BACKSTOP
BarclayHedge

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BLOCKTOWER

WHITE PAPER

THE INSTITUTIONAL INVESTOR'S GUIDE TO CRYPTOCURRENCY

INTRODUCTION

The allure of cryptocurrency for investing can be summed up in a few lines: it represents disruptive new application of blockchain technology, culminating in a fundamentally new kind of asset, and with it, the birth of a new investable asset class. Cryptocurrency is not a stock nor a bond. It is not a company with financial statements and cash flows. It is not a traditional commodity like gold or oil. It's an asset entirely unto it's own, where valuation continues to evolve, and with it the use cases, networks and macro narratives through which the ultimate value will be determined.

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These unknowns do hold potential risk — but they also hold tremendous opportunity.

To harness the opportunities that cryptocurrency represents, you as an investor must have a sound working knowledge of this innovative asset class. That should include an understanding of what cryptocurrencies are, how they work, what factors to consider from an investment standpoint, and which strategies align with your investment goals and risk framework.

CRYPTOCURRENCY: THE BIRTH OF A NEW STORE OF VALUE, AND BRINGING NEW LIFE TO THE FINANCIAL SECTOR

To grasp the importance of cryptocurrency, consider that, even this day in age over the past few decades, financial technology was quite stagnant. Compared to the transformation we'd seen in almost every other aspect of our world through the internet, including things like instant and free communication and information sharing via email, transferring money electronically was slow, outdated, and obsolete. It might take four days to transfer money between bank accounts via ACH, or more than 24 hours plus a hefty fee to conclude an international wire transfer. The capital markets were notoriously sluggish, too. For instance, a stock trade might take three days to settle, and electronic delays could result in traders short-selling more equity in a company than actually existed.

To speed up the rate of financial transactions, "trustless money" was needed; that is, a payment system that could replace trust in intermediaries such as central banks or financial institutions. Such a system would be available around the clock with lower fees, avoidance of unnecessary delays, and no third-parties.

Enter the concept of cryptocurrency. **A cryptocurrency is a scarce digital asset that can be transferred online securely by using public key cryptography and blockchain technology.** With cryptocurrency, it is possible to own, use, and move digital assets without intermediaries, centralization, and without fear of duplication.

In addition to the promise of modernizing an archaic financial system, cryptocurrency is also unlocking a new "store of value" asset. Especially in this macro environment (spring of 2020 at the time of this writing), with central banks taking unprecedented steps to (many would say artificially) prop up the financial system through money printing and the "Great Monetary Inflation" as legendary macro trader Paul Tudor Jones coined it. Bitcoin and other cryptocurrencies — as assets that can't be depreciated or debased — look poised to play an important role in markets, investor portfolios, and the technological fabric of society.

At present, nearly all cryptocurrencies fall into one of three buckets, with each bucket requiring a unique valuation approach. **The first bucket** is digital money and a store of value. Bitcoin (BTC), which was launched in 2008 to enable peer-to-peer (P2P) monetary transmissions, is the most well-known cryptocurrency in this category. Others include Ripple (XRP), which specializes in international money transfers, and Monero (XMR) and zCash (ZEC), which provide strong privacy for monetary transactions. These can be thought of as commodity-like cryptocurrencies with values that are driven by the addressable market, and supply and demand.

To understand the value of this type of cryptocurrency, consider that the gold market is estimated at roughly $8.5 trillion [World Gold Council], and a cryptocurrency is in many regards a much better version of gold; Bitcoin, for example, has a strictly capped supply of 21 million coins that will ever exist, and it's nearly infinitely divisible, and instantly transferable, anywhere in the world. Consider further that the offshore banking system represents over $20 trillion.[1] People pay heavy fees to banks and intermediaries to secure and store their wealth in ways that cannot be readily accessed or seized. But a secure and private cryptocurrency can accomplish the same end in a more streamlined and cost-effective fashion. Plus, the addressable market is potentially much larger, since it is accessible to more than billionaires and multi-national corporations. For example, the benefits of cryptocurrency can be realized by a tradesman in rural India to prevent his wealth being confiscated through demonetization; anyone can now have "a Swiss bank in your pocket" (i.e., on your smartphone).

