Sprott Asset Management USA, Inc. July 2017

Strategy Report

A highlight of 2017 financial markets has certainly been the explosion of interest in cryptocurrencies. We attribute growing interest in digital currencies to a concern shared by many gold investors. In short, resentment is mounting over the financially repressive policies of global central banks. Specifically, the imposition of negative interest rates and related official backing of increasingly cashless economies have catalyzed interest in investment vehicles outside the traditional financial system, such as precious metals and cryptocurrencies. Along the way, comparisons of bitcoin to gold have become all the rage. Because spot gold has spent the past five-and-a-half months trading within a $100-range, while the prices of cryptocurrencies have soared, some have even suggested that digital currencies are usurping gold's role as preferred store of value.

It will come as no surprise that at Sprott, we assess the investment merits of gold and bitcoin to be substantially different. We view gold in its traditional profile as reliable store of value and productive portfolio-diversifying asset. In contrast, while we recognize that bitcoin is the first killer application of the epically disruptive blockchain technology, we view bitcoin's current investment merits as limited to potent speculation. We absolutely believe bitcoin can play a productive role in many portfolios, but that contribution will be entirely different from that offered by gold. In this report, we have organized our thoughts around seven key differences between gold and bitcoin as portfolio assets.

Infancy

Bitcoin is the market leader in the emerging asset class of digital currencies. Importantly, bitcoin is based on blockchain technology, which is essentially a distributed database used to maintain a constantly growing list of records, called blocks. Each block contains a timestamp and a link to the previous block. In essence, the blockchain permanently stores a history of all previous transactions and participants and is simultaneously updated across a vast array of global computers to provide instant and fully transparent proof of authenticity to all users. By all accounts, the blockchain is potentially the most disruptive technology since the advent of the internet. Its applications are virtually limitless. However, it is important to differentiate between the blockchain and bitcoin. They are not one and the same. Bitcoin is simply the leading brand in the blockchain's first emerging application (digital currency). While bitcoin's lead in the cryptocurrency market is currently substantial, there is no guarantee bitcoin will ultimately prove to be the widely adopted crypto winner. Bloomberg (7/12/17) informs us that a grand total of ***three*** of the 500 largest internet merchants currently accept bitcoin for payment, down from ***five*** one year ago. The digital currency industry is in its early infancy, and many of the world's smartest and most resourceful scientists, entrepreneurs and financiers are laser-focused on developing superior technologies to address bitcoin's perceived shortcomings. It is ironic that Mark Andreessen, one of the most powerful voices for the blockchain and cryptocurrencies, was also a cofounder of Netscape. Just as Netscape was once the undisputed market-leading browser in an emerging technology called the internet, bitcoin is now the undisputed market-leading crypto in an emerging technology called the blockchain. It is far too early for definitive evaluation of bitcoin's long-term prospects, much less to compare bitcoin to gold as a store of value!

Immutability

Quite simply, gold is gold. For over 5,000 years, an ounce of gold has been exactly the same: an ounce of gold. There are no variations or imitations. Central banks hold gold because of its extraordinary density, rarity and ***immutability.*** Central banks do not hold diamonds or priceless art because of their infinite variability. There is no society on earth which does not regard gold as valuably precious. Gold is virtually indestructible. Only a few very powerful acids can destroy it, and gold does not even ***melt*** below 1,943 degrees Fahrenheit. Gold never tarnishes. Gold is immutable.

Bitcoin, in comparison, is a string of code generated by software protocols and cryptographic algorithms. While a sophisticated programmer might take comfort in the technological impregnability of the blockchain, this type of intellectual security eludes many investors outside the Bay area and lower Manhattan. In essence, bitcoin is shrouded in a dense cloak of ambiguity because few people comprehend the underlying protocols. Of course, this does not prevent legions of speculators from flocking to bitcoin's often irresistible chart pattern. That is a

given in contemporary, correction-resistant markets. As far as a store of value for accumulated wealth, however, we have yet to encounter significant investor testimonial on bitcoin's behalf. With respect to bitcoin's immutability, we are somewhat troubled that the operation of the bitcoin network is becoming increasingly concentrated in the hands (actually the massive computer farms) of a limited number of programmers. Because humans always eventually do what is best for themselves, this concentration may lead to unforeseen changes in the bitcoin network, perhaps a lot sooner than most recognize (more on this later).

