BITFINEX Alpha

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EXECUTIVE SUMMARY

The bond market sell-off that we are witnessing in the US is hitting multi-year lows as yields spike. It is a legacy of a supply shock that has been created by the war in Ukraine and the resulting energy crisis. Liquidity is now draining away and is marking the end of the abundant liquidity and low interest-rates that markets have enjoyed for more than a decade.

Ironically, the sell-off in bonds is being exacerbated by the Federal Reserve's quantitative tightening as it continues to offload assets on its balance sheet. How much and how far it can continue with this policy will now be determined by the how much liquidity the bond market can retain. We do not see the end of QT anytime soon, but bond market liquidity is becoming an interesting metric to watch.

Markets still expect another 75-basis point rise in rates, following the Federal Open Market Committee meeting on November 1-2, and for rates to be as high as 5 per cent by May 2023. This would be the highest rates since September 2007, just before the start of the Great Recession.

Meanwhile on-chain, The Ethereum Merge - after a somewhat bumpy start - is working as intended, and the supply of Ether is declining. Even as transaction volumes grow, fees are being used to burn supply. This should be long-term bullish for ETH.

Bitcoin is also seeing significant activity, with mining difficulty reaching a new high. This is great for increasing the security of Bitcoin, but will be proving difficult for smaller and medium-sized miners who have to expend more computer energy to earn rewards, at a time when the price of Bitcoin is historically low.

We have warned for several weeks about likely increased volatility in the price, but If there is a new wave of capitulation by miners, followed by other BTC holders, this will have a significant effect on driving the price lower. We believe that the increased hash rate is a bearish indicator and that the volatility we expect will not be positive for the price.

In Crypto news, we saw a week where a much hyped new token crashed on its debut; Voyager, the bankrupt crypto lender, indicated that its customers could recover 72 percent of the value of their accounts; and adoption of crypto services grew with big TradFi names including SocGen, Mastercard and Fidelity. Tether also announced that it had agreed a landmark collaboration with SmartPay in Brazil to launch Tether tokens in over 24,000 ATMs.

Have a great trading week!

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GENERAL MARKET UPDATE

The regime of hyper-globalisation that has ensured low-interest rates and high liquidity has driven the global economy over the past 25 years. Now, as a consequence of the drastic fiscal and monetary response to the pandemic, the energy crisis, and the Ukraine-Russia conflict, the world is experiencing a fundamental breakdown of this regime. Economies worldwide are feeling the effects of high prices, and investors are grappling with a structural change, as high-interest rates and persistent inflation takes hold.

Brewing Trouble in US Treasuries

Once the Federal Reserve started raising interest rates earlier this year, liquidity in the largest bond market in the world, the United States, started deteriorating. The issue has worsened as the Fed itself has sought to exit the Treasury and mortgage markets after ending large monthly bond purchases – significant steps in the central bank's quantitative tightening program.

The market's reaction to persistent inflation and the massive rate hikes by the Federal Reserve, has also been to sell US bonds, echoed also by foreign governments (mainly Japan and China), who are selling their US sovereign debt reserves to stabilise their own currencies.

Outside of the US, central banks are also raising interest rates to curb demand and inflation. The issue stems from the fact that the developed world is deeply indebted and that the "risk-free" Treasury market supports a large portion of the global financial system. Once cracks in that support arise, yields will begin to rise. Over the past couple of weeks, this has already happened in the UK, where the Bank of England executed an emergency purchase program for long-dated UK government bonds to ease pressures on the pension market (see our *Learning Section* in Bitfinex Alpha 24). Recently, the Bank of Japan has been following in the UK's footsteps.

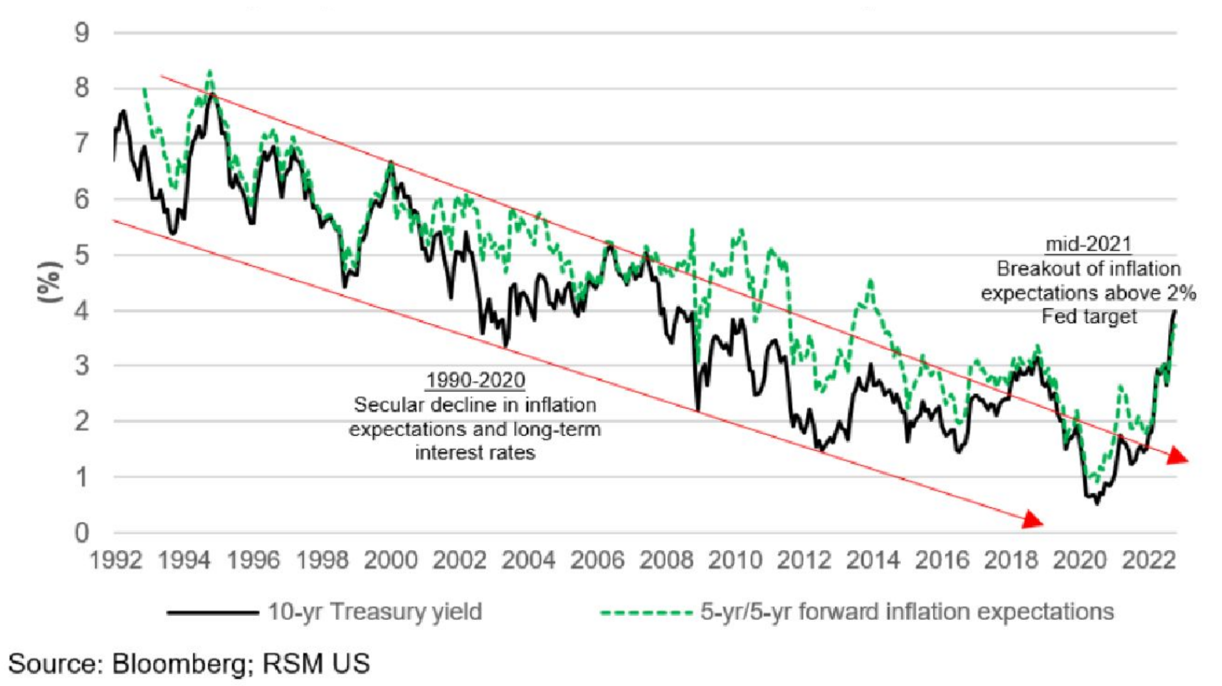


Figure 1. *. US 10-Year Treasury Yields and Market-based Inflation Expectations*

Of course, this isn't the first bond market sell-off, but its magnitude implies that it could be greater than in previous decades. The post-pandemic supply shock and energy crisis broke the price stability that had been brought on by 'just-in-time' supply chain efficiencies and globalisation-induced cheap labour. The resulting increased cost of capital, as seen by the sharp rise in long-term bond yields, has impacted decisions by companies over how much they are willing to borrow, as well as by banks on how much they are willing to lend. The bond sell-off, like a sell-off in any market, indicates illiquidity because an excess of supply meets decreased demand.

