Bitcoin and Blockchain: Risk and Opportunity

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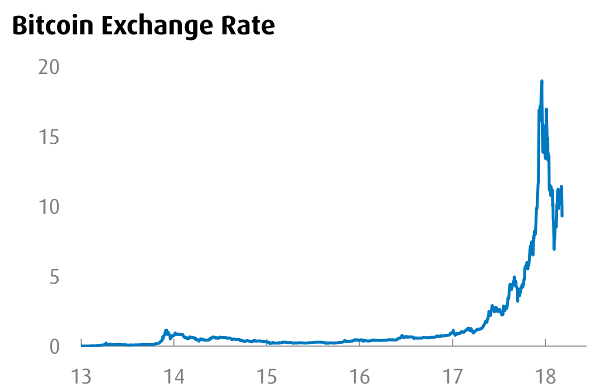
Bitcoin—the first decentralized digital currency—was worth less than a penny in 2009, zoomed to US$19,000 in December 2017, before plunging below $7,000 earlier this year (*Chart 1*). That's volatility with a capital V, sending enthusiasts on a wild ride. With the currency garnering more investor attention, it's important to understand the reality behind cryptocurrencies, including how they function and potential risks.

Bitcoin and Blockchain: Not One and the Same

Crucially, investors must distinguish between blockchain—the platform behind the currency—and bitcoin itself. As a decentralized, online ledger, **blockchain is a technology many analysts say will thrive.** It promises lower costs, greater efficiencies and faster processing times for recording transactions than current systems. Using cryptology to secure transactions makes it less prone to fraud. Banks, governments and the real estate industry are just a few players seeking to reap benefits. But blockchain can run on any currency—including fiat currencies. Simply put, **bitcoin needs blockchain, not the other way around**.

Chart 1
Over the Waterfall

(US$000s/Bitcoin : as of March 8, 2018)



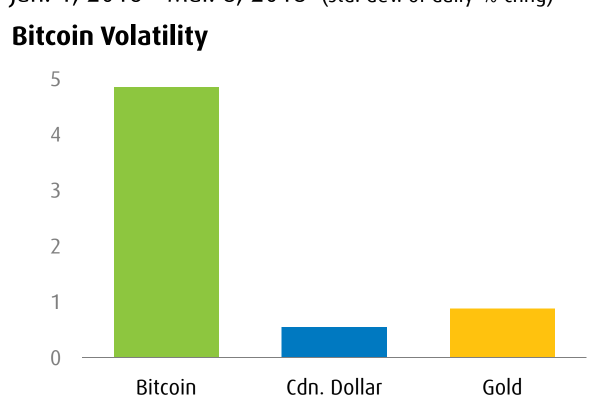
Sources: BMO Economics, Haver Analytics, CoinDesk

Bitcoin through an Economist's Lens

Bitcoin—along with the hundreds of other digital currencies that have mushroomed in the past year—is **not a true currency in the conventional sense**. Although it is used to purchase goods from some retailers and to transfer funds between countries, it has **no inherent value**. Unlike assets such as stocks, bonds or real estate, bitcoin doesn't generate earnings, income or rents. This means it lacks the foundation for appraising its value. Bitcoin is simply worth what buyers and sellers think it will be worth in the future. In this sense, the price of bitcoin has become completely detached from a valuation framework. This contrasts with fiat currencies, which are tethered to economic fundamentals and backed by governments and taxpayers. For example, Canadian dollar holders can appraise its value by comparing retail prices in Canada and the U.S. If prices are higher in Canada, the currency should (at least in theory) depreciate to equalize purchasing power in the two countries. Economic shocks could push the currency away from so-called "fair value", but eventually it should gravitate back when the shock fades.

Chart 2
Store of Value?

Jan. 1, 2016 – Mar. 8, 2018 (std. dev. of daily % chng)



Sources: BMO Economics, Haver Analytics, CoinDesk

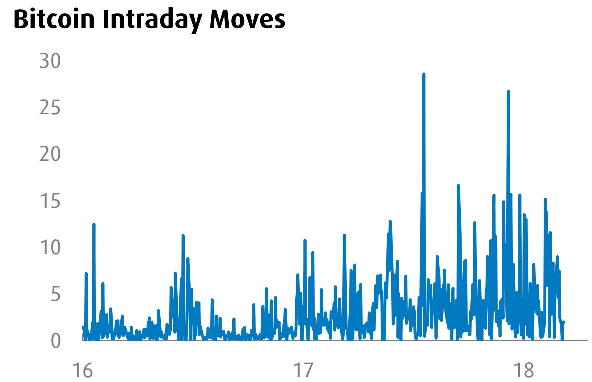
Lacking intrinsic value, bitcoin is **highly vulnerable to shifts in investor sentiment.** This is evidenced by its wide price variation between countries and even exchanges. Consequently, bitcoin is too volatile to be used as a store of value (*Chart 2*). For example, if half its value was lost overnight, investors wouldn't know whether it is now undervalued and worth buying. Conversely, if a company's share lost half its value due to a "flash crash", buyers would likely rush in, believing the stock is now attractive relative to earnings.

