BITFINEX Alpha

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INTRODUCTION

Welcome to the latest edition of the Bitfinex Alpha. In this issue we continue to look at what the macro indicators are telling us about the state of the US economy; what the on-chain data is telling us about the state of the crypto market; and we round-up the crypto news.

We are on the cusp of a recession. The US treasury yield curve is inverted and the Fed is making increasingly hawkish noises about another substantial rate increase at this month's FOMC. This week, we analyse the G5 Credit Impulse series as a leading indicator of economic health and the Fed dot plot to see how far rates could rise. We also note how crude oil prices - which are considered a key determinant in cost and inflation calculations - are actually falling, but that this is not being translated into prices paid at the pump. The road to lower inflation will be a long one. Similarly, equity prices, judging from historic P/E ratios for the S&P 500, are still above their lows. Further falls in asset prices could still come.

For our on-chain section, we note that crypto exchange bid/ask spreads and At the Money implied volatility indicate that liquidity continues to fall - and with it the likelihood that volatility will increase. We also observe the substantial inflows into Convex Finance as investors continue to seek crypto yielding assets.

A key question remains: have we reached the bottom for bitcoin and other assets? We conclude that almost half of the bitcoin purchased is now being held at a loss, though exchange outflows to whale-style wallets continues apace. In the derivatives markets, there is also an interesting story being told by the decline in open interest, but a rise in the OI to market cap ratio.

This week we also break down the bankruptcy filing by Voyager, provide an update on the health of Celsius and review the statements by FTX CEO Sam Bankman-Fried on the condition of third tier exchanges.

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MACRO ANALYSIS

Is A Recession Here?

In our June 27th issue (link: https://bit.ly/3RnVWZt), we discussed the inversion of the yield curve.

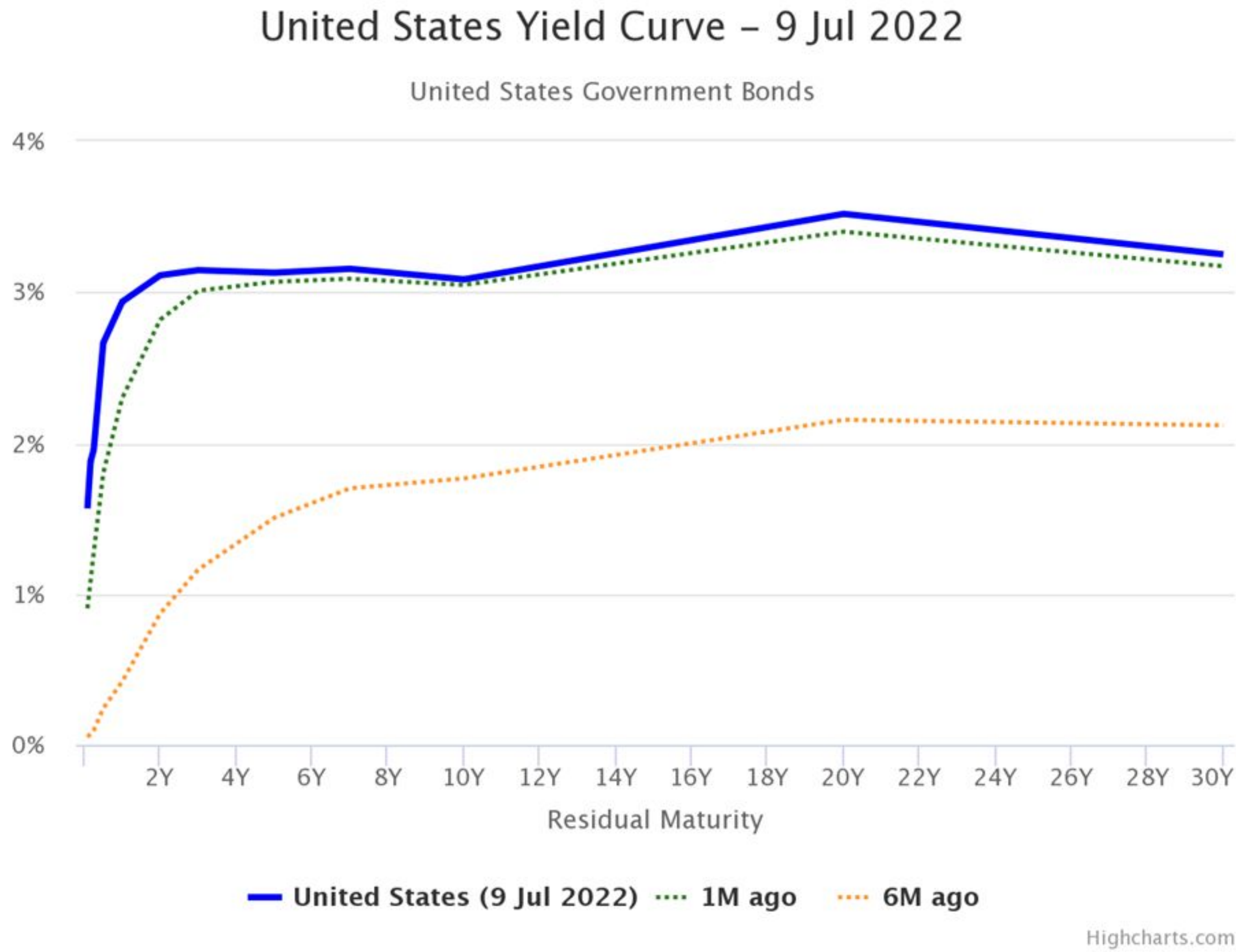


Figure 1. United States Yield Curve (source: Highcharts.com)

The spread between the 10 year and 2 year treasuries is -2.7 basis points, implying that the yield curve is already inverted for long-term vs short-term maturities. Inversion of the yield curve is usually interpreted as an early sign of recession. Economic conditions also appear to be worsening as the labour market continues to show increased weakness and the economic slowdown becomes more evident.

Indications from Federal Reserve chairman Jerome Powell, is that a 50-75 bps interest rate hike is likely at the July FOMC meeting. Christopher Waller and James Bullard, two of the Fed's policymakers who are among the most vigilant for any further signs of continued inflationary pressure, are endorsing a 75 bps hike this month and have also stressed the need to move to a more restrictive setting as quickly as possible. Waller however has downplayed the inversion of the yield curve, though this is typical of the Fed viewpoint, and they had similar stances when on yield curve inversion in 1989, 2000 and 2007, which were all later followed by recessions.

In our evaluation of the probability of a recession, we should also factor in another forward-looking metric: the G5 Credit Impulse series which is developed by Alfonso Peccatiello, and measures the pace of change of credit creation in the five largest economies worldwide. It serves as a very reliable leading indicator (6-15 months lead time) for economic growth and the performance of several asset classes.