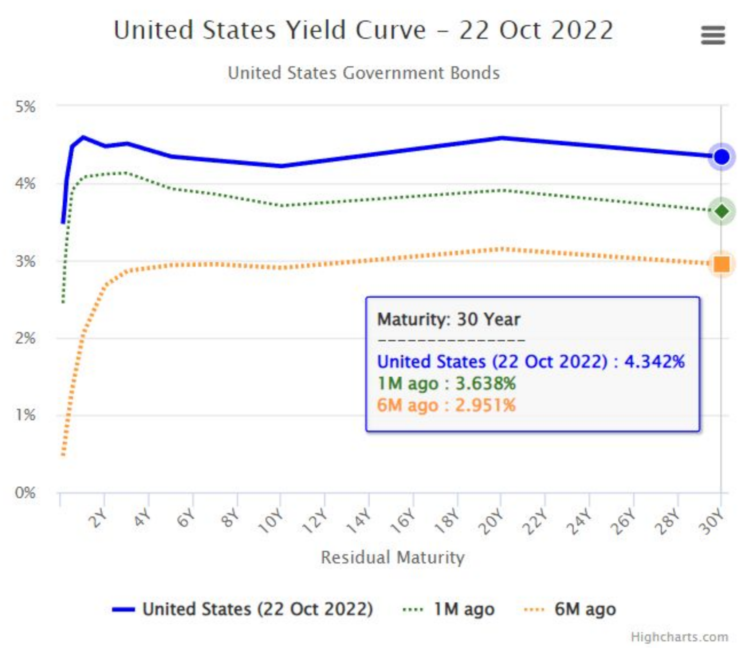


Figure 2. *US Yield Curve and trend for 30 years. (source: highcharts)*

The yield curve illustrates the relationship between bond maturity and yield to maturity.

Typically, longer-duration interest rates are higher than short-duration. So, the yield curve usually slopes upward as the duration increases. For this reason, the spread (i.e. the yield difference) between a longer and a shorter bond should be positive. If not, the yield curve can be flat or inverted. The yield curve is currently inverted with short-term maturities offering higher yields than long to mid-term maturities.

This liquidity risk in the Treasury market is happening against the backdrop of an energy crisis and geopolitical tensions in Europe. These economic distortions are happening simultaneously, and are threatening to end the era of cheap liquidity and very low-interest rates.

The Fed is still on Track

The extent to which global bond markets can continue to function in the face of liquidity risk is a critical factor in determining how much longer the Fed's balance sheet unwind can continue.

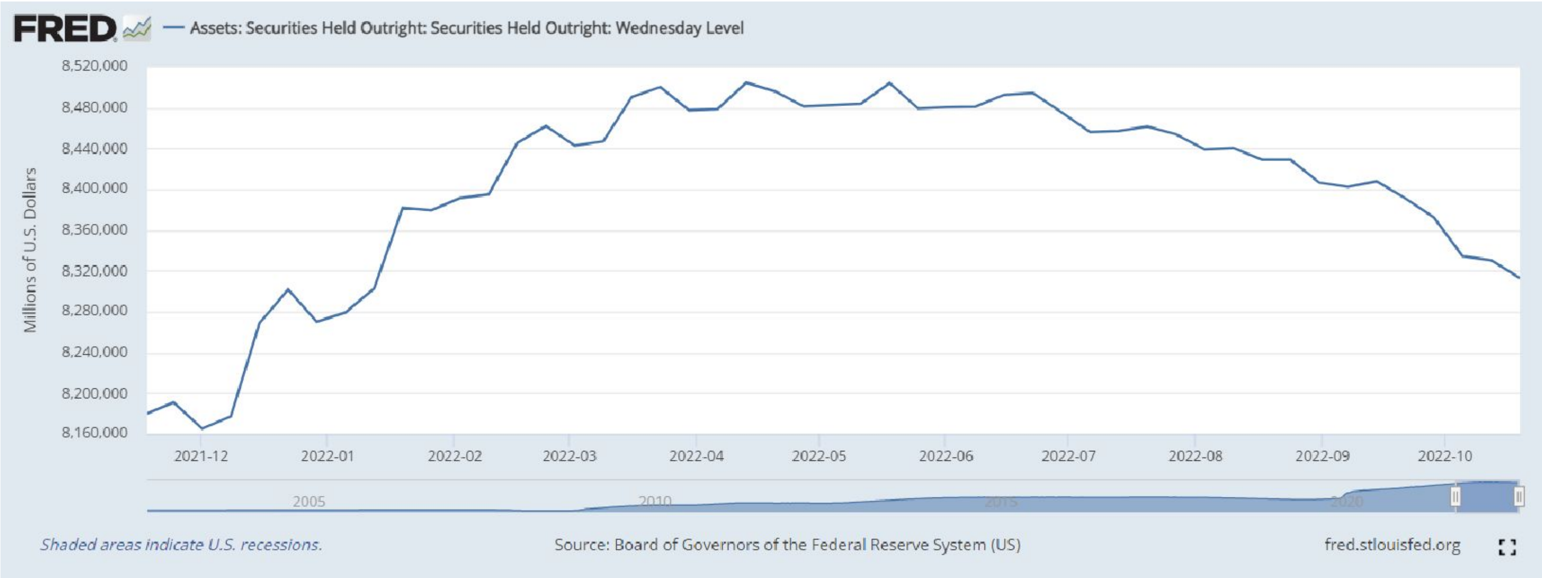


Figure 3. *Assets: Securities Held Outright Wednesday Level (source: FRED)*

The US Federal Reserve continues to shrink its securities portfolio. As of the latest banking week ending October 19, 2022, its securities portfolio has gone down by $17.3 billion. The decline for the past three months has been about $64 billion. The reduction accelerated around June this year; when total securities held was $8.5 trillion.

