ADAMANT RESEARCH

HOW TO POSITION FOR THE RALLY IN BITCOIN

November 2015

INTRODUCTION

Bitcoin technology represents a new frontier for investors. The network has been called 'The New Internet,' the currency has been called 'Gold 2.0,' and the technological revolution that propels it has been compared with the combustion engine and the Internet revolution.

"I really like Bitcoin. I own bitcoins."

DAVID MARCUS, EX-PRESIDENT OF PAYPAL

Since it started trading on July 16, 2010, the Bitcoin currency has risen in value by an average of 900% per year—even including the recent 18 month bear market. The market is extremely volatile and dynamic, which means profit opportunities abound.

For the investor, however, Bitcoin serves as much more than a speculative vehicle. When properly understood, this technology can act as a unique insurance policy against an increasingly unstable financial system, as a countercyclical hedge in your speculative portfolio, or, for the risk-tolerant investor, as a rational bet on an early retirement.

"Bitcoin is a technological tour de force."

BILL GATES

In this comprehensive report, we aim to provide answers to these investment questions:

- Why should I care about Bitcoin as an investment?
- What are the best ways to buy and safely store bitcoins?
- Is Bitcoin the AltaVista of cryptocurrencies, or the Google?
- How do I devise a solid allocation strategy?

I'm excited to share this free introductory report with you. Enjoy the ride!

Tuur Demeester

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ONE
AS AN INVESTOR, WHY DO I CARE ABOUT BITCOIN?

For the first time since the advent of the credit card in the 1960s, we have a technology that radically modernizes money. Bitcoin the digital currency and its clearing network are open source, mobile, peer-to-peer, cryptographically protected, privacy-oriented, and native to the Internet. The fusion of these technologies allows for a level of security and efficiency unprecedented in the world of money, banking, and finance—thus strengthening Bitcoin's potential as a disruptive technology, which could first disturb and then displace its predecessors.

"There are three eras of currency: commodity based, politically based, and now, math based."

CHRIS DIXON,
TECHNOLOGY INVESTOR,
ANDREESEN HOROWITZ

To illustrate, these are some of the areas in which Bitcoin technology can directly compete with the existing infrastructure:

- $2 trillion annual market for electronic payments
- $1 trillion annual e-commerce market
- $514 billion annual remittance market
- $2.3 trillion hedge fund market
- $7 trillion gold market
- $4.5 trillion cash market
- $16.7 trillion offshore deposit market

"With e-currency based on cryptographic proof, without the need to trust a third party middleman, money can be secure and transactions effortless."

BITCOIN DEVELOPER
SATOSHI NAKAMOTO

Bitcoin investors are in the company of top venture capital brass such as Marc Andreessen, Reid Hoffman, Fred Wilson, and PayPal co-founder Peter Thiel; by billionaires such as Jeffrey Skoll (eBay co-founder) and Li Ka-shing (the richest person in Asia); of iconic executives such as Vikram Pandit (Citigroup), Blythe Masters (JPMorgan Chase), and Tom Glocer (Reuters); and most recently, by large cap companies such as Google, Qualcomm, New York Stock Exchange, NASDAQ, USAA (American bank and insurer), and NTT DOCOMO ($75B Japanese phone operator).

Indeed, its potential as 'money in the cloud' and 'gold 2.0' has made Bitcoin the sector with the fastest growing volume in startup investments worldwide. VC investments are on a run rate for over $900 million in 2015 (double that of 2014), and the Bitcoin market cap has exploded from $1.4 million in 2011 to $4 billion early this year.

"Bitcoin may be the TCP/IP of money."

GMAIL CREATOR AND LEAD DEV.
PAUL BUCHNEIT

There are four prominent risks associated with Bitcoin: a better digital currency emerging and stealing the market lead, an undetected bug in the system, a hard fork (when some nodes in the network upgrade to software that is incompatible with previous versions) causing the Bitcoin payment network to split in two, and a sustained attack by an organization with substantial financial resources (such as a government).

Though a better currency is possible, disruptive protocols—such as TCP/IP for the Internet—have proven to be resilient once adopted by a critical mass of the population, as Bitcoin has when compared with altcoins (we cover this in more detail later in this report). With any software application, undiscovered bugs may destabilize the system, but Bitcoin's open-source nature allows for anyone to contribute security patches and structural improvement to the code. A hard fork creates competition between two versions of Bitcoin, and after a period of fear and doubt, eventually the value will flow to the version deemed most useful by its users. Lastly, an organized attack is possible but extremely expensive, and there are many defense mechanisms in place that make the attack more difficult to execute.

"I have a tremendous amount of respect for Bitcoin. Entire classes of bugs are missing."

DAN KAMINSKY,
FAMED SECURITY EXPERT

In closing, given how enormous the potential future value of the Bitcoin network is if successful, we maintain that the risk-reward ratio for Bitcoin the currency is currently the most favorable of any investment in the world. After thorough research and planning (of which this report will hopefully be of assistance), Bitcoin can be a valuable addition to your portfolio.