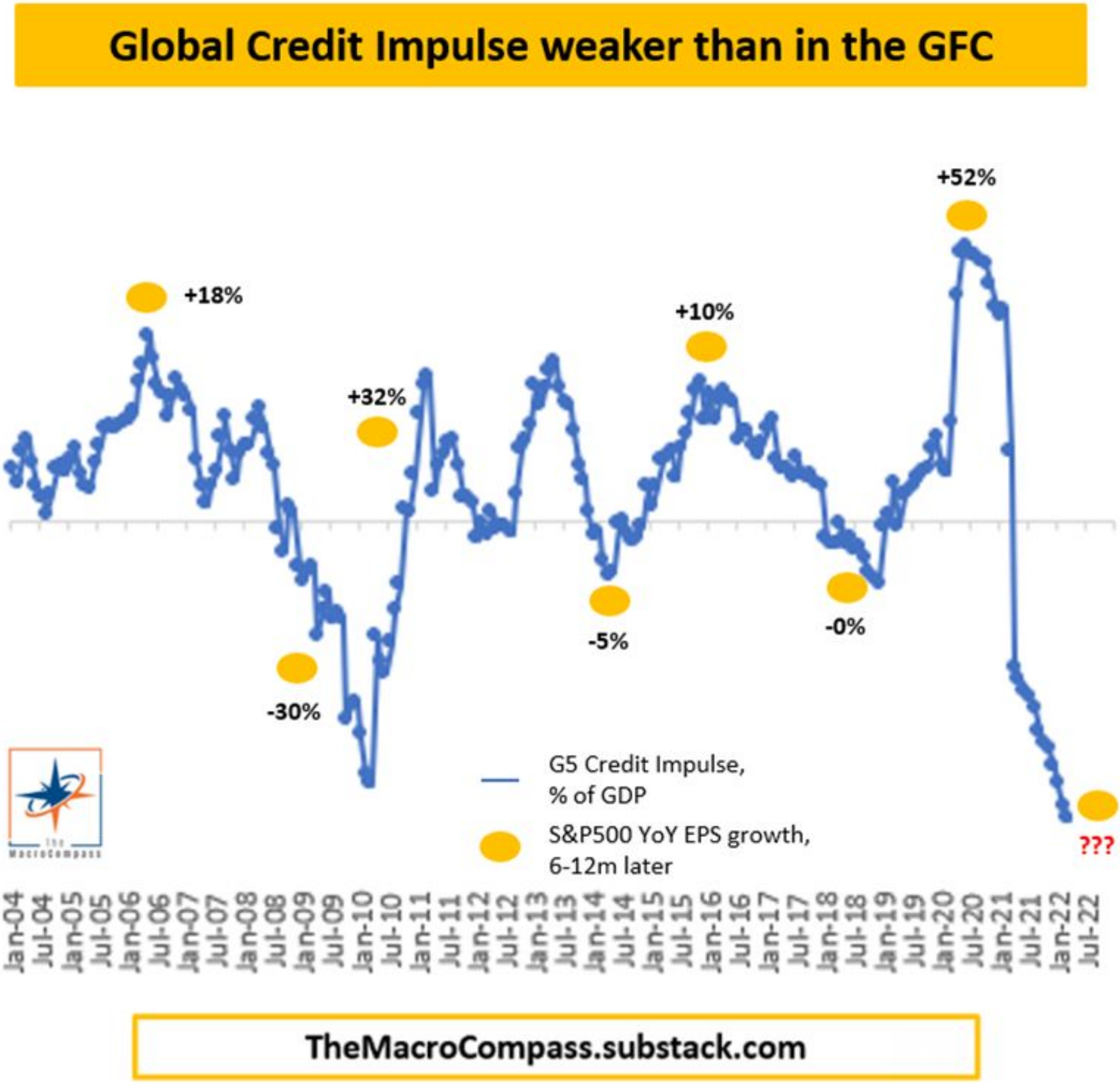


Figure 2. G5 Credit Impulse, GFC: Great Financial Crisis of 2007-08(source: TheMacroCompass)

A few quarters worth of strong acceleration or, conversely depreciation, in the S&P 500's YoY earnings per share has traditionally been predicted by abrupt changes in direction of the Credit Impulse series.

Courtesy of the massive fiscal drags and tepid refinancing activity in the private sector, we are now witnessing a contraction in credit creation even faster than the one we experienced during the Great Financial Crisis of 2007-08.

As a result, we should not discard an earnings recession in late 2022/ early 2023.

The Federal Reserve’s policies will however ultimately depend on their estimation and reaction to the data we analyse and not on the data itself. Thus, a pivotal part of the macro analysis involves looking at the Fed’s dot plot.

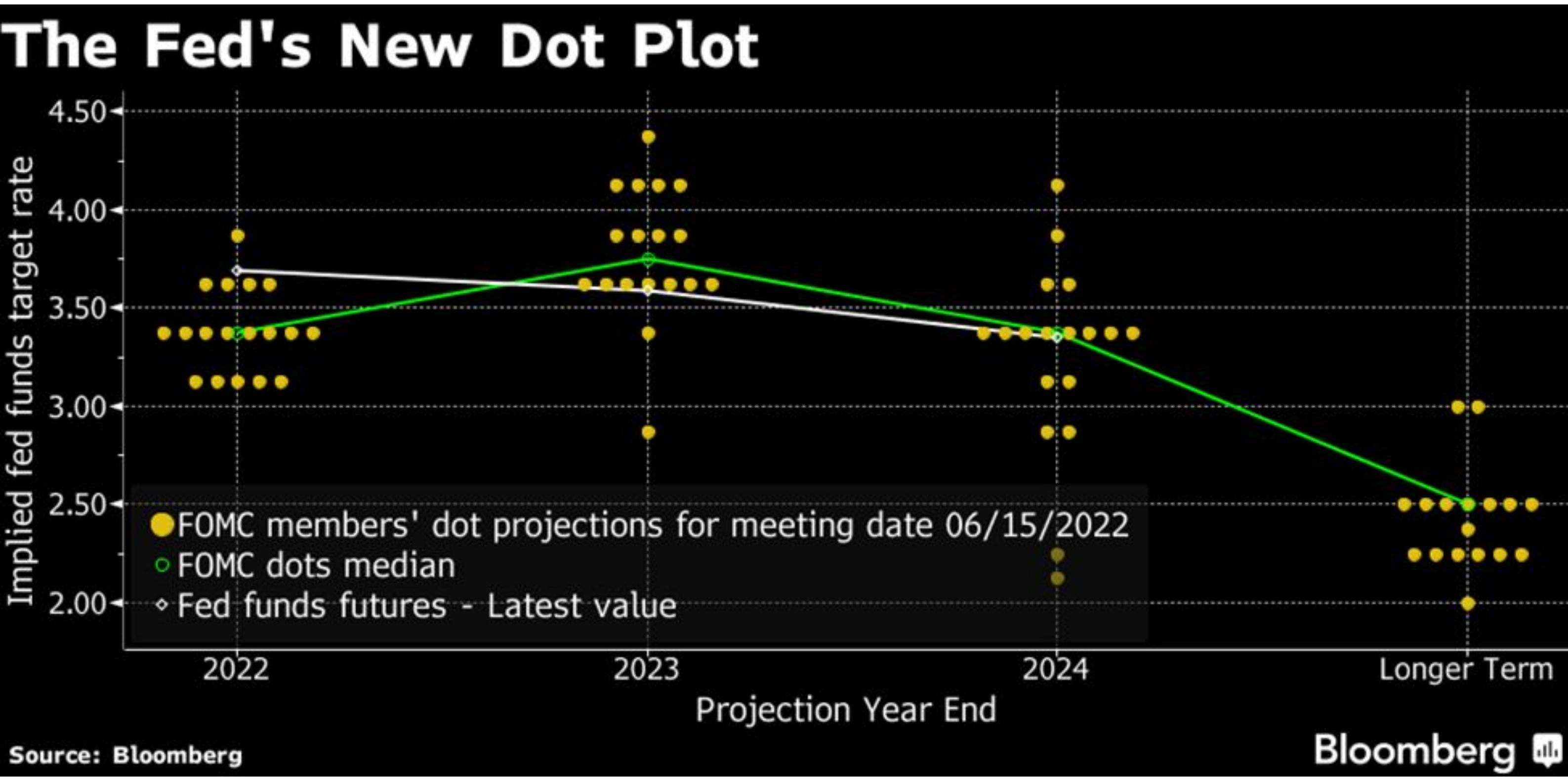


Figure 3. The Fed's June 2022 Dot-Plot (source: Bloomberg)

As per the Fed’s dot plot, the US central banks projection for interest rates, the median end-of-year outlook moved up to 3.4% for the fed funds rate.

The Fed is known to not carve its projections in stone and it has historically been seen that projections change with economic data.

The critical question here is whether we will hit the end-of-year Fed’s Funds rate target or The Fed will pivot and end the year with rates lower than projected.

How the rates play out will depend on how it impacts demand, which the Fed will aim to decrease for prices to come down and stabilise.

Gasoline Price

In the thick of the energy supply crisis, it is notable that crude oil prices have started to come down, easing one major contributor to inflationary pressure. This is expected in an environment of recession fears, as demand for oil and gas will reduce significantly in a recessionary phase.

