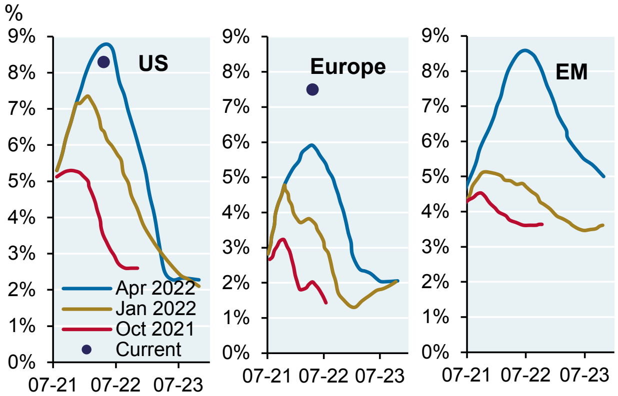
Topics: Bear market barometers, a "Maltese Falcoin" crypto update and a COVID apology

Summary: The slowdown induced by central bank tightening is just starting. Be patient when adding risk to portfolios. Valuations have declined materially but the price paid for high earnings growth is still elevated.

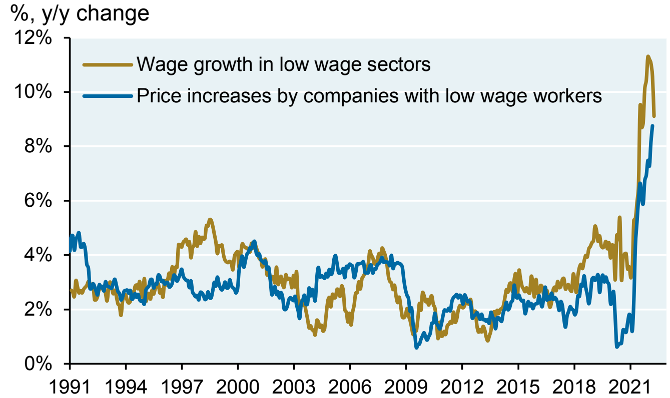
A bottom for equities is likely to coincide with a peak in inflation, since that will signify how much central banks have to tighten. A lot of Wall Street research claims that inflation is peaking now, and a recent IMF report came to similar conclusions[1]. As per the first chart, the IMF sees US inflation peaking around current levels. **Even so, I don't think we're there yet**. Inflation has already blown past the IMF forecast for Europe and as shown below, there's evidence of a wage-price spiral in the US in low wage industries[2]; US labor markets are still at their tightest levels in the post-war era; and supply chain pressures which spiked last year have yet to abate (some of which is due to the China lockdowns). On top of all that, rising food and energy prices are now feeding into airlines, restaurant and lodging prices[3]. **Bottom line**: there's a lot riding on when inflation peaks. Even if that happens now (which I doubt), the Fed has a ways to go before it can stop tightening.

IMF projects headline inflation to peak this summer
%



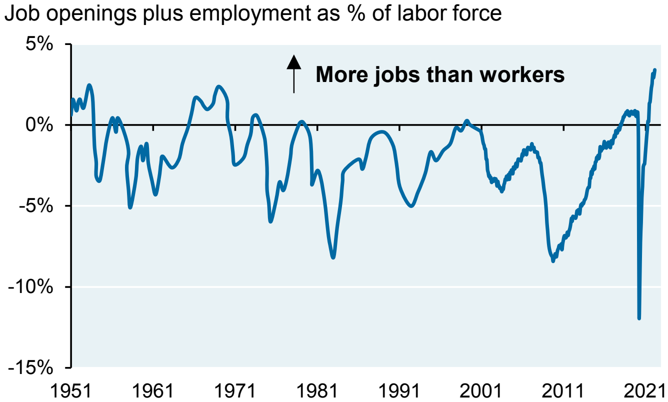
Source: IMF, World Economic Outlook, JPMAM. April 19, 2022.

Evidence of a wage-price spiral in low wage industries
%, y/y change



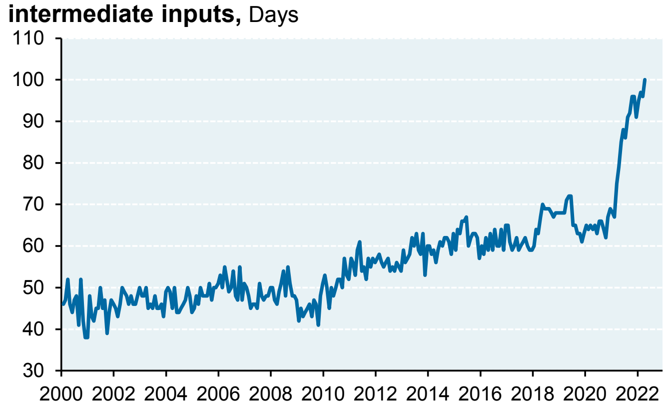
Source: BLS, BEA, JPMAM. April 2022.