TWO
HOW TO BUY AND STORE BITCOINS

Just like with gold, in purchasing and storing the asset, you may want to make use of different companies. In fact, you may not want to make use of any company at all to store your bitcoins! But let's start at the beginning:

BUYING YOUR FIRST BITCOINS

The easiest way to manage the purchase and sale of Bitcoin is to open an account with a reputable Bitcoin exchange. The process of opening an account is similar in many exchanges and usually requires a passport copy and, in case you want higher deposit and withdrawal limits, a proof of residency.

If you are a U.S. citizen, we recommend either Coinbase, for the buy and hold types, or Coinsetter, if you enjoy trading as well.

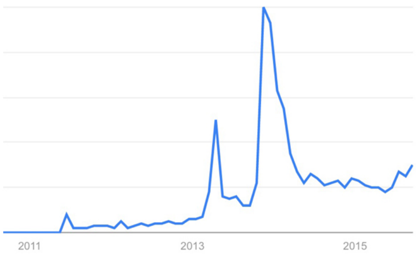
In Europe we recommend Kraken, which has the deepest EUR/BTC order-book.[1] Also the Dutch online shop Bitonic has a good reputation.

In Asia we suggest starting your Bitcoin journey with BTCChina or Itbit.

If you are from a country with more difficult access to the Western banking system, chances are high there already is a fairly reputable Bitcoin shop in your country that can help you out.

Finally, if you are looking to invest in Bitcoin for amounts over $50,000, you may want to consult with one of the Bitcoin funds. The most well-known is Barry Silbert's Bitcoin Investment Trust, which has about 130,000 BTC under management. Lesser known alternatives are the Global Advisors Bitcoin Investment Fund on the island of Jersey, and Malta-based Exante. The latter was an early adopter with reportedly over 90K in Bitcoin under management in late 2013.

Google trends: "How to buy Bitcoin"



"Bitcoin is a remarkable cryptographic achievement, and the ability to create something that is not duplicable in the digital world has enormous value."

GOOGLE'S ERIC SCHMIDT

[1] Disclosure: Tuur is an investor in Kraken.

STORING YOUR BITCOINS SECURELY

Unless you've invested only a very small amount, it's not advisable to let your bitcoins sit on the exchange after you've purchased them. Even though the current exchanges have much better security practices than one or two years ago, almost none are insured against theft and hacks still happen on a fairly regular basis.

Bitcoin Trezor, a compact hardware wallet with an online interface that easily plugs into your USB port.

For storage, the easiest first step is to make an account with Bitcoin bank Xapo. Their vault service is currently free of charge. We like Xapo for several reasons. Its founder and CEO Wences Casares has an impressive 20 year track record as an Internet and fintech entrepreneur. Having grown up in an unstable Argentina, he has experienced firsthand the importance of decentralized storage of financial assets. Xapo has raised over $40 million and is likely custodian of the largest amount of bitcoins in the industry. Further, the bitcoins Xapo safekeeps for its clients are fully insured by third party insurance companies, and its corporate headquarters is located in Switzerland. The Bitcoin bank has rigorous security procedures, part of which is to store their private keys in multi-sig form in vaults in Asia, the United States, and South America.

"The only truly secure system is one that is powered off, cast in a block of concrete, and sealed in a lead-lined room with armed guards."

GENE SPAFFORD

For those who prefer to take Bitcoin storage in their own hands, we recommend additionally buying a hardware wallet. This is a device that allows you to keep your private keys completely offline (protecting you from thieves using spyware), while still enabling you to keep the flexibility of an online wallet.

Our favorite hardware wallet is the Trezor device, designed by the creator of the first Bitcoin mining pool. With it in hand, a quick pin code gives you access to all your coins. And should you lose it, you can completely regenerate your wallet by using the 12 word recovery code. Trezor's entire operating code is open-source, which means that anyone can verify that there are no backdoors installed that could allow third parties to snoop into your personal finances.

"Put a little money in Bitcoin, come back in a few years and it's going to be worth a lot."

MICHAEL NOVOGRATZ,
$55B FORTRESS CO-CIO

THREE
WHAT TO BUY?

With so many different developments in blockchain technology, how do we choose what to invest in? Bitcoin is not the only cryptocurrency: to date over 500 so-called altcoins have been developed, some of which have market caps of over $100 million, thousands of users, and promises of better functionality. And there are hundreds of Bitcoin startups, many purporting to become cornerstones of a world in which cryptocurrencies are mainstream.

"If they become widely accepted, virtual currencies could have a substitution effect on central bank money."

ECB, OCTOBER 2012

We suggest that a well-rounded cryptocurrency portfolio follows three points:

1. invest in currencies first, and companies later,
2. of the currencies available, focus on Bitcoin,
3. and round off your investments with a small basket of altcoins.

"[Virtual Currencies] may hold long-term promise, particularly if the innovations promote a faster, more secure, and more efficient payment system."

FED CHAIRMAN BEN BERNANKE, NOV 2013

1. INVEST IN THE CRYPTOCURRENCIES FIRST, AND THE COMPANIES LATER

Protocols are resilient. Just as SMTP (Simple Mail Transfer Protocol) is a ruleset describing how to send and receive emails from one computer to another, Bitcoin is a financial protocol, a specific set of rules that describes how to send and receive payments online. What can we learn from Bitcoin, knowing that it is a network protocol such as SMTP and TCP/IP?