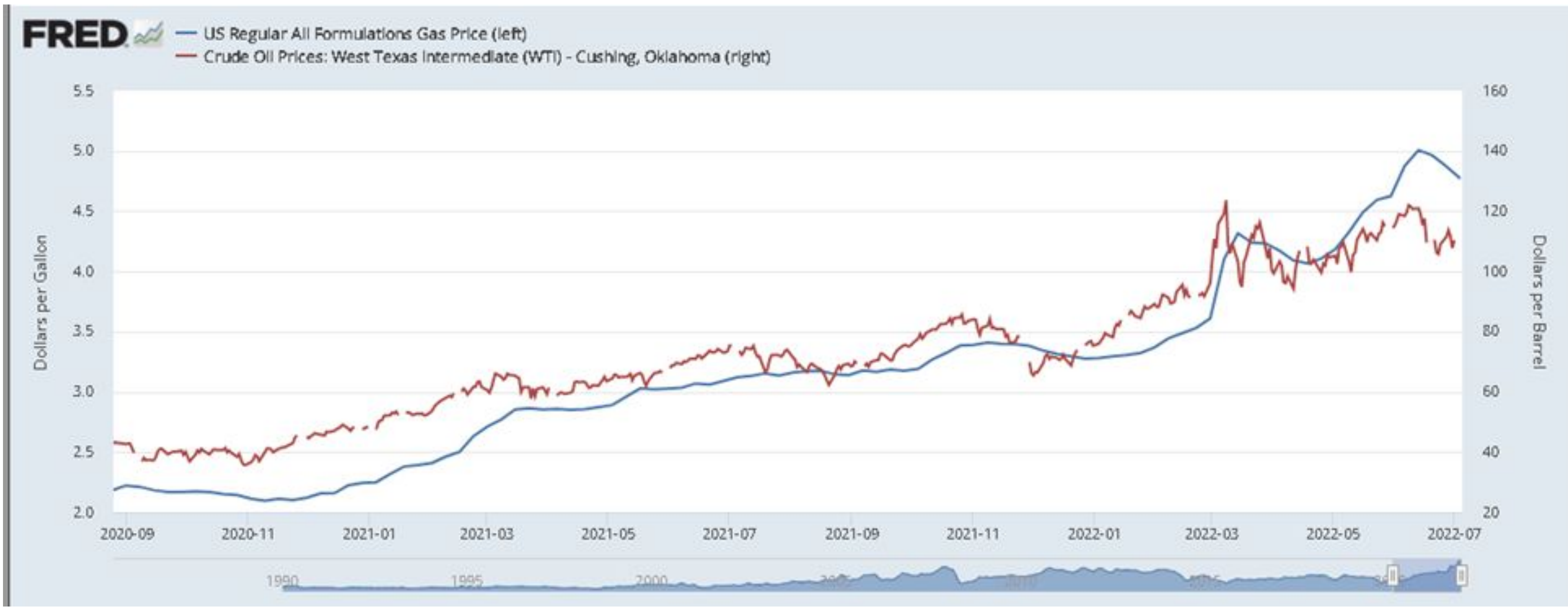


Figure 4. US Regular Gas Price & Crude Oil Prices (WTI); Source: Energy Information Administration

However, gasoline prices are lagging vis-a-vis crude prices. Fuel prices affect not just the direct cost for consumers to fill up their tanks but also indirectly affect the cost of other goods and services, with fuel being an essential factor in production, transportation and distribution. As of May 2022, the spending on gasoline and other motor vehicles as a percentage of consumers' disposable income had gone up to 2.5%, the highest in 8 years, as seen in figure 5 below.

Figure 5. Spending on Gasoline and other Motor Fuels as a Share of Disposable Personal Income; Source: Bureau of Economic Analysis

The price paid at gas stations has always been an interweave between politics, government policies, supplier capacity and in rare cases, international military conflicts. This year, the Russia – Ukraine conflict has created an energy crisis that has catalysed the rise of fuel prices. When the US and its allies announced plans to embargo energy exports from Russia, crude oil, an input for refineries, surged in prices. While suppliers are still recovering from Covid disruptions, consumer fuel demand post-lockdowns has flooded in, which has caused enormous supply stress. While the pandemic recovery has boosted demand, the conflict between Russia and Ukraine has tightened supply.

If printing more money couldn't fix inflation, how about printing more barrels of fuel? If the government could produce more fuel, it would have solved the supply problem. Although crude oil prices are cooling off, gasoline prices continue to remain high. The lack of spare refineries to turn crude oil into fuel has caused gasoline and diesel to stay expensive amidst falling crude oil prices. Starving energy sector from investments in refineries has now taken its toll in an unprecedented economic headwind.

President Joe Biden called for a pause in gasoline tax in late June as a "band-aid" solution for rising prices. However, this short-term relief may have long-term repercussions as cutting fuel taxes may increase demand which does not help lower costs.

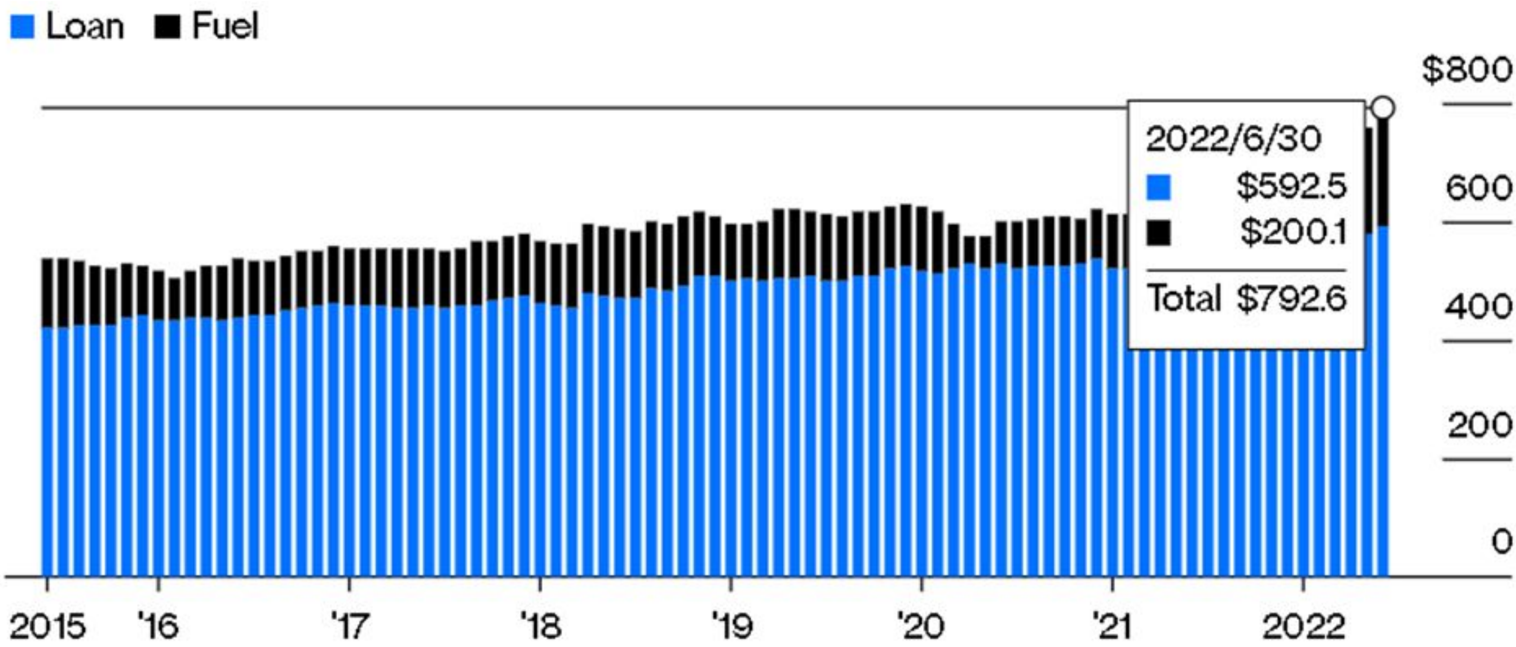


Figure 6. Implied Average monthly Payments for a Typical New Vehicle; Source: Energy Information Administration (EIA)

Consumers perceive gasoline as the most visible cost of driving, but, the cost of owning a car should also be considered. While external factors influence gasoline prices, the Federal Funds rate directly influences interest paid on auto loans. According to the Bureau of Economic Analysis, the combined cost of paying all instalments for a purchased vehicle and fuel to run it has increased to 6.5% of disposable income, the highest in the last decade.

