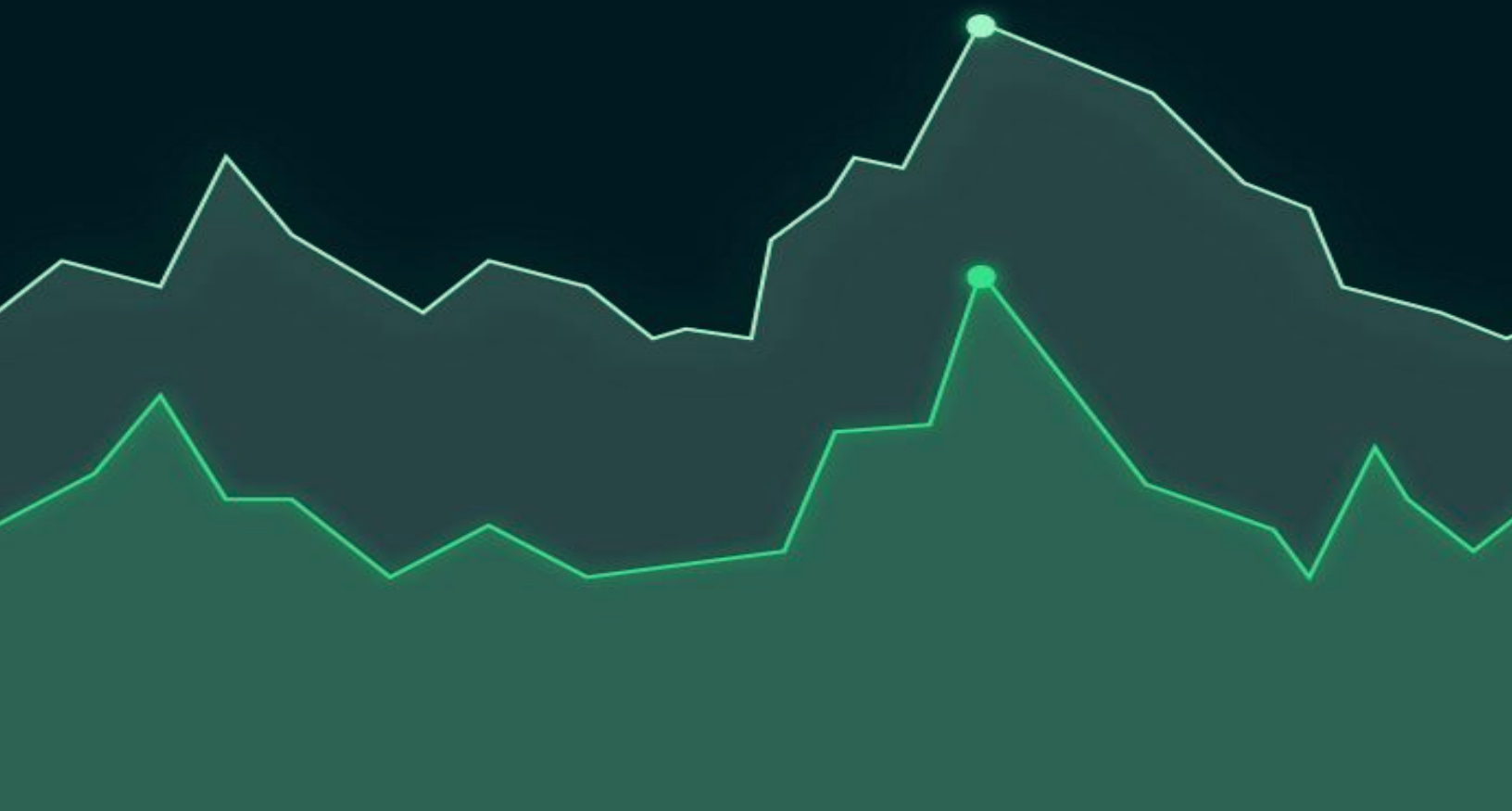
2022 Q2 Outlook:

Market Dynamics and Evolving Trends



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About This Report

The first quarter of 2022 saw major crypto assets stuck in a price range as a bearish view engulfed the space. This was largely influenced by macroeconomic events such as Russia's invasion of Ukraine and uncertainty regarding the Federal Reserve's intention to hike interest rates. These events have also resulted in bringing more spotlight onto crypto, with many crypto donations taking place and the arising question of the use of crypto by Russian oligarchs. Unsurprisingly, this has led to calls for more regulatory clarity on the asset class with the Biden administration announcing an executive order to 'ensure responsible development of digital assets.' In this report, we aim to recap these major events and the performance of crypto-assets while giving our views on the trends we anticipate in important subsets of crypto including stablecoins, DeFi, NFTs, and more.

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Executive Summary

2022 has so far failed to seize the momentum that crypto assets had during 2021, with the total market capitalization falling 5.37% to $2.09tn by the end of the quarter. The price action of Bitcoin was largely range-bound between $37,000 and $45,000 for the majority of the quarter until it broke out during the last week of March. These movements were mainly driven by the uncertain macroeconomic conditions during the quarter including Russia's invasion of Ukraine and surging inflation rates which are rising at the fastest pace since 1982.

The impact of rising inflation amidst the recent geopolitical crisis in Europe means there is a strong probability of the world economy diving into a recession in the medium term. In such a case, cryptocurrencies will likely behave as other risk-on assets have in previous economic downturns, and face a sharp correction in prices. However, the long-term value proposition of the industry still remains strong as a decentralized alternative to the current monetary system. Now that cryptocurrencies have grown to a level that governments can no longer ignore, we expect accelerated regulatory clarity on the asset class, which begun with Joe Biden's recent executive order. This will undoubtedly lead to the issuance of CBDCs over the coming years, which will pose competition to the stablecoin market and all its innovations, including Terra's algorithmic stablecoin and its accompanying ecosystem.

At a high-level, the DeFi landscape has remained relatively stable, with Ethereum continuing to lose TVL market share to competing smart contract blockchains and fast-growing innovations, such as the aforementioned Terra. The last three months have shed light on some of DeFi's growing pains, such as the key man risk of DeFi projects, unsustainable yield incentives, and the prevalence of large-scale hacks of cross-chain bridges, including Wormhole and Ronin Bridge (losing $326mn and $615 respectively). This security concern suggests that the future of DeFi is multichain rather than cross-chain, which may bring further stability and value to the sector.

The NFT Market remained resilient in Q1 2022. In January, leading marketplace OpenSea surpassed its record breaking monthly volumes set in August 2021. The last quarter also saw the rise of OpenSea competitors, such as LooksRare , which attempted to poach users away from the Ethereum native NFT marketplace with large incentive schemes. Yuga Labs also became the face of the NFT space with a unique focus on community, including the granting of intellectual property rights to NFT holders. This has proven an important driver of value and utility for the space.

Q1 2022 Recap

The first quarter of 2022 shed light on the various forces that influence crypto markets. At the start of the year expectations surrounding monetary policy were extremely hawkish – JPMorgan predicted nine consecutive rate increases from the Federal Reserve in order to control inflation, and fixed income markets have followed suit with consistently increasing bond yields. Even gold, which seemed to have decoupled from inflation figures (with returns of -3.80% in 2021) has seen a resurgence of high returns this past quarter. The potential response from central banks seemed like an appropriate and healthy reaction to curb the highest inflation we have seen in 40 years. Unsurprisingly, risk-on assets reacted accordingly – both equities and crypto performed negatively in the first six weeks of the year. However, the macroeconomic narrative was quickly turned upside down following Russia's invasion of Ukraine.

