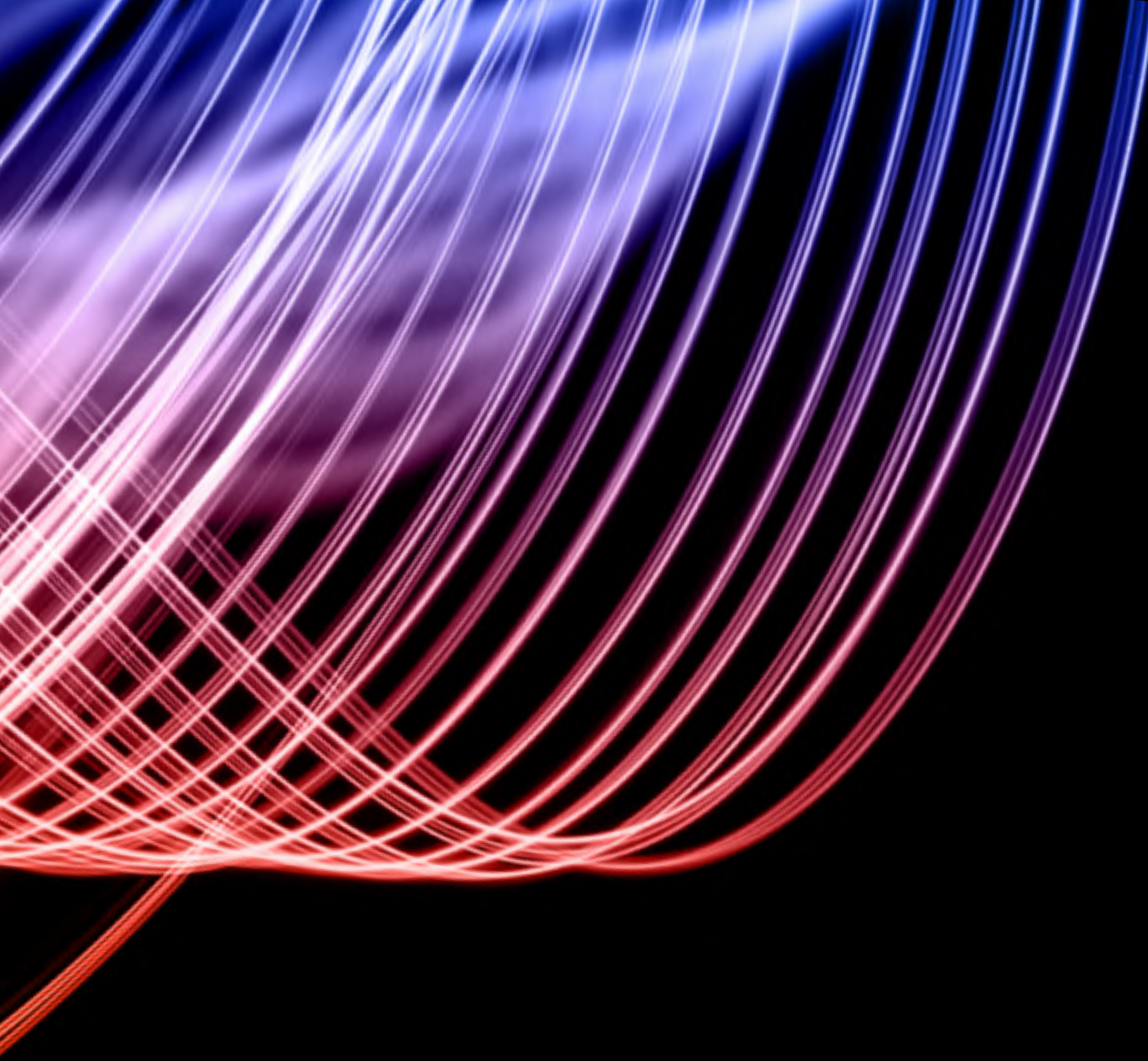

BitMEX

CRYPTO OUTLOOK:
FUNDAMENTALS VS SENTIMENT
THREE SCENARIOS TO WATCH IN 2023

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Executive Summary

In 2022, we noted that change comes quickly in the crypto industry, with this dynamism forcing a constant reassessment of assumptions. Last year proved this, and 2023 – the first year the sector faces a positive interest rate environment – will be unlike anything we have seen so far.

That, perhaps, is the only safe prediction given the events of the past year. Rather than indulging in pure crystal-ball gazing, we are taking a more measured approach: assessing how matters might play out in 2023, and outlining the likelihood and impact of three scenarios of crucial importance for the industry. In this paper, we explore what they might mean for investors and offer some recommendations on how to make the most of upcoming developments.

For our time-pressed readers, the key below presents an overview of the hypothesis under each scenario, the factors driving it, and our take on what all of this means.

Scenario #1: Risk Appetite Recovers

Hypothesis:
Risk assets gain traction as an interest rate pivot fuels a market recovery.

Possible drivers:
As record rate hikes begin to push the economies of the US and most other countries around the world to the brink of recession, we expect central bankers to make an about-turn and slow the pace of rate hikes – if not completely halt them – by the second half of this year, and begin cutting rates towards the year-end.

Likelihood:
This is our core hypothesis, supported by various economic forecasts as well as rhetoric coming out of the Federal Reserve, and an ongoing moderation of the main driver of monetary tightening: inflation.

Implications:
The pivot, when it comes, will help resume the flow of funds back into global capital markets and trigger a rally, including in crypto assets. With the crypto industry having learned the lessons of 2022 (notably those taught by entities including Three Arrows Capital, FTX and Genesis) and ridding itself of badly run businesses and suspect models, we should see a swift and healthy rebound in high-quality assets, such as Bitcoin and ETH.

Scenario #2: Caution Continues

Hypothesis:
Risk assets lose ground as fears of stagflation delay the pivot, hurting sentiment and crypto prices.

Possible drivers:
One school of thought is that external events will keep inflation high and force monetary policymakers to continue raising rates even if growth falters and countries tip into recession. This would damage sentiment and investor appetite for various asset classes, including

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crypto, and prolong the industry's downturn.

Likelihood:
This hypothesis seems less likely for a number of reasons. On the macro front, inflation has started to trend down and stock markets are responding positively to China's long-awaited reopening. Secondly, Bitcoin's price has been relatively stable around current levels for the past several months, including during the worst of the crisis. This underlines the fact that a fundamentally strong cryptocurrency can capably withstand crises and post a successful rebound much like other asset classes, which also suffer periodic downturns.

Implications:
While a prolonged period of risk-off sentiment is a lower-probability outcome, investors are nevertheless advised to exercise caution and focus on projects driven by legitimate use cases and broad user adoption, which help generate healthy cash flows and are the hallmark of successful business models.

Scenario #3: Did Crypto Just Become A Safer Asset Class?

Hypothesis:
Crypto becomes a less risky asset over time after business models were tested last year, and innovations help to broaden and scale up use cases, while regulations evolve to protect investors.

Possible drivers:
Amid introspection brought on by the events of the past few months, fast-paced innovation in the crypto industry has led to a ramp-up in use cases, including in the form of blockchain-based identity and ownership management, stablecoins and central bank digital currencies (CBDCs). This has led to a growing acceptance and endorsement of crypto assets by institutional investors, prompting policymakers to work on a raft of evolving regulations around the trading, custody and investment of crypto assets.

Likelihood:
This is already underway and is likely to accelerate throughout 2023. With the rise in use cases, we see regulators warming up to crypto assets, which are quickly gaining the endorsement of asset managers across Asia, Africa and Europe. With growing stablecoin regulation and the oversight of virtual asset service providers (VASPs) in developed countries, as well as the range of projects across APAC focused on building non-USD based intercountry payment settlement systems, we expect to see an uptick in the usage of CBDCs and stablecoins on the institutional side.

Implications:
Bitcoin and ETH will re-emerge as the dominant virtual currencies, while many retail users will get their first taste of crypto through the rise of next-gen gaming, NFTs, Web3 and the metaverse, making crypto a more comprehensible, immersive experience. As adoption grows and regulations evolve, blockchain tech will open the door to a range of new use cases until there is a shift away from the perception of crypto technologies as mere financial assets; instead, people will begin to see them as the future of how we create and validate assets, as well as identify and transfer ownership of them.

2022 – Crypto's Annus Horribilis?

Little over a year ago, the International Monetary Fund recognised the growing importance of crypto assets – which at the time had a market capitalisation of US$2.5 trillion – and noted[1] the industry was "potentially changing the international monetary and financial system in profound ways."

That was December 2021. By the time 2022 drew to a close – a year in which the S&P 500 had one of its worst[2] performances in over a decade, and global equity and bond markets lost over US$30 trillion[3] in value – the crypto market had more than halved to less than[4] US$900 billion. What happened?

