The New Year

January 4th, 2023

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A new year offers an opportunity for renewed optimism, with a tough 2022 now behind us; while the same themes remain, time persists, and markets have a way of moving forward

Key Takeaways

+ Finally, 2022 is behind us: bitcoin and ether declined -64.3% and -67.5% respectively, while the S&P 500 and the Nasdaq Composite fell -18.1% and -32.5% on a total return basis
+ While the same market themes remain, we welcome the new year and the opportunities it may present for long-term investors
+ We illustrate annual and long-term returns for perspective: even with the drawdown, annualized returns outpace equities, fixed income, and gold across most investment horizons

$16,539 and $1,199. The closing prices of bitcoin and ether at the end of a tough 2022. After rising 59.8% and 399.1% in 2021, the two assets declined -64.3% and -67.5% in 2022, with both macro and idiosyncratic risk weighing on prices for much, if not all, of the year.

Rampant inflation, a historic rout in bonds (rising yields), and significant uncertainty related to the Federal Reserve's process of normalization set the stage for a tough macro environment: the S&P 500 declined -18.1% on the year after a drawdown of -25.4%, while the growth and tech-heavy Nasdaq Composite fell -32.5% after a drawdown of -36.4%. Bonds, by way of the Barclays US Aggregate Index, had their worst performance since inception of the index, down -13.0% on a total return basis as well.

Considered a more speculative asset class than others, digital assets declined in this environment: investors flocked towards cash and short-duration, viewed as the only "safe" investments in an uncertain world of rising rates and falling equity prices.

Higher yields across the curve – both in nominal and real terms – weighed on digital asset prices in the year. The easy money monetary policies ("ZIRP") and fiscal "stimmies" that led to increased risk-taking has for now been replaced with higher borrowing costs, attractive yields, and a reduction in risk appetite given higher inflation and concerns over economic growth.

Within digital assets specifically, two large crypto hedge funds liquidated, a top smart contract platform and stablecoin failed, three major savings/landings firms collapsed, and the second-largest crypto exchange might have been fraudulent for many years.

After seemingly making it out of the events that occurred in May and June, second-order effects hit the tape in November, pouring "salt on the wound" that again has led to concerns over potential contagion and downside. This negativity of course has overshadowed any positive news such as record bitcoin transfers and holding trends or the successful Ethereum merge.

So, while some may ask "where do we go from here?" the answer is always "forward."

The 2022 year was certainly tough for digital assets and will be remembered for quite some time. But in the big picture, these events are "growing pains." Of course, collapses, fraud, and headline risk is not something investors welcome, but the asset class is young, growing, and infrastructure is being built. Consider this a risk premium that is received for investing in digital assets early in their lifecycle. One does not invest in this asset class for what it is today, but for the opportunity in the future.

For 2023, we point to the same investment and portfolio themes we've recommended for quite some time:

- **Responsible position sizing:** A low, single-digit exposure to digital assets as part of an alternative investment allocation allows investors to take part in the growth of digital assets, with little impact on total portfolio risk.
- **Maintain conviction:** While drawdowns are tough to stomach, knowing what you own, why you own it, and how it's expected to perform helps maintain conviction through tumultuous times. Digital assets remain in the process of price discovery and as a result, price is not always reflective of underlying fundamentals.
- **A long-term time horizon:** Like other investments, a strategic allocation allows an investor to capture growth over long periods of time. While digital assets are more volatile, tactical rebalancing provides opportunities for those with discipline.
- **History often rhymes:** Bitcoin, ether, and digital assets have undergone many tough times in their history, each of which has been met with further growth and adoption as time persists. We believe this time is no different.

Whether it's time passing, improvements in macro conditions/sentiment, or reductions in contagion risk, we welcome the new year and the opportunities it may present for long-term investors.

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The Record Books

The 2022 year officially ends, with bitcoin and ether declining 64.3% and 67.5% in the last twelve months. This is the third annual decline for both assets in their 14- and ~8-year histories.

We often illustrate the annual returns chart to illustrate that time persists and markets have a way of moving forward. While down years feel like "forever", they are one data point over a long-term time horizon.