Volatility

Because gold investment decisions are often fueled by emotion, precious metals have earned a reputation for volatility. Gold's commodity characteristics expose the metal to the trading patterns of limits, stop losses and the aggressive trading tactics popular on the COMEX. Additionally, over long spans, gold can post high-percentage moves reflecting changing economic and monetary conditions. From a 2/16/01 low of $253.85, spot gold climbed 656.81% to a 9/6/11 high of $1,921.15, before falling 45.53% to an intra-day low of $1,046.43 on 12/3/15. Of course, these moves took ten-and-a-half years and four-and-a-quarter years, respectively, to unfold. Despite these high-percentage changes, gold has remained throughout the years an effective store of value as measured by a myriad of divisors, from the cost of a men's suit, to barrels of oil and everything in between.

The extreme volatility of the cryptocurrency asset class, to us, belies any legitimate role as store of value. ***Figure 1, on the following page***, plots the percentage losses for the leading 50 digital currencies during the ***three weeks*** ended 7/16/17. Admittedly, these declines occurred after spectacular multi-month gains (in many cases by many-hundreds-of-percentage-points). Nonetheless, no asset class with broad-based declines in a three-week period measuring between ***40% and 70%*** should logically be confused with a store of value.

With respect specifically to bitcoin's volatility, roughly every year or so the currency experiences a rapid upward shock, followed by an equally rapid downward correction, reminding us far more of an enticing trading opportunity than a store of value. In one particularly vertiginous run in late 2013, bitcoin exploded 446% in less than a month from an 11/1/13 close of $208.18 [Bloomberg BGN "close" is 5 pm EDT] to an 11/29/13 close of $1,137, before falling 53% to a 12/17 close of $533.71. More recently, on 3/2/17, bitcoin ($1,257.94) surpassed the spot gold closing price ($1,234.31) for the first time, before catapulting to $2,999.98 on 6/12/17. From the shape of things in ***Figure 2, below***, bitcoin appears to be rapidly unwinding early summer gains. We suspect many millennials are experiencing their first gut-wrenching encounter with market speculation.

Figure 2: Performance of Bitcoin (7/15/16-7/17/17) [Bloomberg]