The second bucket of cryptocurrencies are referred to as *utility* tokens. In this case, networks are launched where a cryptocurrency is established and used for a specific purpose – they provide users with a product or service. Many are aiming to be categorized in this way, including some of the larger networks like Ethereum (ETH) and other cryptocurrencies being built on top of Ethereum, which enable users of the network to access new resources like decentralized computing power, cloud storage, and other "smart contract" based applications. A common analogy for these types of cryptocurrencies is that the tokens are like amusement park tickets: just as you can buy tickets and then exchange them for anything within the park, so a member of a network can use tokens use them within the system.

[1]Tax Justice Network

The fundamental value in utility tokens is a bit more ambiguous given the issue of “velocity sink” — the incentives for investors/holders to retain their tokens after they have fulfilled their use. People may not want to hold onto these tokens as they do cryptocurrencies that represent a store of value — as they’re more appropriately used to exchange quickly within the network to access the associated product or service. The tokens are therefore constantly changing hands. The value of the tokens involves the products or services provided by the network, the overall transaction activity on the network, the supply of the tokens, the number of users, and multiple other factors. In some ways from a valuation perspective, this type of cryptocurrency can be similar to equities since assets and tokens might be destroyed or bought back over time as they are in the traditional market world (e.g., share buybacks). However, whereas the valuation models for traditional equities and securities are well understood, valuation research into this category of cryptocurrency is still being explored and the models are in the process of being defined.

The third bucket contains cryptocurrencies that represent *tokenized securities* — a cryptocurrency version of a traditional asset ownership interest. Many things can be “tokenized” just as we’ve seen with assets being securitized. For example, real estate can be traded on a stock exchange via REITs. An exchange listing of real estate mortgages retains its economic properties, but its valuation at the margin may be affected by a change in the liquidity profile or through reduced regulatory costs. These same real estate, or even less liquid real estate interests (e.g., ownership in a Manhattan commercial building) could also be “tokenized,” with ownership recorded on a cryptocurrency blockchain. This can potentially further increase liquidity and reduce regulatory costs, increasing the value of the tokenized asset. To value a traditional asset token, look at the underlying economic ownership and then adjust for liquidity and regulatory effects.

CRYPTOCURRENCY INVESTMENT OPPORTUNITIES

Today, over 2000 cryptocurrencies exist[2] that empower users to conduct a wide range of activities. The total value of the cryptocurrency market at the time of this writing is over $250B.[3] These cryptocurrencies and crypto assets are being traded on exchanges, over the counter, and in private sales. They are being looked at as venture capital enterprises, and as commodities or currencies that may appreciate in value as they compete with fiat currencies or gold. Some investors are engaged in trading around volatility while others target events such as a "hard fork" where a single cryptocurrency, its underlying blockchain, and the respective 'networks' splits in two. Investors skilled in quant strategies are leveraging the new data sets that come out of blockchain technology to capture sources of alpha.

The attraction to investors is clear: **cryptocurrencies represent a potentially high return with a low correlation to existing portfolios, providing valuable diversity and opportunity for gain.** Additionally, many investors anticipate that the investment will act as an inflation hedge, or at least as a currency depreciation hedge similar to gold.

However, there are challenges to be overcome. Storing cryptocurrency is currently difficult from both a technological and a regulatory perspective. Exchanges present unusual levels of counterparty risk. The newness of most investment managers in the space makes due diligence difficult. And the relatively small total market capitalization and lack of scale available to some of these strategies makes them more difficult to access for many existing large traditional investment managers and institutional investors.