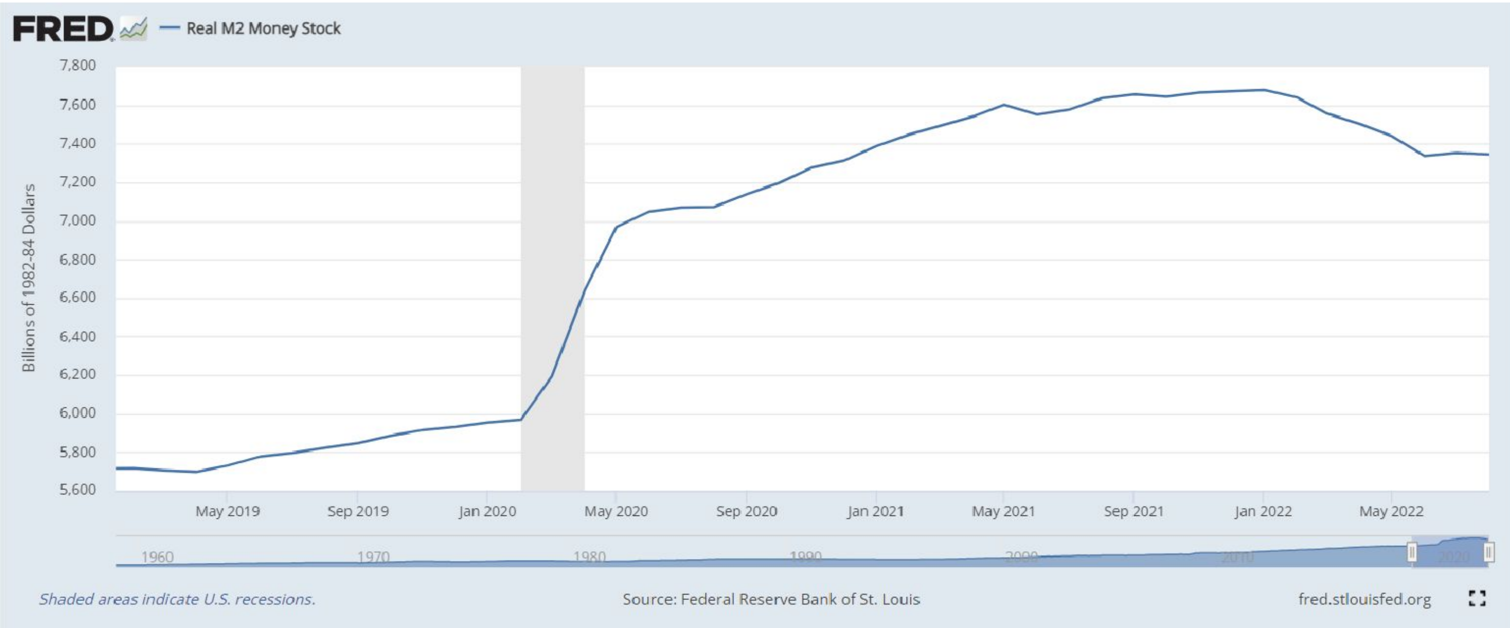
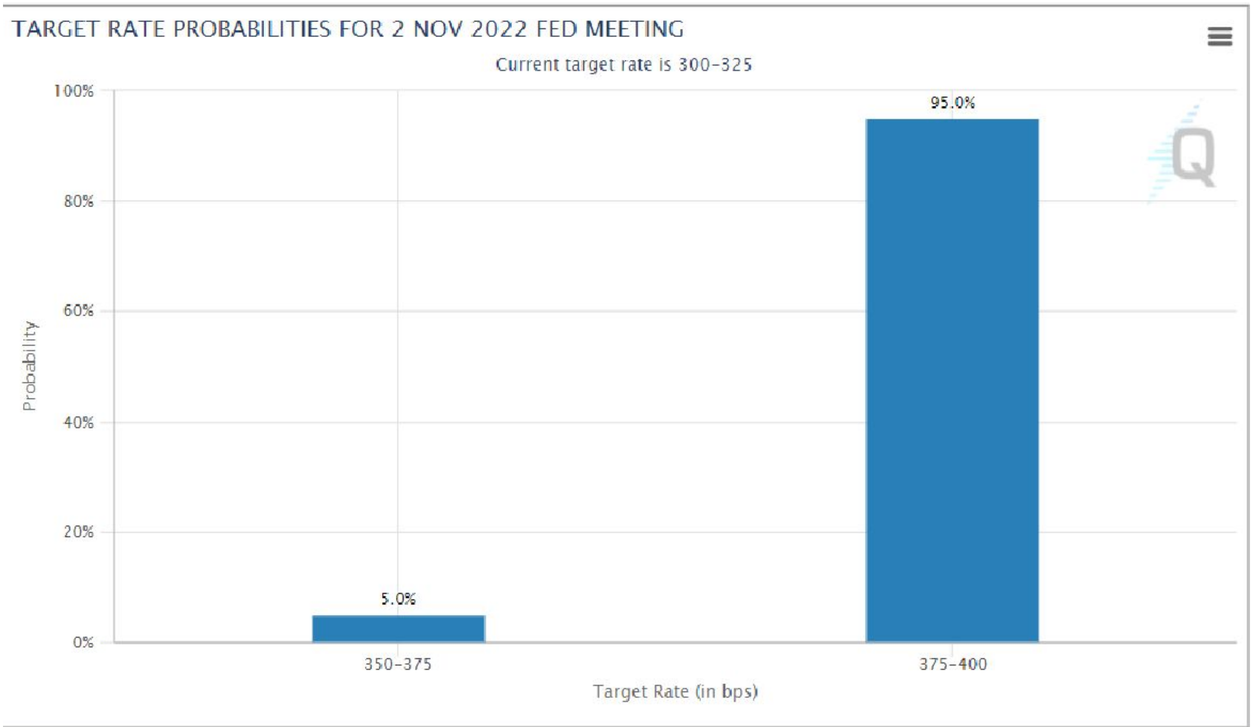


Figure 4. *Real M2 Money Stock. (source: FRED)*

The M2 money supply, a broad measure of money supply that includes cash and deposits, has increased by double digits during the last three years. The massive surge in the M2 money stock in early 2020 shows how the Fed reacted to the advent of the Covid-19 pandemic. The M2 money stock peaked in March 2022, the month that the Fed began its tightened monetary policy, but in September 2022, the M2 money stock is only modestly below the March figure.



TARGET RATE (BPS)	PROBABILITY(%)			
	NOW *	1 DAY 20 OCT 2022	1 WEEK 14 OCT 2022	1 MONTH 22 SEP 2022
350-375	5.0%	1.6%	2.8%	28.3%
375-400	95.0%	98.4%	97.2%	71.7%

* Data as of 22 Oct 2022 06:13:38 CT

Figure 5. *Target Rate Probabilities for November 2022 Fed Meeting (FedWatch Tool)*

The next Federal Open Market Committee (FOMC) meeting is on November 1-2, where a 75-basis points rate hike is highly expected. A 75-basis point rate hike would result in an effective Federal funds rate of 3.83 percent. Moreover, it's expected that the interest rate could be at 5 percent by May 2023. Not since September 2007, right before the Great Recession hit the United States, has the effective Federal Funds rate been around 5 percent.

In light of the liquidity risk in the bond market, it is still unclear how much the Fed might cut back on its securities holdings. This year, the plan presented by the Fed was for monthly portfolio reductions to continue into 2024, totalling about $2.4 trillion. However, this amount is not even close to the size of the funds that have been injected into the banking system since January 2020 as a response to the Covid-19 pandemic.

In other words, if the Federal Reserve is tightening up, it still has a long way to go until it really puts pressure on the financial system.

Housing Market Pain

Despite the Fed's aggressive battle with inflation, the end is not in sight. With the Fed-Funds rate jumping from 3 to 3.25 percent in late September, from effectively zero rates a year before, mortgage rates are rapidly increasing. Moreover, US inflation shows no signs of a pullback from a four-decade high. While there is a lag effect on mortgages, and rate hikes take time to seep into mortgage rates, the worst is yet to come for the US housing market.

As noted by the US Congressional Research Service, pain for homeowners means pain for the country: "at the aggregate level, housing accounts for a significant portion of all economic activity, and changes in the housing market can have broader effects on the economy. "

The housing market is incorporated into gross domestic product (GDP), the most prominent measure of economic activity, in two ways. First, GDP includes all spending on the construction of new single- and multi-family structures, residential remodelling, and brokers' fees referred to as fixed residential investment. Second, GDP includes all spending on housing services, which provides for renters' rents, utilities, and homeowners' imputed rent and utility payments. With rising interest rates, both measures will be impacted.

