

Bitcoin's Quantitative Tightening vs. Central Banks' Quantitative Easing

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As the world grapples with COVID-19, it's important for investors to understand the effects of government monetary and fiscal intervention, particularly in the context of digital currencies like Bitcoin and the unique attributes they possess. When governments enact quantitative easing ("QE") and increase the money supply, the associated fiat currency depreciates in value. In contrast, an asset like Bitcoin experiences a quantitative tightening (or reduction) of new supply as halving events programmatically decrease the number of new Bitcoin entering circulation, a feature native to the digital protocol.

In this report, we'll explore the rapidly changing and unprecedented market dynamics in the wake of the COVID-19 pandemic, a unique backdrop for Bitcoin's third halving event in May 2020. Investors must now navigate a new market paradigm, driven by the most aggressive monetary and fiscal stimulus in the last century, let alone since Bitcoin was created.

A Fragile Global Economy

US Treasuries are often viewed as a safe haven in times of market dislocation. However, in March 2020, fears of COVID-19's global impact spawned a massive sell-off; historical norms were challenged as equities, gold, Bitcoin, and even US Treasuries all suffered in what can be summarized as a structural deleveraging and a rush to US dollars.

This deleveraging further exposes a global dollar shortage. Approximately \$60 trillion of US dollar denominated debt (demand) is held globally relative to a monetary base (supply) of around \$4.5 trillion.¹ The dollar deficit combined with the recent surge in dollar demand effectively increases the cost of holding US dollar denominated debt and puts pressure on investors to sell.

1. Source: Statistical release: BIS global liquidity indicators at end-March 2019. July 31, 2019. <https://www.bis.org/statistics/gli1907.pdf>



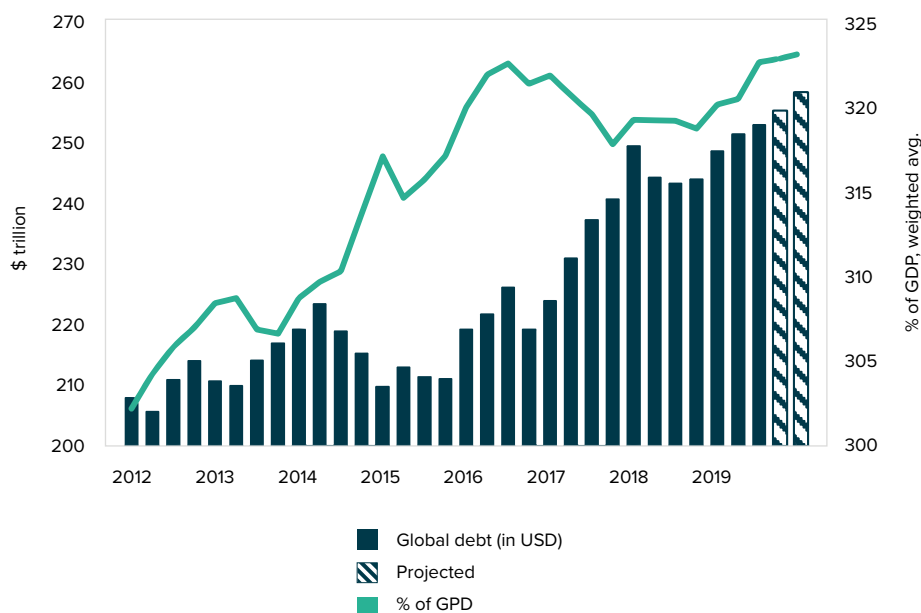
In line with the rest of the world, US GDP is projected to contract substantially while unemployment surges.² Companies that were highly leveraged don't have ample cash reserves to survive a material revenue shortfall. On top of the aforementioned factors, WTI crude oil prices fell to 20-year lows.³ This puts additional strain on high cost oil producers like the US.⁴ Moving forward, decreased revenue across industries, high levels of unemployment, and historically low oil prices could stimulate a deflationary spiral on \$255 trillion in global debt.⁵

In response, we are experiencing the beginnings of aggressive central bank intervention, highlighting the fragility of the interconnected global financial system.

