

Bitcoin, Cryptocurrencies and Blockchain

A Technology and Financial Services Sector Report

Edward Jones' Policy on Cryptocurrency:

- We continue to believe cryptocurrencies are highly speculative.
- Edward Jones does not offer a way to purchase or hold cryptocurrencies, or futures contracts on cryptocurrencies.
- Edward Jones does not offer a way to purchase cryptocurrency-related funds, ETFs or ETNs that own cryptocurrencies directly.

Companies mentioned in this report:

Facebook (FB - \$251.64; BUY)

PayPal (PYPL - \$244.90; BUY)

Prices and opinion ratings are as of market close on 01/13/21 and subject to change. Source: Reuters.

For more information:

Individuals can obtain the full research report with full disclosures on any of the companies mentioned in this report by contacting a local Edward Jones advisor, or write to: Edward Jones, 90 Burnhamthorpe Road West, Sussex Center, Suite 902, Mississauga, ON L5B 3C3. Information about research distribution is available through the Investments & Services link on www.edwardjones.ca.

The price of Bitcoin has once again accelerated as investors look for a potential hedge against inflation. While its gain of more than 300% in 2020 is nowhere near the 1,200% gain Bitcoin realized a few years ago, its recent momentum is generating financial headlines on a regular basis. We continue to view Bitcoin and other cryptocurrencies like Ethereum and XRP as high-risk, speculative investments that have been repeatedly linked to illegal activities like money laundering. In addition, these digital assets lack key characteristics that typically provide a more steady and predictable price pattern, such as stable long-term supply-and-demand dynamics and transparent regulatory oversight. **We continue to believe prices for cryptocurrencies will remain extremely volatile for the foreseeable future, and we view any investment in cryptocurrencies as highly speculative at this time.**

Why is Bitcoin on the rise?

Although the driving forces behind Bitcoin's recent price appreciation are not totally clear, the media has attributed the increase to the following:

- The market is seeking Bitcoin as an inflation hedge. Unlike many major global currencies (including the U.S. dollar), Bitcoin has a fixed supply of 21 million units.
- Large digital payment companies like Paypal (which includes Venmo) and Square are now accepting bitcoin as a form of payment/exchange on their platforms.
- Data analytics firm Micro Strategy Inc. recently bought \$500 million worth of bitcoin, representing almost 50% of its total assets. The stock jumped 23% over the course of two days in response to this news.

We believe Bitcoin's price will remain highly volatile

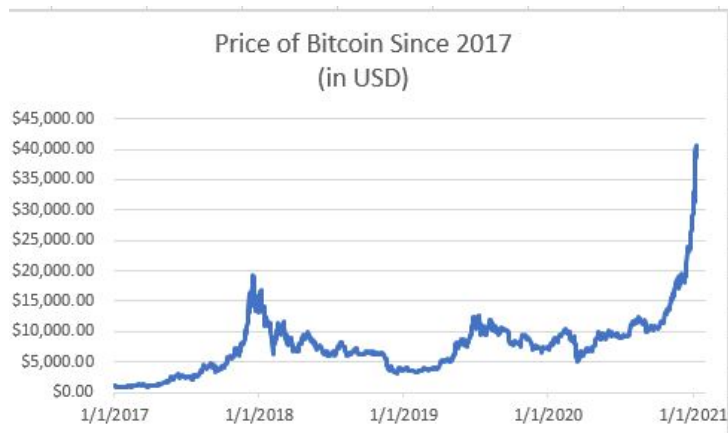
After rising over 1,200% in one year to just over \$19,000 per bitcoin, the cryptocurrency cratered the following year, dropping 84% to \$3,200 per bitcoin (see Figure 1). Bitcoin's rise in 2017 far surpassed previous bubble peaks, such as the dot-com bubble of the late 1990s and the U.S. housing-market bubble of the late 2000s. We believe Bitcoin's subsequent price volatility will continue for the foreseeable future given the significant risks associated with cryptocurrencies.

Risks to investing in bitcoin and other cryptocurrencies

Unlike an investment in a stock or mutual fund, there are no underlying fundamentals (cash flows, profits, etc.) to support the valuation of any given cryptocurrency. Other risks include price manipulation by unknown market participants, the potential for government interference, and competition from other cryptocurrencies.

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Please see important disclosures and analyst certification on pages 3 - 4 of the report.

Figure 1. Bitcoin price volatility

Sources: CoinDesk.com. Past performance is no guarantee of future results. Bitcoin's last price is as of January 10, 2021.

Blockchain facilitates online transactions

Bitcoin is the product of a technology called blockchain. The original intent of blockchain was to enable peer-to-peer digital payments that do not require a trusted third party, such as a financial institution. The problem blockchain solves is assuring the recipient of a digital asset that the asset is wholly transferred (as opposed to copied and then transferred), thereby eliminating the possibility of digital double-spending. Blockchain thus removes the need for a third party to verify peer-to-peer digital transactions.

A trust protocol for online transactions

On January 3, 2009, a person (or group of persons) under the pseudonym Satoshi Nakamoto launched the Bitcoin blockchain computer network. The original design of the network was to enable peer-to-peer digital payments that do not require a trusted third party, such as a payment network or financial institution.

Blockchain itself has many potential applications

By removing the need for a central authority to verify online transactions, blockchain allows for the exchange of digital value directly and securely. Thus, blockchain technology has many potential applications, including 1) regulatory recordkeeping of any sort (health history, land title, etc.), 2) financial transactions or transfers of value (payments, loans, etc.), 3) personal control of online identity, 4) supply-chain optimization, and 5) consumer-royalty programs.