Figure 1 – Quarterly Returns of Assets and Markets, 2021 – 2022

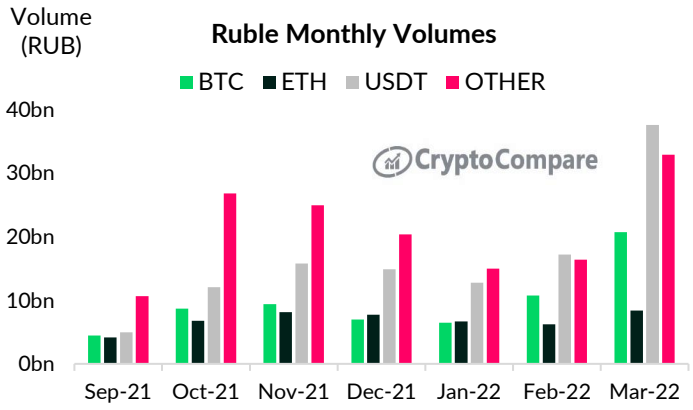
Date	21Q1	21Q2	21Q3	21Q4	22Q1
BTC	100.1%	-40.4%	5.7%	5.4%	-1.5%
ETH	162.7%	18.6%	18.5%	22.5%	-10.7%
LUNA	2779.5%	-65.1%	262.3%	119.9%	20.6%
SOL	953.7%	83.0%	284.6%	20.2%	-27.7%
XRP	139.6%	23.8%	27.8%	-13.0%	-1.7%
NASDAQ	2.8%	9.5%	-1.5%	8.3%	-9.1%
GOLD	-9.5%	3.3%	-3.2%	4.1%	6.7%
10YR BOND ETF	-13.4%	6.4%	0.5%	2.6%	-9.8%

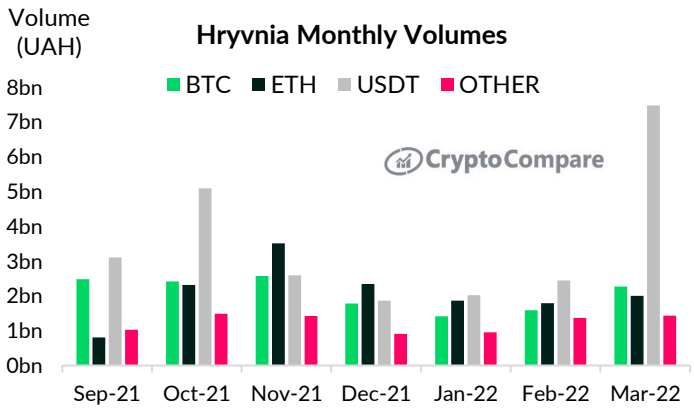
In fact, the change in narrative can be seen in the price action of major cryptocurrency assets. While BTC and ETH ended the quarter down, the Invasion of Ukraine on the 24th of February was an inflection point for major assets, with LUNA, ETH, and BTC each returning 57.9%, 26.4%, and 18.7% respectively in the five weeks following the invasion.

While correlation does not mean causation, it is not difficult to comprehend this U-turn in price movements. Digital assets have shown to be beneficial to those most badly affected by war in Europe – donations to the Ukraine cause have been exuberant, with digital asset compliance firm TRM Labs estimating over $135mn in

donations as of 30th March. The value proposition of crypto in such a crisis seems more clear than ever; refugees that have lost their life savings would have benefitted from digital, self-custody wallets that allow them to move their wealth across borders with no concern for red tape or financial bureaucracy. The increasing activity within Hryvnia and Ruble crypto markets exemplifies this, as seen below.

Figure 2 - Hryvnia and Ruble Monthly Volumes, Sep 21 - Mar 22





Whilst it is too early to tell, the events over the past two months suggest that crypto is cementing its property as a hedge against geopolitical crises and instability in the global financial system. Micro signals (i.e. on-chain analytics) have also been notably bullish, with long-term holders in Bitcoin and Ether reaching all-time highs. As of March 31st, there were 25.5mn and 44.2mn wallets holding BTC and ETH for over a year, a 19.2% and 39.1% increase from the year prior. You can find similar on-chain data in our monthly Asset Report.

Niche areas within the crypto sector have also rebounded slightly amidst the price increases of the last few weeks, however, the medium and long-term outlook of such areas seems dire when compared to Layer-1 digital assets. DeFi, for example, has seen Total Value Locked (TVL) fall from $237bn at the start of the year to $230bn, a 2.7% decline, with stablecoin pools attracting the most funds, suggesting market participants are growing cash positions compared to risky digital assets .

The challenges for decentralized finance not only include maintaining high liquidity (measured by TVL), but also the structural issues that have come to light this quarter. Two particular examples are of note. Firstly, the incentive structures and tokenomics of certain protocols look to be a major headwind for the sustainability of the sector. This is best exemplified by the LUNA ecosystem, where yield reserves in the Anchor protocol (its largest Layer-2 platform) recently received a $450mn boost from Do Kwon, the Founder and CEO of Terraform Labs, in order to

maintain its 19.5% stablecoin yield. Many have raised concerns about the sustainability of such protocols, with million-dollar bets even taking place between pseudonymous crypto market participants and Do Kwon.

Secondly, key-man risk is proving to be a significant issue for various DeFi projects. For example, Andre Cronje, a chief developer in Fantom and Yearn Finance, decided to quit the DeFi space in early March. This led to significant price declines in these platform's native tokens - FTM and YFI fell 42% and 38% respectively in the first quarter of the year. Key-man risk can also often translate into a reputational risk, which was instrumental in the downfall of one of the most popular rebasing projects: Wonderland. The founder, Daniele Sestagalli, announced the closure of the project after its treasury manager, 'Sifu', was exposed as Omar Dhanani, a convicted criminal and co-founder of failed Canadian Crypto Exchange, QuadrigaCX.

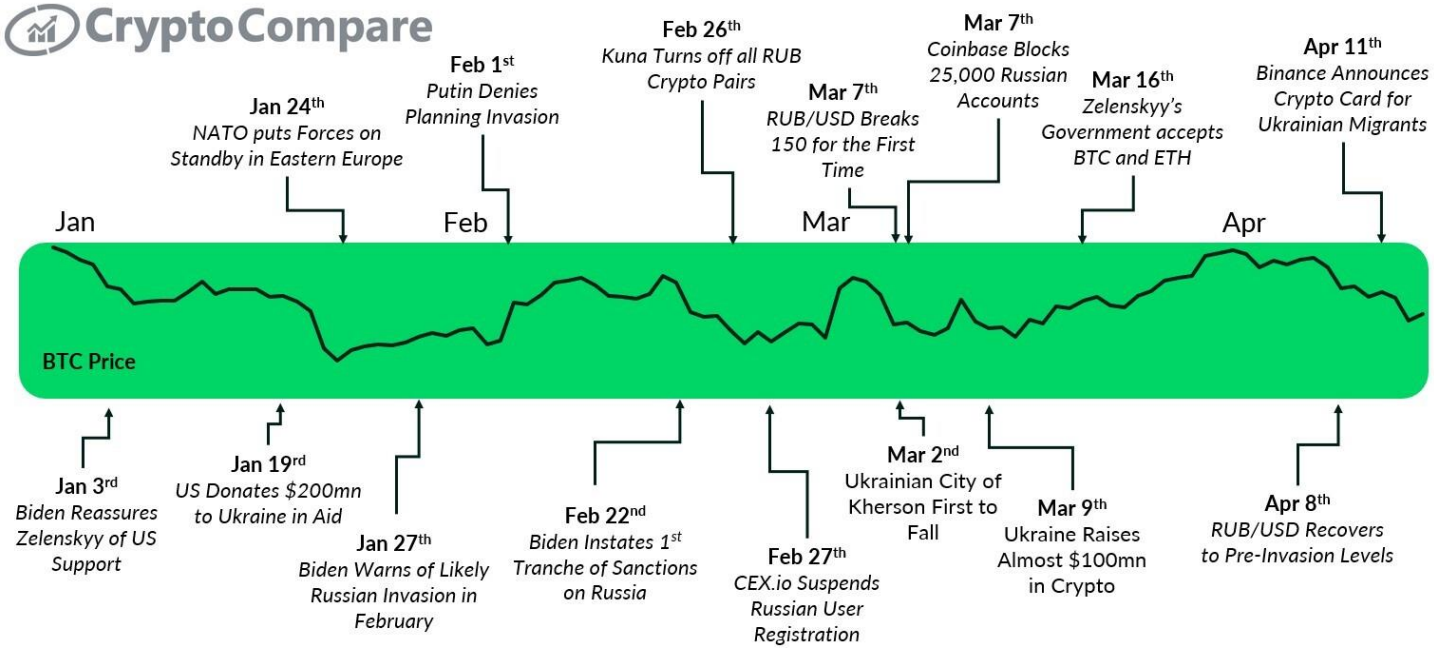
We note that DeFi, NFTs, and the digital asset industry in general are long-term innovations subject to significant short-term volatility. However, this past quarter has highlighted both the headwinds and tailwinds of these different areas. This report aims to assess how the landscape of crypto markets has changed over the last three months, and how this may evolve in the short-term, medium-term, and long-term.

U-Turn in Macroeconomic Expectations

Russia's Invasion of Ukraine

After months of failed diplomacy and rising tensions, Russia invaded Ukraine on February 24th. In response to the invasion, an array of global sanctions have been enforced on Russia, and crypto native firms have received significant political pressure to halt activities in the country - Hillary Clinton was the latest political figure to publicly criticize exchanges for not banning Russian users from their platforms. Of course, some have taken action - Coinbase announced it was suspending 25,000 Russian accounts on March 7th, while CEX.io, and Kuna have also restricted Russian trading.