Printing Our Way Out of COVID-19

To ease the shock on falling asset prices, save businesses on the brink of default, and support the newly unemployed, central banks are injecting enormous levels of monetary and fiscal stimulus into the system. With global debt at \$255 trillion or 322% of global GDP, it's unlikely that these accommodative policies will ever be reversed.

FIGURE 1: **GLOBAL DEBT HITS A FRESH RECORD OF 322% OF GDP**⁶
2012 - Q1 2020



2. Source: World Economic Outlook, April 2020: Chapter 1: The Great Lockdown. <https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020>
3. Source: Crude Oil Prices - 70 Year Historical Chart. <https://www.macrotrends.net/1369/crude-oil-price-history-chart>
4. Source: Cost Of Oil Production By Country. <https://knoema.com/vyronoe/cost-of-oil-production-by-country>
5. Source: Global Debt Monitor. January 13, 2020. Emre Tiftik, Khadija Mahmood, Jadranka Poljak https://www.iif.com/Portals/0/Files/content/Global%20Debt%20Monitor_January2020_vf.pdf
6. Source: Global Debt Monitor. January 13, 2020. Emre Tiftik, Khadija Mahmood, Jadranka Poljak https://www.iif.com/Portals/0/Files/content/Global%20Debt%20Monitor_January2020_vf.pdf



In the weeks following the massive COVID-19-related sell off, the Federal Reserve cut rates to zero, announced a commitment to purchase Treasuries and mortgage-backed securities “in the amounts needed,” and launched a facility to buy junk bonds.⁷

Additionally, Congress passed a \$2 trillion stimulus bill with packages for big businesses, small businesses, public services, local and state governments, and individuals. As part of this relief package, \$25 billion in direct cash grants have been earmarked for passenger airlines, only 30% of which will be repaid.⁸

The speed and magnitude of this monetary intervention is extraordinary. During QE1, from November 2008 to March 2010 (a span of 16 months), the Fed added \$1.5 trillion to its balance sheet.⁹ In comparison, at the time of writing, the Fed has added over \$2 trillion in less than 2 months. While it may not be reflected in decreased purchasing power quite yet, monetary inflation is accelerating. One way this is reflected is in the growth of M2 money supply which measures the M1 money supply (demand deposits and checking accounts) as well as savings deposits and money market funds. Figure 2 shows the year-over-year change in M2. However, it's worth noting that despite this exceptional increase, this measure does not necessarily indicate devaluation of the dollar, especially in light of deflationary market forces mentioned earlier.

FIGURE 2: **M2 MONEY SUPPLY, YEAR-OVER-YEAR CHANGE**¹⁰
NOVEMBER 2, 1981 – MARCH 30, 2020



7. Source: Federal Reserve issues FOMC statement. March 23, 2020. <https://www.federalreserve.gov/newsevents/pressreleases/monetary20200323a.htm>; Secondary Market Corporate Credit Facility. April 9, 2020 <https://www.federalreserve.gov/newsevents/pressreleases/files/monetary20200409a2.pdf>
8. Source: Wall Street Journal. Treasury, Airlines Reach Agreement on Coronavirus Aid. April 14, 2020. Alison Sider, Kate Davidson. https://www.wsj.com/articles/treasury-airlines-reach-agreement-on-aid-11586898079?mod=article_inline
9. Source: Chronology of Fed's Quantitative Easing. <https://www.yardeni.com/chronology-of-feds-quantitative-easing/>
10. Source: Federal Reserve Bank of St. Louis. <https://fred.stlouisfed.org/series/M2>



QE cannot be reversed without incurring the deflation it is intended to combat. Just as QE increases the price of assets through the creation of money, any reduction in that money supply causes asset prices to go down. Although central bank printing is intended to kickstart the global economy, it cannot be sustained perpetually without negative repercussions to the fiat currencies these same banks are responsible for administering. We've witnessed countless examples of currency debasement and subsequent hyperinflation, both in the US and abroad, including the Confederate States dollar as well as more recent examples such as the Argentinian Peso, the Venezuelan Bolivar, and the Zimbabwean dollar.¹¹

Historically, governments have continued to exercise monetary and fiscal stimuli until the tools no longer work, highlighting that currency debasement is the path of least resistance. It is crucial to be mindful of the risk of monetary debasement and for investors to take action on ways to hedge their exposure and build more resilient portfolios. The increasing probability of fiat currency debasement reinforces the value of alternative money that is less susceptible to government or central bank policies.