Think of a network protocol as a piece of land on top of which developers can build. Maybe the land is first irrigated, and then a few roads are laid out, and then buildings are constructed. What started off as a little village, becomes a city, and potentially even a metropole.

If we find ourselves in a landscape before the village stage, the initial conditions of the land are crucial factors in deciding whether or not to start building somewhere. But as more capital is invested in the 'land core protocol' (additional roads, ports, and skyscrapers would be equivalent to additional protocol layers), a virtuous cycle develops—the existing infrastructure draws in more people and resources, which then further expand the city.

The city of Paris is a great example: whereas the original settlers were drawn to the easily defensible islands in the Seine river (the security protocol), people today are drawn to the city for its architecture, cuisine, business district, and universities (application protocols layered on top of the original protocol).

Medieval depiction of Paris

Just as established cities often withstand the test of time, digital protocols are resilient as well. You can see historical evidence of this by examining the currently used protocols of the Internet, some of which are almost as old as the Internet itself:

Protocol	Launch	Age
FTP	1971	44 years
TCP, IP	1974	41 years
UDP, Ethernet	1980	35 years
DSL, DHCP, DNS	1984	31 years
HTTP	1991	24 years

"It's very difficult to overcome the extreme momentum that TCP enjoys today. It's now easier to work around TCP limitations than to propose a better protocol."

CARLOS RIBEIRO, NETWORK ARCHITECT

Compared to the staying power we observe in the world of protocols, the world of Internet businesses built on top of these protocols looks like a warzone. By contrast, with cryptocurrencies we have the luxury of being able to invest in the actual protocols, not just the businesses built on top of them. I believe that buying into the protocols themselves, especially during this infrastructure phase, should be the main focus of a blockchain technology investor.

Unless you have special skills that set you apart, our general recommendation is to first focus on investing in the cryptocurrencies themselves and only later to focus on the ecosystem companies.

"Bitcoin is Money Over Internet Protocol."

TONY GALLIPPI, CEO BITPAY

2. WHEN INVESTING IN CRYPTOCURRENCIES, FOCUS ON BITCOIN

As we said earlier, there are currently over 500 active cryptocurrencies. All of these are financial protocols vying for the title of 'The Internet Money'. But which one will win? We believe it is Bitcoin for two main reasons: the network effect and Bitcoin's contenders don't live up to their promises.

THE NETWORK EFFECT

Just as in 1974 the TCP/IP protocol made possible for the first time the easy and permissionless sharing of information between computers, so has Bitcoin since 2009 made for the first time secure and permissionless online financial transactions. The Bitcoin network now has a market cap of over $4 billion, which encompasses 86% of the total market for cryptocurrencies; all other cryptocurrencies together have a value of about $650 million.[2]

"Bitcoin is money 2.0, a huge, huge deal."

CHAMATH PALIHAPITIYA, VC & EARLY FACEBOOK EXECUTIVE

To date, more than $800 million in venture capital has been invested in the cryptocurrency space ($400 million of which was invested during the first half of 2015 alone), the vast majority of which was in Bitcoin companies.[3] This is money was mainly used to build the 'city' on top of the Bitcoin security protocol, which is why we recommend investing the great majority of one's cryptocurrency portfolio in buying bitcoins on an exchange and storing them securely.

2 Data from www.coincap.io, Aug 7, 2015.

3 For a good overview, see: http://www.coinfilter.com/2014-bitcoin-funding-report/.

In a write-up titled "Bitcoin Rising," Gyft CEO Vinny Lingham makes the case for the fundamental value of the Bitcoin network.[4] He addresses Metcalfe's Law which, in Lingham's words, "states that the value of a telecommunications network is proportional to the square of the number of connected users of the system." He explains further:

> *Given that there are already millions of Bitcoin wallets & users, and over 100,000 merchants already accepting Bitcoin, the network effect has become too strong for an altcoin to emerge, without it having a fundamentally different and greatly improved value proposition. Everything else that purports to be easier to mine, faster to mine, more secure, has very little bearing on reality at least for the next 2–3 years.*

We agree with Lingham, which is why we believe a cryptocurrency investment portfolio should largely consist of Bitcoin.

"One thing I like about this [Bitcoin] stack is that it's growing from the bottom up. First we had miners, the blockchain, and Bitcoin, and now we're building everything else on top. As far as I know, the most significant revolutions in technology have been built this way."

JOEL MONEGRO, VC AT USV

POTENTIAL CONTENDERS DON'T LIVE UP TO THEIR PROMISES

The network effect plays in Bitcoin's favor, but quite a few developers argue that it can still be overtaken by a superior technology. Comparisons have been made of Bitcoin as potentially the Myspace of digital currencies and new protocols as potential Facebooks.

Indeed, the cryptocurrency space is bustling with innovation. Since 2011, a flurry of new, experimental currencies have been launched. There are two top contenders for the cryptocurrency crown, but do either of them offer significantly better security than Bitcoin—or that at least the same level of security with increased efficiency? Let's take a look.