Rising fuel costs have not held back consumer demand for gasoline, a factor that has kept prices afloat. However, gasoline price increases, in conjunction with higher vehicle ownership costs, is likely to be unsustainable. If the Fed continues to increase interest rates in the coming months, we might witness either a downtrend in prices and/or a reduced enthusiasm for gasoline.

Stock Market And P/E Ratio Update

Last Tuesday, after dropping 2%, the S&P 500 retraced the fall with an uptick. The last time we saw the S&P 500 reverse intraday drops of about 2% so rapidly was in 2009, and signifies the turbulence of today's market. As discussed in our previous issue, the S&P 500 posted its worst first half of the year since 1962, and many investors worry it is yet to hit bottom.

Investors determine the value of stocks, whether overvalued or oversold, through the price to earnings or P/E ratio. The P/E ratio is the ratio between the stock's price per share to its earnings per share. The P/E ratio, also known as the price multiple, is a valuation multiple showing how much investors are willing to pay for a company's earnings.

$$\text{PE} = \frac{\text{Stock Price}}{\text{Earnings Per Share}}$$

A compression in price multiples reflect a decline in stock prices, and occurs when investors see that a stock has a lower "true value", especially if the expected yield of owning a safer asset, like a bond, is higher. This plays out when interest rates are higher, thus, investors require a higher return for owning a stock than government bonds. How interest rates affect an asset's present value is just a straightforward application of the concept of the time value of money where the interest rate is inversely proportional to the Present Value (PV) or current price.

$$PV = \frac{FV}{(1+i)^n}$$

As of July 7, the S&P PE ratio based on trailing twelve-month earnings is 19.72. Despite the valuation correction, this is still above the valuations in past bear cycle bottoms, with an average PE ratio of 11.7.

Figure 7. Price to Earnings Ratio of S&P 500 based on 12-month Trailing Earnings Report; Chart Source: Multpl.com

	Jun-22	Average at past bear market bottoms
P/E ratio	18.0	11.7
CPI (%)	8.6	3.5
Unemployment rate (%)	3.6	5.8
High yield spread (bps)	569.0	1,269.0

Source: Strategas

Bloomberg

Figure 8.

The P/E ratio can however, fluctuate a lot due to peaks and troughs of the market, particularly during earnings periods where stocks can see some upward or downward re-rating. For long-term analysis, analysts find it helpful to use the Cyclically Adjusted Price Earnings (CAPE) ratio, which looks at the current price divided by earnings over the past ten years to smoothen out volatilities.

Figure 9. S&P 500 P/E Ratio Vs. Historical Average Since 2000; Chart Source: www.currentmarketvaluation.com

As of July 7, 2022, the S&P 500 CAPE ratio is at 28.7, which is 43% higher than the modern-era average of 19.6. With this current valuation, the index still is overvalued. If it should come down to its historical average, then S&P 500 would be priced at around $2200. If we are to suggest that the current P/E or CAPE ratio is the bottom, it would mean that investors believe that stocks should be priced with a higher premium or that earnings will keep growing. Given the economic outlook, this would seem too much to ask - even from an optimistic standpoint.

$$Stock\ Price = \frac{P}{E}\ x\ Earnings\ per\ Share$$

If we break down the P/E equation, we see that the stock price is a component of the price multiples or P/E ratio and the earnings. While the multiples compression brought down S&P 500 price from P/E valuation, an earnings compression will bring down the index price due to a decline in businesses' materialised profits.

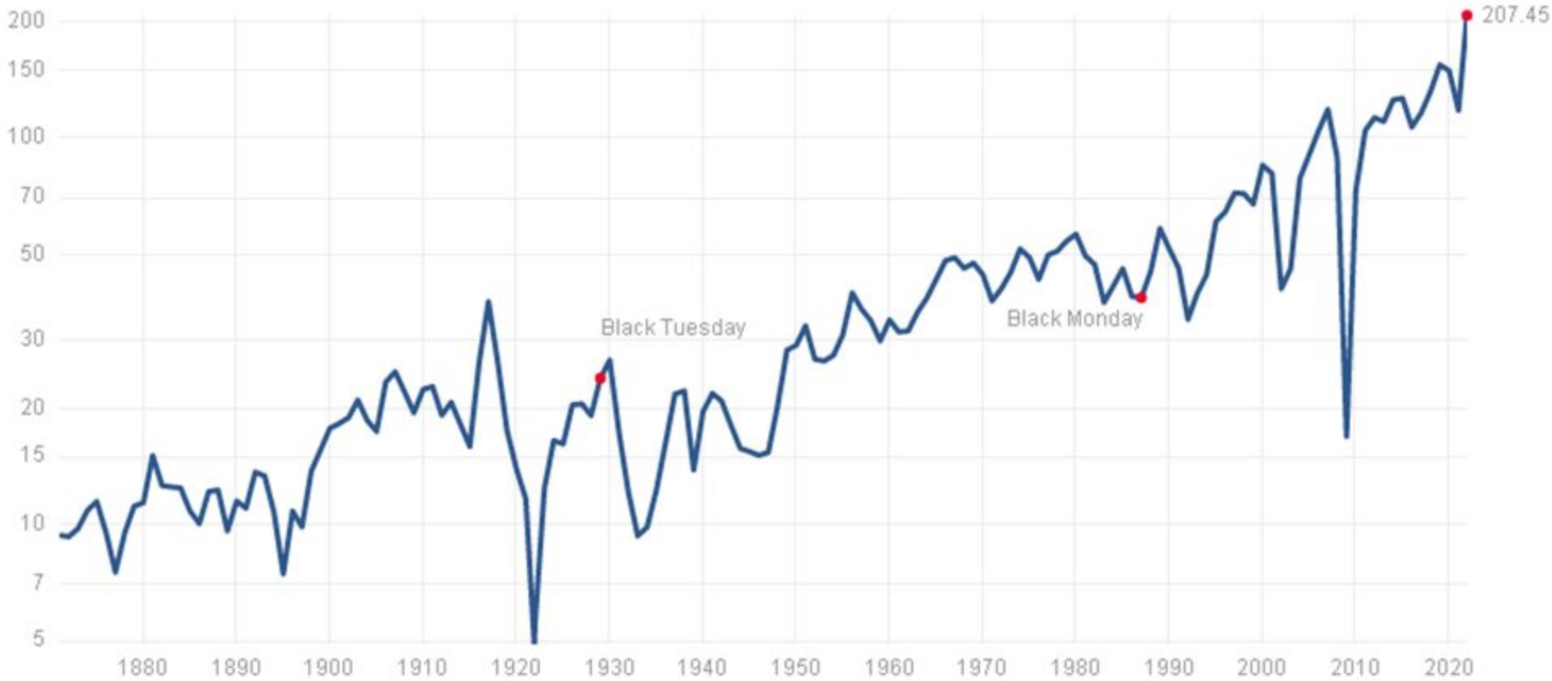


Figure 10. S&P 500 Earnings Per Share. 12-month actual earnings per share — inflation-adjusted

