

Bridgewater®

Daily Observations

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Do Cryptocurrencies Pose Contagion Risk?

We don't see cryptocurrencies as posing systemic risk for now. While recent crypto-led wealth destruction is significant, pass-through to the macro picture is likely to be limited, given that the broader financial system doesn't have levered exposure.

As macro investors, we're constantly paying attention to what's going on in the world and assessing what dynamics we need to pay attention to. We can't be experts in everything, but we do need to be able to evaluate whether specific dynamics or catalysts will matter for the larger macro picture. History has repeatedly shown that what initially appears as a small, isolated event can turn out to be a trigger for a much broader, significant market reaction: consider the Thai baht in 1997, subprime US mortgages in 2007, or Greek debt in 2010. As such, we need to assess systemic risk—that is, whether an issue could become a widespread market influence or is simply a noisy narrative. To that end, we primarily consider:

- The **size of the market** or dynamic in question;
- The role of **leverage in that market** (which can compound market volatility) and the **extent to which the financial system has levered exposure** (the main channel through which an individual market's volatility can feed through to other markets or the economy more broadly); and
- **Corporate balance sheet or knock-on earning exposures.**

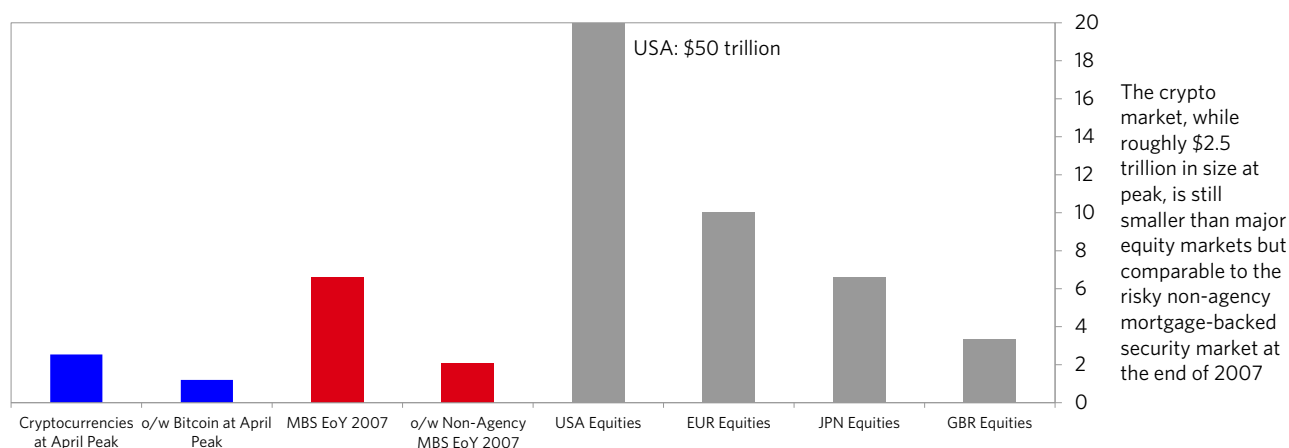
In these *Observations*, we apply this framework to cryptocurrencies. Our conclusion is that, at least for now, we don't see this market posing systemic risk.

- The growth of the market means that the loss in paper wealth from the latest drawdown was the largest ever in cryptocurrencies (about 6% US GDP, of which Bitcoin's losses account for roughly 2.5% of US GDP). There is potential for some degree of pass-through to the underlying economy through impacted investors. Still, as the chart below shows, cryptocurrency markets are still relatively small. For context, just a 1% drawdown in the S&P is equivalent to a bit over a 2% of US GDP hit in wealth. Of course, crypto wealth losses may also have a higher degree of pass-through to the real economy compared to wealth losses in more traditional markets, given the degree of new wealth recently created and a high share of retail participants (for whom crypto assets may make up a large share of their wealth).
- Leverage within crypto markets does exist, fueling volatility, but it is almost entirely confined to brokers serving crypto markets exclusively, while traditional lenders (i.e., banks) have limited to no exposure to crypto assets. This limits crypto volatility from flowing through more broadly to other markets or real economy borrowing.
- Corporate exposure (both indirectly and directly) to crypto assets is increasing but still very limited.