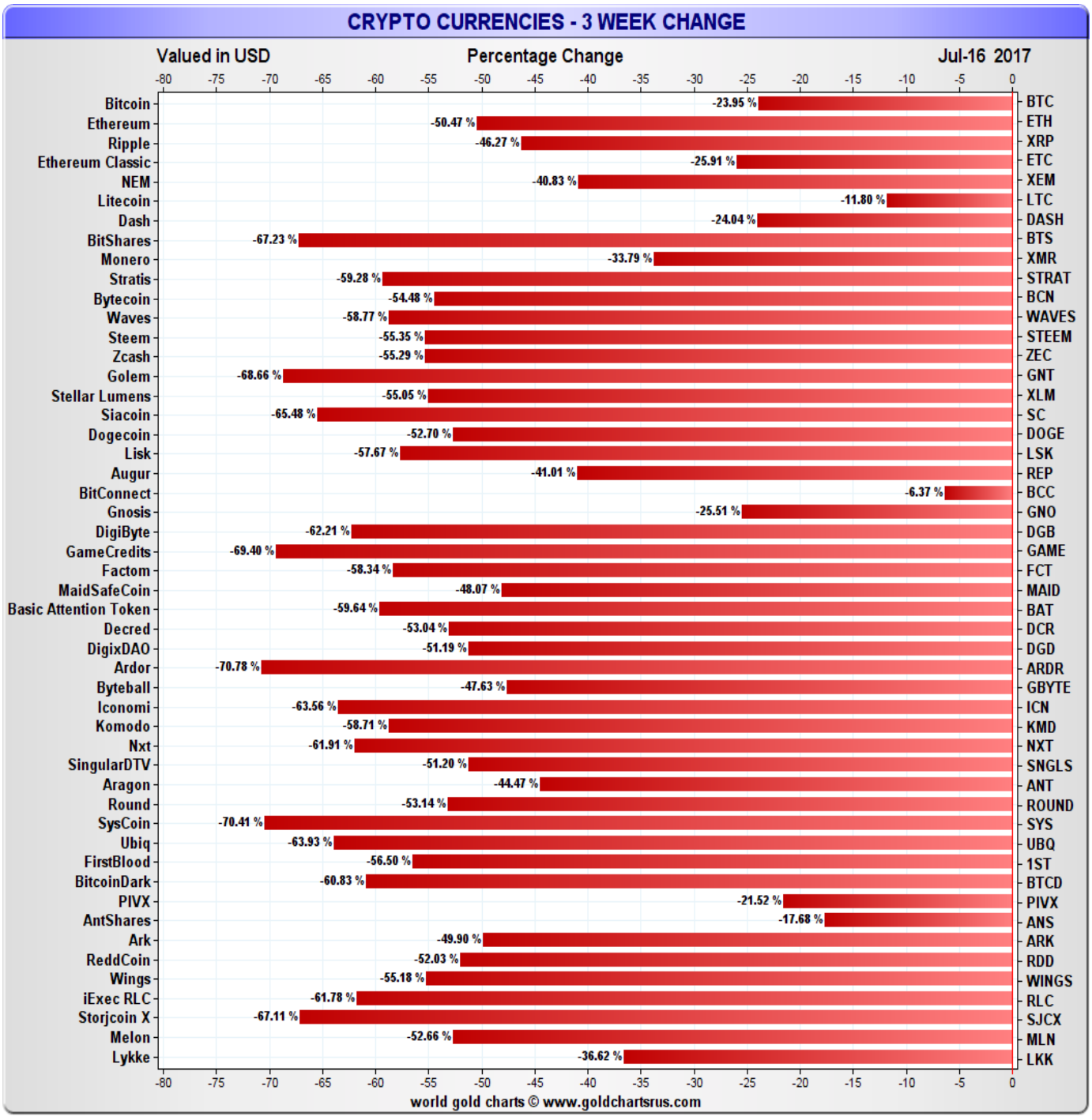

Figure 1: Three-Week Historical Price Performance of the 50 Largest Cryptocurrencies by Market Capitalization (7/16/17) [Nick Laird]

Our final observation about the volatility and shallow depth of cryptocurrency markets is to highlight the flash-crash of the ***second leading*** crypto brand, ethereum on 6/22/17. On that afternoon, apparently catalyzed by a $30 million market-sell-order, and then a cascade of over 800 stop-loss orders, ether units briefly crashed from $315 to $0.10 (on very high volume) on leading cryptocurrency exchange GDAX. Of course, since the beauty of the blockchain is that all transactions are pseudonymous, verified, and ***irreversible***, there was no NYSE floor governor to wander over to a post, investigate the matter and cancel trades. What's done is done! Curious about the sudden dip in the entire crypto class during the ethereum fiasco, we ventured to the web for a little color. Because established investment banks don't comment much on day-to-day crypto developments, we cite the ethereum reddit posting of a user named "emansipater" to shed some light on developments:

> The badly designed Status ICO [Initial Coin Offering] clogged up the network yesterday with a huge number of high gas fee transactions, most of which are failing but still filling up the blocks and preventing normal tx's from getting in. In addition, dwarfpool [sic] and perhaps others have set bad defaults on their client software that both actually cost themselves money and also prevent the network from automatically adapting to larger gas volumes the way it's supposed to. Furthermore, evidence is accumulating that f2pool [sic] was actively manipulating transactions bound for the Status ICO, which they participated in themselves, exacerbating the problem. Experts explained weeks ago that bad ICO designs are vulnerable to such attacks, but this appears to be the first time it was actually executed in the wild. So now, even though the Status ICO is over, there are still a huge number of transactions clogging up the network and the only way to get transactions in is to pay huge fees (which most of the exchanges probably don't want to do). Until it clears out, people are going to be missing ENS auctions, unable to withdraw from many wallets and exchanges, etc., etc., etc.

Does this narrative evoke store of value? To us, this just sounds a lot like human beings being human beings.

Safety

For thousands of years, gold has been an alluring target for plunder and theft. Just this past March, thieves used a ladder, a rope and a wheelbarrow to cart away a $4.2 million, 100kg (220lbs), 24-karat gold coin from an apparently lightly-guarded Berlin museum. To most individual or institutional investors, however, there exist a full range of bulletproof options for bullion safekeeping, from one-ounce coins (safe-deposit boxes) to 400-ounce bars (vault networks). In contrast, bitcoin still presents nettlesome hurdles for safekeeping. As infallible as blockchain code may be, bitcoin storage methods still involve a wide range of internet-type vulnerabilities. The most infamous bitcoin loss was the theft of 850,000 bitcoin (valued at $450 million) from Mt. Gox in February 2014. At the time of the theft, Mt. Gox was by far the largest exchange for bitcoin trading, handling up to 80% of daily volumes. While 200,000 bitcoin were subsequently recovered from a cold storage wallet (think "memory stick"), Mt. Gox proprietor Mark Karpeles (once referred to as the king of bitcoin) just pled not-guilty on 7/11/17 as his embezzlement trial began in Tokyo District Court. Stay tuned for interesting crypto-market-moving trial developments related to this infamous bitcoin mystery.