Next, we highlight several tools investors may use to insulate their portfolios during times of uncertainty, and we evaluate how these tools may fare in light of aggressive monetary and fiscal stimulus.

Investment Options Amid Economic Uncertainty

Fiat Currencies

Investors often flock to cash during times of uncertainty, however, fiat currencies risk being devalued as central banks rapidly print money. The current exception is the strong US dollar, which is the world's reserve currency supported by the US economy, one of the strongest globally. Most importantly, there is over \$60 trillion of US dollar denominated debt, which means servicing that debt drives up dollar demand. A strong US dollar could further destabilize global assets and cause a deflationary spiral. As mentioned, the Federal Reserve is enacting aggressive policy to combat this deflation risk. In doing so, the Fed runs the risk of overshooting their target, devaluing the dollar, and breaking faith in the monetary system.

Government Bonds

Investing in or holding government bonds has long been considered a safe haven, but the proliferation of negative interest rates and accelerated money printing may place these investments under stress. US Treasuries, which have higher yields relative to the rest of the world, are also in jeopardy as

¹¹ Source: Confederate States Dollar. April 23, 2020. https://en.wikipedia.org/wiki/Confederate_States_dollar; Argentine peso. April 23, 2020. https://en.wikipedia.org/wiki/Argentine_peso; Venezuelan bolivar. April 23, 2020. https://en.wikipedia.org/wiki/Venezuelan_bol%C3%ADvar; Zimbabwean dollar. April 23, 2020. https://en.wikipedia.org/wiki/Zimbabwean_dollar

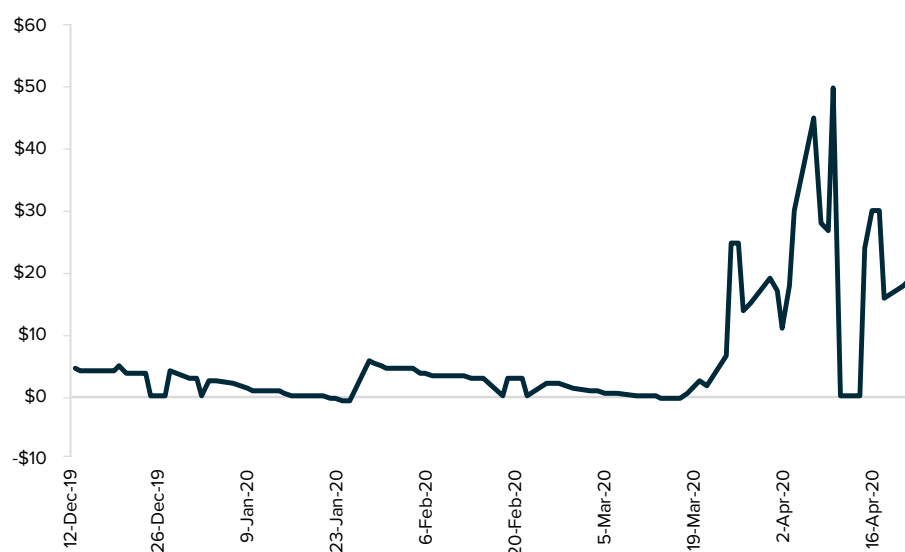


the Federal Reserve could overshoot its target and trigger inflation, further eroding yields. Real yields, which measure the nominal yield minus the rate of inflation are now negative for the first time since 2013. With negative yields, bond holders lose purchasing power over time. In today's environment, stimulus packages will be funded in part by new Treasury offerings, bringing even more supply to the market. Despite being viewed as a safe haven, government bonds may fail to insulate investors from the repercussions of central bank intervention.