Boom, burst, bust!

For starters, years of quantitative easing and rate cuts pushed interest rates to record lows[5], creating an era of easy money with cheap lending and low-yield investment markets. At the same time, over US$800 billion worth of stimulus cheques[6] issued during the peak pandemic months in the US alone put excess cash in the hands of locked-down consumers. With few avenues to spend it, many funnelled these funds into the capital markets.

Arthur Hayes, BitMEX co-founder, explained it this way in a November 2022 webinar: "Everybody, at least in the Western world, got a few cheques from the government. Most of these people actually didn't need the money so they spent it on video games, NFTs, and all sorts of stuff. In the crypto ecosystem, this helped

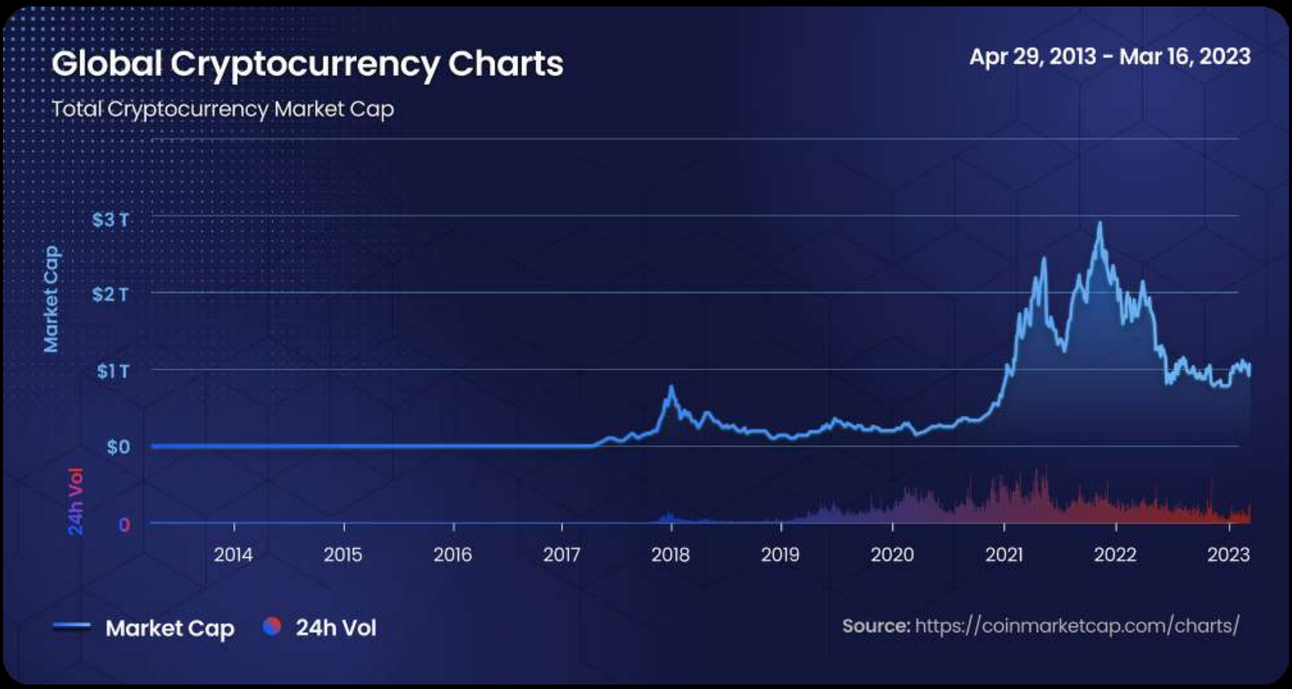

Figure 1 : Crypto market cap

1 Cryptos On The Rise 2022
2 Stocks Fall To End Wall Street's Worst Year Since 2008, S&P 500 Finishes 2022 Down Nearly 20%
3 Stock And Bond Markets Shed More Than $30tn In 'Brutal' 2022
4 Overall Cryptocurrency Market Capitalization Per Week From July 2010 To February 2023
5 Fed Funds Rate History: Its Highs, Lows, And Charts
6 Lessons Learned From Economic Impact Payments During Covid-19

Bitcoin go from around US$7,000 just before the pandemic to nearly US$70,000 in the span of just under two years. And, of course, that also worked in reverse."

Investors were also drawn to the higher yields offered by crypto players and the chance to exploit relatively low-risk arbitrage opportunities stemming from the minor price differentials in assets listed on the various crypto exchanges. The rally was further fuelled by the natural progression of tech innovation – which typically tends to outpace developments in the analogue world – feeding a virtuous cycle of scale, speed and adoption.

When the reversal came, it was because inflation spiked[7] – further fueled by geopolitical events like the conflict in Ukraine – prompting central banks to embark on a series of interest rate hikes, which triggered an unprecedented tightening of liquidity in the financial system. In the crypto industry, these events coincided with several high-profile security breaches[8] and bankruptcies[9], harming sentiment among retail and institutional investors.

> **In every boom cycle, there is one asset class that really stands out and gets the attention of the speculative money. Crypto-currency was that asset class in the last market cycle.**
>
> - Felix Zulauf, President, Zulauf Asset Management

"In every boom cycle, there is one asset class that really stands out and gets the attention of the speculative money," noted veteran investor and market expert Felix Zulauf, a co-panelist on the webinar with Hayes. "Cryptocurrency was that asset class in the last market cycle. When the system created too much excess liquidity, we got a bull market. Once the excess liquidity was turned off, all of a sudden we had a bear market."

However, on the bright side...

2022 was also a year of positive developments in the industry's evolution. Among the most significant was Ethereum's successful switch from its proof-of-work mechanism to a proof-of-stake model, dubbed 'The Merge[10]'. It has significantly reduced the blockchain's energy consumption and offers the promise of an eco-friendlier solution to the energy-intensive process[11] of cryptocurrency mining.

The year also saw a growing number of institutional investors from the TradFi world buy into the crypto premise[12], with banks introducing their own stablecoins[13] and governments around the world launching pilots[14] of CBDCs. On the regulatory front, while developed markets such as the US and European Union[15] are putting frameworks in place to oversee the crypto industry and VASPs, the emerging markets of the world are taking the lead.

Indonesia, the largest economy in Southeast Asia[16] and one of the world's fastest-growing

7 Countering The Cost-Of-Living Crisis
8 Biggest Crypto Exploits And Hacks Of 2022
9 Factbox: Crypto Companies Crash Into Bankruptcy
10 What Was The Merge?
11 Bitcoin Mining: How Much Electricity It Takes And Why People Are Worried
12 The Top Banks Investing In Crypto And Blockchain Companies
13 Anz Becomes First Australian Bank To Mint Stablecoin
14 Central Bank Digital Currency (CBDC)
15 Markets In Crypto-Assets (MiCA)
16 The World Bank In Indonesia

markets, has announced[17] plans to launch a national crypto exchange. In Hong Kong, regulators have rerecently shifted away[18] from a 2018 policy restricting crypto traders, to allowing retail investors access to a number of liquid cryptocurrencies – such as Bitcoin and Ether[19] – as the city is looking to transform itself into a regional hub for crypto[20].

These are but a few examples of ongoing developments that point to an industry coming of age and one that will continue to evolve rapidly. As BitMEX Acting CEO Stephan Lutz notes: "The changes that have begun now will accelerate in 2023 but they won't end there."

In the sections that follow we investigate how these trends might evolve as the year progresses – and in each case what this will mean for investors and industry stakeholders.

17 Indonesia To Launch National Crypto Exchange In 2023: Report
18 Hong Kong To Only Offer 'Highly Liquid' Cryptocurrencies For Retail Trading: Report
19 Hong Kong To Allow Retail Investors To Buy Big-Cap Crypto Tokens In Boost To Global Digital-Asset Hub Ambitions
20 Hong Kong Pushes Ahead With Crypto Hub Plans As Tech Firms, Startups Show Interest: Financial Secretary

Scenario #1:
Risk Appetite Recovers

> **Risk assets gain traction as an interest-rate pivot fuels a market recovery**

Other things being equal, when central banks cut interest rates to jumpstart a slowing economy, investors will seek exposure to riskier assets in search of greater returns. The opposite is also true: investors will respond to monetary policy tightening by becoming risk-averse as liquidity dries up and the yields offered by safer assets get relatively more appealing.

The latter approach has played out in global markets over the past several months. By December 2022, the Fed had raised the benchmark rate[21] to its highest level in 15 years in a bid to tamp down inflation – its seventh hike[22] of the year, totalling 425 basis points[23] – and indicated it would continue to raise rates, as it did in February 2023[24]. Other central banks have followed suit.

