Digital Asset Macro Environment

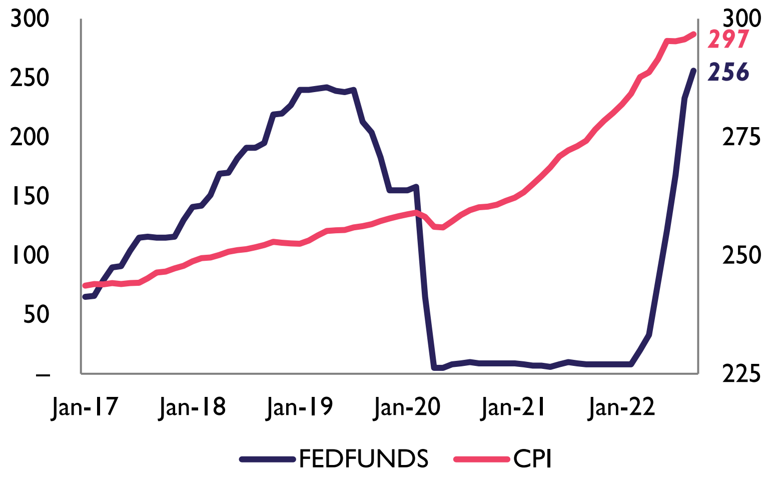
October 2022

Macro Economics Overview

The inverse relationship between the United States Federal Funds Rate and Inflation

Federal Funds Rate & Inflation

- The U.S. FOMC (Federal Open Market Committee) meets eight times annually to set a target rate
- The FOMC's target rate determines what commercial banks can borrow and lend to each other overnight
- Central banks adjust short-term interest rates to influence economic inflation
- Inflation is calculated from CPI or consumer price index, which tracks changes in prices

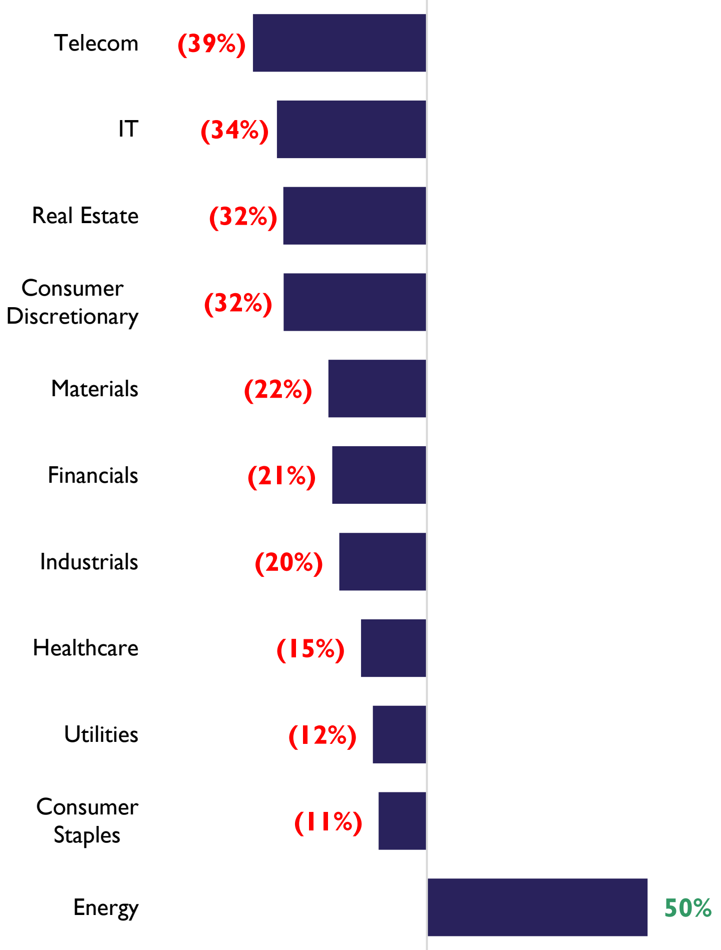


Simplified Consumer Impact

- High inflation has led to institutional investors pulling back from crypto[(1)]
- Lower FED rates enable easier borrowing
- Increased borrowing enables more spending, causing growth and inflation to increase
- Following the ongoing COVID-19 outbreak in 2020, the FOMC has set a near zero rate
- On the inverse, higher rates discourage spending leading to lower inflation
- Generally, healthy economies operate at a 2.0% – 3.0% inflation rate
- According to the Quantity Theory of Money, as money supply grows, prices rise as each individual unit of currency is worth less
- The FED has spent $4.13 trillion of its $7.09 trillion allocation in response to the pandemic

Consumer Impact by Sector

MSCI YTD Sector Performance



Source: MSCI and St. Louis FRED as of October 28, 2022.
(1) Silvergate Stablecoin Reserves Contract as Investors Seek Inflation Hedges.