"Ripple had to make enormous compromises to the security and stability of the system to introduce the XCP token, which is completely unnecessary to implement the original Ripple concept; right now Ripple is essentially a centrally managed system because of it."

PETER TODD, BITCOIN DEVELOPER

RIPPLE

Ripple is an interbank payment clearing network based on open source and peer-to-peer technology. It has a market cap of over $250 million. Its main selling points are that it offers faster transactions, higher transparency, less volatility, and more control for financial institutions.[5]

First, convenience for banks does not mean that the public at large (the property owners) will be eager to elect Ripple as the core security protocol for the safe storage of their savings and property titles. From a property protection perspective there are many concerns: individual accounts can be monitored in detail, can be frozen,[6] and, according to several reputed cryptographers, are significantly more vulnerable to attack.[7]

For these reasons, we don't see Ripple as a serious contender for what is to become the mainstream money-over-internet protocol. In other words, we don't see it as a threat for Bitcoin.

"Ripple provides law enforcement and regulators with a single consolidated global ledger with which to monitor economic activity."

'THE RIPPLE PROTOCOL, A DEEP DIVE FOR FINANCE PROFESSIONALS', FROM RIPPLE.COM

4 https://medium.com/@vinnylingham/bitcoin-rising-22ba09c1b078

5 https://medium.com/decentralize-everything/bitcoinference-2015-why-do-banks-prefer-ripple-over-bitcoin-77f1544a0f82

6 http://wiki.ripple.com/Freeze

7 Some of Gregory Maxwell's security concerns can be found at the following: http://tinyurl.com/maxconrip, http://tinyurl.com/maxconrip2. And Peter Todd's: http://www.coindesk.com/report-conflict-ripple-labs-consensus-protocol/.

PROOF-OF-STAKE CURRENCIES

For all cryptocurrencies, transactions are validated by a process called mining. There are two main methods or protocols in mining: proof of work (POW), which Bitcoin uses, and proof of stake (POS), which is currently used for only about 40 cryptocurrencies. Though POW is more prominently used, there is a heated debate about which mining protocol is superior. Think of this as similar to the 'War of the Currents' in the late 1800s between Edison's direct current and Tesla's alternating current, right before electricity was became a technology adopted by the mainstream.

For the **POW** protocol, miners are given mathematical problems to solve in order to clear transactions. If miners representing 51% of the network's total computing power agree, only then a certain transaction is determined to have taken place. Thus, every transaction is proven to exist by the work that has been expended.

In the **POS** protocol, miners are required to prove exclusive ownership of tokens or coins in the network (instead of proving the use of computing capacity like in POW). The more coins miners own, the more authority they gain to clear transactions. Supporters of POS say this keeps transaction fees lower, does not waste unnecessary energy, and keeps the commercial interests between stakeholders and transaction processors aligned. Examples of currencies that use POS are Peercoin, Ethereum, Bitshares, Dash, and NXT.

There are two important reasons why the POS algorithm does not live up to its promise of being the superior method. First, it doesn't assure decentralized consensus. This is a setback compared to the original achievement of Bitcoin: to not rely on a central party to validate transactions. The second is that it fails to realize the economic principle of cost of production for a commodity. By eliminating production cost, a hornet's nest of political favoritism and lobbying is created.

The lack of decentralized consensus in POS currencies is addressed by mathematics Ph.D. and Bitcoin developer Andrew Poelstra:

> *It is not well-advertised, but in fact there has never been an example of a cryptocurrency achieving distributed consensus by proof-of-stake. The prototypical proof-of-stake currency, Peercoin, depends on developer signatures to determine block validity: that is, its consensus is not distributed. [...] In its initial incarnation, NXT was susceptible to a trivial stake-grinding attack [...] and could not achieve any consensus.*

The economic principle disregarded by the POS algorithm was explained by Adam Back, inventor of the POW mechanism behind Bitcoin, in February 2015:

> *There is an economic principle to mining: there is a mining commodity price that the market finds where miners will be willing to expend up to the market price of the commodity to mine it. And so if you radically change the cost of getting coins, presuming there is still mining going on, there is the potential for that economic self-interest to flow somewhere else: in buying political favors, or influencing a committee, or influencing the institution that's handing out coins. That built up*

"I see the key benefit of PoS being that it can provide similar economic security margins much more cheaply. [...] All the top new cryptoplatforms (I do think we need to call them that; they're not just currencies anymore) are using PoS, and for a good reason."

VITALIK BUTERIN,
FOUNDER OF ETHEREUM

"My #1 concern is that the endgame of [the Ethereum] protocol is PayPal. [...] Both Casper [Ethereum POS] and Nakamoto consensus [Bitcoin POW] start to centralize over time. If I had to pick, I'd say that Nakamoto consensus, due to its permissionless nature, is naturally more decentralized."

GREG SLEPAK,
COMPUTER SCIENTIST

"Econ 101: Marginal Cost = Marginal Revenue. If a block releases X dollars worth of coins to the creator, X dollars will be spent creating it."

