price movements between coins. As crypto is still a relatively nascent

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space, market inefficiencies are pervasive, presenting a significant opportunity for pure alpha strategies such as statistical arbitrage.

Although the benefits of entering the crypto space are numerous, the risks are also meaningful. Even as blockchain technology fundamentally provides the trust in transactions between anonymous counterparties, the whole crypto and DeFi ecosystem is exposed to risks such as digital wallet security, bugs in smart contracts, exchange hacking, etc. Therefore, identifying a trusted partner and conducting rigorous operational due diligence is critical. It's certainly possible for the well-resourced institutional investor to implement a simple long-only crypto strategy internally, but working with an experienced manager with established risk management and security procedures mitigates risk and saves time and resources. Asset managers can serve as a bridge between the institutional investor and a complex, growing asset class, providing stakeholders with a degree of comfort.

Thus, in the early innings of crypto growth, we recommend that the crypto-curious investor (1) assesses portfolio fit, (2) looks for diversified strategies that offer both beta exposure and yield, and (3) dedicates significant time to identifying the right partner with robust institutional policies and procedures.

Sources

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Teza's Edge

Teza has built an institutional-strength organization consisting of a highly talented group of world-class researchers and investment professionals driven by success.

- HERITAGE: Our endeavors in institutional asset management are based on our 10+ year tenure as a proprietary, algorithmic low-latency trading firm, as we strive to leverage the extensive synergies we've identified between the two models.
- TEAM: We have world-class talent with over 60 employees in 4 locations. Our 30+ accomplished researchers and investment professionals hold advanced degrees from renowned universities in science, technology, engineering, and mathematics.
- APPROACH: We follow a rigorous, scientific process and have deployed state-of-the-art portfolio construction and optimization.
- EXECUTION: We have highly developed futures execution capabilities given our quantitative trading roots.
- RISK PHILOSOPHY: We ensure controls and checks and every key step of research and operations.
- INFRASTRUCTURE: As a result of significant investments into our operational infrastructure, we have created a scalable, robust platform.

Founder Biography

Misha Malyshev has led Teza Group as the CEO since the company's founding in 2009. He earned his Ph.D. in Astrophysics from Princeton University in 1998. He also holds an M.S. in Theoretical Physics and a B.S. degree summa cum laude in Physics and Mathematics from Moscow Institute of Physics and Technology. Dr. Malyshev worked for Bell Labs conducting scientific research until 2000. From 2000 through early 2003, he worked as a consultant with McKinsey & Company, where he developed substantial experience working for asset management and investment banking clients. Dr. Malyshev joined Citadel Investment Group, L.L.C. in April 2003 as a member of its strategy group. In 2004, he moved to Citadel's Quantitative Analytics group, where he developed a quantitative trading business. Dr. Malyshev was rapidly promoted to the position of Managing Director and Global Head of High Frequency Trading at Citadel, which he held until he resigned in the winter of 2009. Dr. Malyshev is an avid supporter of education initiatives, and has partnered with organizations that inspire young people, particularly women and minorities, to pursue careers in science, technology, engineering and math. He is currently on the global leadership council of buildOn, an international nonprofit organization that runs youth service after-school programs in United States high schools and builds schools in developing countries.

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