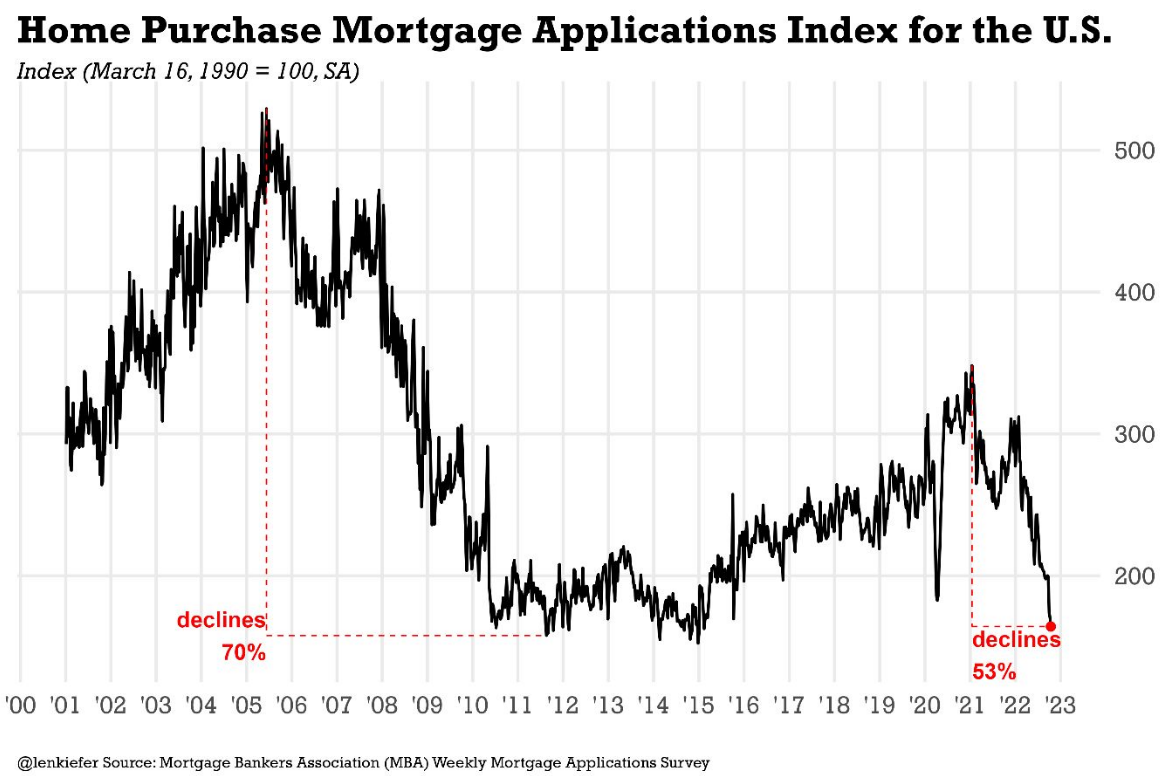


Figure 6. *Home Purchase Mortgage Applications Index for US (Source: Mortgage Bankers Association Weekly Mortgage Application Survey, twitter.com/lenkiefer)*

The Fed's rate hikes are already hurting housing demand. Mortgage applications plummeted to a 25-year low last week. Mortgage applications have fallen for the fourth consecutive month, reaching levels not seen since 1997. It now sits 53 percent off from the seasonally adjusted peak in early 2021. The speed and magnitude of rate hikes have curtailed refinancing activity and exacerbated the affordability issues associated with high house prices.

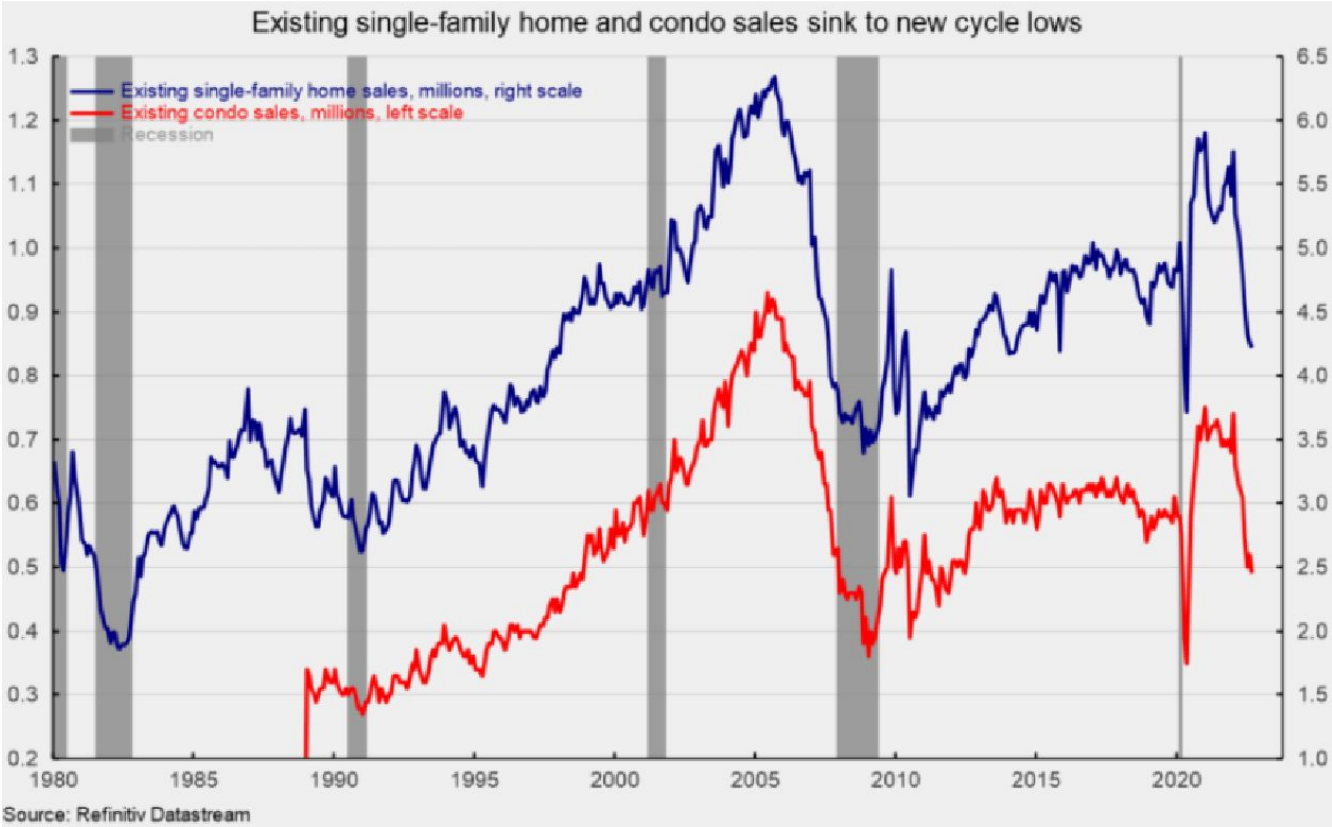


Figure 7. *Existing single-Family Home and Condo Sales sink to New Cycle Lows (Source: Refinitiv Datastream)*

In other words, soaring mortgage rates combined with very high prices have dealt a heavy blow to the housing market. Existing-home sales fell further by 1.5 percent in September to a seasonally adjusted annual rate of 4.71 million. This is the seventh consecutive monthly fall, bringing the selling pace to its lowest since May 2020.

This shows us how rising interest rates can impact incentives while simultaneously slowing the economy. People today are much less eager to borrow (implying less demand for money) and much less willing to buy (indicating a demand for cash rather than products).

As the Fed is likely to continue with more rate hikes, the housing market will likely worsen before it gets better.

Equities and Bonds

Daily and intraday volatility continue to dominate the equity markets, with the next Fed meeting less than two weeks away and the midterm elections less than three weeks away. Though trading was choppy, US stocks ended Friday higher as investors digested this Wall Street Journal report that some Federal Reserve officials are worried about tightening monetary policy too much. All three major indices had significant gains; the Dow Jones Industrial Average gained 2.5 percent, reaching 31,083; the S&P 500 Index gained 2.4 percent, reaching 3,753; and the Nasdaq Composite gained 2.3 percent, reaching 10,860.