PAUL SZTORC,
FOUNDER TRUTHCOIN

> *economic demand has to go somewhere, so it's not necessarily a bad thing that a commodity has a production cost.*[8]

Because of uncertainty about the security of the POS protocol—and because of how questionable its supposed higher efficiency is—currencies using POS are not winning contenders against Bitcoin. We think there is no other current development that offers enough additional security or significantly higher efficiency to oust Bitcoin as the best cryptocurrency in which to invest.

3. ROUND OFF YOUR INVESTMENTS WITH A SMALL BASKET OF ALTCOINS

In networked environments (like the world of cryptocurrencies), new developments tend to follow a **power law distribution**; there are a few clear, long-lasting technologies followed by a long tail of ever-smaller and less-used ones. This long tail pattern can be found in areas such as languages, e-commerce stores, blogs, and social networks.

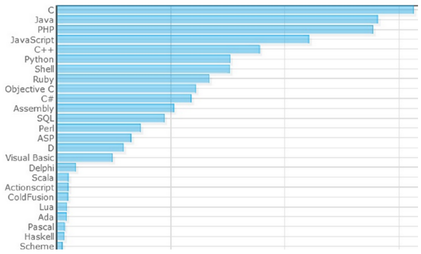
In the field of cryptocurrencies, this long tail pattern is clearly evident. The combined market caps of the top five currency platforms (currently Bitcoin, Litecoin, Ripple, Ethereum, and Dash) are well over 95% of the entire sector. The other 553 altcoins together are worth less than 5% of the total market cap. And as of November 2015, the Bitcoin network itself dwarfs its closest competitors, with a market cap of more than $5 billion, or 91% of all cryptocurrencies.[9]

Over the past three years, the top five cryptocurrencies have varied widely in terms of market cap as well as relative size compared to Bitcoin. Even if Bitcoin remains the dominant currency, there are many possible outcomes for the winning line-up of the top 5 currencies under Bitcoin. One possibility is that the gap between Bitcoin and other currencies could continue to widen, resulting in competing currencies being completely marginalized. Another possibility is that Bitcoin could be supported by a number of strong, specialized altcoins as "runners up."

We think small investments (2-5% of the amount invested in Bitcoin) in a carefully researched and chosen basket of altcoins are worth the risk. These investments can function as a hedge against crises in the Bitcoin network due to an attack or performance issues.

"A bitcoin is a proof of Joules spent; no matter what branding or features you market with, a bitcoin its still a bitcoin, and can no more change than a clump of gold atoms will cease to be gold atoms and start a floating price against gold if stamped with a letter F."

ADAM BACK,
INVENTOR OF BITCOIN'S
PROOF-OF-WORK SYSTEM



Top 25 most popular programming languages clearly shows a power law distribution. Source: langpop.com

7 reasons a programming language endures

Appeals to a wide audience: C (bolstered by popularity of Linux)
Gets a job done: Cobol (designed for business-report writing)
Delivers a new functionality: Java (runs on any hardware platform)
Fills a niche: Mathematica (speeds up complex computations)
Offers a modicum of elegance: Icon (friendly, line-oriented syntax)
Powerful user base or backer: C# (developed by Microsoft)
Charismatic leader: Perl (programmer-author Larry Wall)

Source: Michael Menduno

8 Interview with Adam Back and Greg Maxwell: https://www.youtube.com/watch?v=jE_elgnlw3M&feature=youtube&t=1h19m34s

9 Source: http://coinmarketcap.com/ and the 'dominance index' shown on http://coincap.io.

FOUR
BITCOIN ALLOCATION STRATEGY

Now that we've discussed why Bitcoin is valuable to us as investors, how to buy and store bitcoins, and what to buy, the next and final step is to allocate your cryptocurrencies within your portfolio.

In order to discover which allocation strategy works best for your individual portfolio, preferences, and style, it's important to first understand the hidden risks of traditional investment portfolios and the significance of a long-term approach. Within the long-term approach, you can consider the pros and cons of entering the market with dollar-cost averaging, lump-sum investing, and averaging down.

We'll round off this report with three allocation strategies in which Bitcoin can play a role and a specific strategy example.

THE HIDDEN RISKS OF A TRADITIONAL INVESTMENT PORTFOLIO

It is important to use Bitcoin as part of a diversified portfolio. It offers a counterbalance to a series of growing risks that are associated with traditional investment practices. Let's take a brief look at the risks involved with government bonds, stock markets and brokerages, and real estate.

With interest rates at their lowest in more than 1000 years, a government bond portfolio offers only the illusion of security these days. Once a government can no longer pay its debts, it will default and the bonds become worthless. Alternatively, if a government can't repay debts from tax income, it forces central banks to buy the government debt with newly printed money—the bond owners still get paid, but with devaluing money that eventually becomes subject to high inflation, or even hyperinflation.

Stock markets also carry risk with them, because stock valuations are usually built upon assumptions about future consumption and future availability of credit. With a population, a banking system, and a government that is highly indebted (even in 'hot' countries such as China), that situation can change quickly. In today's situation of unprecedented global *quantitative easing* (money printing), newly printed money flows into the financial system through the banks, which often then use it to invest in stock and derivative markets. This 'hot money' can create bubbles such as what we're probably seeing in the U.S. technology sector today.