Figure 3 – Key Events in the Ukraine-Russia Conflict, 2022



This has highlighted the political risks that the crypto industry remains exposed to, particularly among the centralized pockets of the industry. Conversely, this sheds light on the value proposition of decentralized exchanges and the DeFi sector - where no user can be banned from participating in the economy. The mantra of "not your keys, not your coins" is growing stronger amid political pressure on the industry, with a divide arising between crypto fundamentalists, who operate on-chain and via decentralized marketplaces, and those who simply seek crypto exposure, and thus typically utilize more traditional avenues such as centralized exchanges or investment products.

Figure 4 – BTC, ETH, RUB and UAH monthly returns in USD terms, 2022

Pair	31st December	31st January	28th February	31st March	Quarterly Change
BTC/USD	$46,197	$38,495	$43,189	$45,523	-1.46%
ETH/USD	$3,676	$2,689	$2,920	$3,283	-10.7%
USD/RUB	74.53	77.73	83.26	83.47	12.0%
USD/UAH	27.02	28.32	29.56	29.28	8.36%

Following these events, YTD performances in FX markets have been dire. The Ruble has seen significant declines since President Biden announced the first tranche of sanctions on Russia, seeing a 10.7% depreciation against the US Dollar throughout the first quarter. Further devaluation of the Ruble will lead to decreased faith in the currency and likely wider Russian adoption of cryptocurrency.

As illustrated in Figure 2, Ruble-denominated crypto trading volumes have jumped as a result, despite some exchanges imposing restrictions. These large trading volumes will likely include those wishing to flee the ruble, as well as those who operate with Russian counterparties and wish to send funds internationally while the fiat currency is restricted.

Since the conflict began in February, Ukraine's national crypto-wallet has received over $137mn of donations. This includes the provision of over 5,500 bulletproof jackets, 500 ballistic plates for bulletproof vests, 3,125 thermal imagers, as well as communication, food, and medical supplies. This movement has potentially started a new era of decentralizing defense spending, as soldiers have been equipped and funded to defend their nation in a completely anonymous and uninterruptible way.

The war is also an area of interest for the Chinese Communist Party (CCP), which cited that "Moscow has legitimate security concerns" with NATO. Tensions between the CCP and Taiwan have also continued to escalate in a very similar way to the current Russia-Ukraine conflict, raising legitimate concerns that China is positioning itself to attempt an invasion of Taiwan. Similar economic sanctions could be expected if this did occur, as well as changes in crypto-trading activity.

Looking Forward: Everything is Macro

In financial history, there have been many instances when a crisis caused all markets to 'turn macro'. In the short-term, fundamental characteristics of assets are no longer relevant, regardless of their relationship with the causation of the crisis – correlations between financial assets turn positive and a major distressed asset class leads the whole financial system to a downward spiral.

In the 21st century alone, both the Global Financial Crisis of 2008 and the initial aftermath of the COVID-19 pandemic are appropriate examples. In both cases, most asset classes experienced negative returns, outlined by the table below.

Figure 5 – Asset Performance following GDF and COVID-19 Pandemic

	Global Financial Crisis (15th Sep 2008)			COVID-19 (20th Feb 2020)		
	30D	90D	1Y	30D	90D	1Y
Bitcoin	-	-	-	-35.5%	-1.0%	482.0%
Ethereum	-	-	-	-48.5%	-18.6%	643.0%
Gold	7.4%	7.4%	29.2%	-6.3%	9.0%	11.0%
S&P500	-27.4%	-30.6%	-15.9%	-32.2%	-12.1%	14.9%
NASDAQ	-26.1%	-30.0%	-4.5%	-30.0%	-4.3%	41.6%
FTSE 100	-24.7%	-21.0%	-6.9%	-30.4%	-18.6%	-11.2%
iShares S&P Commodity Index (GSG)	-21.1%	-44.0%	-41.9%	-35.6%	-35.1%	-6.2%
Dow Jones Global Real Estate Index	-29.2%	-42.2%	-22.6%	-34.7%	-26.6%	-12.5%
Vanguard Long-Term Treasury Index Fund	-	-	-	8.5%	12.0%	-2.3%

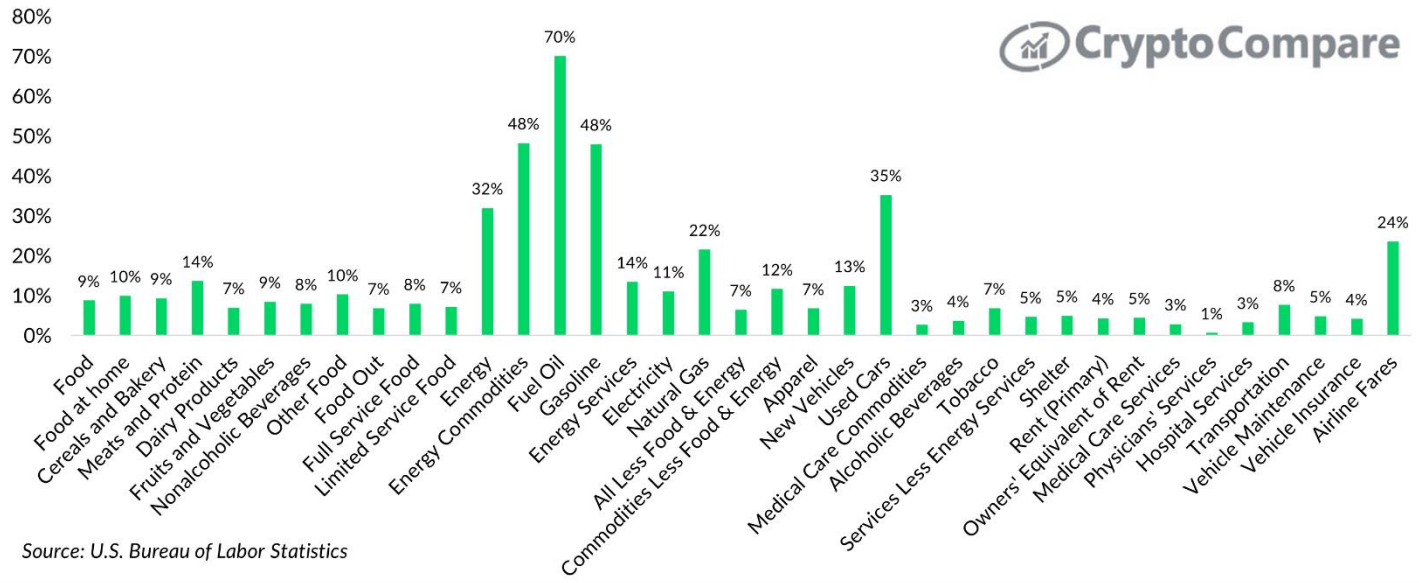
It is important to note that there are significant differences between each crisis, and generalizing such events can become dangerous from a market outlook standpoint – the impact of the COVID-19 pandemic on financial markets was an almost overnight event, and markets quickly rebounded following strong central bank stimulus. Conversely, the financial crisis of 2008 was a systemic risk event that saw some markets weaken before the final crash caused by the Lehman Brothers bankruptcy, and some assets such as gold performed well as a hedge.

The impact of the current geopolitical crisis in Europe is unique as it has harshly exacerbated factors previously at play. The global economy and financial markets are still recovering from the aftermath of the COVID-19 pandemic, where rampant supply chain issues and severe monetary and fiscal stimulus has left us in a dangerous inflationary environment. Now, the global economy is faced with even more headwinds – not just a significant refugee crisis that may disrupt the European economy, but also a worsening commodity crisis that impacts both demand and supply. On the demand side, living expenses will rise with higher fuel and food prices, which will

lower disposable income and worsen social issues such as wealth inequality. On the supply side, costs of production are increasing with higher energy and commodity prices, thereby causing supply-side inflation and weaker economic output.

In fact, March 2022 marks the 13th consecutive month where inflation in the United States has been above the Federal Reserve's 2% inflation target, after the official 8.5% was released on April 12th. A more representative inflation rate is likely to be higher due to the constant changes in the CPI's methodology and basket of goods. For example, coal was among the items removed from the inflation data in February. A breakdown of the latest price increases are outlined in Figure 6 below.