As the chart below shows, the size of the cryptocurrency market, while smaller than the biggest equity markets, is now comparable to the non-agency mortgage-backed securities (MBS) market in 2007, which clearly had a big impact on the global financial system. Unlike with mortgage-backed securities, however, for now we don't think the crypto market poses systemic risk, though we will continue monitoring this, as we know the market is evolving quickly.

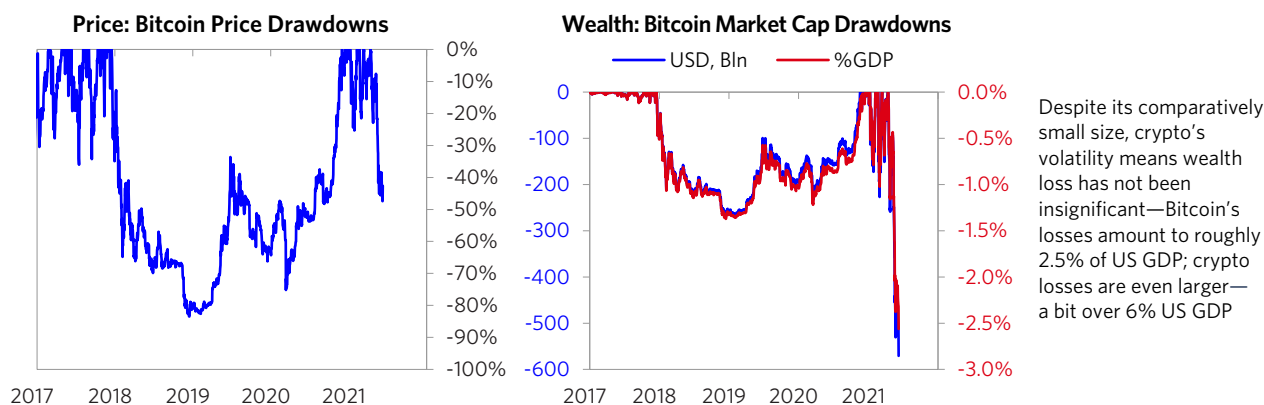
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Market Cap (USD, Tln)



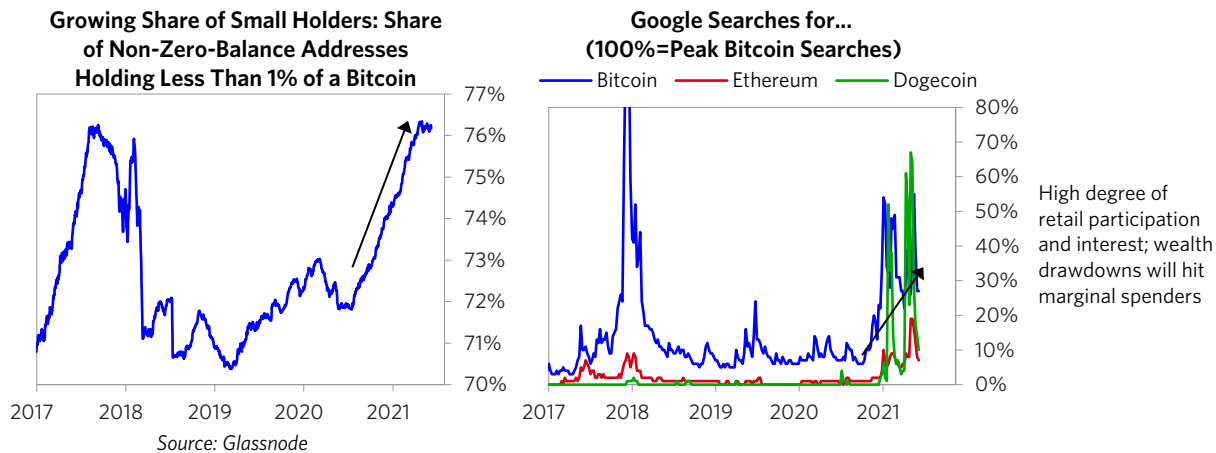
Market Size: As Crypto Markets Grow, Price Volatility Creates Larger Wealth Gains and Losses

Bitcoin (the dominant cryptocurrency in terms of market share) and crypto markets more broadly have seen sharp pullbacks before, with Bitcoin falling over 80% in price from the peak of the 2017 rally. But **the wealth destroyed in the latest crypto sell-off is larger today than what was seen in prior drawdowns, reflecting the growth of this market**. As the chart below on the right shows, the loss in wealth from Bitcoin's recent fall amounts to over 2% of US GDP, compared to a bit over 1% of US GDP after the 2017 market crash. The losses in the overall crypto market, which has fallen in size by about half, amount to over 6% of US GDP.