"Fractal finance, alas, has not yet earned a place in the MBA curriculum. Until that happy day, what is a person with money at stake to do? First, diversify as broadly as you can -- far more than the supposed experts tell you now. This isn't just a matter of avoiding losses: Long-run market returns are dominated by a small number of investments, hence the risk of missing them must be mitigated by investing as broadly as possible. Passive indexing is far more effective than active selection -- but you need to go well beyond an S&P 500 fund to do yourself much good. And wherever you put your money, understand that conventional measures of risk severely underestimate potential losses -- and gains. For better or worse, your exposure is larger than you think."

FROM "HOW THE FINANCE GURUS GET RISK ALL WRONG," BY MANDELBROT & TALEB

In the current financial system it is a complex process to directly own stock in a company. Usually you have to trust a broker to store your certificate for you, but in professional circles it is widely known that stocks belonging to clients are used by the broker as collateral for risky bets on the financial markets (this was at the heart of the MF Global scandal in October 2011, during which $1.6 billion in customer funds was lost).

Many investors make the mistake that real estate offers them a secure outlook, but history shows that in times of rising interest rates and a subsequent credit drought, housing prices can drop for years on end.[10] Moreover, in severe crises such as a 1929-style crash or a hyperinflationary scenario, governments tend to choose the side of the voting public (made up of mostly tenants, not owners) and don't hesitate to impose rent controls and other measures that paralyze the real estate markets.

"MF Global's bankruptcy revelations concerning missing client money suggest that funds were not inadvertently misplaced or gobbled up in MF's dying hours, but were instead appropriated as part of a mass Wall St manipulation of brokerage rules that allowed for the wholesale acquisition and sale of client funds through re-hypothecation."

REUTERS, DECEMBER 8, 2011

THE IMPORTANCE OF A LONG-TERM STRATEGY

In the Bitcoin ecosystem, it is crucial to keep in mind that volatility is a certainty; it's a phenomenon that investors must learn to stomach. A bull market never goes up in a straight line, and any successful Bitcoin investor will have to fight through significant downturns to earn his results.

Investor Jesse Livermore has said, "After spending many years in Wall Street and after making and losing millions of dollars I want to tell you this: it never was my thinking that made the big money for me. It was always my sitting. Got that? My sitting tight!"[11]

To hold is often both the hardest and most important aspect of investing. It's easy to find tales of those who found Bitcoin early on but who sold too soon. One member of Reddit's /r/Bitcoin only bought into cryptocurrencies this year, but he lost over 120 BTC from gambling with it instead of taking a long-term approach.[12]

But there are success stories as well: in 2013, a Norwegian man discovered his then-forgotten investment of 5,000 BTC.[13] He had spent the equivalent of $26.60 USD on them in 2009. Today, if he has kept all those coins, he would have over $1.1 million.

With the rollercoaster volatility of Bitcoin and other cryptocurrencies, it can be difficult to sit tight and resist the urge to sell—especially because markets sometimes take a while to exceed previous highs. Revisiting the evidence behind Bitcoin's long-term promise can help keep investors positive and steady-handed through the lows and rallies. Once you have carefully established the strategy that's right for you, maintaining long-term perspective and preparing psychologically for bad (and worst case) scenarios is a reliable way to keep a healthy outlook and refraining from selling.

"You also have to be very careful about the custody. [...] I would take precautions for at least yourself; what you do for your clients is another story."

MARC FABER TO AN AUDIENCE OF FUND MANAGERS, ABOUT MF GLOBAL, 2012

"I am very intrigued by Bitcoin. It has all the signs. Paradigm shift, hackers love it, yet it's derided as a toy. Just like microcomputers."

PAUL GRAHAM, CO-FOUNDER OF THE TECH SEED ACCELERATOR YCOMBINATOR

"I predict there will be between one and five Bitcoin price bubbles in the next four years."

GAVIN ANDRESEN, BITCOIN CORE DEVELOPER, JULY 2010

[10] https://www.imf.org/external/pubs/ft/wp/2011/wp11231.pdf

[11] Source: http://www.jesse-livermore.com/learning-stock-trading.html

[12] https://www.reddit.com/r/Bitcoin/comments/3bk5y9/psa_dont_gamble_with_your_holdings/

[13] http://www.theguardian.com/technology/2013/oct/29/bitcoin-forgotten-currency-norway-oslo-home

DOLLAR COST AVERAGING VS. LUMP SUM INVESTING

If there's anything Bitcoin and the altcoins are notorious for, it's their volatility. Since BTC started trading in 2010, we have seen five big price rallies and as many consolidation periods, during which prices dropped by a decrease of 70% as a minimum.