Even with three strong years of performance for bitcoin (and two for ether), one down year results in many losing confidence in the asset. Recency bias is certainly prevalent in digital assets, despite little connection to the underlying technology use-case.

In reality, history illustrates that investment patience is often rewarded: bad years often give way to good ones, and historically speaking, markets rise more often than not. There are always reasons not to invest, hence the saying "climbing the wall of worry."

With a down year behind us, we look forward to what 2023 brings.

As of 12/31/2022	S&P 500	Bitcoin	Ether
2023	?	?	?
2022 YTD	-18.1%	-64.3%	-67.5%
2021	28.7%	59.8%	399.1%
2020	18.4%	305.1%	475.5%
2019	31.5%	94.8%	-1.2%
2018	-4.4%	-73.8%	-81.9%
2017	21.8%	1375.1%	8799.2%
2016	12.0%	120.3%	788.3%
2015	1.4%	36.2%	
2014	13.7%	-57.5%	
2013	32.4%	5428.4%	
2012	16.0%	217.9%	
2011	2.1%	1316.7%	
2010	15.1%		
2009	26.5%		
2008	-37.0%		
2007	5.5%		
2006	15.8%		
2005	4.9%		
2004	10.9%		
2003	28.7%		
2002	-22.1%		
2001	-11.9%		
2000	-9.1%		

Source: Bloomberg, Glassnode, Eaglebrook Advisor. S&P 500 Data uses total return. Bitcoin and ether data use Bloomberg Generic Pricing except for 2016-2018 for ether, which uses Glassnode.

Trailing Returns

Moving away from the 2022 year, we assess long-term performance.

Even with the recent decline, long-term returns are still positive, reflecting the results of many investors rather than this year's traders. These long-term returns include several drawdowns, which is an important consideration from the perspective of digital asset volatility.

Even so, trailing returns outperform equities, bonds, and gold in all major horizons but the five-year for bitcoin (the parabolic rally in late 2017 currently serves as a tough five-year comparison, but only for the time being.)

While returns since inception are unlikely to be matched going forward, the more realistic 3, 4, and 5-year annualized returns with "all things considered" are certainly impressive.

Stay Tuned,

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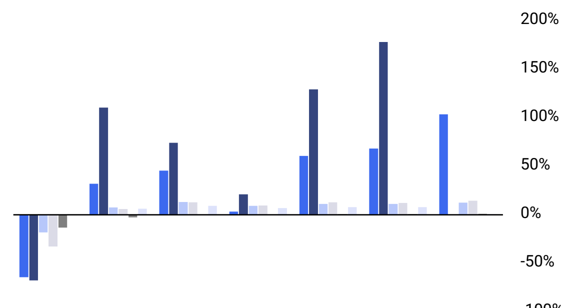
TRAILING RETURNS

Source: Bloomberg, Glassnode, Eaglebrook Advisors. Returns are annualized.



	1 Year	3-Year Ann.	4-Year Ann.	5-Year Ann.	6-Year Ann.	7 Year Ann.	10 Year Ann.
Bitcoin	-64.3%	32.2%	45.7%	3.3%	60.9%	68.3%	103.6%
Ether	-67.5%	110.6%	74.3%	21.3%	129.4%	178.1%	n/a
S&P 500	-18.1%	7.6%	13.2%	9.4%	11.4%	11.5%	12.5%
Nasdaq Composite	-32.5%	6.2%	13.1%	9.7%	12.8%	12.3%	14.5%
Bloomberg Barclays Agg	-13.0%	-2.7%	0.0%	0.0%	0.6%	0.9%	1.1%
Gold	-0.3%	6.3%	9.2%	7.0%	8.0%	8.0%	0.9%

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Key Market Data

As of End of Year, 12/31/2022

Market Capitalization	2018	2019	2020	2021	2022
Bitcoin Market Cap (mlns)	$65,307	$130,517	$538,811	$876,370	$318,630
Ether Market Cap (mlns)	$13,886	$14,141	$84,182	$434,897	$144,287
Total Crypto Market Cap (mlns)	$122,177	$186,105	$766,003	$2,250,184	$759,168
Bitcoin Dominance %	53.5%	70.1%	70.3%	38.9%	42.0%
Ethereum Dominance %	11.4%	7.6%	11.0%	19.3%	19.0%