Figure 6 –CPI Breakdown, Mar 2022

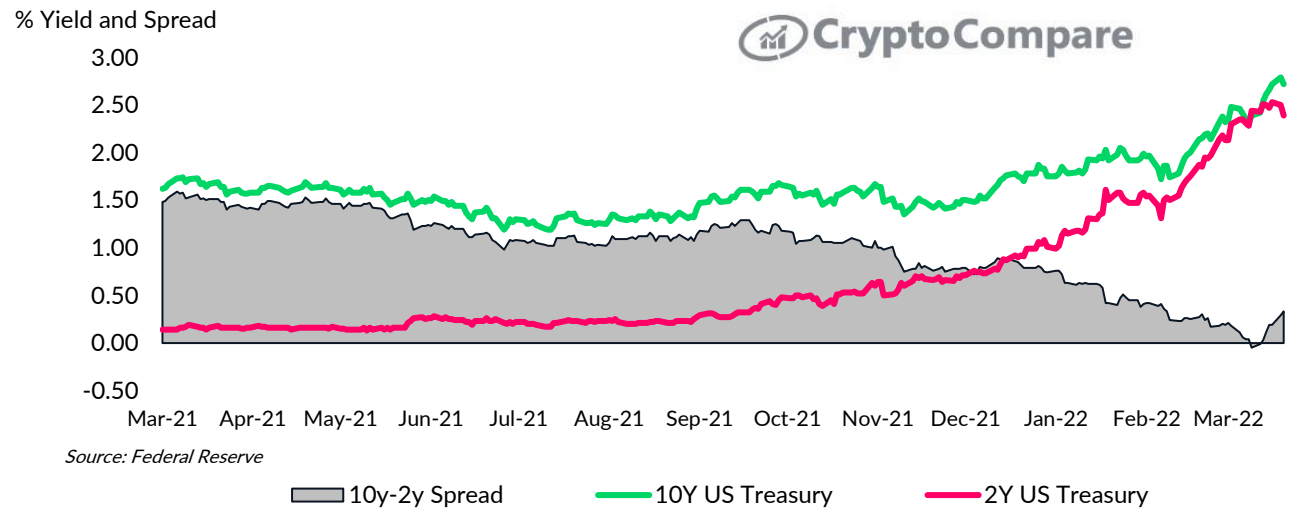


At the start of the year, there were already many skeptics on global central bank policy - those who believed it was too late for central banks to control inflation by monetary tightening. Central banks have recently taken action with the Bank of England and Federal Reserve both raising base rates by 0.25% in March. While monetary policy **may** have curbed inflation before the war in Ukraine, it is now extremely difficult to imagine that it will do so with the aforementioned after-effects of the war. Central banks also face limitations on raising rates, as an accelerated increase in interest rates will devalue debt (debt and interest rates are inversely proportional) and may cause a cascade of outflows in fixed income markets, a threat to the stability of the entire financial system.

Therefore, in the short to medium term, we see no other outcome but an impending recession. The inversion of the treasury yield curve, where the yield in 2-year treasury bonds surpasses the yield in 10-year treasury bonds,

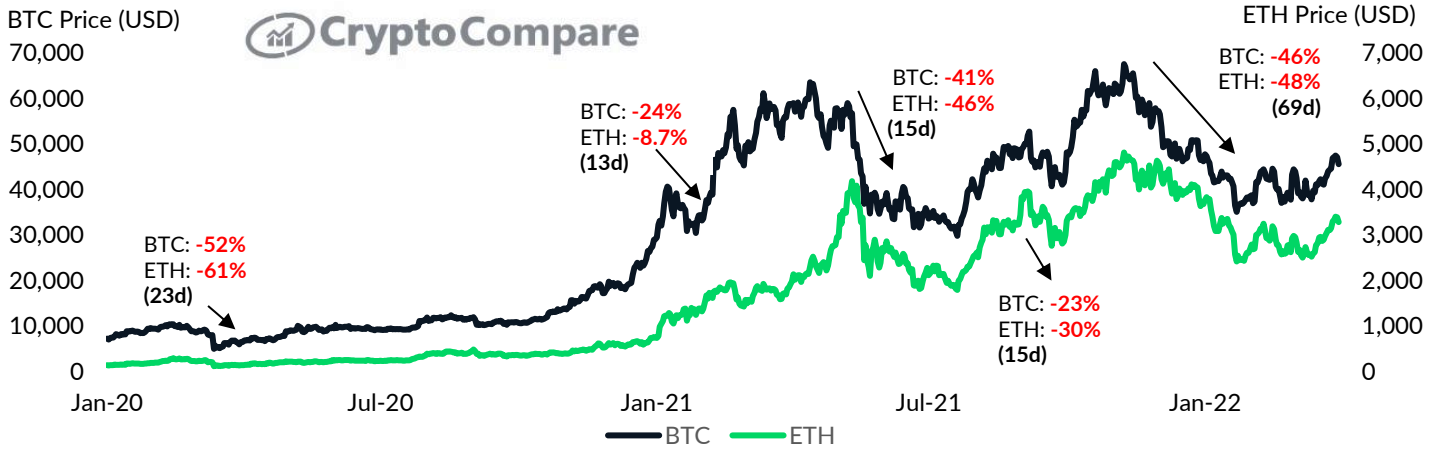
has historically been the clearest leading indicator of a recession. Every time in history the inversion of the treasury yield curve has occurred, a recession has followed in the next 24 months – the yield curve inverted momentarily on April 1st, as seen in Figure 7 below.

Figure 7 – 10Y and 2Y Spreads, Mar 2021 - Present



If a recession does indeed come to fruition, we expect crypto markets to behave the same way they did following the COVID-19 pandemic; a sharp correction will occur given the asset class' risk-on property. This would not be uncommon in crypto, with Bitcoin and other digital assets experiencing dozens of double digit declines over the last few years, as seen in Figure 8.

Figure 8 - BTC and ETH Price Corrections, 2020 - Present



Having said that, we believe the **long-term value proposition of cryptocurrencies has been strengthened by this geopolitical crisis**, and thus a potential correction may be used as a buying opportunity by long-term holders. A decentralized monetary system would have been invaluable to those who have suffered most from the crisis - Ukrainians (especially refugees) who have been unable to easily transfer their wealth amidst a cash crunch in the country, and Russians who have been shunned away from global markets due to the actions of their authoritarian leader. Furthermore, the positive role of crypto in high-inflationary environments has been previously documented - Venezuela, Argentina, and Nigeria, three of the countries with the highest inflation rates globally (340%, 52.3%, and 15.7% respectively), are all among the top 10 in Chainanalysis' Global Crypto Adoption Index.

Looking forward, there are various macroeconomic events that could further influence crypto markets. First, the invasion of Ukraine by Putin may encourage the Chinese Communist Party (CCP) to follow suit and invade Taiwan - a country that has suffered from historical tensions with China. This would exacerbate the divide between the West and authoritarian governments, and add fuel to a recession's fire - sanctions on China, for example, would have dire consequences for inflation, supply chains, and the world economy as a whole. Similarly, there is increasing speculation that an upcoming economic crisis could lead to the US Dollar losing its status as the global reserve currency. While Bitcoin maximalists may see this as an opportunity for Bitcoin to gain reserve currency status, there is a significant risk that such an event would lead to further destabilization of the world economy.

Although digital assets are still subject to important disadvantages and headwinds, crypto does appear to be a viable hedge against traditional systems, both financial and political, and a way to vote for a competing, decentralized, and non-political monetary system. This value proposition will likely grow in force as geopolitical and economic challenges continue to plague the world stage.

New Regulatory Clarity

The last quarter also provided further clarity as to where the future of crypto regulation is headed. Relative to initial expectations at the start of the year, we believe regulatory response has been positive, and paves the way for an amicable integration of digital assets into regulated financial markets. More specifically, Biden's executive order was simply a call to arms for government agencies to develop a holistic framework to provide oversight over the industry, with no particularly obstructive measures being put forward (yet). Similarly, in March the EU parliament voted (32 against, 24 in favor) against a provision which would have banned proof of work mining, suggesting more crypto friendly regulation lies ahead.

However, political risks are not to be ignored, **a vast amount of political opposition still remaining to the industry**. Elizabeth Warren, for example, has to a certain extent posed a dangerous rhetoric of 'Crypto = Russia' by suggesting that digital assets are being used by Russian oligarchs to evade sanctions. While we do not believe this narrative has merit, it highlights the outstanding risk of negative political attitudes to the sector, and the importance of continued education to ensure no false narratives continue to invade political discourse.

For this reason, it is critical for the digital asset industry to widely increase lobbying efforts and engage with regulators. The launch of the Crypto Council for Innovation last year (led by Coinbase, Square and Fidelity), which has the objective of engaging with regulators and policymakers, is a positive start. Leaders in the industry are also amplifying their voice in this matter – Ryan Selkis, the Founder of Messari, has become a 'one-issuer voter' who aims to support crypto-friendly political candidates on both sides of the political spectrum. More will be needed going forward as attention from policymakers rises.