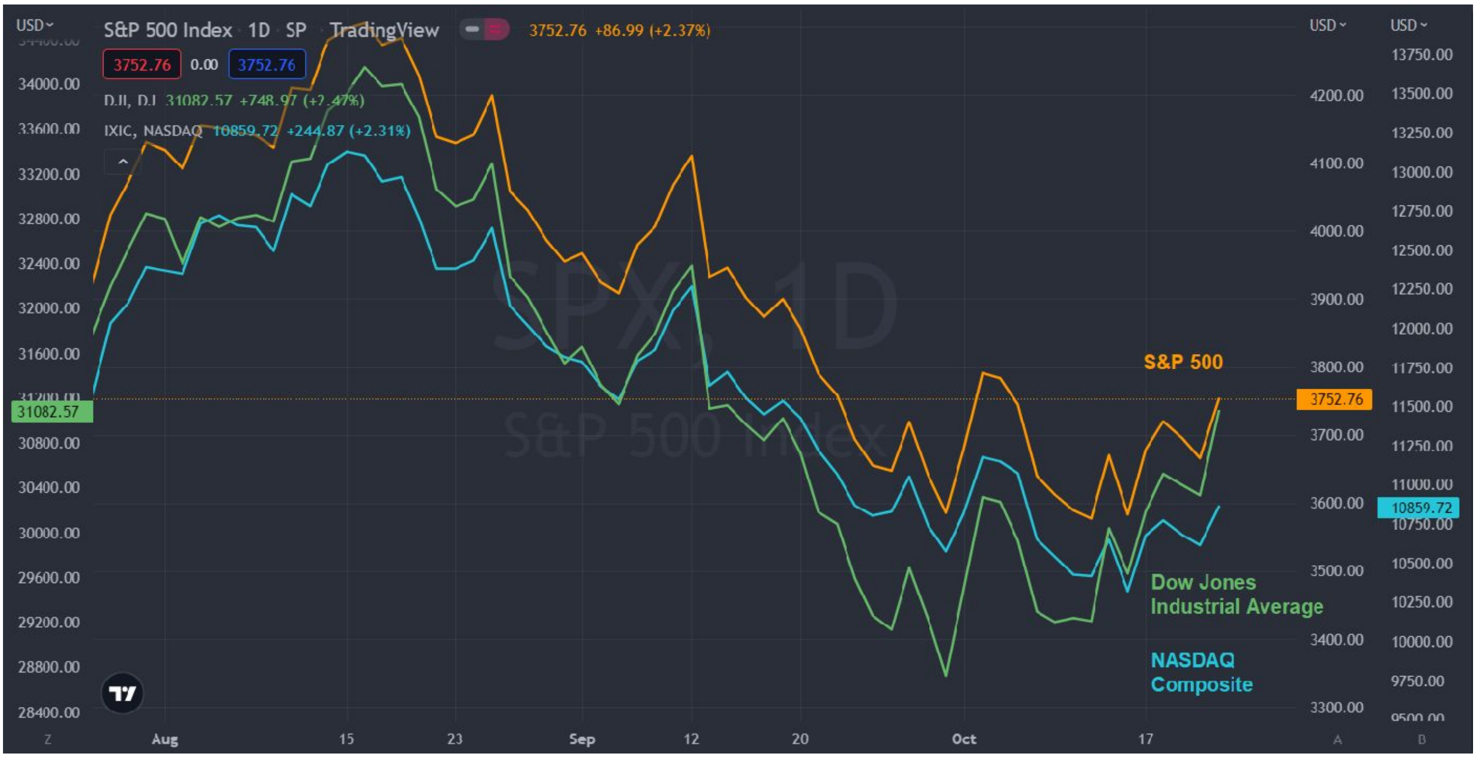


Figure 8 *:Stocks Rose in a Volatile Trading Week: S&P 500, Dow Jones Industrial Average, Nasdaq Composite (Tradingview)*

Historically, the market has performed well after midterm elections. Since 1950, the S&P 500 has returned an average of 19 percent, 12 months following a midterm election, with gains ranging from 4 percent to 3 percent. Considering this history, and with the S&P 500 still potentially down 20 percent, there is still much room for upside. Hence, it is possible that the S&P 500 will finish the year in positive territory.

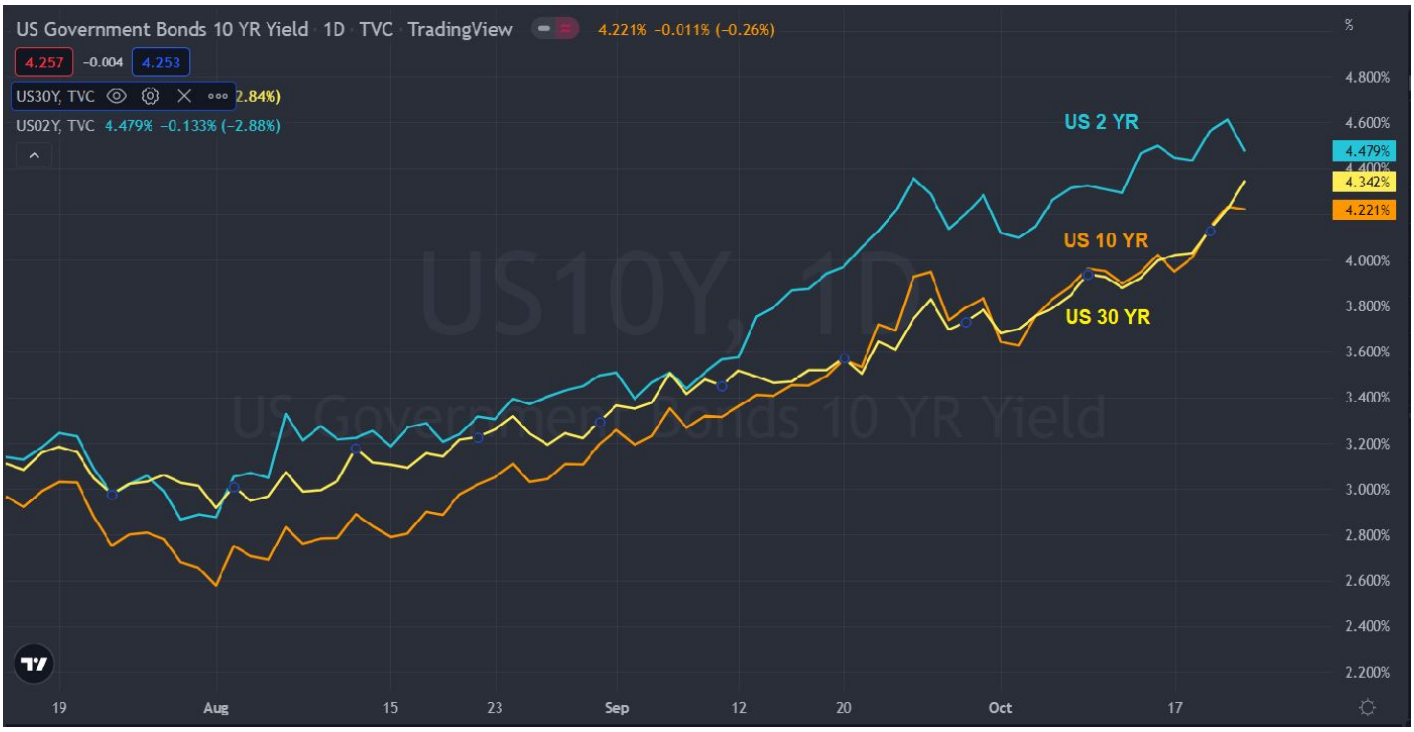


Figure 9. *US 2-Year, 10-Year, and 30-Year Treasury Yield (Tradingview)*

Last week, the 2-year note yield fell 11 basis points to 4.47 percent, the 10-year note yield remained steady at 4.22 percent, and the 30-year bond rate jumped 12 bps to 4.34 percent. Recent market volatility can be attributed to growing concerns about the global economy's ability to weather the steady rise in bond yields worldwide, accompanied by tightening monetary policies on central banks worldwide.