Source: Glassnode, TradingView, Eaglebrook Advisors

Bitcoin	2018	2019	2020	2021	2022
Supply (mlns)	17.5	18.1	18.6	18.9	19.2
Market Price	$3,674	$7,158	$28,996	$46,334	$16,540
Realized Price	$4,556	$5,587	$9,206	$24,480	$19,776
Realized Value (mlns)	$79,524	$101,309	$171,112	$463,063	$380,670
Market Value / Realized Value	0.82	1.29	3.15	1.89	0.84
Hash Rate	40.5 EH/S	94.3 EH/S	153 EH/S	179.2 EH/S	277.5 EH/S
Transfer Volume (USD, mlns)	$2,127,287	$1,893,560	$2,327,727	$13,106,605	$14,907,826
Avg Daily Transfer Volume (USD, mlns)	$5,828	$5,188	$6,360	$35,909	$40,843
Avg Transaction Value (USD)	$26,518	$18,073	$21,266	$138,824	$159,723

Source: Glassnode[1], Bloomberg, Eaglebrook Advisors

	Level	WTD %	MTD%	QTD%	YTD%	1 Year%	3 Year%	5 Year%	% off 52Wk High	90D Annualized Vol.
Bitcoin	$16,540	-1.7%	-3.3%	-14.9%	-64.3%	-64.3%	131.1%	17.8%	-65.5%	48.9%
Ether	$1,199	-1.6%	-7.5%	-9.9%	-67.5%	-67.5%	834.0%	62.8%	-68.7%	66.5%
S&P 500	3,840	-0.1%	-5.8%	7.5%	-18.1%	-18.1%	24.7%	56.8%	-20.0%	25.4%
Nasdaq Composite	10,466	-0.3%	-8.7%	-0.8%	-32.5%	-32.5%	19.6%	59.0%	-33.9%	31.3%
Bloomberg Barclays Agg	2,049	-0.7%	-0.5%	1.9%	-13.0%	-13.0%	-7.9%	0.1%	-13.0%	8.6%
Gold Spot $/Oz	$1,824	1.4%	3.1%	9.8%	-0.3%	-0.3%	20.2%	40.0%	-11.1%	16.5%
DXY Index	$103.5	-0.8%	-2.3%	-7.7%	8.2%	8.2%	7.4%	12.4%	-9.3%	11.6%
WTI Crude	$80.3	1.0%	-0.4%	1.0%	4.2%	4.2%	31.4%	32.8%	-35.1%	41.7%

Source: Bloomberg, Eaglebrook Advisors

"Tantrum Table"	High Since 9/30/21	Max Drawdown	Low Close Date	Rally From Low	YTD Price % Change
ARK Innovation	11/1/2021	-76.3%	12/28/2022	5.4%	-67.0%
Ishares MSCI USA Momentum	11/3/2021	-32.8%	6/17/2022	12.0%	-19.7%
Invesco S&P 500 High Beta	11/8/2021	-32.0%	10/14/2022	10.8%	-21.1%
Ishares Russell 2000 Value	11/8/2021	-27.1%	9/30/2022	7.6%	-16.5%
Ishares Russell 2000 Growth	11/8/2021	-40.7%	6/16/2022	10.5%	-26.8%
Barclays US Aggregate Index	11/9/2021	-17.4%	10/24/2022	4.6%	-13.0%
Bitcoin	11/9/2021	-76.9%	11/21/2022	5.8%	-64.3%
Ether	11/9/2021	-81.2%	6/18/2022	32.8%	-67.5%
Us Breakeven 30 Year	4/21/2022	-0.59	9/30/2022	0.26	-0.03
Us Breakeven 10 Year	4/21/2022	-0.91	12/16/2022	0.17	-0.30
Us Breakeven 5 Year	3/25/2022	-1.57	9/30/2022	0.22	-0.52
Us Breakeven 2 Year	3/25/2022	-2.95	9/30/2022	0.33	-0.90
Gold Spot $/Oz	3/8/2022	-20.9%	9/26/2022	12.4%	-0.3%
Nasdaq Composite Index	11/19/2021	-36.4%	12/28/2022	2.5%	-33.1%
S&P 500 Info Tech Index	12/27/2021	-34.3%	10/12/2022	6.4%	-28.9%
S&P 500 Index	1/3/2022	-25.4%	10/12/2022	7.3%	-19.4%