CBDC Developments & Stablecoin Innovation

While regulatory frameworks are crucial for the development of the industry, a major narrative continues to be the probable launch of CBDCs by sovereign governments. Following Biden's executive order the US became the latest of over 90 countries that have committed to research and development of a CBDC, but the question remains as to where these will sit within the crypto-landscape. While the progress in this field is a bullish outlook for the digital asset industry, it may also threaten integral parts of the current digital asset infrastructure.

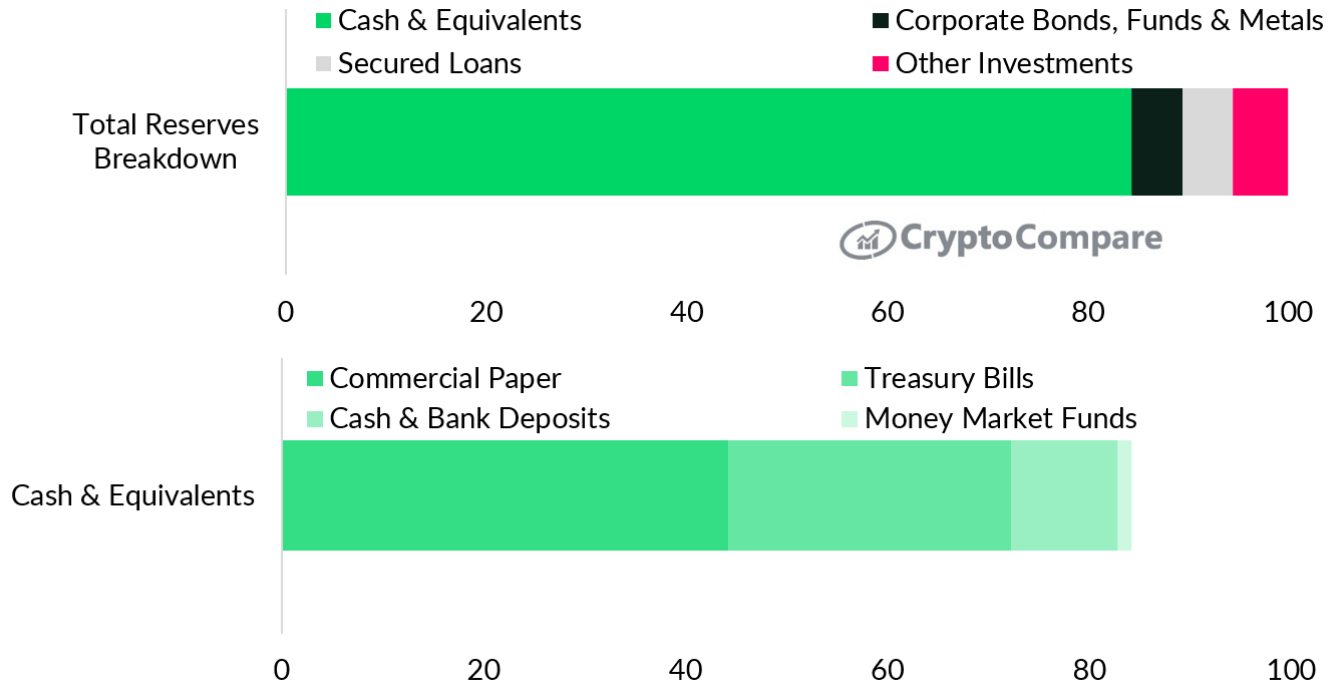
Indeed, there are various perspectives as to what the exact use of CBDCs will be. The EU, which is actively developing its CBDC, sees it as both a payments mechanism and an interest-bearing asset, allowing the ECB to

carry out programmable monetary policy (e.g. by providing higher rates to smaller depositors). Similarly, the US outlook on CBDCs also falls under the payments umbrella, with initial research suggesting CBDCs could settle between 170,000 and 1.7 million transactions per second (TPS), well above Visa's and Bitcoin's maxi 65,000 and 7 TPS respectively (excluding Bitcoin's Lightning Network). Thus, it seems likely that CBDCs are heading to replace the SWIFT banking system, in line with the views of industry leaders such as Tether's CTO, Paolo Ardoino. Certain cryptocurrencies such as Ripple also aim to disrupt this sector by creating an alternative cross-border payments system that operates on-chain, thereby allowing users to avoid FX fees and other market frictions.

Nevertheless, it is difficult to imagine that central banks will be content with a growing, competing decentralized financial system where they are left with little to no control. This would suggest that central banks are moving toward CBDCs as a contingency to retain their centralized power and control of financial markets. This is likely the case with China's digital currency, which may allow for increased financial surveillance and control over the payments system, which is in direct contrast to the anonymity option and decentralized service that crypto aims to provide. This would also be in direct competition with stablecoins, which are heavily used by crypto natives as an intermediary between fiat and cryptocurrencies, and as a way to earn yield on non-volatile digital assets.

Stablecoins as a segment within crypto are facing important challenges and internal disruption. Apart from the threat of CBDCs, reserve allocations of stablecoin providers has proven to be an important issue. Tether, currently the largest stablecoin with an $80bn market cap, has been heavily criticised in this matter. Hedge funds have begun to take an interest in shorting tether as rumours began to surface that Tether has a large exposure to Chinese real estate within its commercial paper allocations (44.2% of their portfolio valued at over $35bn). As a result, in October 2021 reputable forensic financial researchers Hindenburg Research offered a $1,000,000 bounty to anyone who could provide exclusive detail on Tether's supposed reserves. If these rumours hold any merit, we could see a transition to a new leading stablecoin.

Figure 9 – USDT Reserves, 21st February 2022



USDC and BUSD are two competing stablecoins that do not appear to have a reserves issue; however they are largely similar to USDT in the sense that they are collateralized stablecoins, and thus offer no new innovation. Terra's UST, which currently sits as the fourth largest stablecoin with a market capitalization of $16bn, provides an alternative model by stabilizing around a given price via pre-written algorithms, rather than via collateral reserves.

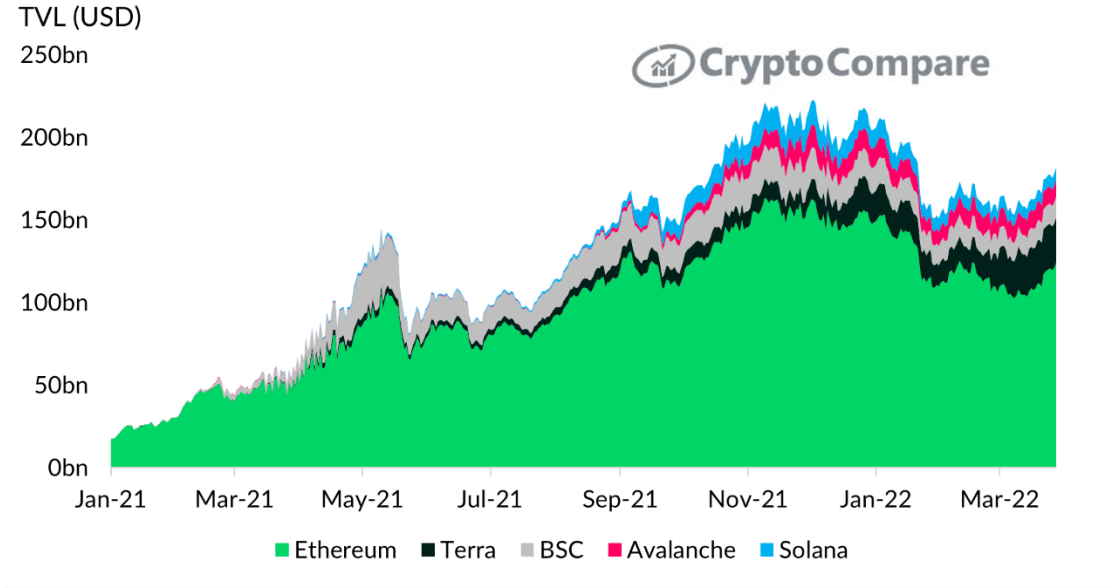
By being an algorithmic and decentralized stablecoin, UST aims to provide a crypto native solution to stablecoins by removing centralisation surrounding collateral (which is held in the traditional financial system) and any potential headwinds with regulatory burdens on stablecoins. Furthermore, it is firmly integrated into the Terra blockchain as a fundamental piece of its most successful protocols such as Anchor, which offers a lucrative 19.5% yield on UST, thereby fuelling future demand for the stablecoin as the ecosystem grows - Anchor's TVL has grown 78.7% to $15.2bn in the first three months of the year, amassing 52.6% of Terra's TVL. Terra also utilizes automatic stabilizers which are vital in sustaining UST's peg to the US Dollar, including a seigniorage model where the LUNA token absorbs potential disruptions to UST's peg via fluctuating supply and no-arbitrage, or aligning validator's incentives to a sustained peg. Thus, Terra is building a robust stablecoin that may in the long-term replace Tether as the leading stablecoin.