For many investors, underwriting these unusual risks is difficult. The risks are real — high volatility, counterparty risk, complexity, operational and security challenges — but they are idiosyncratic and can be diversified away by sizing cryptocurrency investments to a smaller percentage of the total portfolio, or by diversifying across cryptocurrency investments. The very nascency of these markets provides active managers with rare opportunities to find alpha through market inefficiencies and through the application of professional trading and investment strategies.

ENTERING THE CRYPTOCURRENCY INVESTMENT MARKET

Launching into the cryptocurrency investment market is an important move. As already noted, the benefits of investing in cryptocurrency are significant: this is a new asset class with an extreme upside potential due to both inefficiencies creating unusual alpha opportunity and absolute value creation through technological innovation. Its return is relatively uncorrelated with other assets as it does not necessarily behave as do bonds, stocks, real estate, commodities, and other traditional assets. In many ways, cryptocurrency could represent the type of "holy grail" that individual and institutional investors crave from a portfolio diversification perspective.

[2] CoinMarketCap.com
[3] CoinMarketCap.com

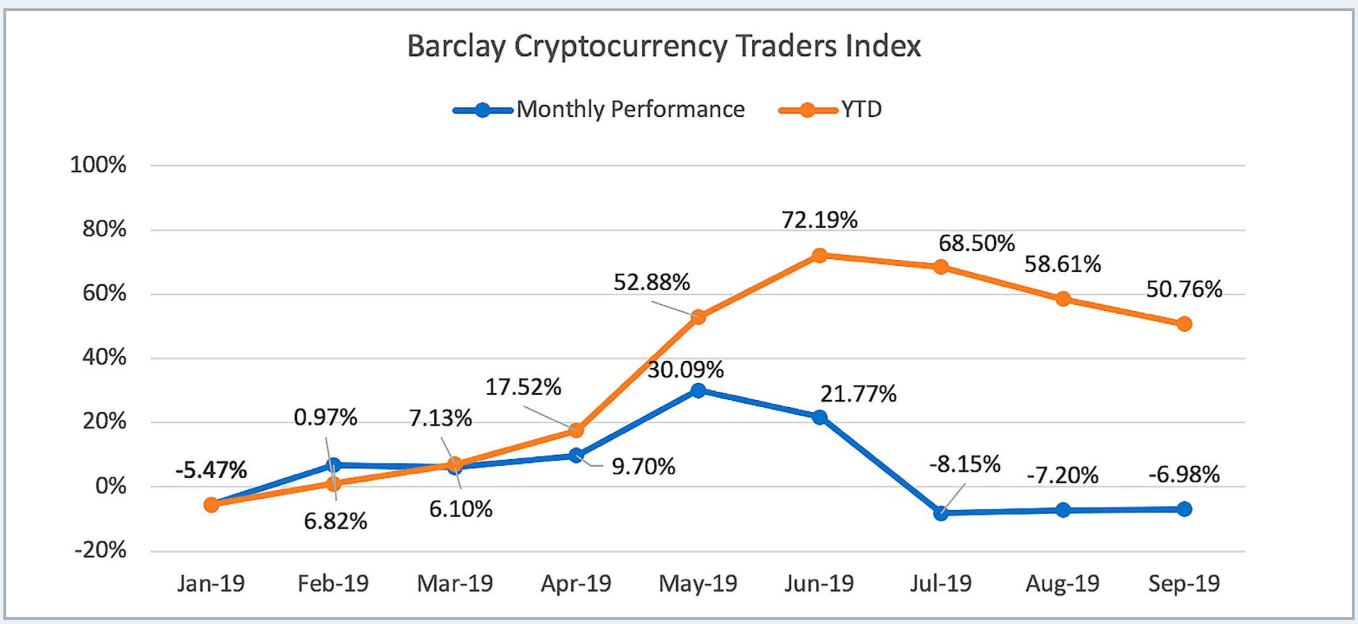
If you decide that you want exposure in the cryptocurrency market, the question then becomes a matter of size, since you can control for the volatility or risk of an asset by sizing it appropriately. The same principles that apply to traditional assets apply to crypto assets, with the top three being know your personal risk tolerance, balance the asset class amongst others in your portfolio, and do not invest more than you are willing to lose.