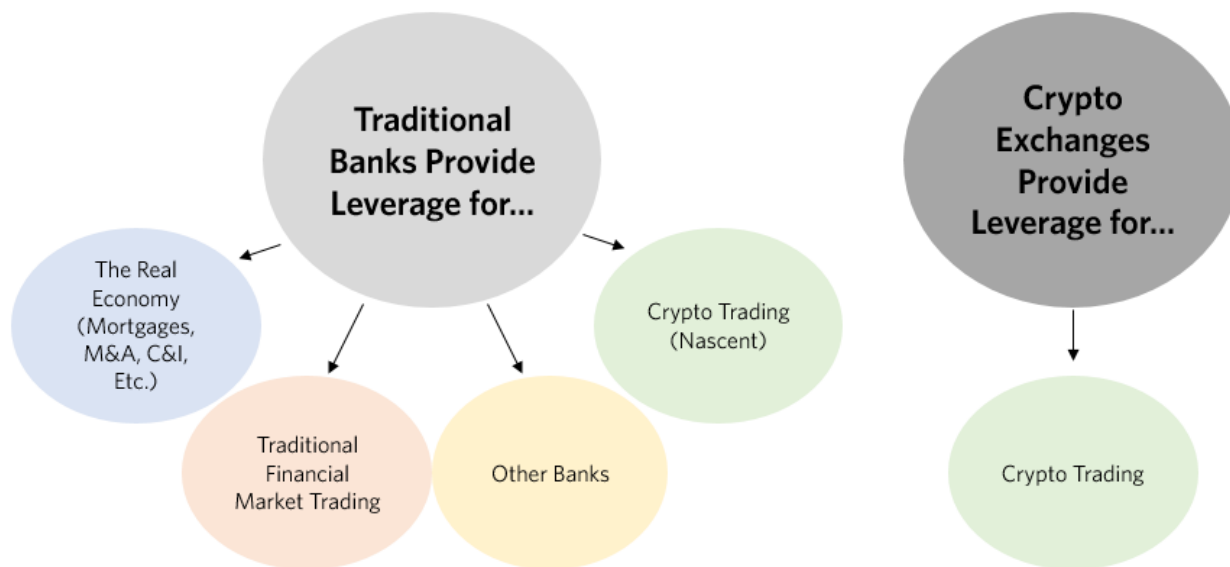
When there is a loss in paper wealth, people typically reduce spending in the real economy, as they feel less financially secure. This negative wealth effect from crypto's latest drawdown may have a relatively greater impact on real economic spending than comparable losses in more traditional markets (e.g., equity markets), given that recent gains in cryptocurrencies appear to have been largely fueled by an increasing share of smaller retail participants. These new cryptocurrency investors seem likely to be marginal spenders who could pull back consumption in response to the cryptocurrency losses. On the other hand, the impact on consumption may be partially mitigated due to frictions associated with converting crypto assets, including USD stable coins, back into fiat currencies that can be spent in the real economy.

The charts below illustrate the broader retail participation in and cultural excitement directed toward crypto markets in recent months. The left chart shows the share of Bitcoin addresses with non-zero balances that are holding less than 1% of a Bitcoin. The growth in these small accounts indicates a rising share of new small retail investors. The chart on the right shows Google searches for various cryptocurrency-related topics.