Bitcoin's **excessive volatility also greatly limits its use as a means of transaction**. Intraday price swings in excess of 10% are far from rare (*Chart 3*). It tends to swing by more than 5% once every three days. Compare this to the C$/US$ exchange rate, where intraday moves of even 2% or more are rare, occurring on just a handful of occasions in the past seven years. Thus, retailers transacting in bitcoin assume a meaningful risk of losses, unless they immediately convert it to fiat currency.

Chart 3

Bumpy Ride

(% of daily high from open : as of March 8, 2018)



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Currency **risk is amplified by lengthy transaction times**, which can take several days if a customer balks at paying fees. The latter, as well, can be highly volatile, rising as high as US$55 in December before settling just above $2 in February. This is hardly an ideal payment system for any business. Unlike traditional payment systems, fees can be highly affected by speculative trading activity and market volatility, dragging transactional users and businesses into the fray and effectively freezing the market as trading positions are settled (the infamous Miami bitcoin conference that wouldn't accept bitcoin comes to mind).

Widespread acceptance of bitcoin could undermine the economy. Its previous soaring price implied one of the greatest deflationary episodes of all time (as the price of goods in terms of bitcoin fell), while its more recent sharp pullback was the opposite (i.e., it now takes more bitcoin to purchase the same amount of goods as before). Rather than providing a neutral means of exchange, bitcoin could have real world consequences for spending and production if it gained widespread use.

Is It a Bubble?

From our standpoint, **persons *investing* in bitcoin are speculating**, buying and holding because they believe its price will rise—the textbook definition of a bubble. In fact, a recent report by Convoy Investments[1] compared bitcoin's price performance to some of the biggest market bubbles in history, including tulip-mania. Despite losing two-thirds of its value at one point recently, bitcoin's price remains 9-times higher than a year ago. In our view, a significant portion of the market is governed by a "buy-and-hoard" mentality, which lends support but could change abruptly. Ownership is concentrated, with 1,000 users said to own 40% of all bitcoin. If the "whales" sell, prices could plunge.

Looking Ahead

Investors should be aware that there are over a thousand cryptocurrencies, each running on an entirely different network and created for its own unique purpose. One can **expect further proliferation**. After all, since blockchain technology is open-source and replicable, it can be used to run any digital currency. In truth, there's nothing to prevent central banks from inventing their own digital currency.

Buyer considerations:

No inherent value – only worth what buyers and sellers think it is worth.

High transaction fees – as much as $50 per transaction during peak periods.

Expensive system – verifying transactions and mining new coins are resource-intensive and require high electricity usage.

Myth of limited supply – two other variations of bitcoin exist (bitcoin cash and bitcoin gold), and more could be produced—not to mention the many other cryptocurrencies already in existence.

Unregulated and subject to fraud and hacking –the blockchain ensures intermediary-less transactions, but does not preclude a user from being defrauded by an unscrupulous counterparty. Indeed, some exchanges have been hacked, wiping out user holdings.

[1] https://www.marketwatch.com/story/why-bitcoin-is-now-the-biggest-bubble-in-history-in-one-chart-2017-12-13

Many investors believe that, if blockchain technology prospers, so too will bitcoin, thereby raising its value. But remember, the blockchain doesn't need bitcoin to survive. Moreover, the bigger cryptocurrencies become, the **more likely they will be subject to regulation** to limit their impact on the financial system and fiscal revenues. The growing use of cryptocurrencies could also complicate monetary policy, since the central bank would not have a reliable measure of, and control of, the money supply. The risk for cryptocurrencies is that if a portion of their value is based on the desire for anonymity, then a pronounced shift in the regulatory climate could slice valuations. Indeed, this exact scenario played out in South Korea, where bitcoin's "Kimchi premium" has all but evaporated as regulators tightened their grip. And just this week, the U.S. Securities and Exchange Commission issued strong warnings about the risks of using cryptocurrency exchanges and potential regulatory requirements for operators of the exchanges. The announcement sent bitcoin's price skidding 10% lower.

Unlike cryptocurrencies, blockchain technology functions on its own merit. As a secure, transparent means of verifying payments, major banks are looking at blockchain as an opportunity to supplant portions of their existing infrastructure. Other companies are developing blockchain systems to track ownership of assets, keep healthcare records, and even improve voting systems. Investors would be wise to keep a watchful eye on companies developing and adopting this technology.

Bottom Line: For those looking to "invest" in cryptocurrencies, we'd cite the age-old adage: In gambling, many must lose for the few to win. A better bet is to stick with companies that are developing the decentralized digital ledgers running these casinos.