Once sizing has been determined, you can decide what kind of exposure you want. For example, some crypto funds are pure beta while other funds take advantage of long-short and other alpha-generating approaches. As with traditional assets, a manager's investment strategy and skill has just as great an impact on results as what is being traded. By understanding the different strategies managers employ, you can develop a framework for selecting funds that help you create the right kind of crypto exposure for your investment goals. Detailed fund data like this is provided by organizations such as Backstop BarclayHedge (see below).

CRYPTOCURRENCY INDEX PERFORMANCE AT YOUR FINGERTIPS

To invest wisely in the cryptocurrency market, you need up-to-date data about the asset class. BarclayHedge, a wholly-owned subsidiary of Backstop Solutions Group, provides detailed information about the cryptocurrency universe that you can use to drive insights, decisions, and results.

BarclayHedge is a leading provider of investment indices, tracking over 2,200 alternative investment managers and 6,900 funds. The Barclay Cryptocurrency Traders Index is a measure of the average return of all cryptocurrency programs in the Barclay database. A snapshot of the index is shown here; you can also view the full Barclay Cryptocurrency Traders Index for further information.



By registering with BarclayHedge as an accredited investor, you gain access to individual fund performance data and reports such as the cryptocurrency performance awards, which highlight the highest-ranking cryptocurrency funds each month. You can compare specific cryptocurrency funds against the Barclay index to make investment decisions, or use the index to gain a better understanding of the performance of the cryptocurrency market as a whole.

At all times, it is important to remember two things: first, if the cryptocurrency market continues on its current growth trajectory, it is going to result in enormous value creation. As mentioned, the gold market is currently estimated to be valued at over $8 trillion, and the offshore banking system at over $20 trillion. If cryptocurrencies can supplant even part of these two markets, the return on investment could be enormous — and that is just for the "store of value" bucket amongst cryptocurrency use cases.

However, that being said, the cryptocurrency market can be likened to seed-stage technologies: we are far from knowing who the "winners" will be. For example, Bitcoin could become the equivalent of Facebook, with tremendous traction and value creation. On the other hand, it could end up being like MySpace — the once popular but now forgotten social media platform, and an alternative 'store-of-value' cryptocurrency, an order of magnitude better than Bitcoin technologically, could be the Facebook equivalent, replacing the incumbent into obscurity. Or take Ethereum, currently the second largest cryptocurrency platform. It now has five competitors, all of whom are very well-funded. Which will rise to the top in the long-term? That is as yet unknown. The "winner" could be a cryptocurrency network that has not even been invented yet.

SIX CRITICAL SKILLSETS TO LOOK FOR IN CRYPTO ASSET MANAGERS

Investing in cryptocurrency is wise to achieve portfolio diversity and to capture new opportunities, but it is not yet clear where value is going to end up accruing. Many individual and institutional investors are countering that uncertainty by investing with an asset manager who delivers through active asset selection.

When evaluating a crypto asset manager, you want to ascertain if they have the right skillsets and competencies to trust with your investment. This can be challenging, since business schools are not churning out people with crypto expertise in the same way that they produce people who have equity portfolio management skills or traditional investment research capabilities. Expertise in cryptocurrency investing sits at the intersection of a new set of skills and mental models.

First, a crypto asset manager must be skilled in all aspects of **investing and trading**, including risk management, portfolio construction, technical analysis, valuation modeling, market microstructure, and deal structuring/underwriting. A demonstrated ability and understanding of these elements sets the foundation for the responsible risk and portfolio management, including critical areas like liquidity and counterparty risk, among others.

A firm grasp of **economics** is also key, from all angles. Cryptocurrencies represent new types of networks, with new incentives and behavioral patterns. Understanding concepts like competitive strategy, micro and macroeconomics, behavioral economics, and reflexivity are critical.