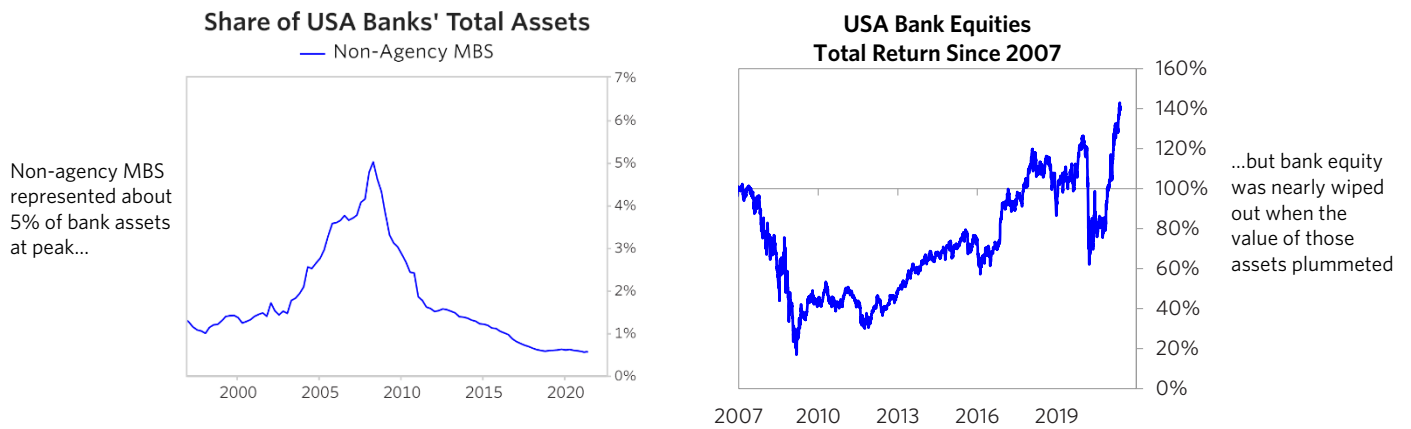
Leverage Transmission Channels: How Much Crypto Volatility Feeds into the Broader Macro Picture Depends on the Leverage of the Financial System

While the degree of the negative wealth shock for retail crypto holders could flow through to spending, we still do not see crypto markets as posing a systemic risk at this point, thanks largely to the relatively limited number of more mainstream financial players exposed to potential crypto volatility. We have seen cryptocurrency exchange platforms fail (due to hacks, regulatory changes, and fraudulent activity), but unlike banks, a failing cryptocurrency exchange does not mean that lending gets cut off to the broader real economy. Meanwhile, at least for now, there is by and large no crypto lending by players who also provide meaningful capital for the real economy (e.g., mortgages, corporate paper) or for margin trading in more traditional markets, as illustrated below.



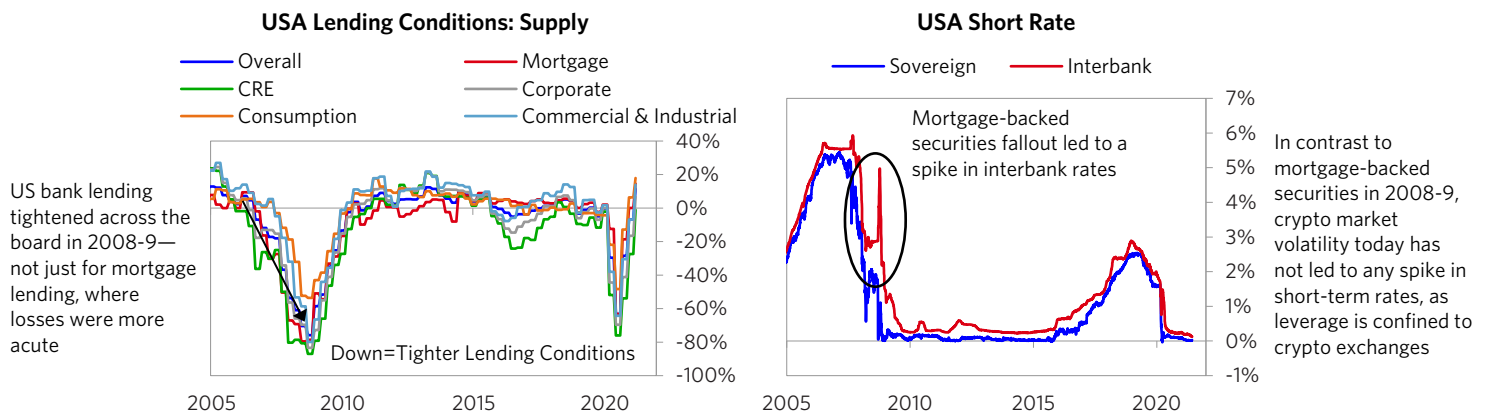
A look at how risky non-agency mortgage-backed securities translated into much broader contagion for the financial market and economy illustrates the differences with cryptocurrencies today. In the financial crisis, highly levered banks were nearly wiped out by volatility in housing securities, despite the fact that risky non-agency MBS assets were only a small share of banks' overall assets (around 5% of total assets in the US). When the value of housing securities effectively went to zero, bank capital also crashed because the banks were highly levered.