Trust

In a seminal New York Times Op Ed on bitcoin's relevance (https://dealbook.nytimes.com/2014/01/21/why-bitcoin-matters/), Marc Andreessen suggests that the truly disruptive breakthrough of bitcoin is that its technology enables a "distributed network of trust" in which the blockchain allows "one Internet user to transfer a unique piece of digital property to another Internet user, such that the transfer is guaranteed to be safe and secure." In essence, the blockchain empowers trust in substitute for knowledge of counterparties. This trust element is absolutely the key in enabling decentralized commerce, eliminating legacy needs for traditional trust-providers such as banks and credit card companies (which charge high fees and are increasingly hacked). We concede that the level of trust provided by the blockchain may be sufficient for speculative transactions such as flipping around bitcoins for a profit. However, we believe that for bitcoin (and the blockchain) to reach full potential, an element of institutional trust and oversight will eventually be required. Of course, to many bitcoin enthusiasts, introduction of such conventional oversight is anathema to bitcoin's *raison d'etre.*

Gold, on the other hand, is an investment asset with a strong legacy of trust and oversight. Gold coins and gold bars are minted and refined to precise parameters for size, weight and purity. Institutional volumes of bullion are generally stored in the literal epitome of trustworthiness: impenetrable vaults. Similarly, individual investors generally store their gold bullion at repositories which have earned their utmost confidence, such as local banks or established bullion custodians. To us, the blockchain will never inspire widespread investor trust until some form of institutional oversight is introduced.

Whatever trust exists in the bitcoin network today relies on the dependability of the laws of math. A strong investment cue for bitcoin investors is clearly their lack of confidence in the human frailties of fiat-currency stewards. In essence, the laws of math enforce the scarcity of bitcoin, while the laws of nature enforce the scarcity of gold bullion. However, an interesting example of how the concept of trust affects bitcoin and gold differently is the ongoing race to combine the two mediums into a digital gold currency. We believe the success of a gold-backed cryptocurrency depends on the centralized, institutional component of a custodian at which the physical gold will be stored, audited and regulated. Indeed, the physical gold component actually ***precludes*** the decentralized, peer-to-peer spirit of bitcoin. At the same time, it is just this centralized oversight which places gold ownership in an entirely different class of trust than bitcoin will ever command.

Scale

An intellectually attractive aspect of bitcoin's design is its strictly limited supply. Bitcoin's total circulation is hard-capped at 21 million units. As of 7/15/17, bitcoin in circulation totaled 16.5 million units. At current mining run-rates, the bitcoin computer network mints 12.5 new bitcoins every ten minutes, or 1800 new units per day, or 657,000 per year. This implies a current annual inflation rate of just below four percent. Interestingly, embedded programming in the bitcoin network halves the rate of bitcoin creation every four years, with the next 50% reduction occurring June 2020. Strict limits on the amount of potentially issued bitcoin lend a discipline and scarcity-value to bitcoin notably absent from global fiat regimes. Indeed, bitcoin enthusiasts suggest bitcoin's comparable scarcity makes it a more compelling store of value than gold.

We offer two thoughts about bitcoin's scarcity-value relative to gold. First, bitcoin's meteoric price appreciation ($1,000 worth of bitcoins in July 2010 were worth $60 million on 6/12/17) has spawned one of the fastest growing "industries" of competing products we have ever witnessed. As of 7/15/17, crypto-monitoring website coinmarketcap.com reports the total number of cryptocurrencies and crypto asset-tokens had ballooned to ***973!*** Total crypto-market-capitalization now registers just under $75 billion (of which bitcoin registers just under $35 billion). Hedge Fund Alert reports (7/12/17) that the number of cryptocurrency ***hedge funds*** is fast approaching ***forty!*** In short, while the ultimate number of bitcoins may be limited in supply, there is absolutely no limit to competing cryptocurrencies.

Second, while bitcoin may represent an attractive portfolio diversifier for individual investors, its relatively tiny market capitalization is unlikely ever to compete with the depth and liquidity of gold markets, in which the above-ground stock totals roughly $7 trillion (minus always fungible jewelry and central bank holdings, roughly $2.7 trillion).