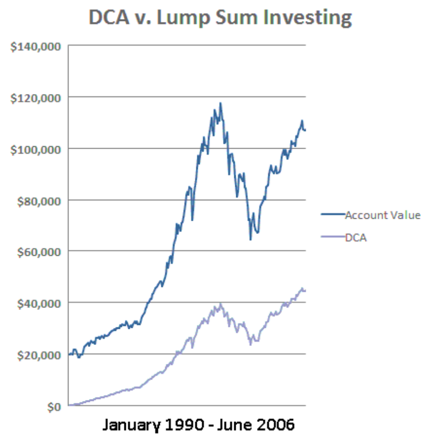
There is a lively discussion among Bitcoin investors about whether to enter the market with a **lump-sum investment** or to invest fixed amounts every month (**dollar-cost averaging**). Most investment advisors are proponents of dollar-cost averaging, and sometimes with good results, but research shows that its merits over lump-sum investing are not consistent.[14]

How you enter the market is less about the 'right' or 'wrong' way and more about personal preference, as long as you have an accurate picture of the long-term trend and you are careful not to invest too close to the top of the market. It's best to take the approach with which you feel most comfortable considering your particular financial, family, and life situation.

We generally suggest choosing the method that best allows you to stay invested for the long-term. If for you that means buying a lump sum and putting your coins into cold storage ('set it and forget it'), then that is your way to go. If you know you have difficulty stomaching short-term declines, or if most of your investable funds come from monthly income, then dollar-cost averaging could be the most advantageous strategy for you.

"Know what you own, and know why you own it."

PETER LYNCH



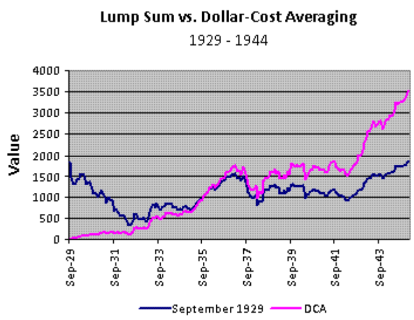
Lump sum investing is most successful in a bull trend, such as was the case with the S&P in the nineties.

AVERAGING DOWN

Averaging down is the process of additional buying at lower prices than you originally purchased. This method is usually praised because it brings the average purchasing price down, but we are fond of it for another reason: averaging down before entering the market forces to you decide at which levels you will buy more—which helps to psychologically prepare for lower prices.

The downside to averaging down is that if an asset that is going to zero (and practically any asset's value can drop to zero), you increase your losses as you buy more on the way down. To mitigate this, if you choose the averaging down investment strategy it is advisable to decide beforehand how much you are willing to invest in this asset overall.

One final aspect to consider is the situation of entering the market before a big rally. If this happens, you will probably end up buying less of that asset than you had originally planned. You can counter this by buying above a certain price and then immediately setting a stop-loss sell order below that buying price. Then when the price declines again, you have cash ready to go back to your original averaging down strategy.



Dollar-cost averaging works best during a down or sideways market. Here's an example of how that strategy would have worked during the first years of the Great Depression.

[14] See for example Vanguard's Dollar cost averaging just means taking risk later.

ALLOCATION STRATEGY SUGGESTIONS

We think a well-rounded portfolio includes investments in a basket of blockchain technologies (altcoins), with an emphasis on Bitcoin. This portfolio can play a part in three distinct strategies: as an insurance policy, as a hedge in a broad speculative portfolio, and as a calculated bet on an early retirement. Let's break each one down.

BITCOIN AS INSURANCE: 1-2% OF FINANCIAL WEALTH

First, Bitcoin is a fantastic insurance policy against a number of systemic risks inherent in even the most conservative-looking investment portfolios.

The modern investor (if he is aware of the fundamental risks in a financial system that is likely the most indebted in the history of the world) is wise to diversify a small percentage of his portfolio, for example 1-2%, into cryptocurrencies like Bitcoin. Reasons for this are:

- Bitcoin has very low counterparty risk: you don't have to trust anyone to hold your bitcoins for you, and every transaction is validated by a global, decentralized network of Bitcoin miners who have virtually no ability to interfere.
- If stored correctly, Bitcoin is practically non-confiscatable. It is 'money in the cloud.' Not only can you organize your portfolio so that no one but you has exclusive access to your bitcoins, but the global network of Bitcoin is accessible from anywhere on the planet. It is the ultimate emergency fund: accessible whenever you want, only to you, from anywhere in the world, at any time.
- Bitcoin offers a backup financial system. If the existing system crashes, or there is a widely held fear that it might do so, there are hundreds of cryptocurrency entrepreneurs and coders who can quickly scale the economy up to serve the needs of the public at large. If this happens, the value of your Bitcoin investments will likely skyrocket, which can compensate for the losses incurred in the traditional portfolio.

BTC IN A SPECULATIVE PORTFOLIO: 2-5% OF FINANCIAL ASSETS

Doug Casey, author of the Casey International Speculator newsletter, defines the activity of speculating as "capitalizing on politically caused distortions in the marketplace." One gigantic distortion we are faced with today is central bank interventionism, which affects and undermines the financial system at large. A broad speculative portfolio of today would typically be betting on the rise of safe haven assets—like precious metals, cash, deflated real estate, stock markets with low CAPE ratios, and agricultural commodities—that are not tied up in the system.

Despite the best efforts of their manager, assets in a speculative portfolio can still move up and down in concert during a crisis situation. In a 2008-type deflationary scenario, people might panic-sell and initiate a massive flight into the U.S. dollar and bonds, which are two assets that normally have only a smaller position in a speculative portfolio.