Gold

While gold has served as a global standard for thousands of years due to its non-corrosive properties and physical scarcity, the world, and money along with it, has become digital and globally interconnected. The wide spread between gold bullion futures and the gold spot price in March and April 2020 magnifies gold's cumbersome nature. Stockpiles of gold are unable to reach global trading centers, causing delays in delivery. This dislocation is illustrated by the Morgan Stanley EFP, which measures the difference between gold spot and gold futures¹² Spreads that are typically around \$2, have reached as high as \$50.

FIGURE 3: **EXCHANGE COST FOR PHYSICAL GOLD**¹³
DECEMBER 12, 2019 – APRIL 22, 2020



Reverting to the use of a heavy metal as the world's reserve currency would be to buck the trend of digitization and technological progress. Our digital world demands a money that is digital, portable, and accessible to everyone while still retaining the qualities of a long-term store of value.

12. Source: Bloomberg. Gold Markets Are Being Haunted by Signs of Dislocation Again. April 7, 2020. Justina Vasquez, Elena Mazneva. <https://www.bloomberg.com/news/articles/2020-04-07/gold-rallies-spread-balloons-as-investors-charge-into-bullion>
13. Source: Bloomberg. Exchange Cost for Physical Gold is based on the daily values for the Morgan Stanley EFP Gold Index.

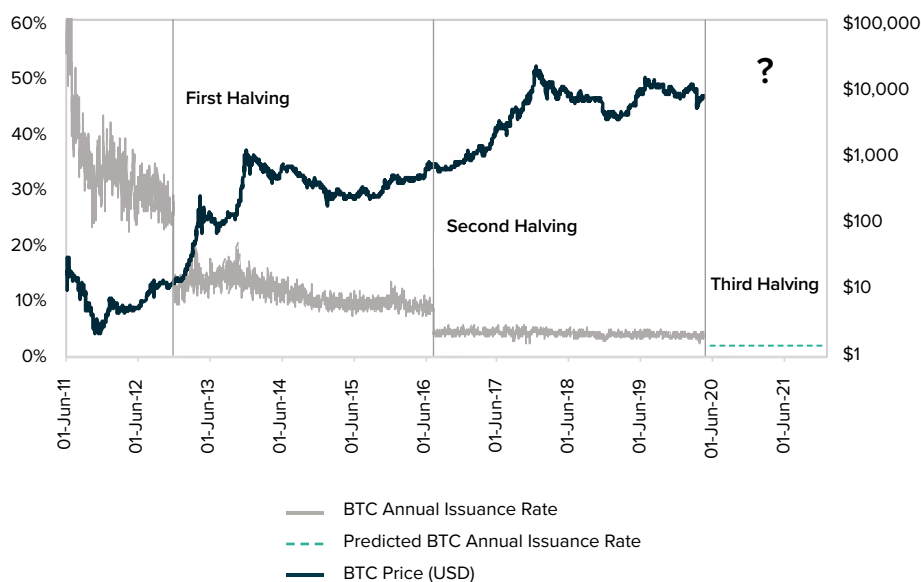


Bitcoin

The long history of fiat currency failure and the economic fallout from the 2008 Financial Crisis catalyzed the creation of Bitcoin. Denominated by demand, not debt, Bitcoin is a currency immune to supply manipulation. Its supply is capped at 21 million and the rate of issuance is predetermined. These features are viewable in the source code and can be verified by the Bitcoin blockchain.

Today's macroeconomic environment continues to reinforce that a scarce, digital, non-sovereign form of money may be an attractive place to store value and may serve as a hedge against unrestrained money printing. While central banks are beginning to enact unlimited quantitative easing, Bitcoin will soon undergo a quantitative tightening, as the third Bitcoin halving event takes place in May 2020. As a reminder, after a halving event the amount of newly issued Bitcoin gets cut in half. While the short-term implications of the halving are unclear, it has historically served as a focal point for the investment community. Miners are the Bitcoin market's natural sellers and after the halving, they will have half as much to sell. The imbalance between increasing demand and shrinking supply may serve as a positive catalyst for Bitcoin's price.