Macro Economic Perspective on Digital Assets

Bitcoin as an Inflation Hedge

- Federal Reserve's expansionary monetary policy has ballooned Federal Reserve assets
- Bitcoin's max supply of 21mm and the Quantity Theory of Money remain popular long-term catalysts for many investors
- The deflationary supply schedule has earmarked the term "digital gold"
- However, Bitcoin's track record remains unproved during periods of sustained hyperinflation and volatility

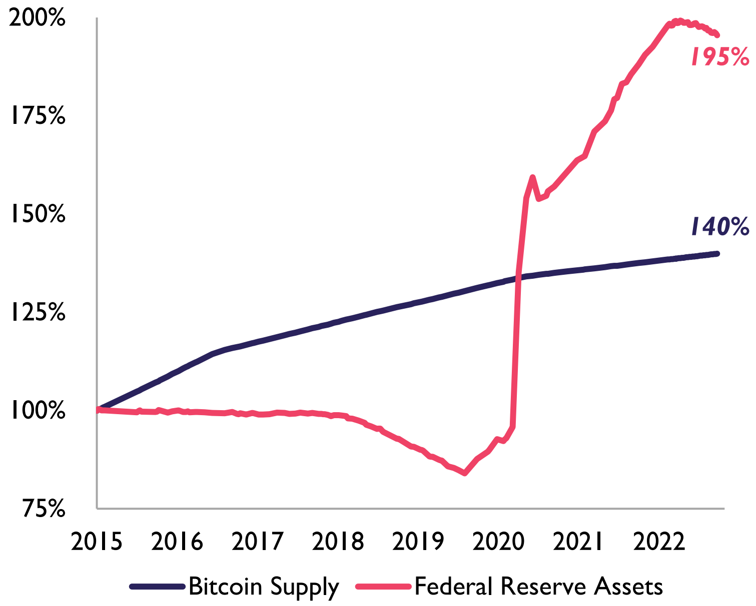
Testing the Digital Gold Thesis

- Gold and Bitcoin have different relationships with the broader equities market
- Gold is considered a haven asset during volatile times due to its low-price correlation and hedging abilities
- On the other hand, Bitcoin responds positively to uplifts in the broader market (a positive correlation)
- Despite the dislocated correlations, Bitcoin remains an attractive inflation hedge relative to other asset classes

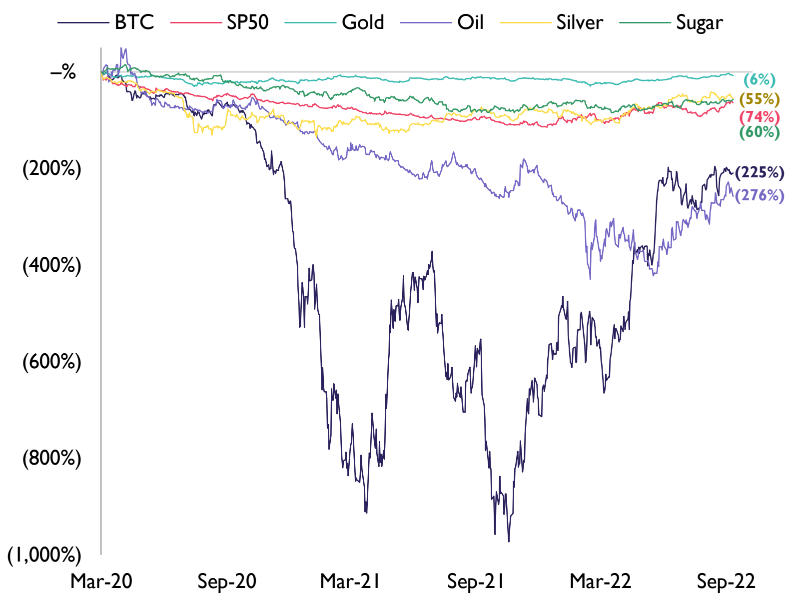
Recession Fears & Safe Harbor Assets

- 8.2% inflation and uncertainty on the Fed's monetary policy have hurt retail and institutional investors
- The broader real estate market has tumbled amidst lumber shortages and rising mortgage rates
- 2022 has seen 7 rate hikes with the most recent 75bps increase in Sep-22 as Federal Reserve tightens monetary policy amidst run-away inflation
- GDP growth slowing with investor fears surrounding a recession from two consecutive contraction periods