Source: Bloomberg, Eaglebrook Advisors

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Disclosures

[1]Realized Price, Source: Glassnode. Realized Price is the Realized Cap divided by the current supply. Realized Capitalization, Source: Glassnode. Realized Cap values different part of the supplies at different prices (instead of using the current daily close). Specifically, it is computed by valuing each UTXO by the price when it was last moved. Market Cap / Realized Cap, Source: Glassnode. Market Value to Realized Value (MVRV) is the ratio between market cap and realized cap. It gives an indication of when the traded price is below a "fair value". Hash Rate, Source: Glassnode: The average estimated number of hashes per second produced by the miners in the network. Total Transfer Volume, Source: Glassnode. Data is change-adjusted, annual sum: The total amount of coins transferred on-chain, adjusted by change volume. Only successful transfers are counted. Avg Daily Transfer Volume, Source: Glassnode. Data is change-adjusted, daily average: The total amount of coins transferred on-chain, adjusted by change volume. Only successful transfers are counted. Avg Transaction Value, Source: Glassnode. The mean value of a transfer, adjusted by change volume. Only successful transfers are counted.

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Volatility Risk: Digital currency is a speculative and volatile investment asset. Investors should be prepared for volatile market swings and prolonged bear markets. Digital currency can have higher volatility than other traditional investments such as stocks and bonds and market movements can be difficult to predict.

Economic Risk: The economic risk associated with digital currency is in the lack of widespread or continuing digital currency adoption. The market and investors could decide that digital currency should not be valued at the current market capitalization due to a variety of factors.

Regulatory Risk: Digital currency could be banned or highly regulated by governments that would deter investors from buying or holding digital currency.

Technical Risk: Digital currency is a dynamic network with a codebase that is updated to add new security and functionality features. The updated code that is merged by the core developers could potentially have an error that threatens the security or functionality of the digital currency network.

Cybersecurity Risk: Digital currency exchanges and wallets have been hacked and digital currency has been stolen in the past. This is a potential risk that clients must be comfortable with when investing and holding digital currency. Theft is less likely when holding digital currency at a qualified custodian in offline systems (cold storage) with institutional security and controls.

The indexes presented are unmanaged portfolios of specified securities and the performance shown is gross of fees which do not reflect any initial or ongoing expenses. Indexes cannot be invested in directly. Returns for digital assets may differ significantly from the returns of indexes which hold securities. Returns are for the time periods shown.

There are significant limitations in the comparison of cryptocurrencies, notably Bitcoin, to fiat currencies and therefore the comparison of Bitcoin to fiat currencies in the presentation above is for presentation and discussion purposes and does not imply that Bitcoin is comparable to fiat currencies. The information presented should not be relied upon as a recommendation to invest in Bitcoin or any cryptocurrency and should not serve as an indication of the future value of Bitcoin.

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There is no assurance that a crypto currency will maintain its long-term value in terms of purchasing power in the future, or that acceptance of Bitcoin payments by mainstream retail merchants and commercial businesses will continue to grow. Bitcoin and other cryptocurrencies are not endorsed or guaranteed by any government, are not FDIC or SIPC insured, are very volatile, and involve a high degree of risk. Consumer protection and securities laws do not regulate cryptocurrencies to the same degree as traditional brokerage and investment products.

BGN, Bloomberg Generic Price: A real-time composite based on quotes from multiple contributors that provides a market indication of where assets are priced. BGN uses both executable and indicative pricing, depending on the type of quotes available in the marketplace at the time of pricing. This methodology is used for bitcoin and ether.