FIGURE 4: **BTC PRICE PERFORMANCE RELATIVE TO ISSUANCE RATE¹⁴**
JUNE 1, 2011 – DECEMBER 31, 2021



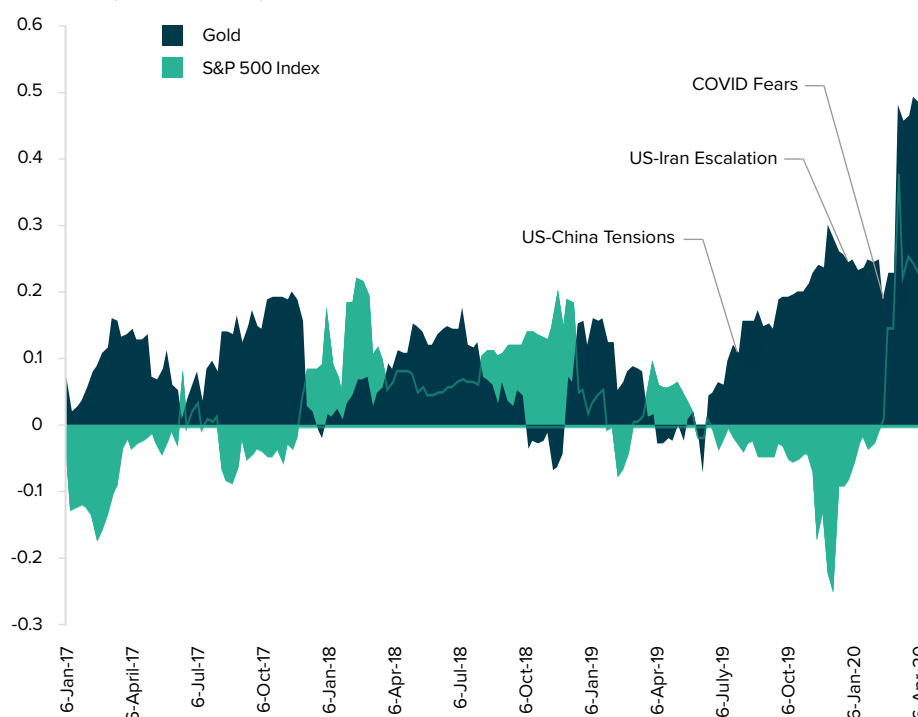
The immutable scarcity inherent to Bitcoin's design may be an attractive wealth preservation tool in light of currency debasement. In our previous report, [Hedging Global Liquidity Risk with Bitcoin](#), we presented evidence that Bitcoin tends to act as a safe haven during crises. Bitcoin's correlation

14. Source: Coinmetrics. Price performance is based on daily values.



with other assets continues to be low — one of its most redeeming investment properties as a diversification tool. However, through 2019 and during 1Q20, the relationship between Bitcoin and gold tightened, as correlation seemed to increase as a result of US-China trade tensions, the Iran escalation, and the COVID-19 market fears. The correlation between Bitcoin and gold is at a historical high, indicating that Bitcoin may be acting more as a safe haven.

FIGURE 5: BITCOIN 52-WEEK CORRELATION TO GOLD AND S&P 500 INDEX¹⁵
JANUARY 6, 2017 – APRIL 23, 2020



With this growing relationship, Bitcoin may exhibit a similar pattern, but in greater magnitude, to that of gold following the 2008 Financial Crisis. While the price of gold initially fell in response to plummeting asset prices and widespread bankruptcies, it appreciated over 180% from \$682 in October 2008 to \$1,912 in September 2011.

Similarly, after initially seeing its price fall dramatically, Bitcoin is up 96% off of its March 12th lows; its hashrate, a measure of the network's security, is near all-time highs; a record number of wallets hold at least one Bitcoin (808,964); and approximately \$4 billion is exchanged on the network every day.¹⁶ Despite the recent drop in price, investors may find comfort in the fact that Bitcoin's network fundamentals are incredibly strong.