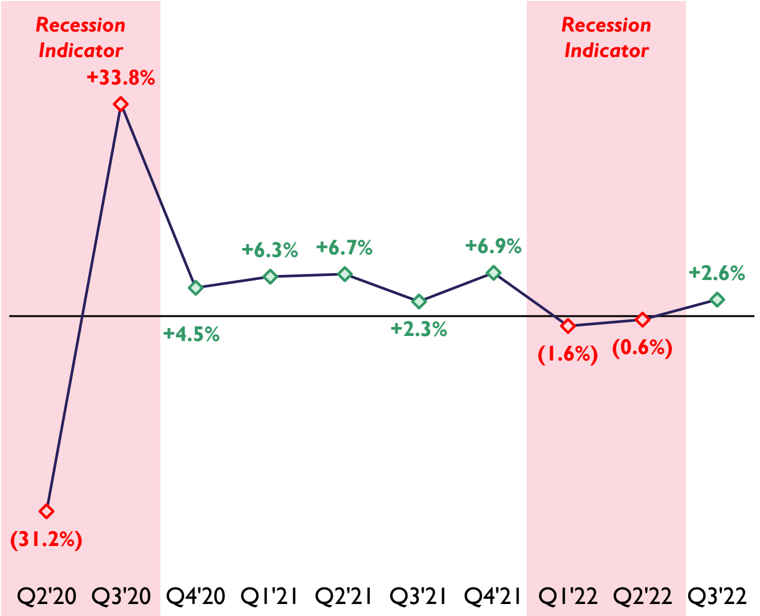
Bitcoin Supply & Federal Reserve Total Assets



USD Denominated in BTC, Commodities & Equities



% QoQ U.S. GDP Growth



Source: St. Louis FRED as of October 28, 2022.

Consumer Spending & Outlook

Consumer Credit Card Spending

- Credit card balance increased to $0.84 trillion from $0.89 trillion in Q2'22
- Consumer credit card debt rising in conjunction with emergence from COVID-19 recession and increasing prices
- Credit card delinquency increased 16.2% QoQ for 18 – 29-year-olds

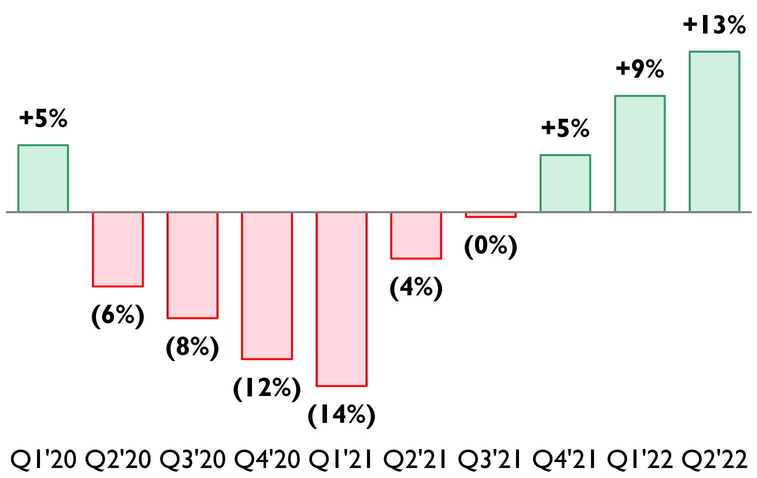
Consumer Real Estate

- 30-year FRM rises 6.8% pre-crisis peak for the first time since July 2006
- Transition into serious mortgage delinquency increases ~70% and ~50% for ages 18 – 29 and 30 – 39 respectively
- Foreclosures increased for all ages groups for a consecutive quarter

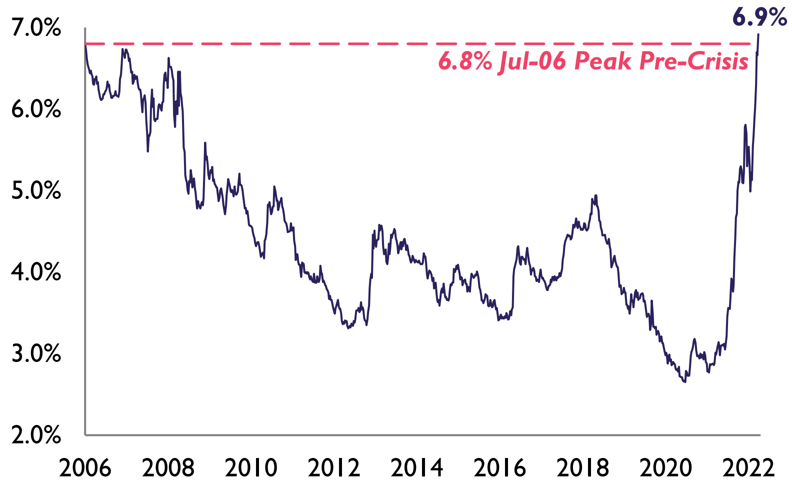
Currency Decay

- GBP fell to a new all time low following announcement of tax cuts program
- EUR also fell in response to the increasingly tightened U.S. monetary policy as investors seek higher interest bearing U.S. products
- Yen slumped (26%) over the past 3 years as Japan vows to keep interest rates low