While the rate hikes seemingly did little[25] initially to tame inflation, they hurt capital markets[26] and economic growth[27] even as the world continued to cope with supply chain disruptions – caused by the lingering effects of pandemic-era lockdowns and ongoing geopolitical conflicts that have kept energy prices high – and a tight labour market. The World Bank predicts[28] that the stress on the world economy

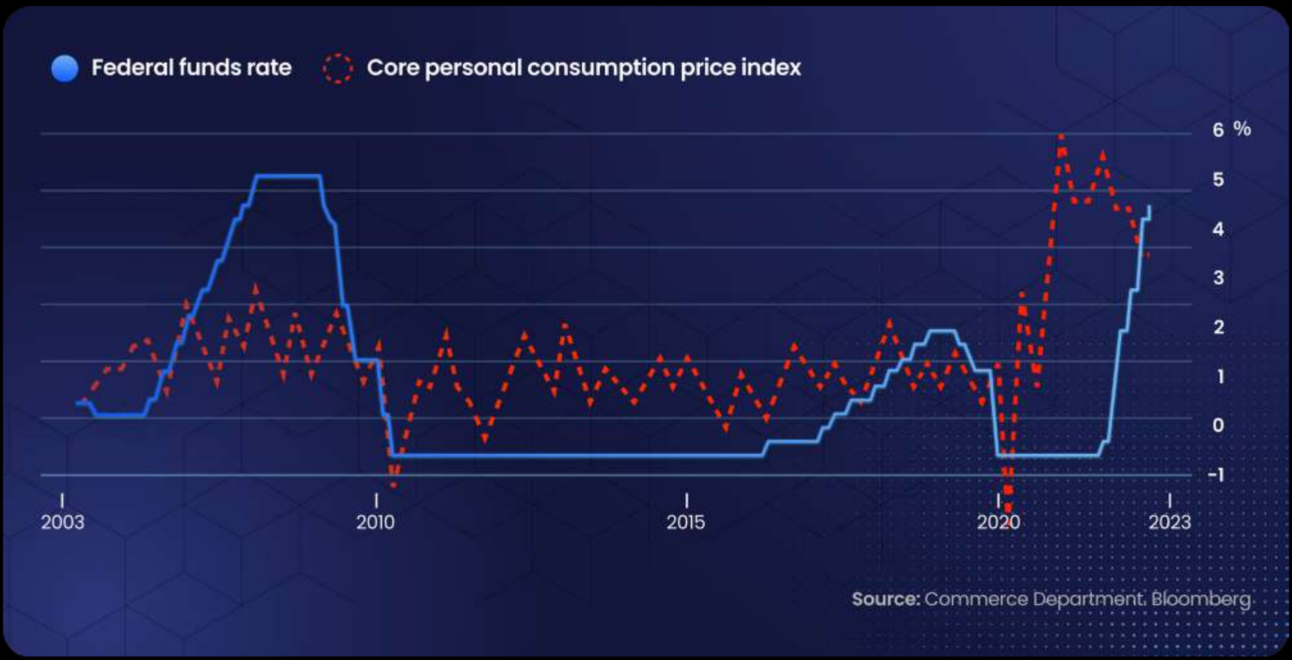

Figure 2 : Rates on the rise

21 Fed Raises Interest Rates Half A Point To Highest Level In 15 Years
22 Fed Hikes Rates Again As Inflation Slows. What To Expect From Rising Interest Rates
23 'We Have More Work To Do': The Complete Story Behind The Fed's Historic Shift In 2022
24 Fed Raises Rates A Quarter Point, Expects 'Ongoing' Increases
25 Fed's Powell Says Inflation Battle Not Won, More Rate Hikes Coming
26 After Fed's Rate Hike Announcement, Past Increases Hint At How Stock Market Will React
27 Sharp, Long-Lasting Slowdown To Hit Developing Countries Hard
28 Risk Of Global Recession In 2023 Rises Amid Simultaneous Rate Hikes

could slow GDP expansion to 0.5% in 2023, in contrast to an earlier projection of 2.7%, thereby pushing many developed and emerging economies into recession.

Timing the taper

The central question? When will policy makers decide the risk of recession is a greater threat than inflation – and reverse course? And what will this mean for crypto assets?

Some are convinced that the Fed (and other central banks) will overdo its rate hikes and dampen demand to such an extent that it matches current supply levels.

With consumers being squeezed on multiple fronts, concerns about spending cuts are real. Inflation and high energy prices are chipping away at the savings and purchasing power of households. Those in the low to middle-income demographic in the US[29] and Europe[30]. are especially vulnerable, and already hurting from their exposure to struggling capital markets.

Then there is the hit from rising mortgage payments, even as the cost of living ramps up[31] and fears of a recession[32] damage consumer confidence. For instance, a four percentage point rise[33] in the interest rate increases the monthly payment on a 20-year mortgage for a house worth US$430,000 – the median price of a house in the US[34] – by nearly US$900[35]. The troubles of homeowners could have a domino effect on overall consumption, spurring the Fed to revert its attention to resuscitating flagging growth.

> **"As central banks continue to fight inflation, it will lead to a further decline in real economic activity. So, at some point in time, their policy stance will have to be reversed."**
>
> - Stephan Lutz, Acting CEO, BitMEX

"As central banks continue to fight inflation, it will lead to a further decline in real economic activity," Stephan Lutz says. "So, at some point in time, their policy stance will have to be reversed."

Given this, it seems likely that the Fed will initiate a taper – a gradual slowing in the pace and intensity of rate hikes culminating in rate cuts – in Q2 2023 or latest in the second half of the year, with other central banks following closely behind. This should, in turn, aid a recovery in the capital markets, and the price of cryptocurrencies such as Bitcoin.

Bitcoin as a hedge against inflation

As well as the return of the "risk-on" trading cycle, various other mechanisms could act in tandem with a monetary-policy pivot to drive demand for crypto assets.

Bitcoin as a hedge against inflation is one. The case for this continues to hold despite the asset's precipitous price drop in 2022. The finite supply of 21 million Bitcoins means the

29 How Sky-High Inflation Is Evaporating Americans' Savings, Imposing 'Cruelest Tax' On The Poor
30 The Uneven Effects Of Rising Energy And Consumer Prices On Poverty And Social Exclusion In The Eu
31 Us Cost Of Living Continues To Rise But Inflation Appears To Finally Be Slowing
32 Global Recession Warning As World Bank Cuts Economic Forecast
33 Mortgage Financing Options In A Higher Interest Rate Environment
34 Average House Price By State In 2022
35 Mortgage Interest Rate Calculator

underlying blockchain will be truly inflation-free once every coin has been mined. In theory at least, that means its value will remain intact and will not drop as prices rise – a feature that distinguishes it from fiat currencies as well as other crypto coins susceptible to price volatility.

Gold, too, is scarce, but there is always the possibility of fresh reserves being found. Bitcoin also compares favourably to gold in its faster transferability. For payments, Bitcoin – a unit of exchange that is divisible up to eight decimal points[36] – is far easier to use than gold.

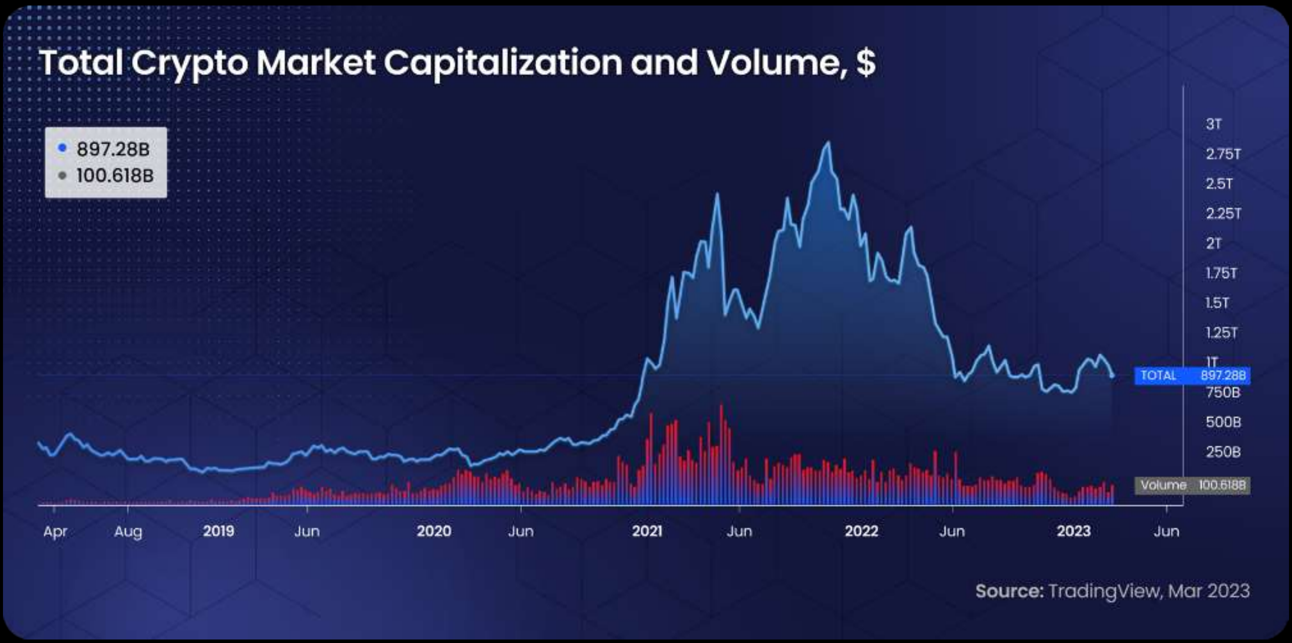

Figure 3a : Major crypto assets by market capitalisation (Mar 2018 - Mar 2023)