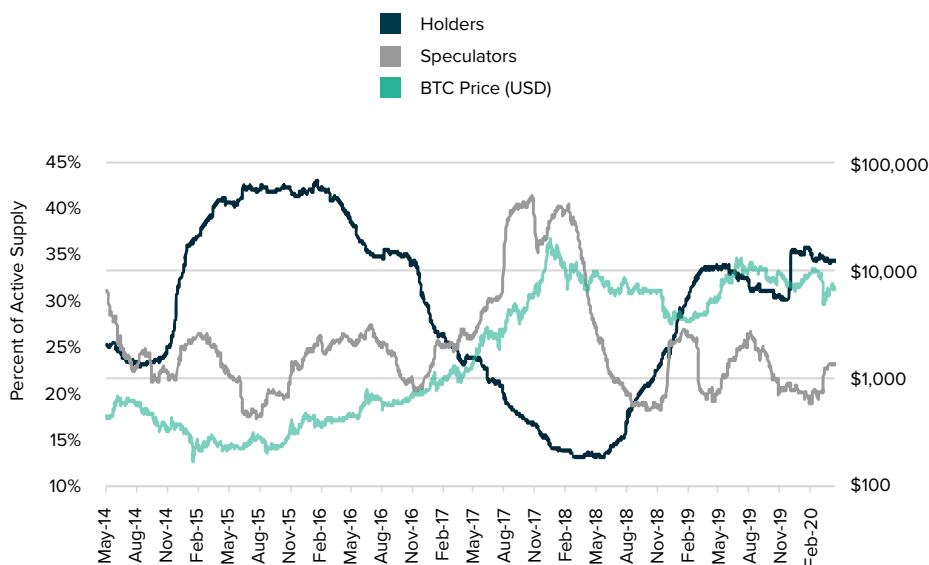
¹⁵ Source: Bloomberg. Correlation performance is based on weekly values of the Bloomberg Bitcoin Price Index (USD), XAUUSD Spot Exchange rate, and the S&P500 Index.

¹⁶ Source: Coinmetrics. Values as of April 22, 2020.



A particularly valuable insight derived from the Bitcoin blockchain is the age distribution of supply. Bitcoin's blockchain allows anyone to track the current and past movements of all Bitcoin in circulation. Figure 6 shows the supply relationship between holders and speculators, where holders are defined as entities that haven't moved Bitcoin in 1-3 years, and speculators are defined as entities that have moved Bitcoin in the last 90 days. As evidenced by the chart, the sell-off was dominated by short-term speculators, while the holder index was seemingly unaffected. This is a positive signal that may indicate that long term holders were unphased by the recent market volatility and chose not to sell their Bitcoin, an action that would necessitate movement of their assets on the blockchain. These levels of holder activity were last seen in October 2016, before Bitcoin appreciated over 3,000% to all-time highs, reinforcing that long term holders are important for the network.

FIGURE 6: **BITCOIN HOLDERS VS. SPECULATORS**¹⁷
MAY 14, 2014 - APRIL 14, 2020



17. Source: Coinmetrics.



Conclusion

Untenable levels of debt and fears of widespread default are driving the most aggressive monetary policies since Bitcoin's creation. Fiat currencies are at risk of debasement, government bonds reflect low or negative real yields, and delivery issues highlight gold's antiquated role as a safe haven. There are limited options to hedge in an environment characterized by uncertainty.

During the March 2020 liquidity crisis, Bitcoin was put to the test as it has been countless times since its introduction in 2009. In particular, the aggressive rebound after the deleveraging demonstrated the resiliency of Bitcoin as an investment and shed light on its potential to outperform in the years to come. Bitcoin is showing signs of becoming a safe haven while maintaining an asymmetric return profile. And while the world is seemingly challenging every notion of what is possible, it's time to challenge another one — that fiat currencies will retain their value. It's time to pay attention to Bitcoin.



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