The third area of expertise is **"politics,"** covering regulations, legal issues, and taxes, along with all the political incentives and dynamics that accompany such matters.

These first three skillsets may be familiar territory, at least conceptually, since traditional asset managers require them as well (albeit in very different contexts). But the divergence of cryptocurrency from the traditional world becomes even more extreme as we dive into the next three areas.

We begin with **game theory**, the fourth skillset, which encompasses consensus mechanisms and stakeholder incentives. Game theory models are critical in forming secure and trustless cryptocurrency systems, and thus, understanding how to invest in them.

The fifth area is **cryptography**. With asymmetric encryption (also known as public key cryptography) and hash algorithms forming the core technology behind the blockchains that make cryptocurrency possible, it is important to have a thorough understanding of how cryptography functions so that crypto assets can be properly appraised and selected for investment.

Finally, crypto asset managers need to have a firm grounding in **computer science**, since crypto assets are, after all, code. Open-source code. Crypto assets are inseparable from the networks, databases, and distributed systems and the security that guards them.

A GLOBAL CRYPTOCURRENCY MARKET

The cryptocurrency market is a global phenomenon. It is not like the tech boom of the '90s, which centered in the U.S. stock market. Crypto is a truly global market and a global asset class in terms of trading, volume, and market activity, as well as engineering, development, and where the technology is being built. It is taking firm hold in the U.S. and Europe, and is exploding across the Asia-Pacific region. For all these reasons, investing in cryptocurrency requires a global mindset and a crypto asset management team that is capable of working cross-culturally and making sound decisions in an international market.

There are many opportunists — both investors and asset managers — rushing into the cryptocurrency market. A large percentage will have neither the knowledge nor the skills to harness the potential of the cryptocurrency market over the long-term. As an investor, you have the responsibility to become well-versed in cryptocurrency and to choose a crypto asset manager who understands the market at both a fundamental and deep level. Taking the time to do so will position you to reap the rewards of this remarkable new asset class.

ABOUT BLOCKTOWER

BlockTower Capital Advisors LP ("BlockTower") is an institutional investment firm applying professional trading, investing, risk and portfolio management to the emerging digital asset class of cryptocurrency. The firm combines active public market strategies with private market investments to capture the full opportunity set in crypto and blockchain-based assets across market regimes. BlockTower was founded in 2017 by Goldman Sachs executive and engineer Matthew Goetz, and University of Chicago Endowment portfolio manager and Susquehanna International Group trader Ari Paul.

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ABOUT BACKSTOP SOLUTIONS

Because every minute matters, Backstop's mission is to help the institutional investment industry use time to its fullest potential. We develop technology to simplify and streamline otherwise time-consuming tasks and processes, enabling our clients to quickly and easily access, share, and manage the knowledge that's critical to their day-to-day business success. Backstop provides its industry-leading cloud-based productivity suite to investment consultants, pensions, funds of funds, family offices, endowments, foundations, private equity, hedge funds, and real estate investment firms.

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This white paper has been co-authored by BlockTower's Matthew Goetz, CEO, Managing Partner and Co-Founder and Michael Bucella, Partner along with members of the technical staff at Backstop Solutions Group, LLC ("Backstop"). Backstop serves as a provider of client responsibility manager services to certain of BlockTower's clients. The collaboration of Matthew, Michael and the Backstop team was conducted for academic purposes outside of any formal engagement between BlockTower and Backstop. BlockTower monitors its service provider relationships and takes measures intended to reduce, monitor and mitigate conflicts as deemed necessary. When engaging service providers on behalf of itself or its clients, BlockTower applies business selection standards taking into account the nature of services sought, capabilities and characteristics of the service provider, which may include the following: reputation, ethics and regulatory record; business standards; compliance and controls; technological capabilities and standards; references and relevant expertise; continuity considerations and historical experience with such service provider; and the quality and timeliness of the services provided, with consideration to their competitiveness relative to other service providers.

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