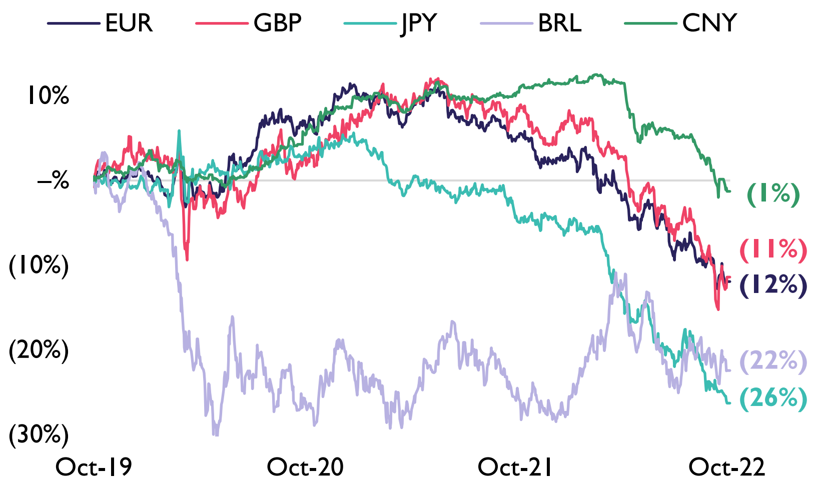
% YoY Household Credit Card Debt Growth



30-Year Fixed Rate Mortgage



Foreign Currency to USD Ratio

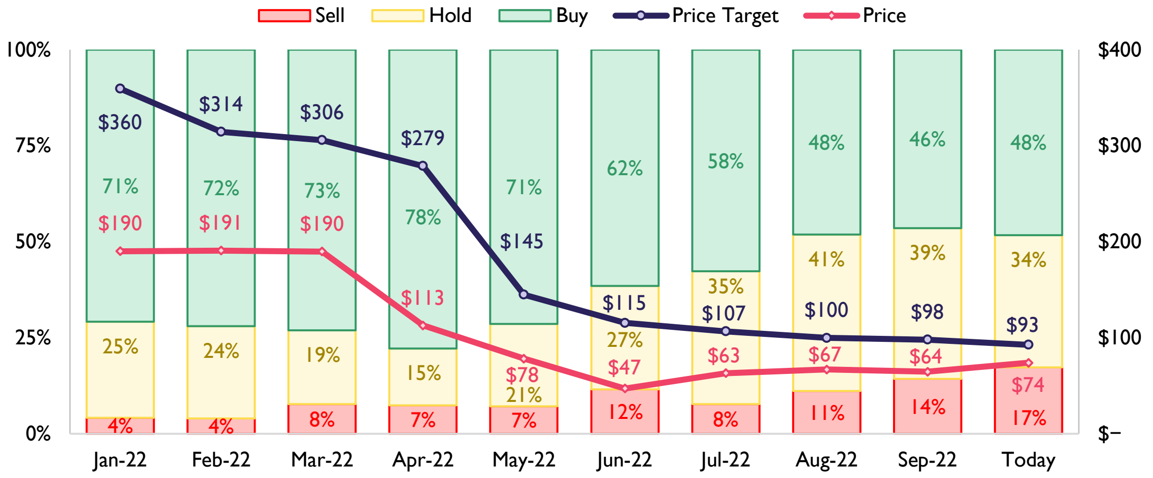


Source: St. Louis Fred as of October 28, 2022.

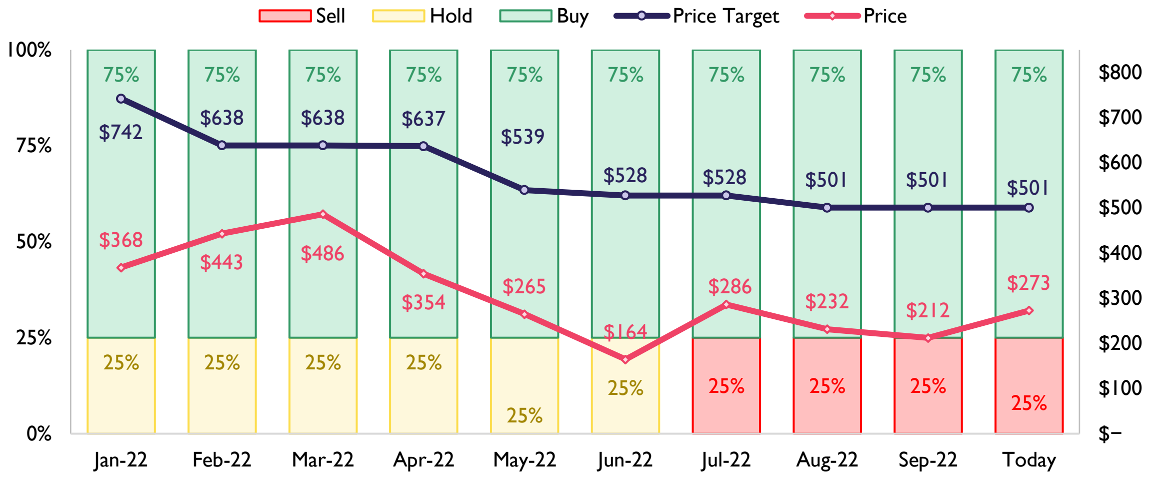
Year to Date Wall Street's Microeconomic View on Crypto Exposed Firms