Figure 3b : Market capitalisation dominance of major cryptocurrencies (Mar 2018 - Mar 2023)

36 Here's Why Bitcoin Is Better Than Gold

Another significant factor driving demand for crypto assets could be if a resumption of quantitative easing revives the interest of institutional investors. Driving this recovery would be Bitcoin and Ether (supported by the Ethereum blockchain), the two entities with the most promising use cases.

For one thing, as Lutz notes, Bitcoin is the only cryptocurrency that is truly transferable and serves as a reasonable store of value, describing it as “so big that it's unstoppable”. Then there’s the Ethereum blockchain, which is best placed to drive the adoption and execution of smart contracts as a digital carrier and executor of information. “These will be two of the big things to watch for in 2023.”

What this means for investors

So, what should investors take away from these trends, and what do they mean for the future of Bitcoin and other cryptocurrencies?

From an investment perspective a taper would first trigger a rebound in the equities market, which would be followed by a strong and sustained recovery in cryptocurrencies. Historically, crypto markets have reacted more forcefully to external events than their equity counterparts, which explains the relatively steeper decline in crypto assets over the past few months. That also means the rebound, when it comes, will be stronger compared to other traditional asset classes.

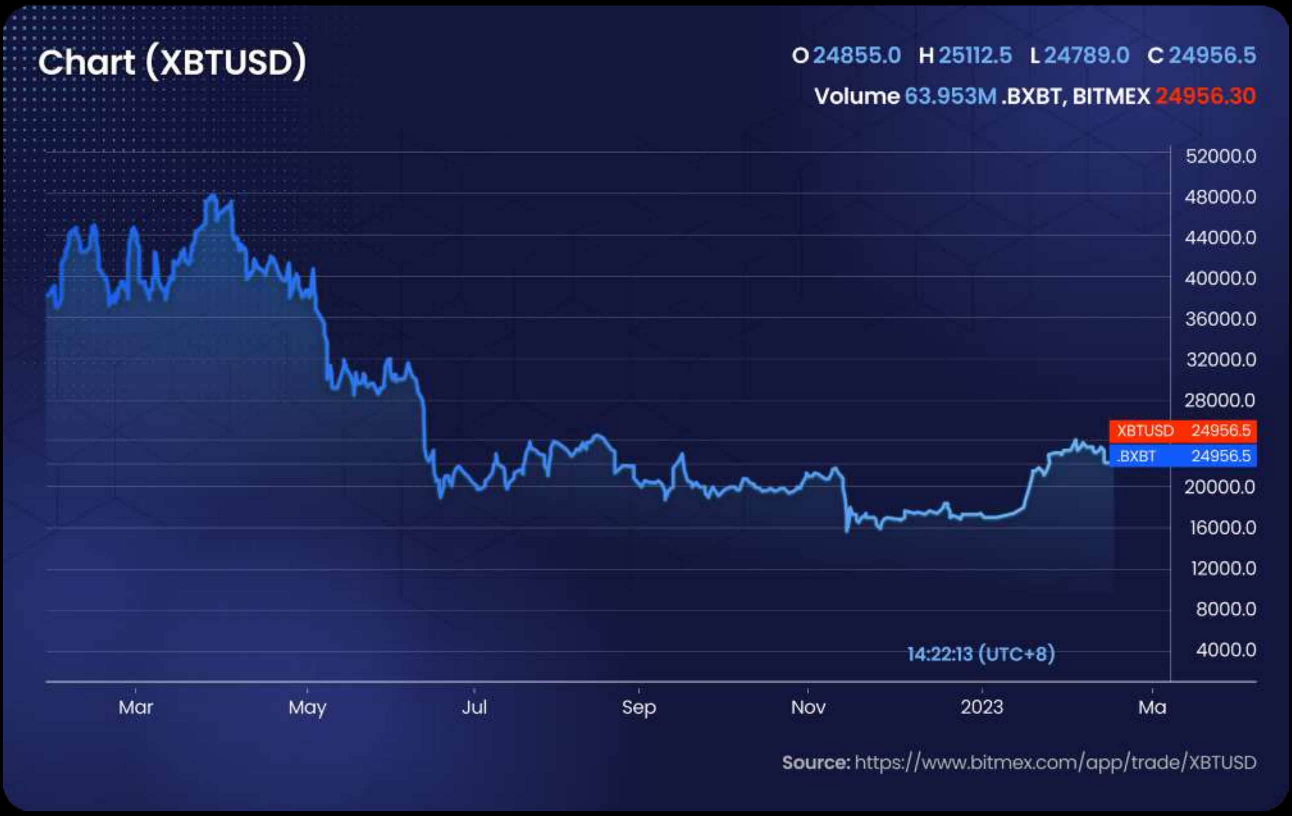

Figure 4 : Bitcoin price in USD

Moreover, the recent dip in inflation indicates that the market has already started pricing[37] in the Fed's pivot away from its quantitative tightening measures of the past few months.

Because Bitcoin's price is tied to the dollar's liquidity – with the USD being the global financial system's reserve currency – and Bitcoin having outperformed the dollar liquidity index, it is a possible play that the price of Bitcoin recovers strongly from a low base. For instance, it fell to below US$16,000 in November 2022 and as of late February was around US$24,000. If this is a natural reaction to its price having been hammered down in recent months owing to the factors we have discussed, we expect Bitcoin will eventually bounce along near a new (and higher) floor until dollar liquidity conditions improve.

If the Fed does do an about-turn and begins easing interest rates – as we expect it will – it will kick off a secular bull market, which will see Bitcoin recover and rally to greater heights.

However, if Bitcoin's current rally is a result of the market prematurely discounting the possibility of the Fed resuming its easing programme, investors have another scenario to consider: where the Fed does not deliver on the pivot despite inflation trending down, in which case the price of Bitcoin could fall back to earlier lows. We explore that possibility next.

37 Crypto Trader Digest: Bouncy Castle

Scenario #2: Caution Continues

> **Risk assets lose ground as fears of stagflation delay the pivot, hurting sentiment and crypto prices**

While the growing consensus in both the TradFi and crypto worlds is that Scenario #1 is the most likely to transpire, the risk remains that external events will keep inflation high and force central bankers to continue raising rates even if growth falters and countries tip into recession.

Some polls have suggested[38] stagflation – a scenario marked by supply shocks, high inflation and stagnant growth – could be the most likely outcome for 2023 owing to the convergence of various geopolitical factors, including the war in Ukraine, which could keep energy and commodity prices high, and fraying US-China relations[39]. Both issues could further disrupt[40] long-established supply chain networks, even as labour markets in developed countries[41] remain tight for the time being before they succumb to a weakening global economy.

If stagflation does come to pass in 2023, it will dent business and consumer sentiment, hurting retail and institutional investor appetite for a range of asset classes, including crypto. Such concerns have also prompted predictions of so-called 'surprise scenarios[42]', warning that the price of Bitcoin could plunge to US$5,000 in 2023 as risk-averse investors flee crypto assets and turn to long-established safe-havens such as commodities or gold.