Blockchain mechanics (how it actually works)

Blockchain is a digital ledger, or record, of

transactions managed by a decentralized network of computers. Each computer on the network has a copy of the ledger. In order to make a ledger entry, a special type of computer ("miner") must solve a mathematical puzzle and, in doing so, expend energy in the form of electricity. For a set of ledger entries ("block") to be successfully added to the blockchain, all computers on the network must agree that the entries are accurate, which they are able to do because they each have a copy of the ledger. If they all agree, then the block will be added, and the miner is rewarded in the form of bitcoin. If not, the miner has expended useless energy. In this way, miners are incentivized to add valid transactions to the ledger, removing the need for a central trust authority.

Risks to investing in cryptocurrencies

While blockchain solves an important technology problem, the value of any given cryptocurrency remains highly uncertain. Cryptocurrencies such as Bitcoin, Ethereum and XRP have all exhibited significant price fluctuations due to these high levels of uncertainty. In addition to price risk, there are other risks to investing in cryptocurrencies, such as loss of the device storing the digital asset, potential for government interference, competition from other cryptocurrencies, and lack of historical track record. Also, cryptocurrencies are not common stocks of companies and do not trade on stock exchanges. Edward Jones does not offer a way to purchase or hold cryptocurrencies, or future contracts on cryptocurrencies. It's also important to note that money launderers and other criminal organizations often use cryptocurrency to launder illicit funds. Finally, each cryptocurrency is unique and claims to offer some sort of service or utility to the market. However, not all, if any, will be useful or valuable in the future. Unlike an investment in a stock or mutual fund, there are no underlying fundamentals (cash flows, profits, tangible assets, etc.) to support the valuation.

Be aware of companies taking advantage

Several small publicly traded companies have recently rebranded their businesses to take advantage of the growing interest in cryptocurrency, even though their actual underlying business strategies have little or nothing to do with blockchain technology or cryptocurrencies.

Facebook announces Libra cryptocurrency

Facebook announced that it has formed a new subsidiary, Calibra, which has developed a blockchain-based cryptocurrency called Libra. The Libra electronic currency will not be controlled by Facebook, but will be run by the nonprofit Libra Association that has been formed by Facebook, along with 27 other companies and organizations. The Libra will be backed by bank deposits and government securities to help reduce volatility in the cryptocurrency's value. The Calibra subsidiary will operate a digital wallet in which users can store their Libra currency and make payments electronically, both online and in physical stores. Calibra will be operated separately from Facebook's other businesses, and data related to a user's digital wallet will not be shared with Facebook's other applications unless authorized by the user. Recently, Mastercard, Paypal and Visa have all signaled that their interest in participating in Libra is declining due to the overall challenges of starting a new currency.

What is Edward Jones' guidance?

While we believe blockchain technology has significant promise, we view any investments in cryptocurrencies as highly speculative. We recommend following time-tested investment principles and avoid letting the "fear of missing out" impact your long-term investment strategy.

Please see the individual research reports for additional information, including disclosures, analyst certifications, valuation and risks specific to each company.

Analyst Certification

I certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers; and no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in the research report.

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Required Research Disclosures

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Buy (B) - We believe the valuation is attractive and total return potential is above average over the next 3-5 years compared with industry peers.
 Hold (H) - We believe the stock is fairly valued and total return potential is about average over the next 3-5 years compared with industry peers or a special situation exists, such as a merger, that warrants no action.
 Sell (S) - We believe the stock is overvalued and total return potential is below average over the next 3-5 years compared with industry peers. In

some cases we expect fundamentals to deteriorate considerably and/or a recovery is highly uncertain. FYI - For informational purposes only; factual, no opinion.

The table below lists the percent of stocks we follow globally in each of our rating categories. Investment banking services indicate the percentage of those companies that have been investment banking clients within the past 12 months. As of: January 14, 2021

	BUY	HOLD	SELL
Stocks	54%	45%	2%
Investment Banking Services	4%	2%	0%

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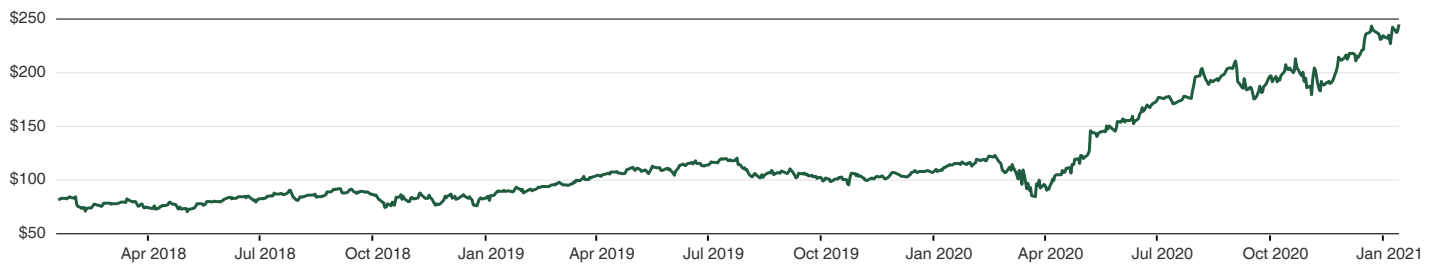
Member - Canadian Investor Protection Fund

3-Year Rating and Price History for: Facebook (FB.O) as of 01/13/2021



Source: Reuters

3-Year Rating and Price History for: PayPal (PYPL.O) as of 01/13/2021



Source: Reuters