Broader route across the market signals increased skepticism among publicly traded digital asset firms

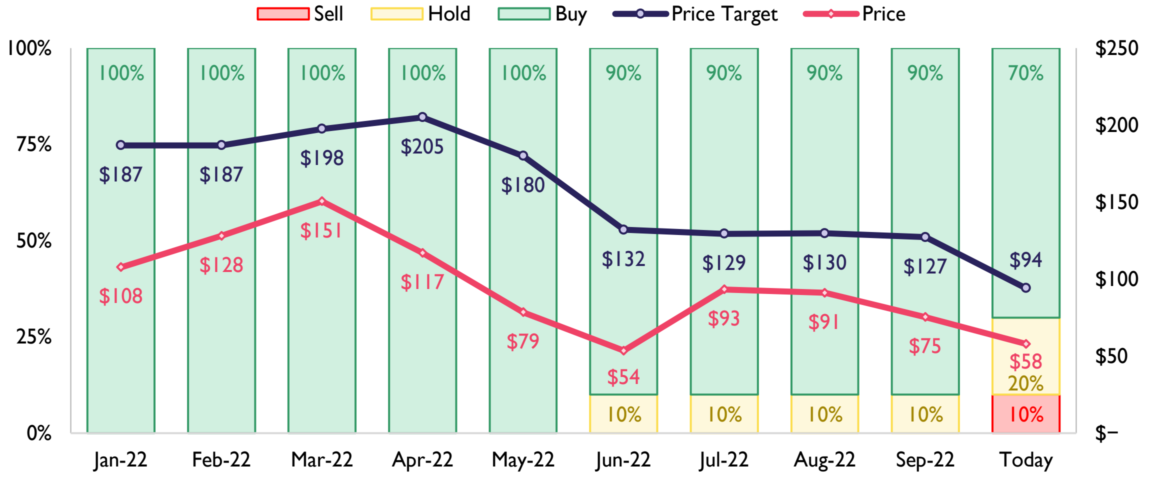
coinbase



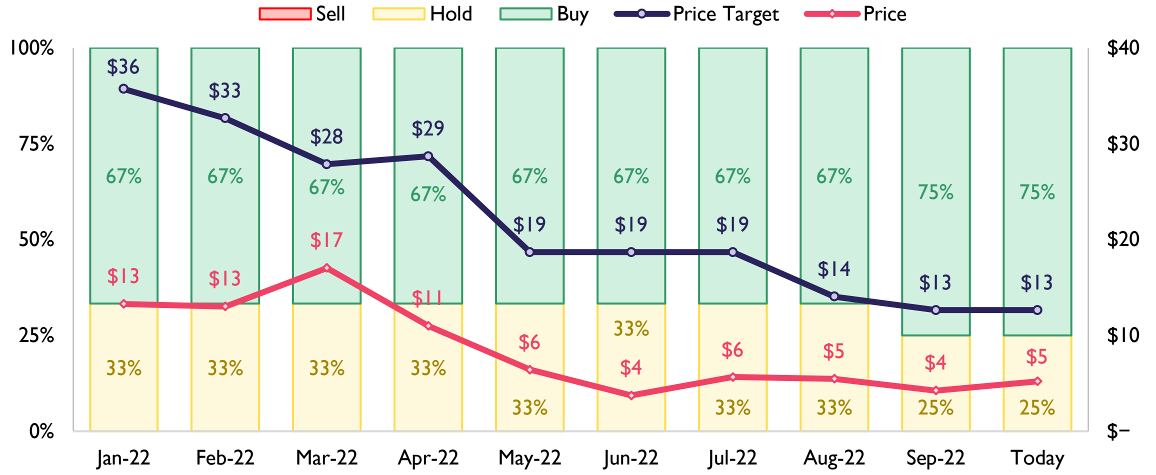
MicroStrategy



Silvergate

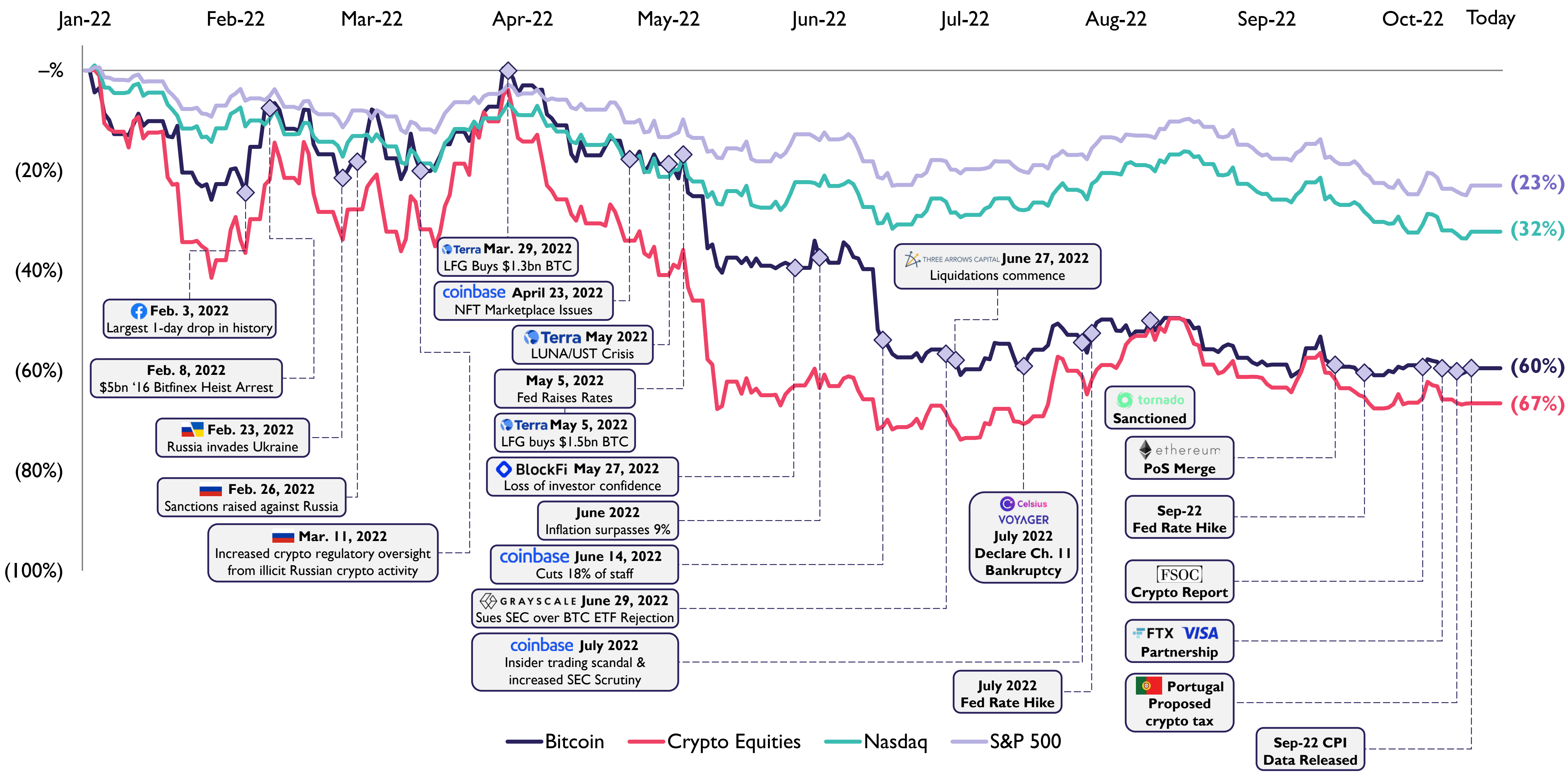


GALAXY DIGITAL



Source: FactSet as of October 28, 2022.

Year to Date Asset Pricing in Context of Macro Events



Source: FactSet as of October 13, 2022.
Note: Crypto equities reflects Bakkt, Coinbase, Galaxy Digital, MicroStrategy and Silvergate Capital.