Summary

- The US Treasury market is often regarded as the world's deepest and most liquid securities market and plays an essential role in the global economy.
- The 10-year bond is frequently used as a proxy for various critical financial issues, such as mortgage rates.
- Declining liquidity in the US Treasuries market constitutes the most significant systemic danger to financial markets since the 2007 housing bubble, if not greater.
- The Federal Reserve is still carrying out its plan for its quantitative tightening program. The Fed's interest rates continue to rise while the size of the Fed's securities portfolio shrinks.
- There is some doubt about the Fed adhering to the program before something breaks.
- Mortgage applications plummeted to a 25-year low last week. Mortgage applications have fallen for the fourth consecutive month, reaching levels not seen since 1997.
- Existing home sales fell further by 1.5 percent in September to a seasonally adjusted annual rate of 4.71 million.
- Volatility continues to dominate the equity markets, with the next Fed meeting less than two weeks away and the midterm elections less than three weeks away. Though trading was choppy, US stocks ended Friday higher.
- The market volatility can be attributed to growing concerns about the global economy's ability to weather the steady rise in bond yields worldwide, accompanied by tightening monetary policies in the central banks worldwide.

WHAT'S ON-CHAIN THIS WEEK?

ETH supply deflating after the Merge

ter a slightly bumpy start, the Merge, which saw Ethereum move from the proof-of-work consensus echanism to proof-of-stake, is having the desired effect of making Ether a deflationary asset.

e supply of ETH was 120,520,000 coins at the time of The Merge on September 15, when Ethereum vitched consensus mechanism. Supply increased after The Merge to 120,534,000 on October 8 but s since dropped back to 120,522,000, only a few thousand coins over the number noted at the time of e Merge. In recent weeks (see chart below), more coins are now being destroyed for transaction fees an have been produced as rewards for validators.

ue to the fact that issuance had begun to fall since before the Merge, even a little increase of burned TH from current levels would result in a decrease in daily net emission.

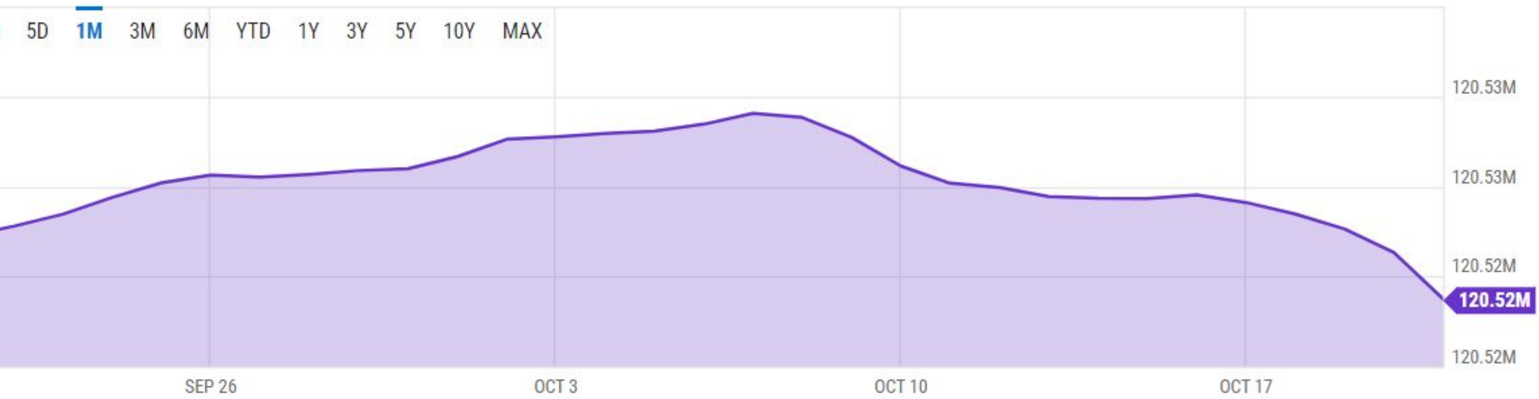


Figure 10. *ETH supply curve since the Merge. (source: ycharts)*

/ith more coins being destroyed than created over the past several weeks, on-chain data indicates that e supply of ETH, is trending downward to pre-Merge levels.

has been interesting to note that large trade volumes surrounding new meme coins also contributed to creased transactional volume, which resulted in a rise in fees, a decrease in the value that miners could xtract as rewards, and an increase in the amount of ETH burned.

urrent average fees can range from 20 to 30 gwei, which is more than enough to burn through a lot of TH each day and cause supply to deflate.

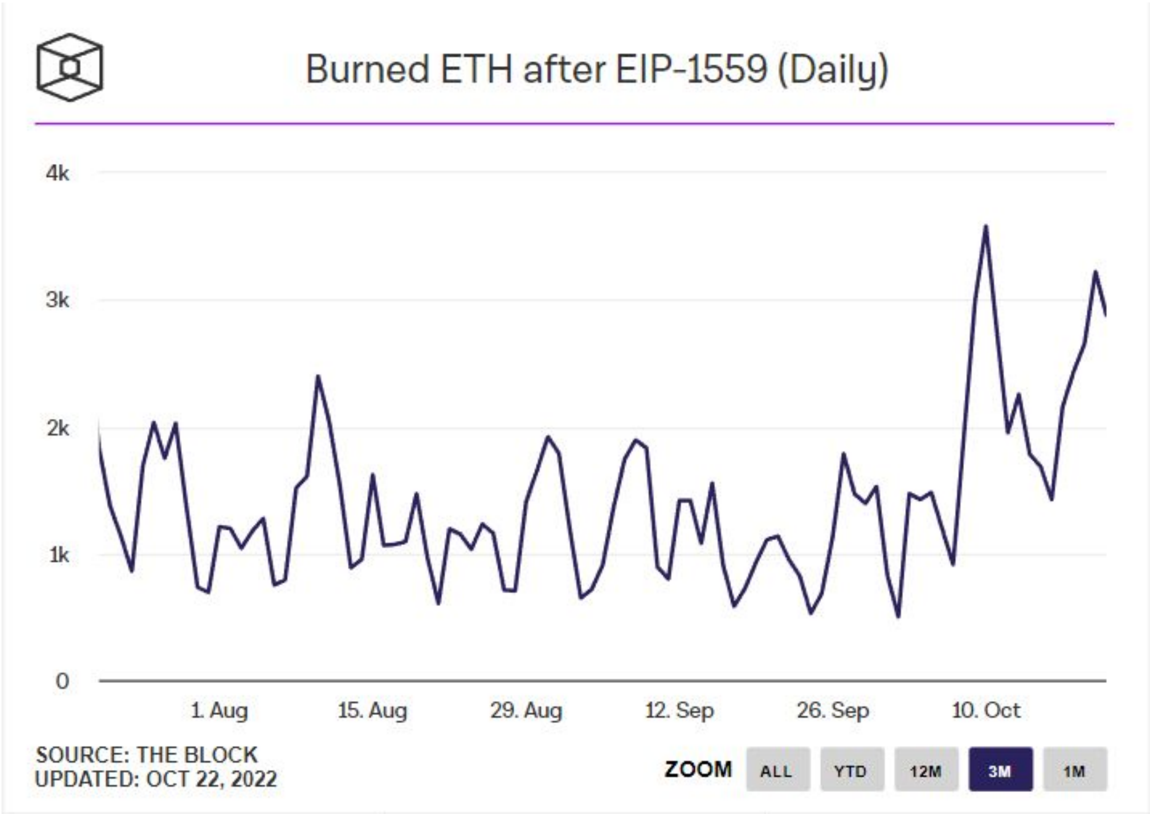


Figure 11: *Daily Burned ETH values since August. (source: TheBlock)*

The amount of ETH burned on a particular day depends on network activity because more transactions overall just mean more fees burned. The base fee increases based on how congested the blocks are.