Of course, there are very important risks when it comes to algorithmic stablecoins, and UST is no different. The sustainability of incentives in the Terra ecosystem have been strongly questioned, with Anchor recently needing a yield reserve top-up from Terra Labs to maintain its 19.5% yield. Furthermore, many failed algorithmic stablecoins have suffered the fate of a **death spiral** (such as *IRON*), where a temporary loss in peg leads to loss of faith in the stablecoin, causing a liquidity crunch and a bank run on backed assets (for UST, this would mean the Anchor protocol). UST has survived previous scares, such as in May 2021 when a BTC crash of 32.3% over the space of one week caused a temporary depeg of UST. However, this is a critical risk for any user of UST and investor in the Terra ecosystem.

Looking forward, the CBDC and stablecoin space are paramount to the ongoing success and development in the industry. Market participants should closely monitor this space given the inherent role it plays in the overall ecosystem, with almost 10% of the total crypto market value being in stablecoins. In the long-term, we see the introduction of CBDCs as a significant threat to stablecoins, although positive regulation and an acceptance of the value proposition of decentralized systems by governments may hopefully lead to the co-existence of these two technologies.

Decentralised Finance

Figure 10 – Top Chains by TVL, 2021 – Present



The DeFi landscape has shifted in the most recent quarter following an impressive surge in activity for DeFi protocols during 2021. Ethereum has maintained dominance (now at 55.6%), despite stagnant growth with a current TVL of $150bn (down 20.8% from the end of 2021,Q4). This stagnation can be attributed in part to the weak performance of crypto assets during the quarter, but also to the fierce competition among alternative layer-1 protocols. Terra, for example, has proven the most successful challenge to Ethereum over the last three months, with a quarter-over-quarter TVL growth of more than 72.0% to $35.2bn, continuing the Solunavax narrative from 2021. This has almost certainly been a result of market participants looking for stablecoin yields to hedge against a downward move in crypto markets, and predominantly using Terra's Anchor protocol for this strategy.

Figure 11 – Solunavax Profiles

SOL	Solana rivals Ethereum in that it allows users access to a high-speed, low-fee network. It can facilitate tens of thousands of transactions per second, as well as maintaining the ability to host dApps, including a rival NFT marketplace, Magic Eden, which has already completed $736.6mn in volume since its launch in September 2021. To achieve these high speeds, Solana employs a proof-of-history algorithm, a time-integrated proof-of-stake consensus using timestamps, which allows fast sequencing by validators. As well as transaction speed, Solana also offers SeaLevel, an engine that allows validators to execute smart contracts in parallel. However, what Solana gains in infrastructure and speed, it loses in transferability and centralization.
LUNA	Terra's flagship product is its algorithmic stablecoins, which allow users to mint new stablecoins pegged to many different fiat currencies such as USD (TerraUSD), Won (TerraKRT) and the IMF's SDR (TerraSDR). For each minted coin, the equivalent value of LUNA is burnt (i.e. $1 of LUNA for $1 TerraUSD). This has offered users a robust stablecoin issuance system, whereby Terra enables stablecoins that are pegged to different fiat currencies, but are 'backed' by only one asset in LUNA. Terra also offers their dynamic stablecoin TerraSDR, to enable users to not assume the risk of only one central bank's monetary policy. Terra's ecosystem has grown from stride to stride with its leading protocol Anchor reaching a TVL of $15.3bn at the end of the quarter, a 78.7% growth in just three months. It offers a 19.5% yield to stablecoin depositors. However, Terra's algorithmic stablecoin incurs the high risk of self-collateralization - if the mechanisms used to maintain its stablecoin pegs fail, it could put at risk the entire Terra ecosystem.
AVAX	Avalanche allows users to create, host and transfer digital assets of any kind, with the end goal of unifying global financial markets in a frictionless way. AVAX is built on a unique tri-blockchain infrastructure intended to rival that of Ethereum, which boasts high throughput and low latency. This infrastructure utilises subnets as an alternate mechanism of consensus, within a subsection of the whole network. However, Avalanche uses a fee algorithm based on Ethereum's gas fee model, which has received huge amounts of criticism due to the fees incurred under high throughput conditions.

While seemingly competing, these three projects highlight the uncertainty within DeFi markets currently, as the close competition between assets with unique selling points is characteristic of an industry growing faster than its own understanding. This is not a recent development, as the diversification of DeFi usage has increased every quarter since Jan-21, with platforms dropping from the top 5 as quickly as they enter, and Ethereum dominance continuing to slip.

Figure 12 – Quarterly Top 5 Standings of TVL Dominance

	Jan-21	Apr-21	Jul-21	Oct-21	Jan-22	Current
Ethereum	96.8%	79.9%	73.1%	65.8%	62.3%	55.5%
Celo	0.9%					
Tron	0.7%	3.1%				
BSC	0.7%	10.4%	12.5%	10.0%	6.8%	5.7%
Kava	0.5%					
Heco		2.9%	1.9%			
Terra		1.4%	3.0%	5.0%	7.6%	12.5%
Polygon			5.3%	2.5%		
Solana				6.1%	4.7%	3.3%
Avalanche					5.0%	4.6%

This fluidity in investor/user focus highlights the infancy of DeFi and the current lack of conviction toward any one chain. The growth in ETH-Killers illustrates that the future is multichain and not cross-chain, which brings to question what a mature DeFi landscape will look like. On one side, various blockchains will emerge which provide a network of modular protocols and an array of various, equally valuable services. Ethereum is such a chain, with its largest protocol Curve having a small TVL market share of 16.7% at quarter-end. On the other hand, you will also have chains that offer solutions to single issues surrounding DeFi - such as Terra's goal to build out its stablecoins products. In such blockchains, protocol dominance will be significant - Anchor protocol attained a TVL market share of 47.1% of the Terra ecosystem at the end of the quarter.

Another major challenge for the DeFi space continues to be the unsustainable nature of surviving based on high token emissions, resulting in a large number of protocols offering unrealistic APYs to attract liquidity. *"There are a lot of DeFi protocols, and a large majority will see TVL decline sharply as emissions taper off over the years. In fact, we are already seeing that for protocols that launched in 2020."* said Edward Tan, Investment Associate from Hashed, a crypto venture capital firm with over $4bn in AUM.

In fact, many protocols have offered yields of hundreds of thousands of percent per annum. While the mechanics behind these yields are extremely complex, critics say these yields are akin to a ponzi scheme, used to attract new investors that may provide the 'exit liquidity' needed for early backers to profit. One segment of DeFi that has received such criticisms is OlympusDAO, a decentralised reserve currency protocol, and the series of copycat

projects known as 'OHM Forks' which offer similarly lucrative yields. Moreover, users that are not familiar with protocols that have complex tokenomic structures may also mistake the market cap as a real measure of token capitalisation, rather than using the project's Fully Diluted Valuation (FDV), which encompasses all future token emissions of a project. *"The next stage of DeFi is to become more innovative and have yield from organic sources"* said Edward, pointing towards the array of imitator projects in DeFi and the use of unfeasible incentives to poach users from competing protocols.

Having said this, the value proposition of DeFi platforms is evident. *"DeFi is increasing capital efficiency through yield-bearing assets, instead of what we would otherwise have as idle assets that solely depend on price exposure",* said Edward. This will be important in attracting high net worth individuals and other market participants who are in search of **real** yield not found in traditional finance, particularly after this year's accelerating inflation numbers.

As the industry matures we believe unsustainable projects will be held accountable or drowned out by efficient protocols that add long-term value to users. In this instance, the fickle mindset of yield farmers and other market participants will likely change to reflect this maturity, with base-rate APYs arising throughout the DeFi ecosystem. Protocols will act as viable alternatives to the current financial system, particularly in areas such as borrowing and lending, savings deposits, and complex investing strategies, among others.

Trends in DeFi

Courtesy of its explosive growth, the pace of new innovations in the DeFi space has been impressive. DeFi 2.0 has come a long way in attempting to solve common problems that were prevalent in DeFi 1.0 including liquidity, scalability, security, and centralization. It is difficult to predict what new innovations will be successful in the coming years, but below are a few of the trends to look out for.