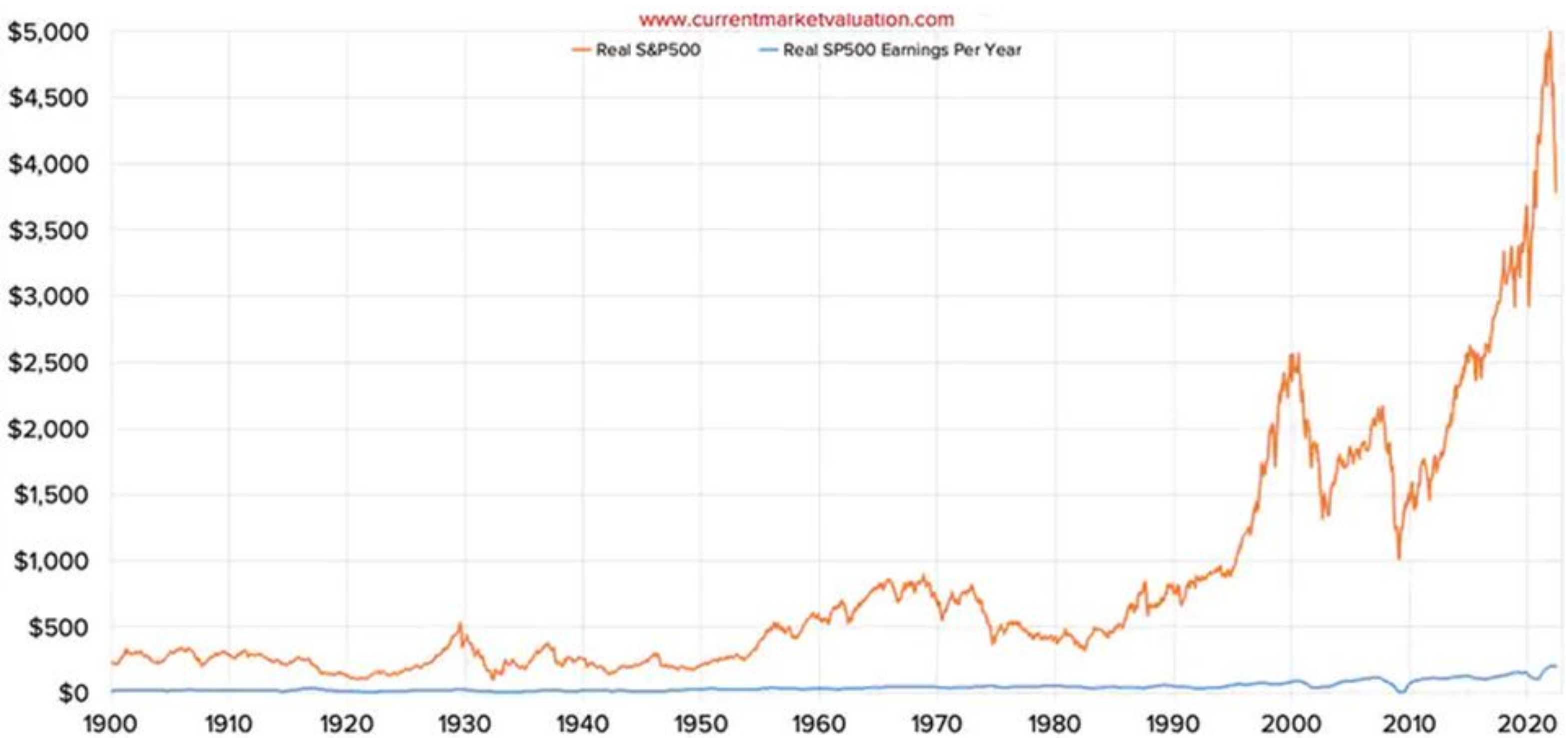


Figure 11. S&P 500 Price and Earnings

As seen on the S&P 500 Earnings Chart, earnings have not decreased significantly. Both price and earnings have been rising while the S&P 500 has been hovering above them. Historically, recessions lead to a 26% decline from peak to trough in S&P 500 earnings. The material downswing of earnings is a probable scenario, because the underlying labour market and real estate market, as well as demand for commodities, are either peaking or showing signs of softening.

As the year unfolds, the market could undertake two possible paths. Either earnings expectations will stay buoyant, and prices will recover, or earnings will be influenced by an eroding economy and prices will follow earnings downward.

WHAT'S ON-CHAIN THIS WEEK?

Volatility Continues:

The crypto market saw an atypical uptick this week. Although BTC is still hovering over the 2017 cycle All-Time High, the strength in this move up was apparent with Bitcoin and Ethereum closing the week at +8.01% and 8.76% respectively while the Total 3 index (total crypto market cap excluding BTC and ETH) closed it at + 3.67%.

Recently, UST's de-pegging and the myriad of crypto lenders and funds declaring bankruptcy alongside a liquidity crisis has exacerbated BTC's performance compared to equities in an already uncertain macroeconomic environment. It might be prudent to hedge all long bets and it is a little premature to call a bottom yet, but this week was definitely a positive sign for things to come.

As an investor, can one expect this atypical uptick to push further or is it simply some relief before continuation downwards? All on-chain data offers only one suggestion, expect volatility.

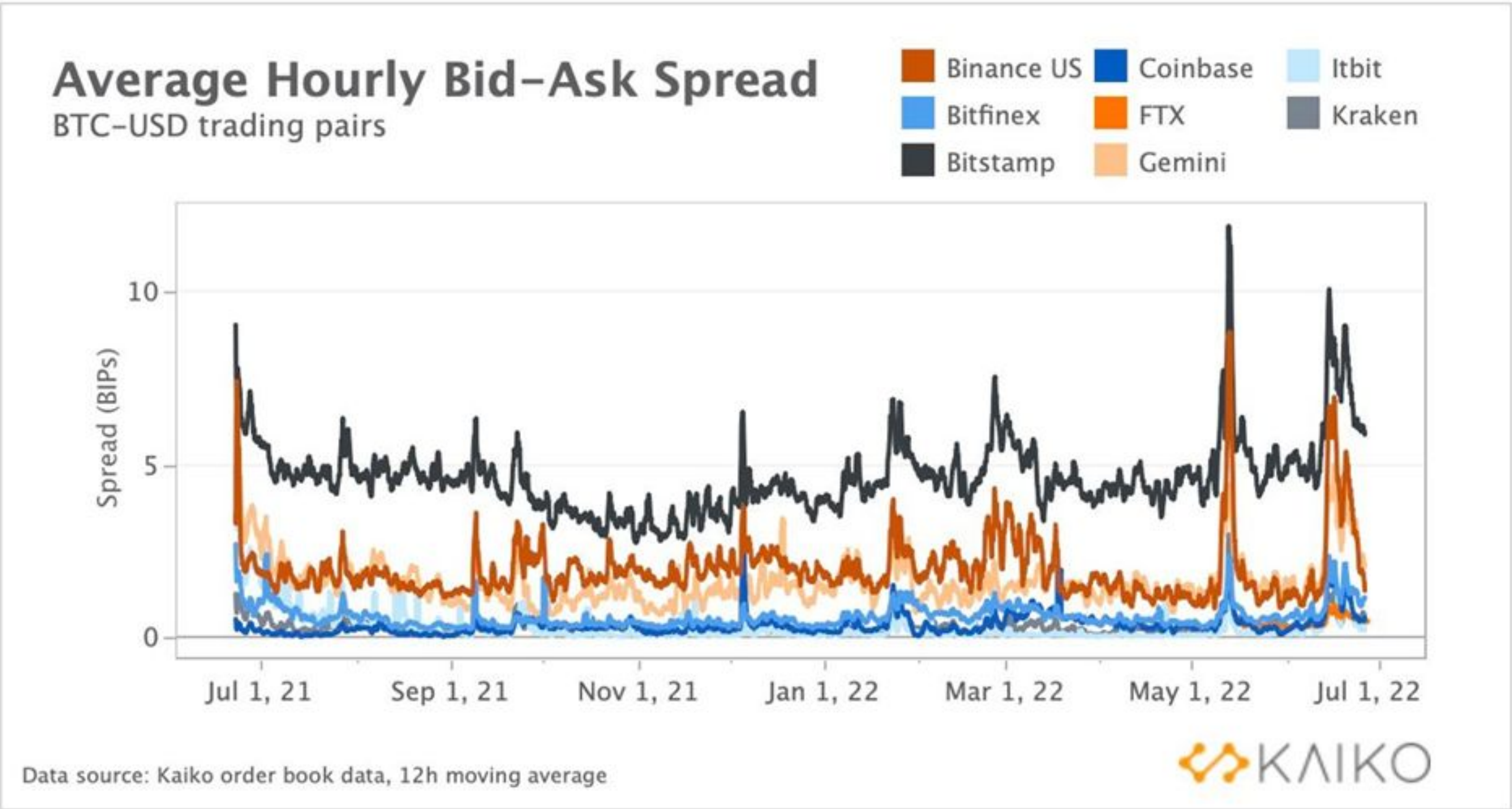


Figure 12. Average Bid-ask spread across major exchanges (source: Kaiko)

Bid-ask spreads across exchanges reached their second widest levels in over a year as volatility picked up heading into the end of Q2. In our previous issue (link: https://bit.ly/3Rx9DFw), we shed light on the absence of retail positions in the futures and options markets. This further adds to the liquidity crisis and further makes it difficult for larger players to deploy sizable positions in the current market environment.