The two charts below show how this played out in the financial crisis—risky non-agency MBS represented a small share of total bank assets, but volatility in these markets nearly wiped out bank capital and equity value.



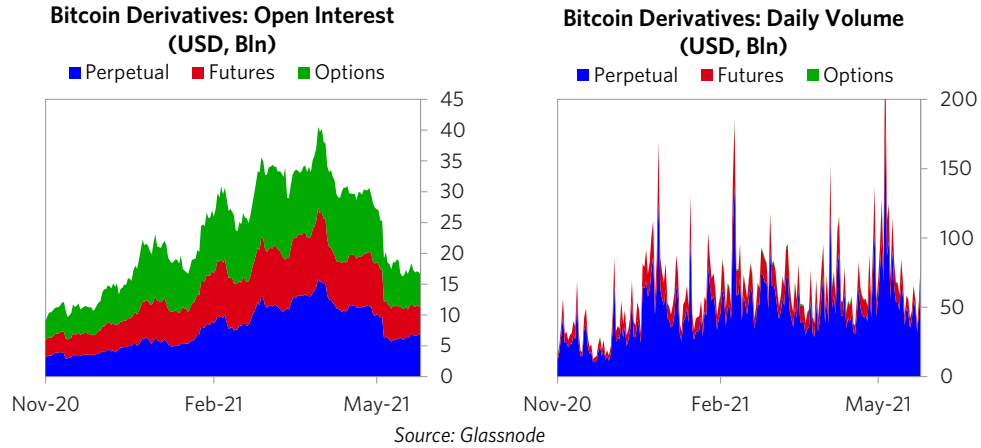
As banks came under pressure, they tightened lending standards, and interbank lending and commercial paper markets froze, making it harder for credit-worthy businesses and households to obtain loans to finance operations or buy homes.

When crypto markets sell off, lending for real economic activity is unlikely to get impacted as it clearly was in 2009. The market action (stock prices and spreads) is one way we can track in real time if problems are emerging. Lending surveys are less timely but illustrate how big the crunch was a decade ago.

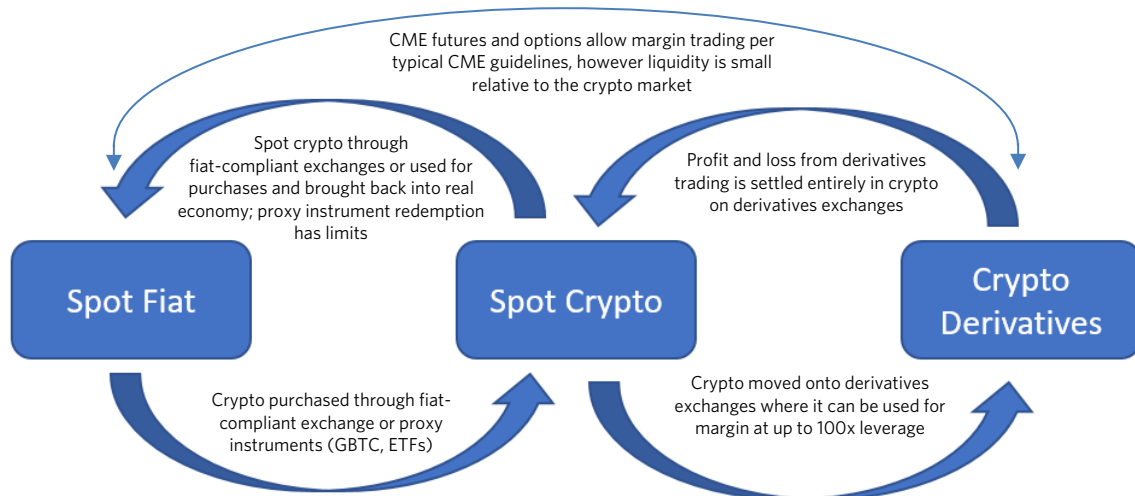


Degree of Leverage: Leverage in Crypto Markets Is Evident, but Mainly Isolated from the Financial System