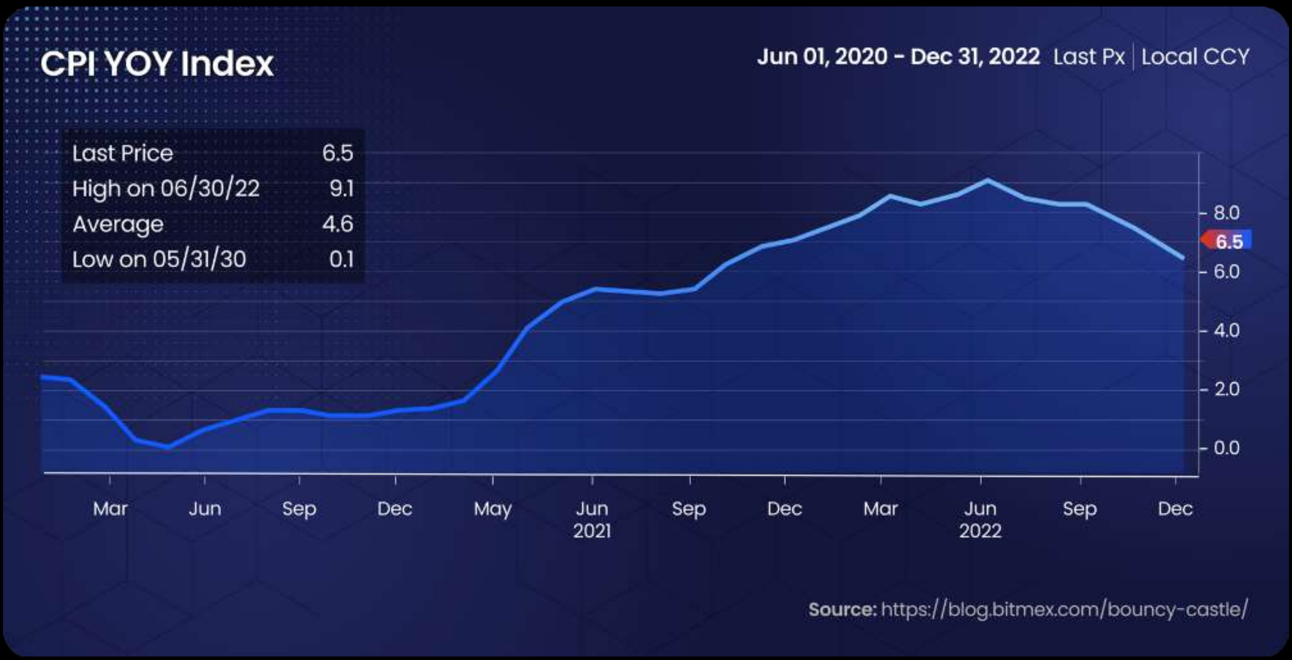

Figure 5 : Consumer price inflation trends

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38 Stagflation Will Rule 2023, Keeping Stocks In Peril
39 How China's Spy Balloon Blew Up Relations With The U.s.
40 As Us-China Relations Worsen, Expect Supply Chain Chaos
41 Dm Labour Markets Still Tight, But Will Weaken As Growth Outlook Deteriorates
42 Standard Chartered Bank: Bitcoin Could Fall To $5,000 Next Year

An improbable event

In early March, Fed Chairman Jerome Powell indicated[43] that the US central bank is closely monitoring economic data and "would be prepared to increase the pace of rate hikes." However, from our perspective, this is not to be misinterpreted as a plan to act but as the Fed's determination to manage the expectations of market participants. After all, managing near and mid-term expectations and, in turn, the spending plans of governments and the private sector is among the most commonly used monetary policy instruments.

Nonetheless, there are several reasons why we believe a stagflation scenario is unlikely. On the macro front, inflation is expected to trend downwards throughout 2023 as global demand declines and commodity prices fall, and as retailers slash prices to offload excess inventory accumulated during this period of constrained demand.

These factors are expected to feed into the consumer price inflation (CPI) figure – which is now trending down after peaking around 9% in mid-2022 – and lower the headline inflation number by year-end or 2024.

At the same time, global growth should pick up as China opens up[44] from the pandemic and as emerging markets – which have been reluctant to take sides[45] in the geopolitical conflicts of the Western world – resume trading with China, the world's second-largest economy, and step up trade between themselves[46]. Indeed, Asian stock markets are already reacting positively[47] to China's reopening, which could supercharge a rebound in a range of industries.

What this means for investors

A dramatic falloff in the value of crypto assets seems less likely even if inflation and monetary policy do not proceed as expected. As Rupertus Rothenhäuser, Chief Commercial Officer for BitMEX, explains, the price volatility of cryptos such as Bitcoin – which dropped from about US$50,000 at the start of 2022 to around US$17,000 in the final two months of the year and has remained within a much tighter range since – should be relatively subdued.

> **"[Bitcoin] has not experienced such low volatility in at least the past six years. This could be the equilibrium rate, as it appears remarkably robust around this level."**
>
> - Rupertus Rothenhaeuser, Chief Commercial Officer, BitMEX

"[Bitcoin] has not experienced such low volatility in at least the past six years. This could therefore be the equilibrium rate, as it appears remarkably robust around this level." This is partly because of a moderation in demand, Rothenhäuser says. "There seems to be a drop in speculation and whoever wants Bitcoin already has it – so the price could remain within this range for some time."

If Scenario #2 does occur and the ongoing downturn in the crypto market persists, investors would be well served by remaining

43 Powell Sees Higher Peak For Interest Rates, Says Fed Prepared To Speed Up If Needed
44 How China's Reopening Will Disrupt The World Economy
45 Vitiligo
46 Global Trade Hits Record High Of $28.5 Trillion In 2021, But Likely To Be Subdued In 2022
47 Bright Prospects For Asian Equities In New Year

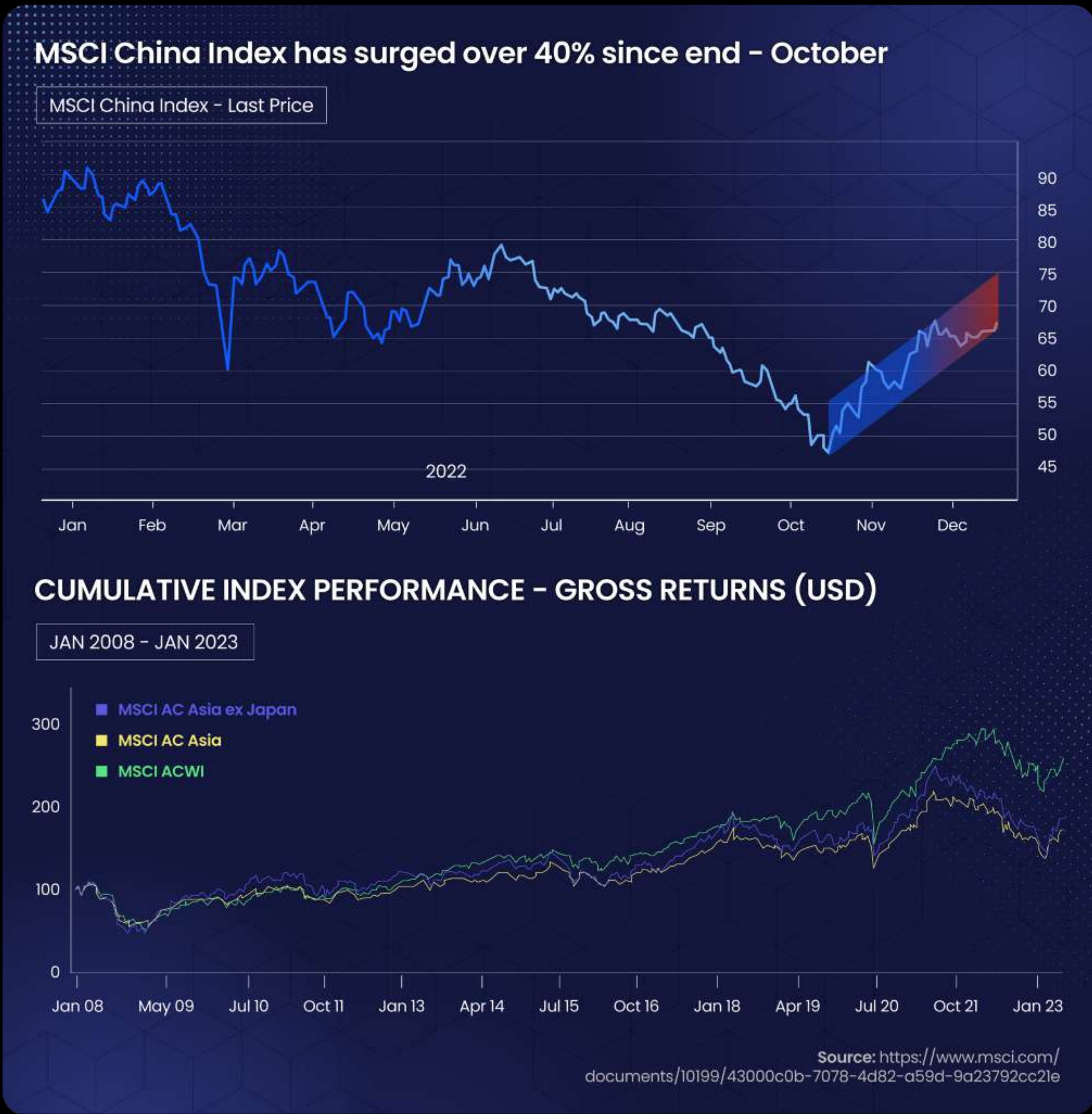

Figure 6 : Rebounding equities

positive. As Arthur Hayes notes, as with any industry, bull and bear market phases are par for the course. "I think we're at the edge of a part of the bear market when the death of Bitcoin has been predicted by every single major financial publication, and every single institutional investor has been burned by a scam. Then all of a sudden it is going to take off again. This phase is no different from any credit crisis that happens in every single asset class."