Looking Forward

One aspect to gold's value as both a monetary reserve and a portfolio-diversifying asset is the high degree of visibility into gold's future market fundamentals. The above-ground gold stock is quite large and extremely stable, annual mine production measures only 1.6% of the above-ground supply and no product or asset can conceivably replicate all of gold's functional attributes. Bitcoin, on the other hand, may not even make it another month without significant changes to its network composition. In essence, after years of private bickering, two rival factions of crucial bitcoin network operators must choose by 8/1/17 between two competing software paths. Bloomberg (7/10/17) provides invaluable scope and clarity to the crux of the biscuit:

> Behind the conflict is an ideological split about bitcoin's rightful identity. The community has bitterly argued whether the cryptocurrency should evolve to appeal to mainstream corporations and become more attractive to traditional capital, or fortify its position as a libertarian beacon; whether it should act more as an asset like gold, or as a payment system. The seeds of the debate were planted years ago: To protect from cyberattacks, bitcoin by design caps the amount of information on its network, called the blockchain. That puts a ceiling on how many transactions it can process -- the so-called block size limit -- just as the currency's growing popularity is boosting activity. As a result, transaction times and processing fees have soared to record levels this year, curtailing bitcoin's ability to process payments with the same efficiency as services like Visa Inc. To address this problem, two main schools of thought emerged. On one side are miners, who deploy costly computers to verify transactions and act as the backbone of the blockchain. They're proposing a straightforward increase to the block size limit. On the other is Core, a group of developers instrumental in upholding bitcoin's bug-proof software. They insist that to ease blockchain's traffic jam, some of its data must be managed outside the main network. They claim that not only would it reduce congestion, but also allow other projects including smart contracts to be built on top of bitcoin.

Perhaps in recognition of ethereum's recent challenge to bitcoin's lead status, the two rival bitcoin factions in June seemed to coalesce around a compromise software offering named SegWit2x, in exchange for general agreement to double the block size limit. The new software is released on 7/21/17, and then it will be white-knuckle time in the bitcoin community for about ten days, as respective network operators choose whether to adopt the new software. On 8/1/17, the UASF (User Activated Soft Fork) faction, the hardliners, will begin to poll adoption of the new software. If fewer than 80% of network operators adopt, there will likely be a hard-fork, splitting the bitcoin blockchain into two parallel blockchains, in essence into two versions of bitcoin. Arthur Hayes, proprietor of Hong Kong bitcoin derivatives venue BitMEX sums our thoughts perfectly, "It's a high-stakes game of chicken."

Our strong suspicion is that the various factions of bitcoin operators will "get it together" between now and month-end. It certainly appears in their collective interest to do so. We look forward to observing both these developments as well updates from the Mt. Gox Tokyo trial. It is a pregnant time for bitcoin and cryptocurrencies in general. If nothing less, we expect these developments to foster wider investor appreciation of the ephemeral nature of individual cryptocurrency protocols. In the meantime, as the Fed turns its attention to the potentially stifling effects of their recent rate hikes on deteriorating U.S. economic activity, we remain confident our precious-metal positions will serve us well in coming quarters.

Sincerely,

Trey Reik
Senior Portfolio Manager
Sprott Asset Management USA, Inc.
(203) 656 2400

This report is intended solely for the use of Sprott Asset Management USA Inc. investors and interested parties. Investments and commentary are unique and may not be reflective of investments and commentary in other strategies managed by Sprott Asset Management USA, Inc., Sprott Asset Management LP, Sprott Inc., or any other Sprott entity or affiliate. Opinions expressed in this report are those of a Senior Portfolio Manager of Sprott Asset Management USA Inc., and may vary widely from opinions of other Sprott affiliated Portfolio Managers.

This information is for information purposes only and is not intended to be an offer or solicitation for the sale of any financial product or service or a recommendation or determination that any investment strategy is suitable for a specific investor. Investors should seek financial advice regarding the suitability of any investment strategy based on the objectives of the investor, financial situation, investment horizon, and their particular needs. This information is not intended to provide financial, tax, legal, accounting or other professional advice since such advice always requires consideration of individual circumstances. The investments discussed herein are not insured by the FDIC or any other governmental agency, are subject to risks, including a possible loss of the principal amount invested.

Generally, natural resources investments are more volatile on a daily basis and have higher headline risk than other sectors as they tend to be more sensitive to economic data, political and regulatory events as well as underlying commodity prices. Natural resource investments are influenced by the price of underlying commodities like oil, gas, metals, coal, etc.; several of which trade on various exchanges and have price fluctuations based on short-term dynamics partly driven by demand/supply and also by investment flows. Natural resource investments tend to react more sensitively to global events and economic data than other sectors, whether it is a natural disaster like an earthquake, political upheaval in the Middle East or release of employment data in the U.S. Past performance is no guarantee of future returns. Sprott Asset Management USA Inc., affiliates, family, friends, employees, associates, and others may hold positions in the securities it recommends to clients, and may sell the same at any time.

All figures in this report are expressed in U.S. dollars unless otherwise noted.