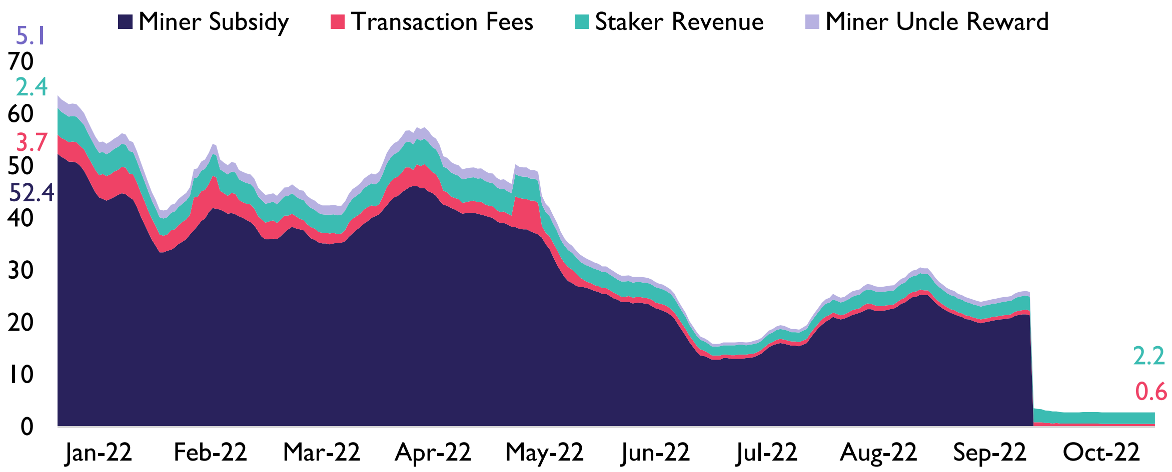
Ethereum Merge

Long awaited transition from Proof of Work to Proof of Stake

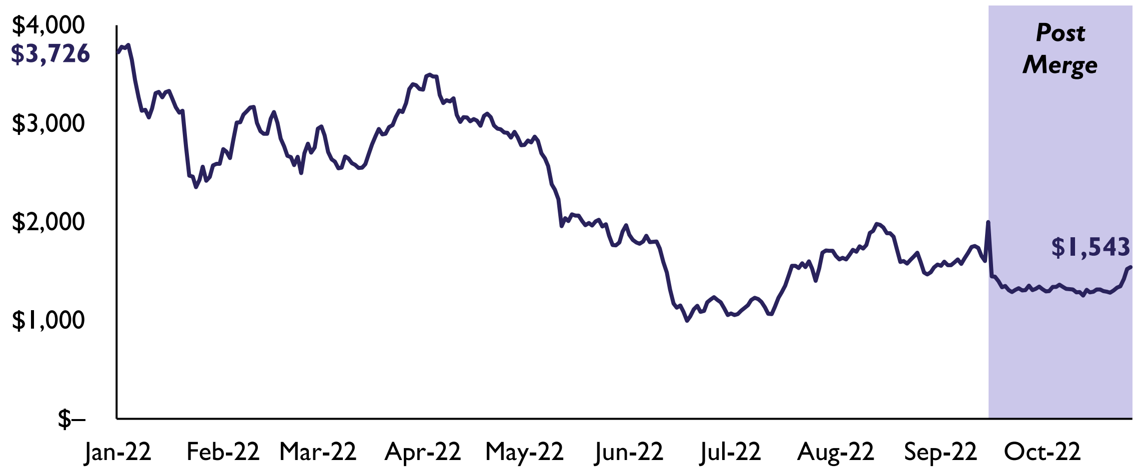
Ethereum 2.0

- ETH Mainnet will merge with the Beacon Chain PoS system
- Expected reduction in energy consumption by ~99.95%
- Rather than relying on miners, validation comes from staking 32 ETH
- $ / ETH rallied pre-merge, before contracting and stabilizing at $1,200
- On October 11, ETH's weekly supply growth turned deflationary for the first time since the Merge
- Gas remains high, with alternative L1s and roll-ups gaining traction