Instead, it would pay to be patient and selective. Investors should consider some less well-known products while waiting for the markets to recover, Hayes says: "I'd look at a platform that's paying me every time somebody wants to use, play or trade on it."

Moreover, a downturn can be a solid opportunity[48] to identify those robust products and services – category-defining DeFi projects and decentralised applications (dApps) – that can help build a truly decentralised financial system. And while events of the past few months have shown that the crypto industry is on its way to a rebound by unburdening itself of bad actors, investors must look for real value, driven by a legitimate use case and broad usage, which will in turn generate robust cash flows.

It's also important to recognise that while it's only natural that successful business models attract copycats, many of these latecomers will fail to attract users. That means only a handful of entities will eventually gain traction and generate real revenues – but these will grow steadily over the long term, even if they slow down or stagnate during a bear market. And it's these businesses that investors must identify and focus on.

> **"When in doubt, return to basics. In its end state, every business must generate cash flow"**
>
> \- Arthur Hayes, Co-Founder, BitMEX

As Hayes notes: "When in doubt, return to basics. In its end state, every business must generate cash flow."

At the same time, it's worth keeping in mind the innate volatility of some crypto assets. As Hayes has highlighted, this is a natural state for a nascent industry not unlike a start-up ecosystem marked by drastic highs and lows, but liquid and with low barriers to entry. This can take people, especially retail investors, by surprise. Leverage, in particular, must be used wisely and with great care.

So while Scenario #2 is not our core forecast, and caution should be the watchword for investors if it does happen, it won't change the underlying rationale for many of the sector's most promising businesses. Opportunities will continue to abound if – as we explore in our third scenario – crypto assets become inherently less risky.

48 Floaters

Scenario #3:
A Safer Asset Class?

> **Crypto is becoming a less risky asset over time as use cases scale up and regulations evolve to protect investors**

We believe a number of ongoing developments will aid the industry's efforts to repair its image, regain the trust of investors, and put what's been a challenging year in the rear-view mirror. Aided by the efforts of market and industry participants, legitimate use cases for the industry are multiplying. As usage ramps up, regulators have come to acknowledge the fact that mainstream acceptance of the industry is only going to grow. They will therefore broaden their efforts to create an international regulatory framework that can protect investors while giving service providers guardrails within which they can operate and innovate.

Adding to this, interest in the world of decentralised finance is only set to grow, as the industry emerges from the crisis with a roster of strong players with legitimate business models. This will serve to offer a range of relatively lower-risk investment options than in years past.

Geopolitics working in crypto's favour

Several external factors will help to drive this change. In our view, the adoption of crypto will be boosted by rifts in the established world order as countries like China and Russia look to move away from a dollar-dominated global trade system endorsed by the West.

China has been among the first to pilot a CBDC, or an e-yuan, and recently **published**[49] data on the circulation of the digital currency. While cryptocurrencies remain off-limits to investors in China, its citizens are no strangers to digital payments and have helped the e-yuan pilot expand to cover millions of merchants across more than two dozen cities.

The People's Bank of China (PBoC), along with the Central Bank of the UAE, has joined the latest phase of the Inthanon-LionRock project. Initiated by the Hong Kong Monetary Authority and the Bank of Thailand, this enables non-USD denominated cross-border payments using Distributed Ledger Technology (DLT)-powered CBDCs.

Meanwhile, Russia and Iran are also considering cryptocurrencies and CBDCs to sidestep the impact of Western sanctions. Russian regulators are reportedly considering[50] allowing local businesses to make international payments in cryptocurrencies while the country's central bank may develop[51] a CBDC-based cross-border settlement system. While such developments are morally problematic, one result may be the greater adoption of cross-border cryptocurrency transactions.

Moreover, as long-established supply chain networks are reshaped in response to geopolitical tensions and great-power rivalry, emerging markets will have a greater say in matters of global trade and take steps to encourage the use of cryptocurrencies

49 China Includes Digital Yuan In Cash Circulation Data For First Time
50 Russia Poised To Open Cryptocurrency Exchanges From Q2 2023
51 Russia To Begin Work On Cbdc Settlement System As Sanctions Endure

and blockchain-based financial messaging networks, to facilitate cross-border transactions and the flow of data. Commercial entities based in countries affected by sanctions can also turn to crypto-based networks – which are politically neutral by design – to participate in global trade without worrying about being punished for the transgressions of their governments.

> **Crypto can provide a more reliable and trustworthy digital network to exchange information and act as the 21st century currency for cross-border trade between countries in the Global South.**
>
> - Stephan Lutz, Acting CEO, BitMEX

"We are not saying crypto will replace the US dollar for trade with or within the US, but it can a) provide a more reliable and trustworthy digital network to exchange information and b) act as the 21st century currency for cross-border trade between countries in the Global South," says Stephan Lutz. "This is what crypto was built for."

An evolving regulatory framework

A key part of the industry's ongoing efforts to rebuild trust and scale adoption lies in its approach to legislation. The sector is warming to the need for oversight by traditional regulators in order to garner mainstream acceptance, all while governments and policymakers are increasingly beginning to recognise the benefits of crypto to their economies. This raises the need to regulate the industry in a way that doesn't smother innovation.

"We expect regulators will continue to embrace the technology and the advantages that it brings in 2023, with discussions occurring at the most senior levels within governments, and crypto receiving more attention from policy makers than at any other time previously," says Julian Tehan, Chief Compliance Officer, BitMEX. "Simultaneously, the passage of draft legislation and introduction of standards – including various forms of licensing and regulatory frameworks – are coming into effect, along with enforcement."

2022's main lesson in the space? Crypto standards and regulations are now a much higher priority for international and domestic policy makers. This is fueled by the industry's sustained growth as well as the major collapses of the year - Terra Luna, Celsius, 3AC, and FTX in particular.

"Industry participants are now positioning themselves to meet increased standards, all while working to provide input to policy makers on what good regulation looks like, ensuring it sits at the intersection of oversight and innovation.

"Internally, departments are exploring and undertaking initiatives that give their clients and key stakeholders comfort that ongoing operations are in line with new standards," Tehan says.

There has been a flight to safety as a result of the events of 2022, and regulatory oversight will become an increasing focal point for large institutions. At the same time, regulators are being given the mandate to fast-track enforcement actions that likely began in 2022. This is occurring even where there may be a lack of regulatory clarity in some areas, creating what some term as 'regulation by enforcement'.

Regulations aren't the only answer to improving trust and transparency in the industry, however. A number of initiatives are coming from within: for example, many exchanges have started to release Proof of Reserves to provide clients with increased transparency around the assets they hold in custody. This unique solution highlights the kind of private sector innovation that can complement regulatory action to bring confidence to the market.

Emerging markets drive regulatory developments

As calls for regulations grow from both inside and outside of the industry, emerging markets are expected to take the lead, while developed markets will likely move more slowly and deliberately. El Salvador and the Central African Republic have been in the news for some time as being among the first countries to accept cryptocurrencies. In Africa, Nigeria is expected to take the lead from the technology, regulatory and adoption standpoints. Other developing nations like Brazil and Argentina could move towards adopting crypto as a form of payment.

In Asia, the Monetary Authority of Singapore (MAS) has launched Project Ubin[52] to bring the industry and the regulator together to ramp up the use of central bank-issued digital tokens for clearing and settling payments and securities. Following a five-year pilot, the project is set to[53] strike up partnerships with a number of international entities to facilitate cross-border foreign exchange settlements using wholesale CBDCs.

Dubai, which has continued to take a progressive view on crypto assets and now acts as a super-connector linking the Asian, African and European markets, has moved to[54] set up a new regulatory agency – the Virtual Assets Regulatory Authority (VARA) – and introduced several new rules to oversee the operations of VASPs in the emirate, introduce a high level of clarity into the ecosystem, and minimise risks for investors.

Hong Kong, meanwhile, is also set to introduce a new licensing regime for VASPs, which will take effect from March 2023 and plans to allow[55] retail trading in highly liquid cryptocurrencies. The move follows concerns voiced by the regulator about investor protection in the wake of FTX's collapse and is an example of regulatory efforts globally to strike a balance between encouraging growth in the industry and safeguarding the interests of retail investors.