Largest worker shortage in the post war era
Job openings plus employment as % of labor force



Source: BLS, JPMAM. March 2022.

Time required for producers to acquire raw materials and intermediate inputs, Days



Source: ISM, JPMAM. April 2022.

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[1] *"War Dims Global Economic Outlook as Inflation Accelerates"*, IMF, April 19, 2022

[2] The **wage-price spiral chart** is meant to indicate that companies that hire a lot of lower wage workers are paying large wage increases which they are passing along to customers. On inflation, we show the equal-weighted wage growth in industries such as restaurants, hotels, casinos, nursing homes, child care, hair salons and laundry services. For wages, we show average hourly earnings for leisure and retail. For more information, see *"Are major advanced economies on the verge of a wage-price spiral?"*, BIS, May 4, 2022

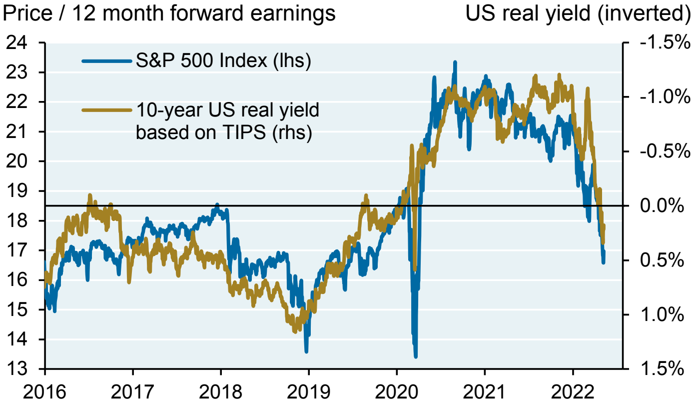
[3] The more cyclical service industries (airlines, restaurants) are experiencing 10% inflation, a figure not seen since the Volcker era in the early 1980's.

Inflation, central banks and P/E multiples. As shown in the next chart, when real Treasury yields went negative in 2020 (i.e., Treasury rates fell below inflation), that's when P/E multiples shot up over 20x. Now that real yields are moving into positive territory again, P/E multiples are declining. And the more positive real yields become, the more equity multiples are likely to fall. That's why I am less focused on earnings right now; this correction (so far) is all about overpriced multiples finally coming down.

The market barometers on the following page show how valuations have declined. Before we get into that, see the second chart: while the premium investors pay for growth has come down a lot, it's still high vs history. **The barometers tell a similar story: the COVID stimulus boost to valuations has now been unwound, but for the most part, investors are still paying a large premium for companies with high expected earnings growth, at least relative to history.** US equity markets are also not pricing in a recession yet: according to Goldman Sachs, S&P 500 pricing for cyclicals vs defensives implies an ISM reading of 49 and GDP growth of 0%-1%.

Economic growth is likely to fall as central banks tighten. Leading indicators point to a decline in manufacturing activity this fall (third chart), and the lean inventory positions of a year ago are gone. As shown in the last chart, rising inventory levels in the US have now converged with falling sales. Large declines in manufacturing and bloated inventory conditions usually result in large earnings declines. For anyone looking to add risk to portfolios this year, more bad news is now in the price for equities (the S&P selloff of 18% from its peak is ~70% of the average selloff during the prior 11 recessions), but still I think you can be patient.

S&P 500 P/E vs real interest rates
Price / 12 month forward earnings — US real yield (inverted)

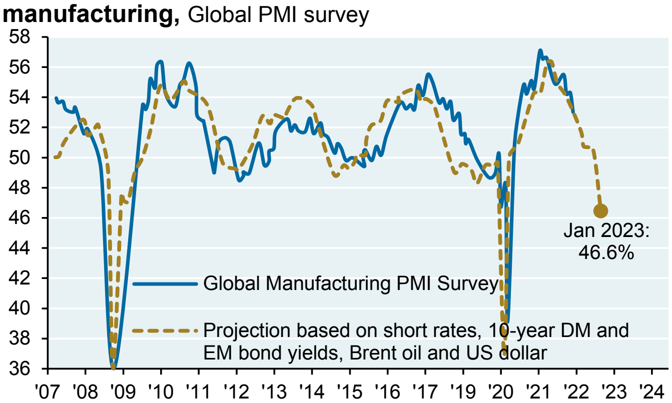


Source: Bloomberg, JPMAM. May 13, 2022.