"Once you reach a certain state, it becomes very difficult to dislodge that. I think Bitcoin has probably won that, less so [other] cryptocurrencies."

LEG MASON'S BILL MILLER,
APRIL 2014

"It's not a question of how often you're right. It's a question of when you're right – how right are you? [...] I would put Bitcoin squarely in that kind of bet. I'm completely enthusiastic to take that – that's a classic venture capital risk to take. People who understand that risk should feel very good about taking it."

MARC ANDREESSEN,
OCTOBER 2014

"Investing should be more like watching paint dry or watching grass grow. If you want excitement, take $800 and go to Las Vegas."

PAUL SAMUELSON

"Of course, no one is totally secure in holding their own country's currency. We want to enable people to hold and trade Bitcoin to secure themselves against weakening currencies."

VC TIM DRAPER AFTER HIS
PURCHASE OF 30,000 BTC
FROM THE FBI, JULY 2014

This is where a modest Bitcoin investment (2-5% of the total) can especially shine. In the case of a panic, it is likely that a small percentage of people will choose to take financial refuge in Bitcoin. Given the small market cap of the cryptocurrency sector, this could lead to a spectacular rise in the Bitcoin price, compensating for many of the losses incurred in the rest of the portfolio.

"In investing, what is comfortable is rarely profitable."

ROB ARNOTT

EARLY RETIREMENT BET: 5-10% OF FINANCIAL ASSETS

As we discussed at the beginning of this report, Bitcoin is likely a disruptive technology that could radically transform how property is exchanged around the world. It's possible that with Bitcoin we are witnessing the birth of the 'internet of property' that in 10 to 20 years could be used by hundreds of millions of people. Just as the Internet of information redefined the structure of information markets, the emergence of an internet of property would redefine capital flows, making them more secure and efficient and resulting in massive wealth creation in the coming years.

"I'm sure that in 20 years there will either be very large (Bitcoin) transaction volume or no volume."

SATOSHI NAKAMOTO,
FEBRUARY 2010

Though certainly not without risk (and only advisable for investors of a fairly young age, given the risk and volatility of the market), we think it can be reasonable to aim for an early retirement by means of investing in blockchain technology. After a two year cooldown period and with a rapidly maturing ecosystem, the risk/reward ratio of Bitcoin as an asset appears to be among the best available worldwide.

We believe returns of 100x over 10 years are possible, though obviously not guaranteed. As an example, if Bitcoin achieves a market cap that is 10% of the gold market, an investment of $10,000 in early 2015 would become worth an inflation-adjusted equivalent of over $1 million.

Given the highly volatile nature of the sector and the not-insignificant risks (such as loss of coins, introduction of a new currency that overtakes BTC, or network failure), our advice to investors who wish to take a swing at early retirement is to invest 5-10% of their financial assets in Bitcoin (and we suggest investing at least an equal amount in that other decentralized, private money, i.e. gold bullion). Keeping your exposure limited is how you will survive and thrive during the inevitable violent downswings of this bull market.

"Before the browser, someone looks at TCP/IP and says, oh my God, this thing moves information from anywhere to anywhere real time and for free! It's going to change information forever, so I'm going to launch Netflix. Well, hold on. Yes, but not now. Not for 20 years. First we need much better computers, more broadband, lots of things have to happen. Same thing with Bitcoin. Yes, it will change everything, but not now, not yet. Email with 6 million people wasn't email, it was a curiosity."

WENCES CASARES,
CEO XAPO

STRATEGY EXAMPLE: INVESTING $50,000 IN BITCOIN

First, $50,000 is most certainly not the right amount to invest for everyone. Carefully study and consider what amount and strategy is right for you depending on your own personal profile.

To get a clear look at the strategies we described above, we'll used the example of a $50,000 investment in the blockchain economy.

- $16,000 is allocated as a lump-sum purchase of Bitcoin: set it and forget it.
- $15,000 is allocated to a dollar-cost averaging strategy over a period of 6 months, to be invested in purchasing Bitcoin.

- $15,000 is allocated to a Bitcoin averaging down strategy, providing cash to invest when the price makes a significant downturn.
- $3,000 is allocated to an altcoin portfolio consisting of 4-8 currencies. For currencies that have risen a lot lately, the budget is invested in tranches over several months.
- $1,000 is invested in new opportunities (start-up currencies or crowdsourced assets).

In percentage terms, this will eventually result in approximately the following portfolio: 92% in Bitcoin, 6% in altcoins, and 2% in new opportunities. Over time, as the ecosystem matures, we can use the 90% Bitcoin allocation to reinvest elsewhere in the sector.

"The fragile wants tranquility, the antifragile grows from disorder, and the robust doesn't care too much."

NASSIM NICHOLAS TALEB

"Right now Bitcoin feels like the Internet before the browser."

WENCES CASARES, CEO XAPO

CONCLUSION

The blockchain technology sector has something for everyone: it offers an irresistible insurance policy for the conservative investor, an effective hedge in a broad speculative portfolio, and—for investors with an appetite for high-risk, cyclical investing—a rational strategy to pave the path to financial independence and early retirement.[15]

15 All content in this report is general advice only and does not constitute personal financial or legal advice.

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