The Future is Multichain, not Cross Chain

The 'future is multichain, not cross chain' narrative was first coined by Vitalik Buterin in a January 2022 tweet where he explains *"the fundamental limits to the security of bridges that hop across multiple zones of sovereignty"*. Three months into the new year, this statement has become more relevant than ever before. On February 2nd, Wormhole, a cross-chain bridge was the victim of one of the largest exploits in DeFi after an attacker stole $326mn in Wrapped Ethereum. On March 29th, Axie Infinity's Ronin Bridge was hacked for over $615mn, after suffering an exploit for 173,600 ETH and $25.5mn in USDC. For this reason, it's always safer to hold Ethereum native assets in Ethereum and Solana native assets in Solana rather than it is to hold Ethereum native assets in Solana and Solana native assets in Ethereum. Cross-chain bridges have been around for less than two

years, but have already been exploited for over $1.57bn. This accounts for almost half of the total DeFi exploits since 2020 ($3.22bn as per CryptoSEC).

This is likely to result in more DeFi protocols starting to launch in multiple blockchains instead of resorting to using a cross-chain bridge for inter-blockchain operability. Top protocols such as AAVE have already adopted this strategy and currently support Ethereum, Avalanche, Polygon, and Fantom integration. Anchor Protocol, one of the popular DeFi projects to earn a yield on stablecoins, recently launched on Avalanche. This implies users will be handed a luxury of options when it comes to choosing a blockchain that they believe is the best fit for the project. Chains like Ethereum and Avalanche may prove to be the better option when it comes to reliability and scalability, however, alternatives such as Polygon and Fantom can provide their service without incurring high gas fees.

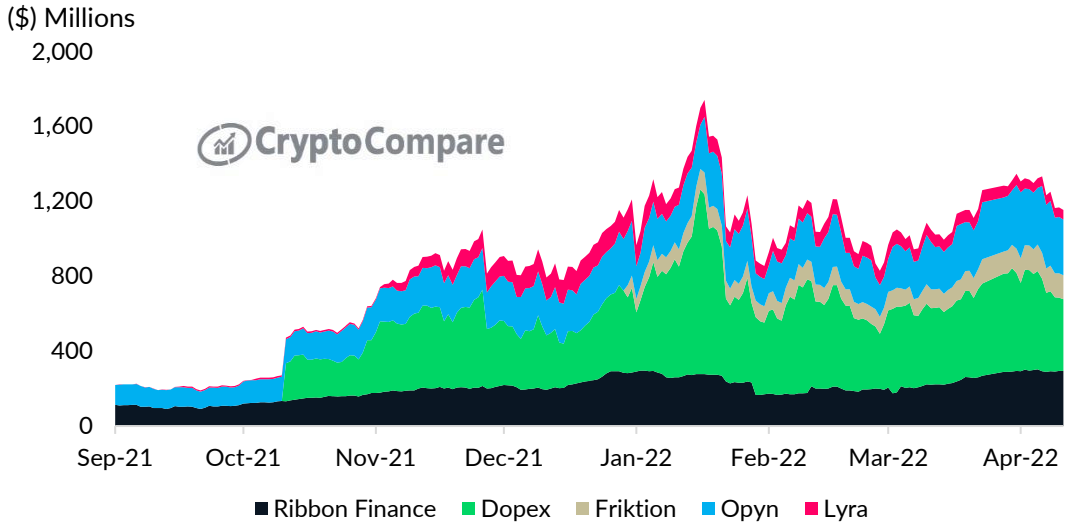
With that being said, we don't believe cross chains are going anywhere in the near future. Recent innovations like Stargate Finance now offer a cross-chain bridge that removes the need to rely on intermediate tokens and preserves the native tokens being sent between chains.

The Rise of Crypto Structured Products

In DeFi, crypto structured products are pre-packaged investment vehicles that abstract away yield-bearing strategies. Typically, it involves vaults that take deposits from users and uses those funds to execute some automated strategy to earn yield through derivative products like options. Using financial instruments and structured products provides investors with a way to express their bullish or bearish market view, whether they want to hedge an existing position, or gain exposure to a crypto asset. The most popular type of structured product is DeFi Option Vaults, pioneered by Ribbon Finance.

New innovations in these vault-based strategies include Dopex, which stands for Decentralized Options Exchange and offers maximum liquidity and minimum exposure options. Figure 13 shows that the total value locked of the current top 5 crypto structured products grew 426% from the start of Q4 2021 to $1.15bn today.

Figure 13 – Top 5 Structured Product Protocols by TVL



However, the current options vault strategies in crypto are limited to relatively simple strategies such as covered call and put selling strategies. With the amount of total value locked and interest these structured interest products have been attracting, we believe it won't be long before we see structured products that involve other option writing strategies including short strangles, short straddles, and more.

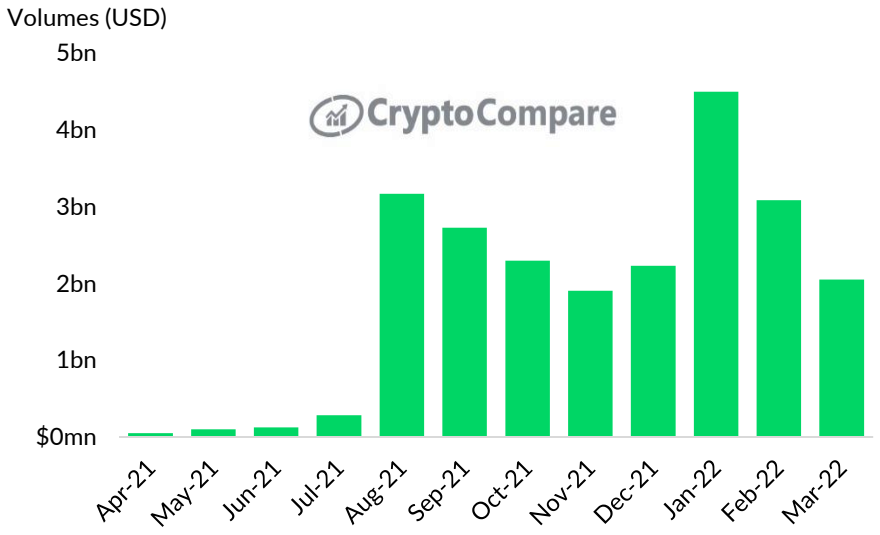
NFTs

Non-Fungible Tokens (NFTs) are changing the way we interpret ownership, community, branding, funding, marketing, and the wider creator economy. They are currently the most mainstream facet of the digital asset ecosystem and the most viralised example of blockchain technology since the ICO craze of 2017. Major brands, such as the NBA, Adidas, Nike, Louis Vuitton, Budweiser, and Coca-Cola have all started to experiment with NFTs. Leading VCs, investment funds, and other financial institutions, including the likes of Andreessen Horowitz and Moonrock Capital, have also started to take an increased interest in the NFT ecosystem. J.P Morgan even opened a virtual lounge in Decentraland, a leading metaverse project.

Marketplaces & The Power Of Incentives

NFT trading volume totaled over $25 billion in 2021, a 20,000% increase from the year prior. The NFT space remained resilient in Q1 of 2022, even when the wider crypto market experienced a downward trend. During this period, OpenSea saw its volumes surpass its record-breaking months of 2021, trading a staggering $4.49bn worth of NFTs in January 2022 alone, far surpassing the $3bn peak reached in August 2021.