Bitcoin mining difficulty at All-Time High

Figure 12: *BTC price chart vs mining difficulty. (source: blockchain.com)*

On 17 October, Bitcoin mining difficulty reached its all-time high of 35.6 trillion hashes. The difficulty is a measure of how difficult it is to mine a Bitcoin block, or in more technical terms, to find a hash below a given target. A high difficulty means that it will take more computing power to mine the same number of blocks, making the network more secure against attacks. The difficulty adjustment is directly related to the total estimated mining power estimated in the hashrate chart.

A high cryptocurrency difficulty means it takes additional computing power to verify transactions entered on a blockchain. The higher the difficulty needed to create a block improves a cryptocurrency network's security since attackers would need enormous resources to take control.

This sounds fantastic on paper, but in the frame of reference of miners, it's extremely debilitating, particularly for smaller or medium sized miners that survived following the miner capitulation we saw earlier this year by selling their BTC. They now face increased hashrates, which means increased power is needed to win rewards in a currency whose value is suppressed. See Miners Find Relief in Bitfinex Alpha 18 on the previous miner capitulation.

Why is this more relevant than ever?

In our previous issue we discussed the incoming volatility for Bitcoin. Mining difficulty is one of the most significant metrics to predict a miner capitulation (extremity to be determined). If we do follow another cycle of capitulation between miners→short-term holders→whales and HODLers then incoming volatility due to futures market speculation without underlying price fluctuations, indicates that we might be due for more price depreciation, triggered by a fresh wave of selling.

More volatility expected

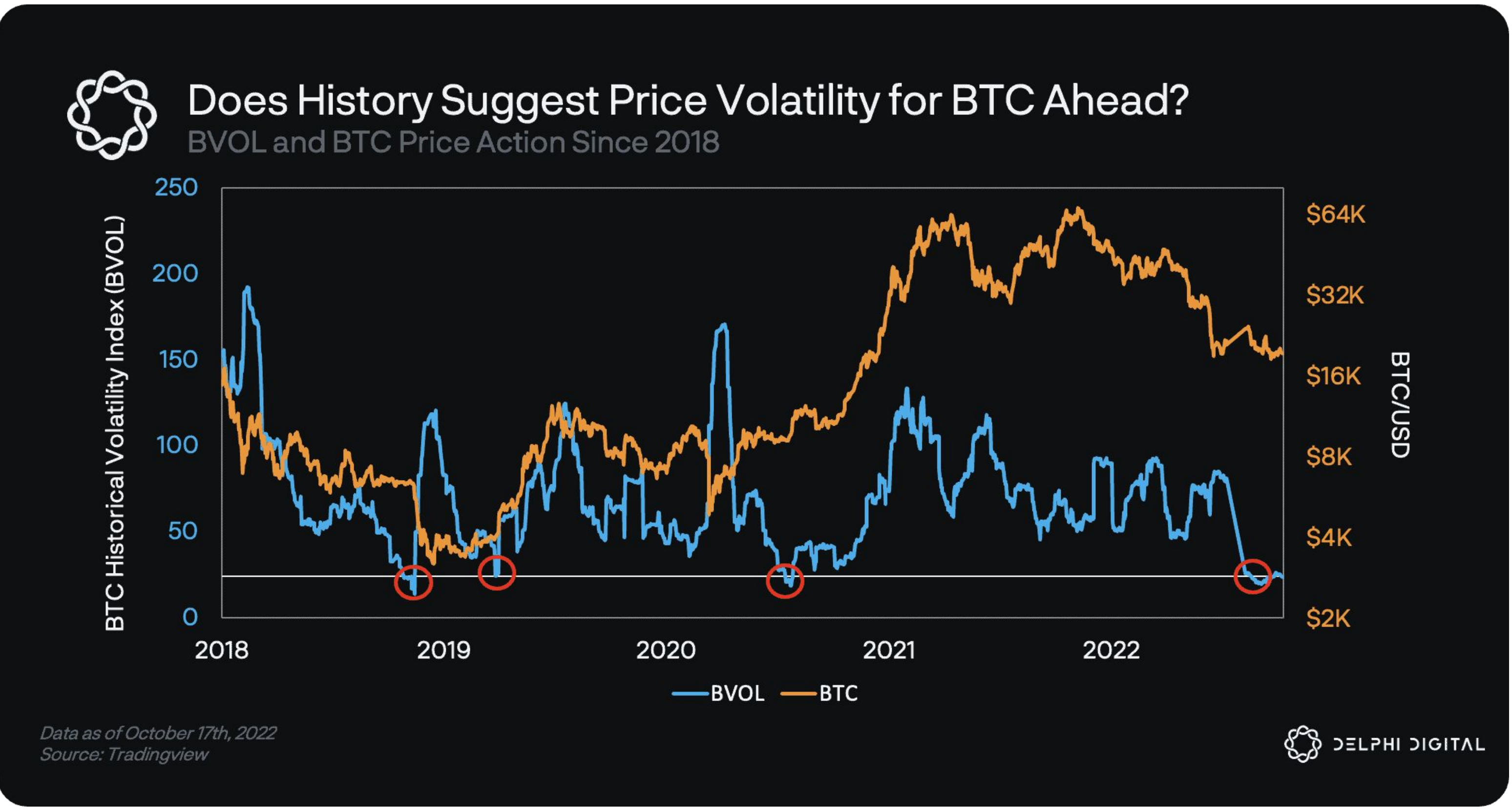


Figure 13. *Bitcoin volatility Index vs Price for the past 4 years. (source: Delphi Digital)*

The rolling 30-day annualised volatility of Bitcoin can be measured by the BitMEX 30-day Historical Volatility Index, popularly known as the BVOL Index. To be more precise, this index uses the daily time-weighted average price (TWAP) of BTC/USD.

High BVOL levels suggest higher BTC price volatility. Historically, a significant increase in BTC price volatility usually occurs after the BVOL drops below 25. The BVOL currently stands at 19.72, the lowest value since July 2020 as of October 17.

When the BVOL fell below 25 the previous three times, BTC's price moved significantly: by 50 percent in late 2018; (ii) by 240 percent in the spring of 2019; and (iii) by the first move that began the bull run of 2021.

Additionally, BTC's open-interest leverage ratio is at historic highs right now, and its volatility just started to diverge from the VIX's. Both of these findings point to the possibility of a significant crypto movement. Our belief is that this is downwards.

NEWS FROM THE CRYPTO-SPHERE

Aptos token (APT) crashes 45 percent on the first trading day.

Figure 14. *Aptos is a relatively young blockchain that has already attracted millions from venture capitalists thanks to being built with a Rust-based programming language called Move.*

The Aptos blockchain launched on Monday, 17 October but the long-awaited debut was not without its challenges. The new layer 1 blockchain, established by former Meta (META) employees that promised extremely fast transaction speeds isn't living up to those brisk expectations on its first day.

Aptos was widely criticised for the high allocation (49 percent) of its tokenomics to developers and private investors, inconsistent communications (the Discord was briefly frozen), and a significantly lower transaction throughput than promised.