Another metric from the options market, which supports this conclusion is the ATM (At The Money) implied volatility measure.

Figure 13. Hourly ATM implied volatility. (source: BlackScholes)

The spikes in ATM implied volatility during May and June this year correspond to the LUNA crash and the Celsius credit crisis, respectively. The increased demand for downside protection we observed throughout 2022 is now supported by increased ATM implied volatility.

Since the dramatic selloffs in the spot market that caused spikes in outright implied volatility, first with the UST depeg event in May and then again with the Celsius crisis in June, ATM volatilities have since settled in a narrow band between 75% and 80%. This is significantly higher than the ATM volatility level of about 60% observed before the LUNA crash.

Convex Finance sees record breaking supply

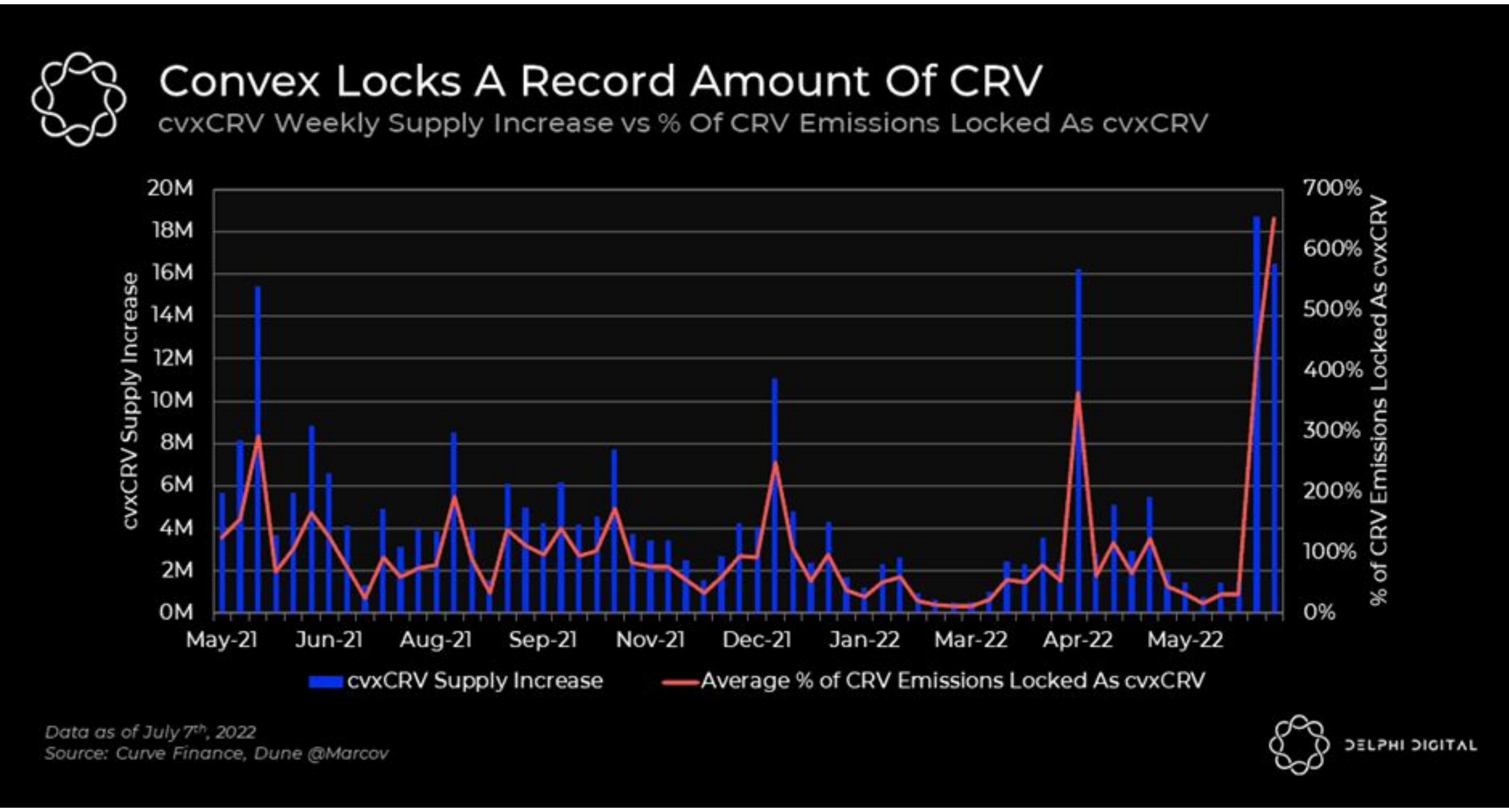


Figure 14. cvxCRV Supply increase and average % of CRV emissions locked (source: Delphi Digital)

Convex Finance (the DeFi protocol that allows Curve liquidity providers to earn a share of Curve trading fees) experienced a record-breaking period which is being dubbed as the "Great Lockening." The protocol received its largest supply increase of cvxCRV (a tokenized version of veCRV, which is CRV that is locked for a period of time) within any two-week period since its inception. Since June 27th, a whopping 35M CRV has been locked taking the total supply of cvxCRV up to ~274M.

Frax holds a significant amount of CVX and is the largest stablecoin distributor in the Curve ecosystem. It has been admitted to the veCRV whitelist and will adhere to the following conditions:

- Lock at least 5% of CRV farmed as veCRV
- Use the remaining CRV to support the cvxCRV peg or convert it directly into cvxCRV

This proposal along with having Frax help in upholding the cvxCRV peg is a huge advantage to the Convex ecosystem. The massive increase in cvxCRV supply equates to more gauge power controlled by each CVX holder, thus allowing Convex to direct a larger share of Curve's future emissions. As per Delphi reports, each locked CVX now controls over 5.4 max locked veCRV, a ratio not seen since March 3rd, 2022.

Capitulation?

Among the price action trading community, there is a bias as to what capitulation must "look" like on the charts. On-chain research, alongside analysing multiple cycles across global markets, suggests that as a market matures over time, the "bottom" for the mid to long term has limited characteristics and large wicks on red candles are not one of them. It is important to understand the difference between correlation, causation and coincidence while using any metric to form a view on market trends.

In our view the most important indicators of market dynamics are the sharp fall in the number of active market participants, in the form of retail investors and traders; and a significant drawdown for a multitude of large entities.