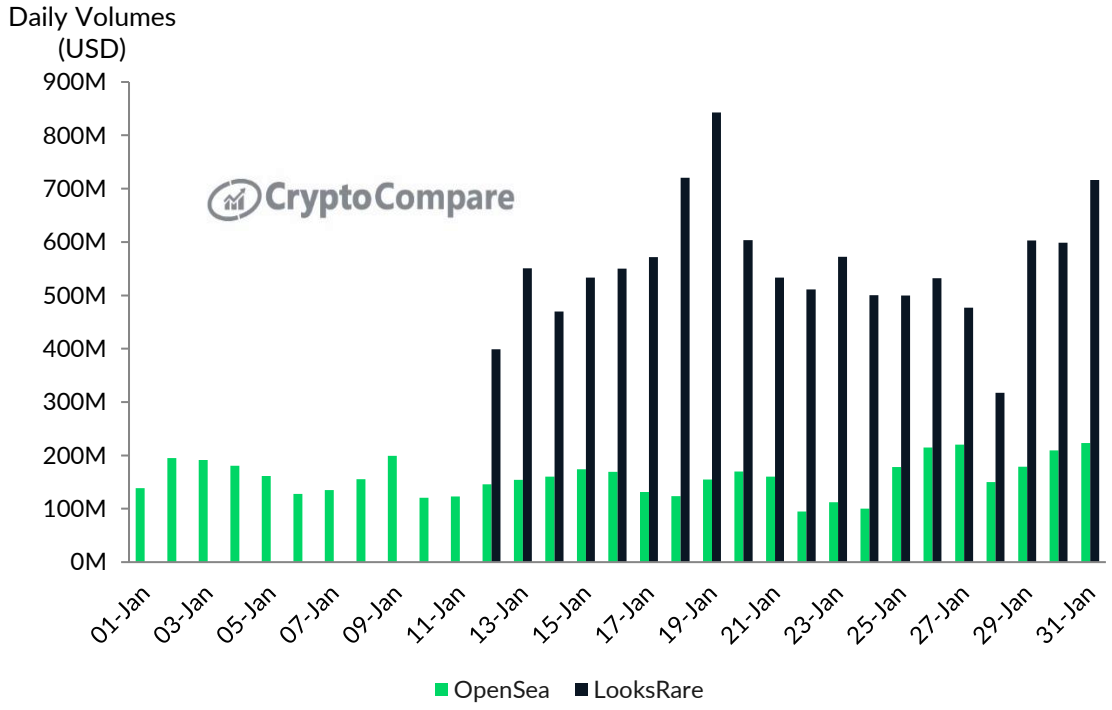
Figure 14: OpenSea Monthly Volumes, Apr 21 - Mar 22



Historically, OpenSea has dominated the NFT marketplace landscape, amassing 23% of all-time volume and facilitating the trade of over 78,920 daily average transactions, according to data from DappRadar. However, on the 13th of January, rival NFT marketplace LooksRare launched - initiating a “vampire attack” in an attempt to draw users away from OpenSea. This involved an airdrop of the $LOOKS token to market participants based on

their OpenSea trading volumes, causing an influx of users to the new platform looking to fulfill the criteria to claim their airdrop (users were required to list one or more of their NFTs on the platform to claim their LOOKS tokens). Users are also rewarded with $LOOKS tokens for buying and selling on the marketplace and as a result, LooksRare recorded sales volumes of more than five times OpenSea within its first week of launching.

Figure 15: Daily OpenSea and LooksRare Volumes, Jan 2022



The tokenomics structure of $LOOKS, however, resulted in users taking advantage of the new marketplace. Individuals who trade NFTs between their own wallets can reap significant $LOOKS rewards due to trading fees. Popular NFT data provider, CryptoSlam, removed over $8bn in wash sales from LooksRare's January volume figures. Meebits, which was recently acquired by Yuga Labs, experienced the bulk of this - with $4.4bn in reported wash sales. This was followed by Terraforms (US$2.9 billion), Loot (US$705 million), and Cryptophunksv2 (US$251 million).

It is hard to predict whether the incentives offered by LooksRare will be enough to draw users away from OpenSea's platform. Although LooksRare has challenged OpenSea's dominance via community incentives, these look to be unsustainable and the extent to which the platform has been used for wash trading is worrying. We believe the NFT marketplace of the future will be able to effectively balance incentive structures with the robustness and consistency of OpenSea's platform.

We are now also starting to see a vibrant NFT ecosystem growing across multiple chains, such as Polygon, Klaytn, Solana, Avalanche, and Near. The growth of NFTs on these chains has also been accompanied by the rise of new NFT marketplaces, like *Magic Eden* for Solana and *Snowflake* for Avalanche. However, although the rise of NFT communities on these chains is exciting, much remains to be done in making these accessible.

From April, users will also be able to trade Solana NFTs on OpenSea. Interestingly, Magic Eden saw a spike in volumes following OpenSea's announcement that it would be integrating Solana. Although this may provide the respective Solana NFTs with additional exposure, the same cross-chain barriers will remain – users must still convert their ETH to SOL via a bridge or exchange, with the former raising security concerns and costly fees, and the latter typically requiring KYC.

In the future, we hope to see a solution arise that eases this barrier to entry. Community is one of the most important aspects of the NFT landscape and if this growing sector is to become truly mainstream, then everyone should be able to access it – regardless of their crypto literacy or chain of preference. It is worth noting that this argument could also be made for the wider crypto ecosystem with many digital asset platforms dedicating their resources to educating their users. On the whole, It is hard to imagine that OpenSea will draw the majority of users away from a SOL native marketplace if it does not allow for Ethereum volume to easily transition to the new chain – with the same also being said for Avalanche, Near, or any other chain that may see their NFTs featuring on OpenSea in the future.

NFTs & Intellectual Property

While an NFT can represent any asset or media, over the past year it has been PFP NFTs (profile pictures) that have been the dominant trend. NFTs, like *Crypto Punks* and *Bored Ape Yacht Club (BAYC)*, have started to feature in mainstream media, appearing on Rolling Stone, billboards in Times Square, The Financial Times, and many more - all but cementing themselves as cultural zeitgeists of this crypto period.

The success of the popular avatar-based projects has largely been driven by the strength of their respective communities, with many taking an innovative approach to brand building and ownership. Bored Ape Yacht Club is a prime example of an NFT project that is delivering value to its holders. Yuga Labs have released events, mobile games, merch, airdrops that encourage continued ownership of the NFT - if you minted and held an ape from launch (and all of the accompanying airdrops) you would have turned 0.08 ETH (~$250) into over 150 ETH (~$500,000 at the time of writing).

In less than one year, Yuga Labs has created one of the most prominent brands in the digital asset space, raising $450m at a valuation of $4.0bn. More importantly, however, they have helped push what many believe are the core principles of the NFT ecosystem – community ownership - paving the way and setting the standard for hundreds of thousands of NFT projects and creators.

This is more important than ever in wake of the ongoing dispute between CrypoPunk holders and Larva Labs. When Punks first minted back in XXX, little clarity was provided surrounding how buyers could use their respective CryptoPunk and what IP rights they were granted. In 2019, Larva Labs adopted the "NFT License", which while it provided holders with commercialisation opportunities for their NFTs, it still imposed limitations on CryptoPunk holders (e.g. they could still only be used for non-commercial use or commercial use up to $100,000 a year).

This approach was in stark contrast to the aforementioned Bored Ape Yacht Club, which lets users utilise their Apes however they wish. Yuga Labs' philosophy surrounding community ownership was reiterated following their landmark acquisition of the CryptoPunks and Meebit collections from Larva Labs. Following the purchase, holders of these collections were granted the IP rights of their NFT,
which was met with praise from the wider NFT community.

Looking forward, it looks unlikely that the prominence of these projects is going to diminish as they continue to cement themselves as a prominent part of crypto culture. The success of the Bored Ape business model has expanded its reach to unprecedented levels - we have seen a BAYC-themed restaurant open in California, Sony acquiring an ape to lead their Web3 music label, and an Adidas collaboration that resulted in the launch of a selection of ape-themed clothing. This was only possible due to their approach to IP and the communities' power to monetize the brand as they see fit - raising brand awareness in the process. Going forward we expect to see more BAYC holders, and brands, looking for niche ways to utilise their NFT.

As we discussed in our 2022 Market Outlook, a common criticism of the NFT space is the lack of utility given to holders. We believe the ability for holders to own their IP rights has drastically changed this issue, as illustrated above. Furthermore, NFTs in GameFi projects such as Axie Infinity, Crabada, and others let users earn rewards and yield using their NFTs. Other innovations such as the launch of JPEGd, which addresses the illiquidity of NFTs by being able to borrow a stablecoin with NFTs as collateral, will also vastly add to the utility of NFTs. Similar innovations will undoubtedly arise as the sector becomes more mainstream, both among crypto enthusiasts and individuals looking to join a new community.

Closing Thoughts

The changing macroeconomic environment has put cryptocurrency markets into an unfamiliar position. In the short-term the sector will be hostage to macroeconomic narratives, however, we believe the value proposition of the industry will flourish while the current financial system experiences significant pressures from a global economic downturn. This will be the first year where Bitcoin and cryptocurrencies operate in a truly global inflationary environment, and the thesis of crypto's inflation hedge property will thus be tested.

We are continuing to see rampant innovation in Decentralised Finance and the NFT space, which are proving the two most important subsectors within the industry. Incoming regulation will also be critical in institutionalizing digital assets and onboarding the next wave of users. While there are many factors at play, we recommend market participants remain wary in the short to medium term and enthusiastic in the long term, as the industry continues to push forward.