The S&P 500 Index is an unmanaged value-weighted index of 500 common stocks that is generally considered representative of the U.S. stock market. The NASDAQ Composite Index is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market. The Bloomberg US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency).The Bloomberg US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers. The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded. The Bloomberg US Mortgage Backed Securities (MBS) Index tracks fixed-rate agency mortgage backed pass-through securities guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The ICE U.S. Dollar Index is a geometrically-averaged calculation of six currencies weighted against the U.S. dollar. The Gold Spot price is quoted as US Dollars per Troy Ounce. Bloomberg's spot crude oil price indications use benchmark WTI crude at Cushing, OK ; and other U.S. crude oil grades trade on a price spread differential to WTI, Cushing. The Volatility Index (VIX) shows the market's expectations of 30-day volatility. It is constructed using the implied volatilities of a wide range of S&P 500 index options. The VIX is a widely used measure of market risk. ARK Innovation ETF is an actively managed exchange-traded fund incorporated in the USA. The Fund will invest in equity securities of companies relevant to the theme of disruptive innovation. Relevant themes are those that rely on or benefit from the development of new products or services in scientific research relating to Genomics Revolution, Web x.0, and Industrial Innovation. iShares MSCI USA Momentum Factor ETF is an exchange traded fund incorporated in the USA. The Fund seeks to track the performance of an index that measures the performance of U.S. large and mid capitalization stocks exhibiting relatively higher momentum characteristics, before fees and expenses. Invesco S&P 500 High Beta ETF is an exchange-traded fund incorporated in the USA. The Fund tracks the S&P500 High Beta Index which consists of the 100 stocks from the S&P500 with the highest sensitivity to market movements, or beta, over the past year. The index is designed for investors initiating a bullish strategy or making a directional bet. The Fund is rebalanced quarterly. . iShares Russell 2000 Value ETF is an exchange-traded fund incorporated in the USA. The ETF tracks the performance of the Russell 2000 Value index and holds small cap US equities focused on low price to book ratios and lower forecasted growth. Its investments are primarily focused in the consumer discretionary, financial and industrial sectors. The ETF uses a representative sampling approach. The Russell 2000 Index is comprised of the smallest 2000 companies in the Russell 3000 Index, representing approximately 8% of the Russell 3000 total market capitalization. The real-time value is calculated with a base value of 135.00 as of December 31, 1986. The end-of-day value is calculated with a base value of 100.00 as of December 29, 1978. Russell 2000 Growth Index measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values. iShares Russell 2000 Growth ETF is an exchange-traded fund incorporated in the USA. The ETF tracks the performance of the Russel 2000 Growth Index and invests in over 1000 small cap US equities across all sectors. The ETF weights its holdings using a representative sampling indexing strategy, generally investing at least 90% of its assets in the underlying index. Russell 1000 Growth Index measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values. The index was developed with a base value of 200 as of August 31, 1992. Russell 1000 Value Index measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values. The index was developed with a base value of 200 as of August 31, 1992. Russell 2000 Value Index measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values. The Bloomberg US Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint US Breakeven Rates: The rates are United States breakeven inflation rates. They are calculated by subtracting the real yield of the inflation linked maturity curve from the yield of the closest nominal Treasury maturity. The result is the implied inflation rate for the term of the stated maturity. The MSCI Em (Emerging Markets) Index is a free-float weighted equity index that captures large and mid cap representation across Emerging Markets (EM) countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country. The MSCI EAFE Index is a free-float weighted equity index. The index was developed with a base value of 100 as of December 31, 1969. The MSCI EAFE region covers DM countries in Europe, Australasia, Israel, and the Far East. The MSCI US REIT Index is a price-only index, which MSCI began calculating on June 20, 2005. Previously, this index (then known as the Morgan Stanley REIT Index) was calculated and maintained by the AMEX. The AMEX began calculating the index with a base level of 200, as of December 30, 1994. Bloomberg Commodity Index (BCOM) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification. Roll period typically occurs from 6th-10th business day based on the roll schedule. Standard and Poor's 500 Information Technology Index is a capitalization-weighted index. The index was developed with a base level of 10 for the 1941-43 base period.

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