India, meanwhile, remains a wildcard – intriguing considering it's a huge market with a desire to invest, but whose government has yet to make up its mind about crypto – something we don't see changing soon. Other emerging nations like the Philippines and Indonesia are big markets in their own right, and it will be interesting to see how they develop as their regulators try to leverage crypto to benefit their societies.

Movement is also discernible in the West. A US Congressional subcommittee on digital

52 Project Ubin: Central Bank Digital Money Using Distributed Ledger Technology
53 Mas Launches Expanded Initiative To Advance Cross-Border Connectivity In Wholesale CBDCs
54 Dubai Mandates Licensing For Crypto Companies As It Sets Out Regulatory Requirements
55 Hong Kong To Propose Approved Set Of Crypto Tokens For Retail Trading: Reuters

assets, fintech and financial inclusion is making stablecoin legislation[56] one of its top priorities, and plans to use that as a model to regulate all digital assets.

Simultaneously, US regulators have initiated a raft of regulatory enforcement actions that likely began in 2022 and have been given greater impetus since the collapse of FTX. Regulatory competition is likely to remain a key stumbling block for the US to achieve a standardised crypto regulatory framework.

Meanwhile, the European Union's Markets in Crypto-Assets[57] (MiCA) regulation is poised to become the benchmark for other regions looking to bring a patchwork of legislations and standards under one umbrella.

"MiCA is really setting the standard in terms of its breadth and depth, but also in the allowances it's making for innovation. MiCA is really interesting for all participants, including for BitMEX from a centralised exchange standpoint," Tehan says.

And while not all regulators will move in the same direction at the same time, there is no denying that regulators have become more receptive to the crypto industry, and we can look forward to concerted action in the future.

Scaling up use cases

In addition to considering crypto as a currency or an investable commodity, 2023 will also see the industry scale up new use cases. Our expectation is that these new applications may experience an expansion across the board and greater mainstream adoption as the industry and investors respond positively to regulatory efforts to shore up investor safeguards without stifling innovation by creating better, more secure products and services.

Among the main developments to watch for is the proliferation of CBDCs and regulated stablecoins. CBDCs, which are moving from the pilot stage to live operations[58] for the wholesale market in several countries, are expected to gain traction due to their ease of use in cross-border trade payments. With stablecoins, regulatory developments have precipitated their rollout across markets at the corporate level but retail adoption might take time to scale up.

Another development to watch: NFTs and the use case of digital identity management. This is because these tokens serve as a proxy for personal interest, achievements, asset holdings or belongings.

They can be deployed as a unique digital representation of real-world assets, including collectibles, virtual assets, loyalty schemes or real estate. This also enables the easy, efficient and fraud-free transaction of physical goods. NFTs have already gained popularity[59] as assets in their own right, especially in the online gaming world – a nearly US$250 billion industry[60] growing at double-digit rates annually, but we see this multiplying as more use cases are established.

56 Europe Stablecoin Regulation
57 Markets In Crypto-Assets (MiCA)
58 Https://cbdctracker.org/
59 Nft Trends To Watch Out For In 2023
60 Gaming Is Booming And Is Expected To Keep Growing. This Chart Tells You All You Need To Know

Additionally, cryptocurrencies and the blockchain serve as two pillars[61] of the next generation of the internet, or Web3[62], a broad ecosystem play that will boost use cases. These include metaverses, AI/VR experiences or distributed storage[63] (digital spaces on the cloud to host Web3 worlds) and an accrual of open source projects. This will serve as a significant departure from the walled-off nature of software development on the internet as we know it – and more equitable distribution of opportunities and rewards for individuals who contribute to building this ecosystem.

Lastly, the image of the crypto-mining space, as an energy-intensive activity, is undergoing a green makeover following the success of the Ethereum blockchain Merge[64], promising the merits of blockchain technology in an energy-efficient manner. Additional use cases[65] include the creation of instruments such as tokenised bonds enabling access to new pools of liquidity and capital, and greater financial inclusion[66], especially in the developing world[67] where hundreds of millions of people remain without access to basic banking services. As Lutz puts it, "Everything that contributes to these use cases is something to invest in."

Interest from TradFi institutions keeps growing

Collectively, such developments have led to a change in perceptions of the sector, despite its high-profile problems. The past year saw major TradFi firms continue to invest in crypto firms[68] as they see long-term value in DeFi and its many as-yet-unrealised use cases. This trend is set to grow as investor appetite is whetted following a series of promising regulatory developments in key markets, which should go a long way towards restoring confidence in the industry.

All major banks have entered the FinTech space, and while some are not ready to offer crypto trading services just yet, they are eyeing custodial services as a fresh source of revenue and a vantage point from which to better understand other aspects of the industry. "With so many banks moving into crypto, there are many reasons to be optimistic for the industry in 2023, once the loss of trust is overcome," Rothenhäuser says.

On the retail side, because TradFi intermediaries, such as prime brokers, private banks and retail banks are not yet fully engaged with crypto, family offices and small-to-mid-size asset managers could play an important role in 2023, enabling people with a certain level of wealth to access, store, trade and execute transactions in cryptocurrency.

Goodbye Ponzinomics: Tokenomics will become crucial

The lessons of the past year point to the importance of heeding tokenomics[69], which helps determine a crypto project token's values and whether they can be sustained over the long term. Just as in the world of TradFi, well-

61 Introduction To Web3
62 Introduction To Web3
63 How Can Blockchain Technology Improve Cloud Storage?
64 The Ethereum (ETH) Merge Is Finally Here!
65 The Rise Of Using Cryptocurrency In Business
66 Cryptocurrencies Can Enable Financial Inclusion. Will You Participate?
67 Why Bitcoin Holds The Potential Of Financial Inclusion In India
68 Goldman Sachs To Spend 'Tens Of Millions' On Discounted Crypto Investments After Ftx Implosion: Report
69 What Is Tokenomics And Why Is It Important?

designed incentives to buy, hold and transact in a coin, a robust platform and a well-rounded ecosystem are qualities that attract investors and over time can create a self-perpetuating virtuous cycle.

2023 will be the year that investors become more discerning in this respect – considering whether projects or coins support one or more use cases, including whether they can transfer and store value. As Lutz says, "Overall, we are optimistic about the long-term impact of the washout that occurred following the crisis of 2022. Looking at the current landscape, which features more than 100 crypto exchanges globally, we expect less than 20 to be able to operate sustainably and be profitable."

Another way to approach the question of where to invest, Rothenhäuser explains, is to understand that it involves the same rationale as buying a stock, which is based on assessing a company's products or services. "When we look at coins, although Bitcoin dominates, other coins such as Ethereum, Polkadot and Solana have meaningful value," he says. "If you believe in the protocol adoption, security and business model of such technology providers, you buy the token."

What this means for investors: keep your powder dry

Although the FTX crash prompted investors to step back from the industry's[70] centralised exchanges, they have already started returning crypto asset allocations to trading platforms as of January 2023.

While views of a floor, or ceiling for that matter, for Bitcoin's price in 2023 vary wildly – from US$5,000[71] to US$250,000[72] – Arthur Hayes predicts the coin will hit US$100,000 by late 2023 or early 2024 as investors return to the markets following the reversal of interest rates. And only those companies with genuine technological merit will remain standing at the start of the next bull run. Until that happens, the best advice for investors is to exercise prudence, remain cautious in what's an extremely volatile market, and save their dry powder to capitalise on the rally when it begins – likely sometime in Q2 2023.

> **You want to be ready to participate in the rally when it happens. Because, if you blew all of your money away now, you could be a very sad panda in 2023.**
>
> - Arthur Hayes, Co-Founder, BitMEX

"You want to be ready to participate in the rally when it happens," Hayes says. "Because, if you blew all of your money away now, you could be a very sad panda in 2023."

70 Crypto Markets Analysis: Is Bitcoin Heating Up? Looking At On-Chain Data For Clues
71 Bitcoin Could Drop To $5,000 In 2023 'Surprise': Standard Chartered
72 Tim Draper Still Positive On $250k Bitcoin Price Prediction In 2023

Understanding and unlocking crypto's true value

All things considered, 2023 could be the year when the crypto world borrows a page from the TradFi playbook to restore confidence in the industry, with use cases and regulations scaling up to ultimately enhance adoption across the board. We believe there could be rapid growth in the usage of regulated stablecoins on the institutional side, while many retail investors will get their first taste of crypto through the rise of next-gen gaming, NFTs, Web3 and metaverse experiences over the course of 2023 and 2024.

We will see the re-emergence of Bitcoin and ETH as the dominant virtual currencies, while blockchain tech will open the door to a range of new use cases. It will also be a year when regulators step up supervision and follow through with enforcement, which in the long run will help the crypto space – provided policymakers offer the clarity the industry seeks on what's permissible and what's not, and don't overstep and stifle innovation and enterprise.