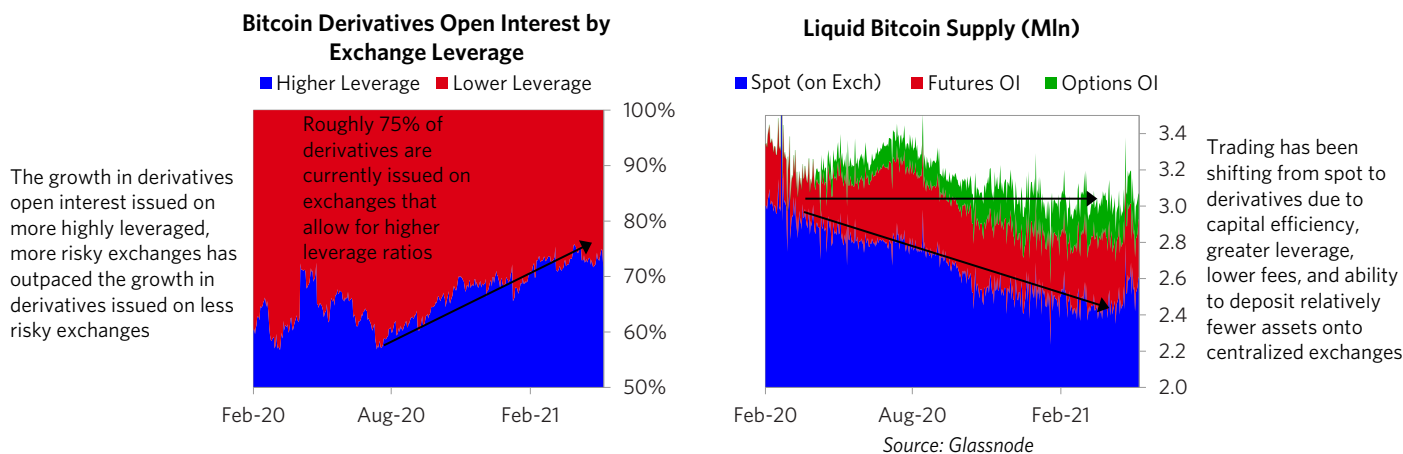
Leveraged crypto trading is dominated by instruments isolated within the crypto market and backed by crypto-based collateral: perpetual futures, futures, and options, with perpetual futures representing the bulk of the daily trading. That means that most leverage risk is contained within the crypto market, with the exception being CME futures, which only make up a small share of total global crypto derivatives volume. Crypto exchanges themselves are not levered and do not lend to one another—only the traders on exchanges are levered. As such, while there have been several multibillion dollar liquidations of levered trading positions this year during market sell-offs, we have not seen any stress on any of the major exchanges or lending protocols due to solvency issues or inability to meet withdrawals.



For new fiat money to make its way onto a crypto exchange that offers high leverage, that money generally has to first flow through a more strongly regulated fiat exchange (to get converted into crypto form), creating an extra layer of dislocation; most exchanges offering high leverage don't handle conversion of fiat currencies into digital currencies. Users from North America, China, and the UK are also largely banned from accessing crypto futures and options exchanges due to domestic regulations, which adds another hurdle for retail to access leverage in these economies. CME Bitcoin futures contracts are the main exception, representing roughly 2% of futures volume and -13% of open interest (and are offered with industry standard levels of leverage). Losses in crypto derivatives trading may wipe out a trader's margin account on one exchange and trigger chains of liquidations throughout crypto. However, the ripple back into the traditional financial system, where degrees of leverage should be handled more responsibly given the well-established regulatory ecosystem, is limited.



Within the exchanges that do offer crypto leverage, there has been a migration toward platforms that offer higher amounts of leverage. We show (below on the left) that exchanges that offer higher leverage (~100x), lower regulatory constraints, and are further removed from the real economy have grown at a faster pace in open interest terms than exchanges offering lower leverage (up to 30x) and higher risk controls. We also see a similar shift (below on the right) when looking at how Bitcoin is traded. We see that the supply of spot Bitcoin on exchanges has fallen in the past year or so, while derivative open interest has been rising. While this may in part reflect investors favoring more highly leveraged trading and high-risk directional bets, some of it seems due to increased capital efficiencies in taking short-term bets, reducing the need to move “physical” crypto out of safer storage options. Crypto exchanges, particularly offshore exchanges that offer leveraged trading, are generally considered one of the least safe ways to hold coins, as they are centralized entities with some history of hacks, theft, and regulatory confiscation.