The newly-launched Aptos token (APT) was down 45 percent on its first trading day. APT’s value briefly spiked to as high as $59.39 before crashing to under $10.

Famed Chinese crypto reporter Colin Wu reported that the Foundation had no strict anti-Sybil attack protocols. After the sudden release of the airdrop without the anti-Sybil attack system, APT got hit with enormous selling pressure that led to the flash crash of the token. Large selling orders launched a chain of active selling, which slowly pushed the token's price to $7.

Voyager crypto customers may recover 72 percent from the bankruptcy sale.

Figure 15. *Court documents show customers of bankrupt crypto lending platform Voyager Digital could recover 72 percent of their investments.*

Customers of bankrupt crypto lender Voyager Digital may recover about 72 percent of the value of their accounts under a tentative deal for the company to sell itself to FTX US, the digital-asset exchange.

The sale to FTX is valued at about $1.4 billion, of which $51 million is in cash.

Under the arrangement approved by US Bankruptcy Judge Michael E Wiles on Wednesday (Oct 19), the company can cancel its deal with FTX if it gets a higher offer that pays customers more. The sale can't close until Wiles approves Voyager's bankruptcy pay-out plan, which may be considered in December.

Voyager has asked the judge to give it permission to send the pay-out plan to creditors, including crypto customers, for a vote. Even if creditors vote in favour, Wiles still has the final say on the sale. Voyager's customers have broadly welcomed the FTX acquisition and see the 72 percent recovery of accounts that have been frozen since July 1, as positive.

Countries and institutions continue crypto adoption in the bear market:

France approves its third-biggest bank to operate digital asset services

***Figure 16**. French banking giant Société Générale has been approved to operate digital asset services through its subsidiary Forge.*

The digital asset subsidiary of Société Générale Group, Société Générale-Forge, is now registered with France's financial regulator, the Autorité des marchés financiers (AMF). Société Générale is France's third-largest bank by total assets.

Société Générale-Forge obtained registration on Sept. 27. The company is now authorised to offer digital asset custody services, the purchase and sale of digital assets for legal tender, and the trading of digital assets against other digital assets in France.

Along with Crypto.com, other overseas crypto exchanges, including Luno and Binance, have acquired licences in France as the country seeks to establish itself as a hub for blockchain technology.

Mastercard will help banks offer cryptocurrency trading.

Figure 17 *The payments giant intends to introduce a program that would assist financial institutions in offering Bitcoin and cryptocurrency trading*

Mastercard has launched a program with the crypto trading platform Paxos to let financial institutions offer cryptocurrency trading to their customers. The payment giant's new Crypto Source program will connect the crypto trading platform Paxos with banks.

Paxos offers similar services to PayPal, which launched crypto services in late 2020. The platform is known for providing blockchain infrastructure that allows other companies to offer crypto-related products and services.

Paxos will handle custody and trading, while MasterCard will handle regulatory compliance and security.

Mastercard's latest move comes a week after rival Visa announced a "long-term global partnership" with FTX exchange and expanded its crypto debit cards to Asia, South America, and Europe.

Fidelity's crypto platform to add Ethereum trading for institutional clients

Figure 18. *Fidelity Digital Assets will allow clients to trade Ethereum from Oct. 28*

Institutional clients of Fidelity Digital Assets will be able to trade ETH beginning Oct. 28, according to a memo sent out by the investment firm.

The move is the latest step towards making crypto available to institutional clients by Fidelity, the parent company of Fidelity Digital Assets. Earlier this month, the giant asset management firm said it started a new Ethereum Index Fund for accredited investors after raising about $5 million since sales began on Sept. 26.

According to the memo, Fidelity's clients will be able to buy, sell, and transfer ETH.

Tether USD₮ Available in Over 24,000 ATMs Across Brazil on 3 November

Figure 19. *TEther coin available in 24,000 ATMs in Brazil*

Stablecoin issuer Tether will make Tether tokens (USDt) available at 24,000 ATMs in Brazil starting Nov. 3, the firm said on Thursday, 20 October.

Tether will enable the conversion of USDt to Brazilian reals through an agreement with Brazilian crypto services provider SmartPay, which is integrated with TecBan. This local company owns 24,000 ATMs under the brand name of Banco24Horas. Users will have to use the SmartPay website and use their SWAPiX service. SWAPiX is a SmartPay solution that allows the conversion of both Crypto to Brazilian reals, and vice versa.

Beginning in February, the company will allow users to deposit Brazilian reals at ATMs and receive USDt in their wallets.

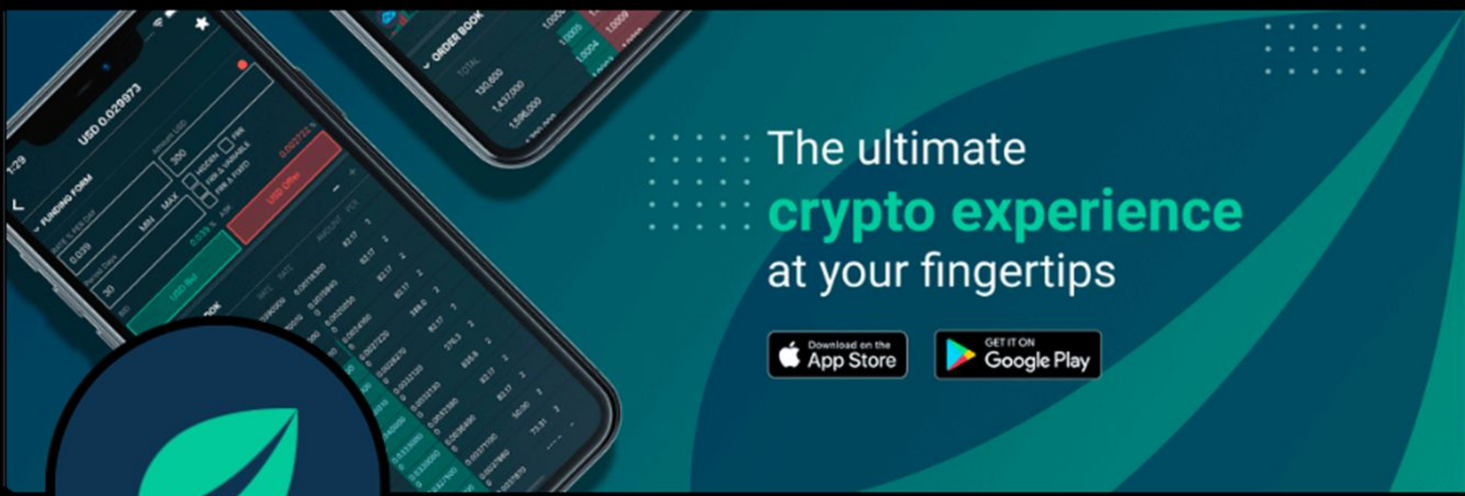
Hong Kong is considering allowing retail investors to invest directly in virtual assets.

Figure 20. *People use a Bitcoin ATM in Hong Kong on December 8, 2017*

Hong Kong is taking action to regain its status as a global cryptocurrency hub by launching several legal initiatives related to the crypto industry, unlike mainland China.

The government of Hong Kong is considering introducing its own bill to regulate crypto, according to Elizabeth Wong, head of the fintech unit at the Securities and Futures Commission (SFC).

According to some reports, Hong Kong has already been succeeding in terms of crypto adoption so far. Considering several factors like crypto ATM installations, pro-crypto regulations and start-up culture, Hong Kong was ranked the best-prepared territory for widespread crypto adoption in a study by Forex Suggest published in July 2022.



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