Ultimately, as Stephan Lutz puts it, "2023 may be the year when everyone realises why crypto was invented in the first place. And while BitMEX is an exchange whose business it is to enable the buying, selling and hedging of crypto assets, we must understand that this is not just another stock or just another currency to be traded."

Indeed, crypto represents a bespoke future where the technology is used to create and validate assets, or identify and transfer ownership. Crypto's true value lies in its many real-world use cases – and understanding that is what will drive adoption and growth for the industry over the long term.

"In this way, trading crypto becomes not so much a speculative exercise but an investment in strengthening our socio-economic fabric."

> **Trading crypto becomes not so much a speculative exercise but an investment in strengthening our socio-economic fabric.**
>
> - Stephan Lutz, Acting CEO, BitMEX

Proof of Reserves and Liabilities:

Building Transparency and Trust

The collapse of FTX and other crypto firms, and the resulting contagion, shone a spotlight on the lack of transparency at many cryptocurrency firms. In response, the industry has deployed two particularly effective tools: proof of reserves (PoR) and proof of liabilities (PoL), which offer a feasible way to address the transparency concerns.

In traditional finance, institutions have to undergo stringent audit procedures to help validate that they actually hold the assets the fractionalised banking system requires from them, to ensure an orderly industry and avoid bank runs and the like.

In contrast, crypto technology allows for on-chain PoR and PoL, offering a more efficient process to provide proof of solvency – and the assurance that users can ask for their token back. In an industry where auditing standards and regulations are yet to be established, crypto exchanges are increasingly using proof of reserves and liabilities (PoRL) to show users' funds are backed by sufficient reserves. When a crypto-custodian, like an exchange, publishes its PoRL, it is demonstrating that the crypto reserves it holds on-chain match its liabilities, i.e., the balances held on behalf of its depositors. This serves as proof that the company can make its customers whole. It does not, however, include all potential liabilities such as loans, staff or tax payments, etc. Those items are usually much smaller-ticket items and can be validated through traditional audit processes.

Many crypto firms have made commitments[73] to publish PoRL materials following FTX's collapse – with some, like BitMEX, having done so[74] long before 2022's crypto market turmoil. By making these PoRL materials publicly available, exchanges and other custodians demonstrate the importance placed on transparency and the ongoing monitoring of reserves and liabilities.

Although it is relatively straightforward to report cryptocurrency reserves, the key is to report regularly. Why? Because, if publishing is too infrequent, an exchange could borrow funds to bolster its reserves at the specific time of reporting, providing a false picture of its day-to-day flows. Most exchanges currently report PoRL at different frequencies, whether daily, quarterly or semi-annually; BitMEX however, releases[75] its PoRL twice-weekly into a publicly accessible file storage[76].

Reporting cryptocurrency liabilities, however, is trickier. There are two issues here: safeguarding the privacy of customer deposits and the possibility of an exchange withholding information about some of its liabilities.
One solution to protect customer privacy is to provide each user with a cryptographic nonce, which they can use to verify that their data is included in the Merkle tree – a cryptographic data structure containing each user's anonymised balance and transaction information, without the full tree

73 'Proof Of Reserves' Emerges As A Favored Way To Prevent Another FTX
74 A Letter To You All
75 Bitmex Provides Snapshot Update To Bitcoin Proof Of Reserves & Proof Of Liabilities
76 File Storage.

being published. BitMEX's approach[77] is one that preserves privacy by splitting customer balances into multiple leaves in the tree and publishing the full tree.

To address the second issue around the withholding of liabilities, an exchange can choose to have the PoRL process verified by a trusted third party (such as an auditing firm) or report all the details to the public. Companies like BitMEX opt to publish them openly so that users aren't required to trust a third party's assessment. By not relying upon external verification, PoRL data can be shared more frequently, as there is no need to wait for attestation.

And while PoRL cannot entirely mitigate the risk of unethical activity, such as theft or fraud, it can make such risks more detectable and serve as an obstacle for those with criminal intent. Another limitation is that a PoRL report cannot detect whether reserves were borrowed, or legally owned by the entity.

Nonetheless, while PoRL is not perfect, it has many merits and its growing adoption across the crypto industry is a promising sign of a move towards greater transparency and, consequently, customer safety.

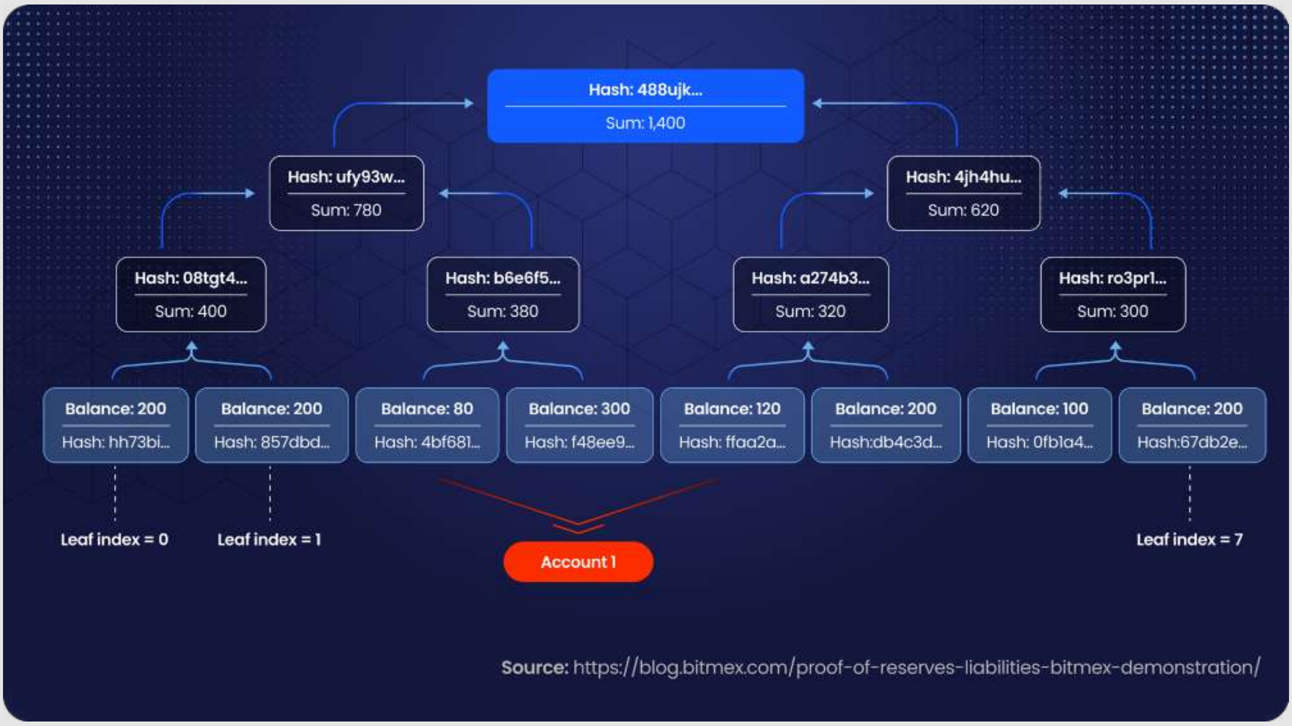

Figure 7 : How BitMEX calculates PoRL

77 Proof Of Reserves & Liabilities – Bitmex Demonstration

About BitMEX

BitMEX was one of the first crypto exchanges for derivatives. It exists to provide institutional and professional traders with a platform that caters to their needs.

Since 2014, no cryptocurrency has been lost through intrusion or hacking, allowing BitMEX users to trade safely in the knowledge that their funds are secure. So too that they have access to the products and tools they require to be profitable.

On BitMEX, users can trade cryptocurrency derivatives on a professional trading platform that provides low latency, deep liquidity and constant availability. Spot trading is also supported, as well as the purchase and conversion of cryptocurrency - BitMEX supports 45+ derivatives contracts, 11 pairs for spot trading and the ability for users to convert 30+ cryptocurrencies.

BitMEX created the Perpetual Swap, the most popular crypto trading product in history. It is the only major global exchange that continues to create new cryptocurrency derivative products, most recently, the ETH Staking Swap.

In 2021, BitMEX was one of the first exchanges to publish their on-chain Proof of Reserves and Proof of Liabilities data - demonstrating funds in excess of aggregate client balances. BitMEX continues to publish this data twice a week.

BitMEX is owned by HDR Global Trading Limited and is registered in Italy as a Virtual Currencies and Digital Wallet Services Provider by the Organismo Agenti e Mediatori (OAM).

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For more information on BitMEX, company initiatives, product listings, launches and competitions, please visit the BitMEX Blog or www.bitmex.com, and follow BitMEX on Discord, Telegram and Twitter.