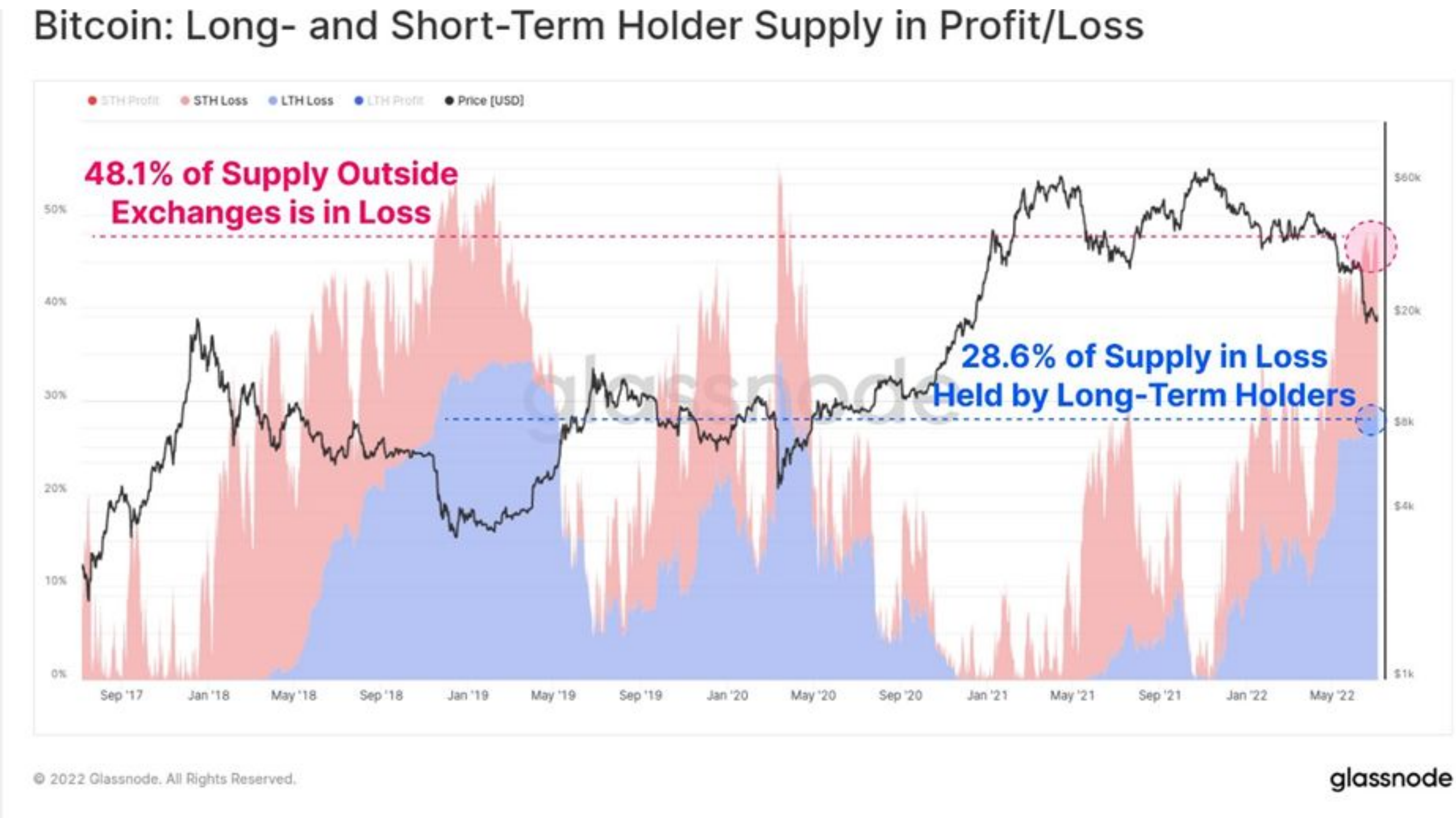


Figure 15. Long and Short-term holder supply in profit/loss (source: glassnode)

The proportion of Bitcoin supply in loss has hit 48.1% of all coins held outside exchanges. Of this BTC in loss, almost 60% of them are held by Long-Term Holders (28.6% of total). This essentially means that over 48.1% of all Bitcoin purchased was bought at higher prices.

Both metrics are at similar levels to the Nov-Dec 2018, and March 2020 capitulation phases.

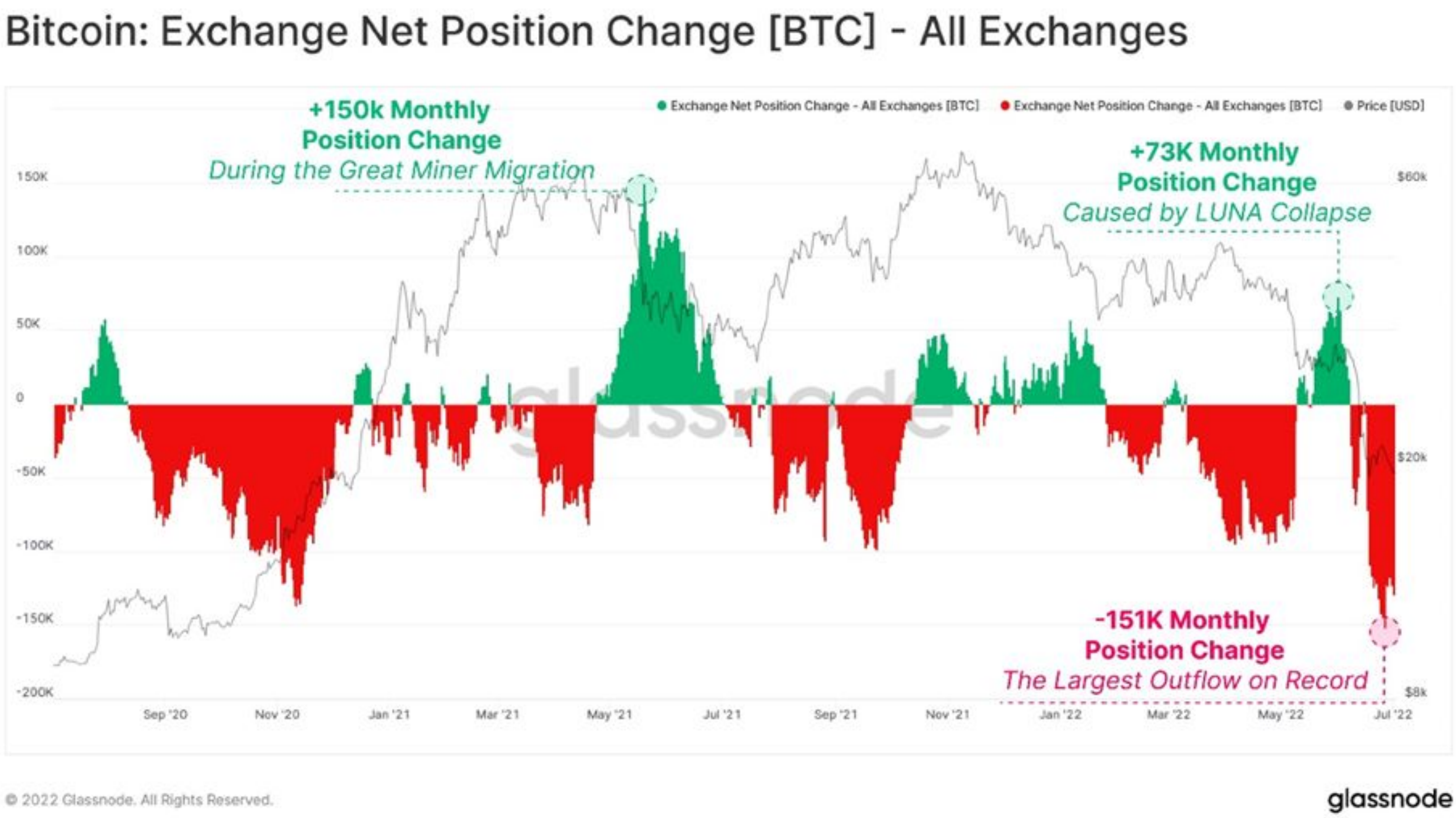


Figure 16. Exchange inflows and outflows for BTC (source: glassnode)

Unlike other markets, the crypto market is composed of assets that are maintained on a public ledger. This allows us to witness whale accumulation in real-time. Total exchange outflows during June peaked at 151k BTC/month, the major recipients being whale-style wallets. Despite weak price action over the past month and a half, this is the most aggressive outflow rate for Bitcoin in the asset's history.

Open Interest and Funding Rates

From a derivatives perspective, there are a few trends one must rely on to gauge formation of a bottom. These trends comprise of heavy underlying spot bidding and a counter-trend consensus from derivatives traders. For example:

- spot buying + derivatives aggressively shorting
- spot selling + derivatives aggressively longing.

One of the major things to watch is open interest, this allows us to know the number of open contracts. Open interest can work as a metric that tells us the amount of gas in the tank for a particular move without indicating direction.

Thus, to use open interest to indicate a bottom, it is essential to look at its behaviour in context with the price. We want to see open interest rise in both USD nominal terms and relative terms (OI compared to BTC's market cap).