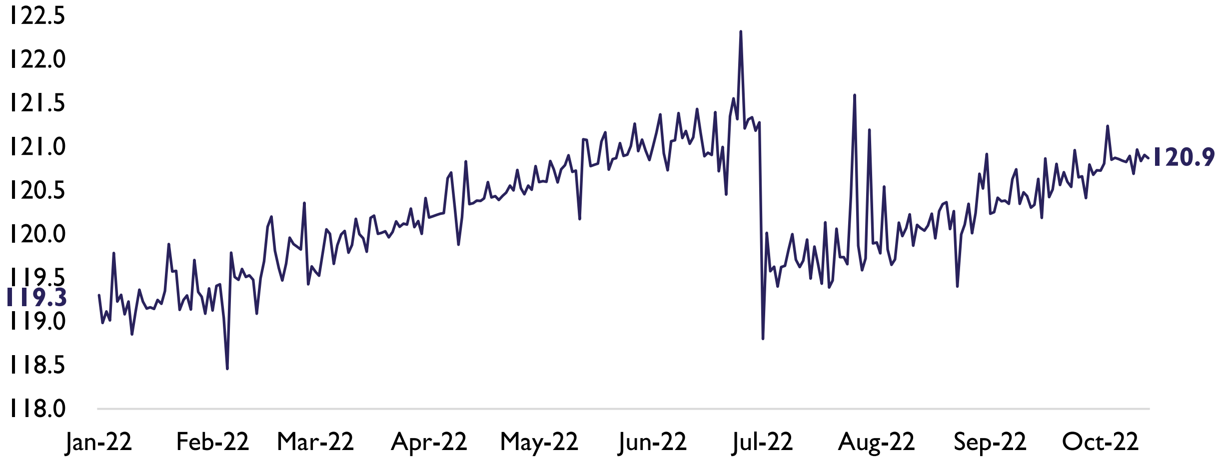
Ethereum Block Validator Revenue



Year to Date $ / Ethereum



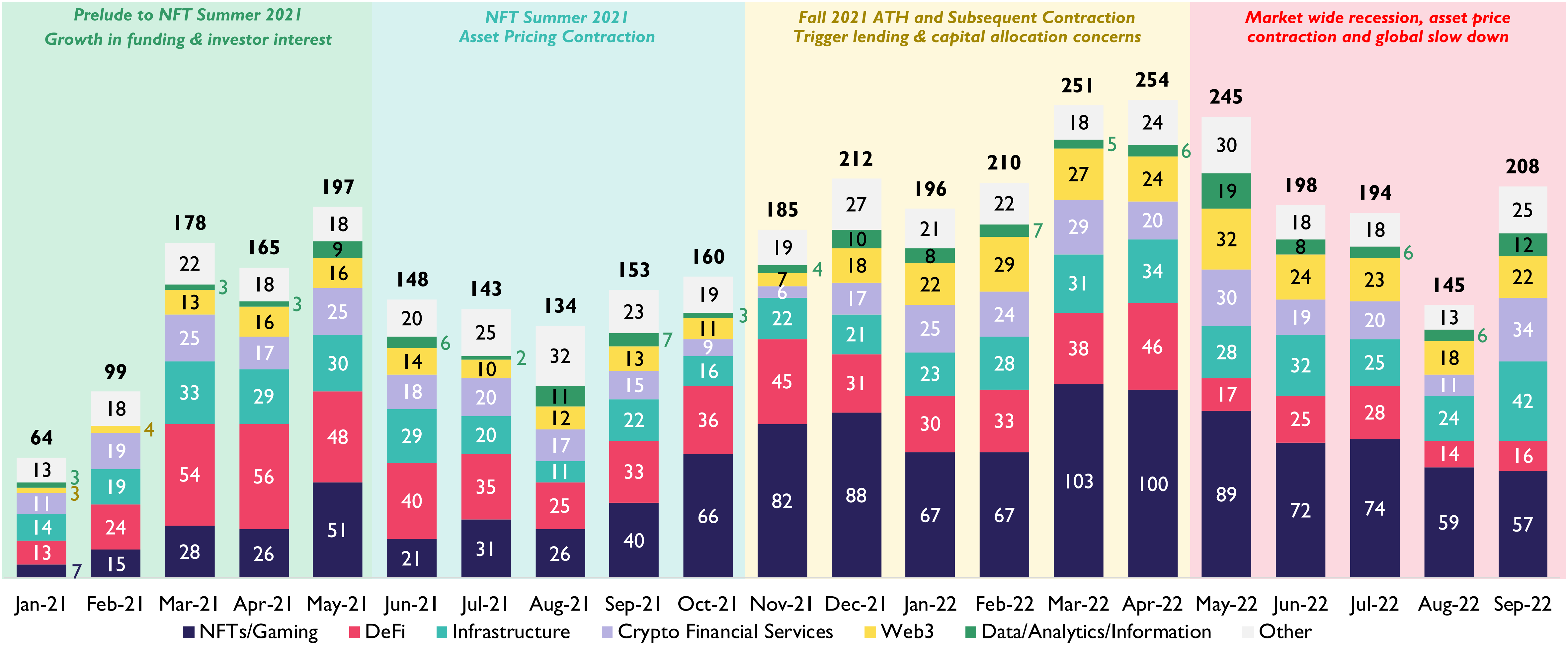
Ethereum Circulating Supply



Source: Coin Market Cap as of October , 2022.

Crypto Ecosystem Faces Shuttered Fundraising Markets

Cash strapped crypto firms see second consecutive month with +20% decline in funding rounds as venture and growth investors seek less risky assets



% MoM Growth / (Decline)

Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
(27%)	+55%	+80%	(7%)	+19%	(25%)	(3%)	(6%)	+14%	+5%	+16%	+15%	(8%)	+7%	+20%	+1%	(4%)	(19%)	(2%)	(25%)	+43%

Source: The Block Research.
Note: Reflects number of fundraising rounds. Other category reflects Enterprise and Trading / Brokerage firms.

Financial Stability Oversight Council Digital Asset Recommendations

On October 2020, the FSOC released their report and recommendations to regulators on how to approach digital asset regulation

1. *Continue to bring transparency, compliance standards and guidance to crypto and crypto adjacent businesses and services*
2. *Continued enforcement of existing rules and regulations related to banking, anti-fraud, sanctions, securities, commodities, derivatives and AML laws*
3. *Explicit rulemaking authority over non security spot assets, in relation to conflicts of interest, trading practices, reporting requirements, cybersecurity, asset segregation and order flow*
4. *Coordination across regulators and governments*
5. *Creation of stablecoin framework and legislation*
6. *Create legislation to give regulators insight into governance and corporate structure to reduce regulatory arbitrage through HoldCo / SubCo structuring*
7. *FDIC, FRB, OCC and state regulators audit and review all services banks provide to crypto and crypto adjacent businesses*
8. *Assessment and review of vertical integration impact in the context of conflicts of interest and market volatility and if vertical integration should be allowed*
9. *Unified approach to data collection and analysis to stay informed and become digital asset subject matter experts*
10. *Continue to develop and allocate resources to digital asset focused teams and educational partners*

Source: FSOC Report on Digital Asset Financial Stability Risks and Regulations.

Outlook & Takeaways

More rate hikes in the foreseeable future as the U.S. Federal Government hopes to reign in current run-away inflation

Trading volumes across digital assets remain stagnant as investors seek risk-off assets

Continued fallout from 3AC and LUNA / UST as 3rd and 4th order effects come to light