Corporate Fundamentals: Corporations' Exposure to Crypto Is Still Small but Is Growing

Finally, cryptocurrency volatility also has the potential to spill over to the broader macro picture to the extent that corporates have fundamental crypto exposures. Corporate cryptocurrency exposures are not yet significant but have been growing. More firms and investment vehicles are holding Bitcoin directly. For example, the firm MicroStrategy is even issuing debt to purchase Bitcoin, which will be held by its subsidiary MacroStrategy. Other firms are exposed indirectly; for instance, to the demand for hardware necessary to mine proof-of-work cryptocurrencies (e.g., Nvidia).

The table below, while not comprehensive, illustrates firms and investment vehicles globally that have reported or publicized that they directly hold Bitcoin; together, they own roughly 7% of circulating supply. There is still room for significantly more adoption, though this picture is already vastly different from just a few years ago.

Publicly Disclosed Holdings of Bitcoin by Institutions

Category	Economy	Name	BTC Holdings (USD, Mln)	Market Cap (USD, Mln)	BTC/Market Cap (%)	% of BTC Circulating Supply
Public Co	USA	MicroStrategy/MacroStrategy	\$3,218	\$4,477	72.0%	0.49%
Public Co	USA	Tesla	\$1,510	\$757,555	0.2%	0.23%
Public Co	CAN	Square	\$281	\$97,504	0.3%	0.04%
Public Co	USA	Marathon Digital Holdings	\$190	\$2,352	8.0%	0.03%
Public Co	USA	Coinbase	\$190	\$46,043	0.0%	0.02%
Public Co	USA	Galaxy Digital Holdings	\$140	\$6,360	2.0%	0.02%
Public Co	JPN	NEXON	\$60	\$20,714	0.3%	0.01%
Public Co	NOR	Aker ASA/Seetee AS	\$41	\$6,048	0.7%	0.01%
Public Co	HKG	Meitu	\$33	\$1,103	3.0%	0.01%
Public Co	USA	CleanSpark	\$5	\$592	1.0%	0.00%
Public Co	TLD	The Brooker Group	\$4.3	200	2.1%	0.00%
Public Co	USA	FRMO Corp	\$2.2	\$478	0.5%	0.00%
Public Co	CAN	Mogo	\$1.7	\$581	0.3%	0.00%
Public Co	USA	BlackRock	\$0.2	\$134,913	0.0%	0.00%
Public Co	TUR	Net Holding Anonim Sirketi	\$0.1	\$342	0.0%	0.00%
Public Co	USA/CAN	Other USA & CAN Crypto Firms	\$389	\$6,923	5.6%	0.06%
Public Co	EUR/AUS/GBR	Other Global Crypto Firms	\$159	\$361		0.02%
Private Co	JPN	Mt. Gox (Receivership)	\$4,951	--	--	0.76%
Private Co	USA	Block.one	\$5,731	--	--	0.88%
Private Co	CHE	Tezos Foundation	\$867	--	--	0.13%
Private Co	USA	Stone Ridge/NYDIG	\$555	--	--	0.06%
Private Co	USA	MassMutual	\$191	--	--	0.03%
ETF/ETF-Like	USA	Grayscale Bitcoin Trust	\$22,885	\$19,006	120.0%	3.51%
ETF/ETF-Like	EUR	CoinShares/XBT Provider	\$2,437	--	--	0.37%
ETF/ETF-Like	CAN	3iQ/The Bitcoin Fund	\$820	\$736	111.0%	0.13%
ETF/ETF-Like	CAN	Purpose Bitcoin ETF	\$670	--	--	0.10%
ETF/ETF-Like	CAN	3iQ CoinShares Bitcoin ETF	\$637	--	--	0.10%
ETF/ETF-Like	EUR	ETC Group Bitcoin ETP	\$609	--	--	0.09%
ETF/ETF-Like	USA/CAN	Other USA & CAN ETF-Like Products	\$1,575	--	--	0.24%
ETF/ETF-Like	EUR/CHE	Other Global ETF-Like Products	\$577	--	--	0.08%
Total			\$48,728	--	--	7.43%

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