Figure 17. Open interest dominance for BTC (source: glassnode)

Figure 17 above shows a decreasing trend in OI along with price since the beginning of the year. However, a glass half-full more optimistic takeaway would be the massive increase in the OI/market cap ratio highlighted in blue. This could indicate that bottom formation may have started but across all metrics, expecting a V reversal would be premature.

NEWS FROM THE CRYPTO-SPHERE

Voyager files for bankruptcy after freezing withdrawals

Figure 18.

Voyager Digital filed for Chapter 11 bankruptcy on Wednesday, less than a week after halting trading and withdrawals on its network. There are more than 100,000 creditors listed in the petition, which was submitted to the Southern District of New York. The Toronto-based company reported estimated crypto assets worth between $1 billion and $10 billion.

Its largest creditor, Alameda Research, a quant crypto trading company, reportedly has $75 million in unsecured debts.

Following Three Arrows Capital (3AC), a cryptocurrency hedge fund that owes Voyager millions of dollars, filing for Chapter 15 bankruptcy on Saturday, Voyager made its statement a few days later.

“The protracted volatility and contagion in the cryptocurrency markets over the past several months, together with Three Arrows Capital's default on a loan from the company's subsidiary, Voyager Digital LLC, have forced us to move decisively right now”, according to CEO Stephen Ehrlich. He continued, "The chapter 11 procedure offers an effective and fair method to maximise recovery."

A firm can restructure its assets and obligations under Chapter 11 bankruptcy and continue to operate. Companies that use this procedure must consider the interests of their creditors.

Ehrlich stated in a tweet that clients of Voyager who have cryptocurrency in their accounts would get a combination of their cryptocurrency holdings, money recovered from 3AC, common shares in the newly reformed company, and Voyager tokens.

When Voyager attempted to recoup $657 million that was reportedly lent to 3AC, it raised signals of concern. It had $15,250 BTC ($307 million at the time) and an additional $350 million in cash as its hedge fund exposure. The decision of 3AC to declare bankruptcy shows that the loan repayment did not occur. Last month, Voyager obtained $500 million in loans from Alameda Research to protect client assets. At the time, the company had released a statement that rumours that the company was bankrupt were "unequivocally incorrect."

Voyager stopped accepting trades, deposits, withdrawals, and loyalty points on July 1 while looking for "strategic options." Trading is still halted at the time of writing.

According to statistics from our sources, the value of Voyager's token, VGX, decreased by 74 percent in the past month, bringing its year-to-date value to $0.23. The company's stock price recently traded at $0.35 Canadian ($0.27), down 98 percent year to date.

Update on the Celsius Situation

Figure 19.

Celsius paid off $120 million of its debt to decentralized lending protocol Maker with wrapped bitcoin (WBTC) as collateral. This has lowered their earlier reported liquidation price of $14000 on wBTC. We covered the exact liquidation numbers before repayment of multiple loans in our June 20th issue (link: https://bit.ly/3Anxt00).

This comes as welcome relief for the lender as recent declines in the price of bitcoin increased the likelihood that Celsius would go out of business. According to statistics, the repayment has assisted in lowering the liquidation price on its wBTC collateral to less than $5,000. Celsius has complicated commitments and manages collateralized loans across several lending protocols. By paying off the outstanding debt to Maker, Celsius has managed to free up $440 million in collateral.

On June 12, Celsius stopped all customer withdrawals and transactions. According to Alex Tapscott, managing director of investment firm Ninepoint Partners' digital asset sector, "the debt repayment to Maker is a critical milestone for Celsius that should offer customers and other stakeholders some optimism that the company can continue to work through its loan book."

The collateral that Celsius released "may be traded on centralized exchanges or via over-the-counter to settle creditor claims and consumer withdrawals," Fundstrat analyst Walter Teng said earlier this week.

The price of CEL, the native token of the Celsius platform, increased by 10% when the payback data was made public, although it is still down 81% year-to-date.

Third-tier exchanges are secretly insolvent?

In a Forbes interview published late Tuesday, the founder of FTX and Alameda Research, Sam Bankman Fried, warned that several crypto businesses are facing similar liquidity issues to those experienced by Celsius, BlockFi, and Voyager Digital in recent weeks. “There are some third-tier exchanges that are already secretly insolvent,” he said.

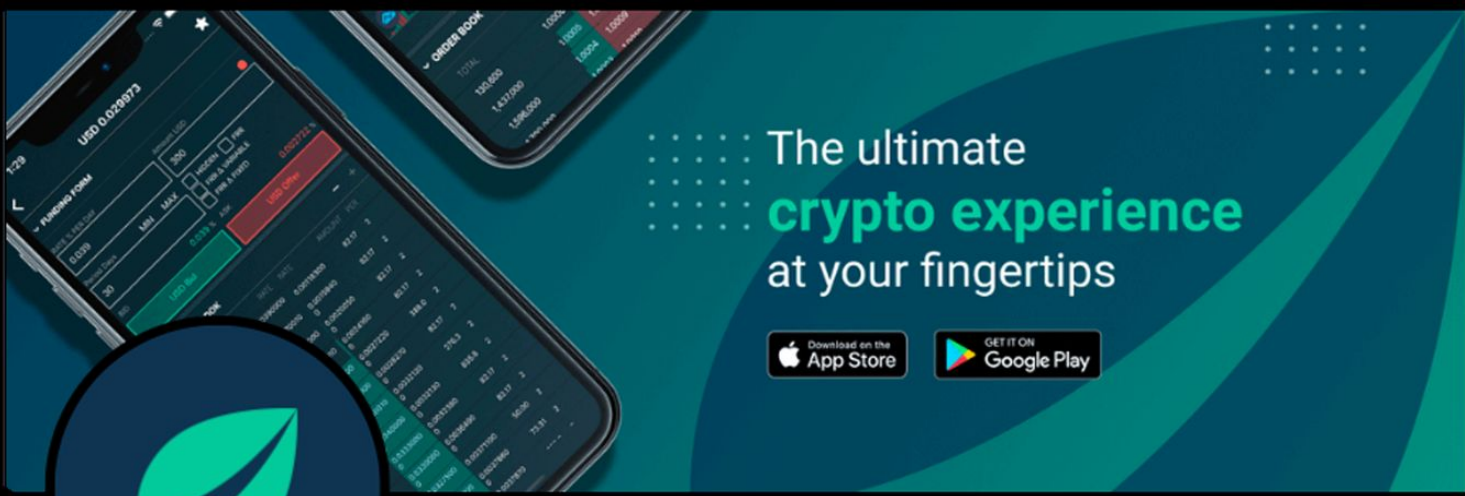
Bankman-Fried’s FTX and Alameda Research recently made headlines for bailing out the distressed crypto lender BlockFi and crypto broker Voyager Digital to a combined tune of $800 million. FTX extended a $250 million credit facility to BlockFi, the firm rumoured to be facing a liquidity crisis, while Alameda loaned $200 million in cash and 15,000 Bitcoin to Voyager to ensure its solvency. Voyager had reduced customer withdrawal limits amid liquidity issues after the crypto hedge fund Three Arrows Capital defaulted on its $667 million loan to the broker.

Despite the bailouts that Bankman-Fried’s firms extended to key industry stakeholders throughout June, the 30-year-old billionaire reiterated a similar point as that recently made by Binance CEO Changpeng Zhao, saying that certain firms are not worth saving. He said, “There are companies that are basically too far gone and it’s not practical to backstop them for reasons like a substantial hole in the balance sheet, regulatory issues, or that there is not much of a business left to be saved.”

Although Bankman-Fried refused to name any crypto firms or exchanges he believes could fail next, though he did calm longstanding fears that the industry’s largest stablecoin provider, Tether, could be on the list. “I think that the really bearish views on Tether are wrong… I don’t think there is any evidence to support them,” he said.

Figure 20. Sam Bankman Fried in Hong Kong 2021

SBF also told Reuters that FTX still has a “few billion” to support the industry. FTX has drawn from its $2 billion venture capital fund, FTX Ventures, to help shore up firms struggling with liquidity, Reuters reported. Though it announced the fund in January, Bankman-Fried noted that FTX still has enough cash to do a $2 billion deal if needed. "It does get increasingly expensive with each one of these," Bankman-Fried said.



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