Markets are still paying a high premium for growth
P/E ratio spread, growth - value

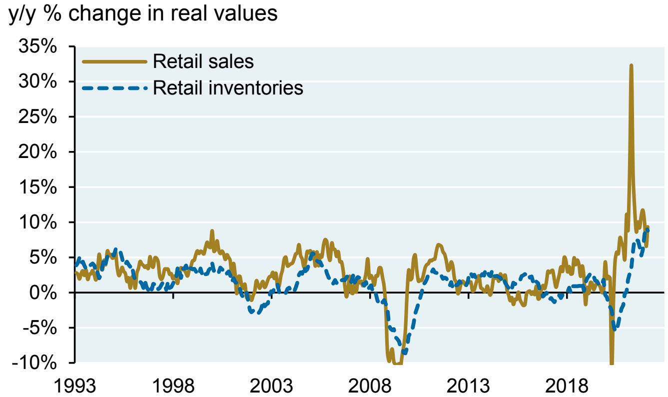
Source: JPMAM. April 2022.

Leading indicators point to sharp drawdown in global manufacturing, Global PMI survey



Source: Piper Sandler, JPMAM. April 18, 2022.

Rising inventories catch up to falling sales
y/y % change in real values

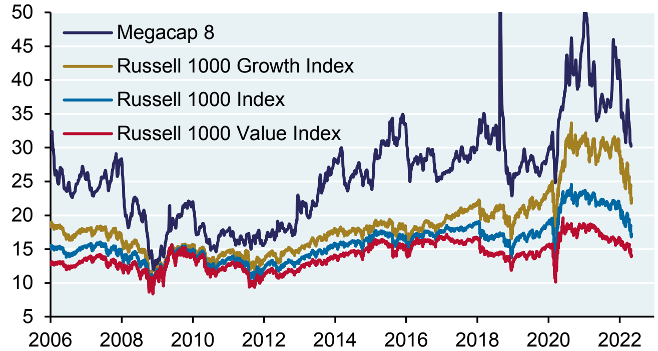


Source: BEA, JPMAM. Q1 2022. Note retail excludes motor vehicle dealers.

Bear market barometers: equities

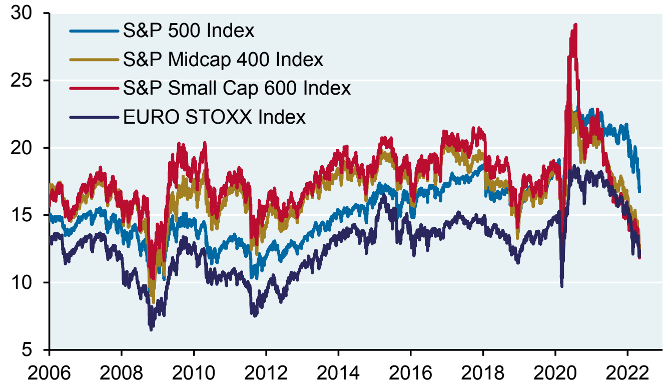
This cycle is reminiscent of 2001 and 1987: extended valuations finally coming back down to earth alongside what might be a shallow recession. It's quite different than 2008 and 1991 when the primary issues were banking sector solvency, overleveraged households and a housing crash. That's why most of the damage is seen in equities rather than in credit spreads.

P/E ratios: Megacap, Core, Growth and Value
Price / consensus 12 month forward earnings per share



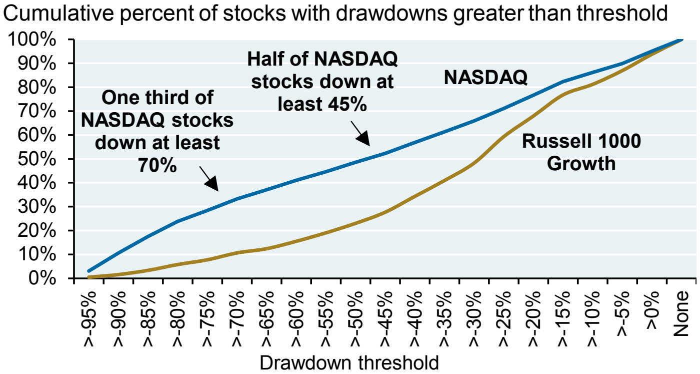
Source: Datastream, Bloomberg, JPMAM. May 13, 2022. Megacap 8 includes GOOGL, AMZN, AAPL, FB, MSFT, NFLX, NVDA, TSLA.

P/E ratios: US by market cap and Europe
Price / consensus 12 month forward earnings per share



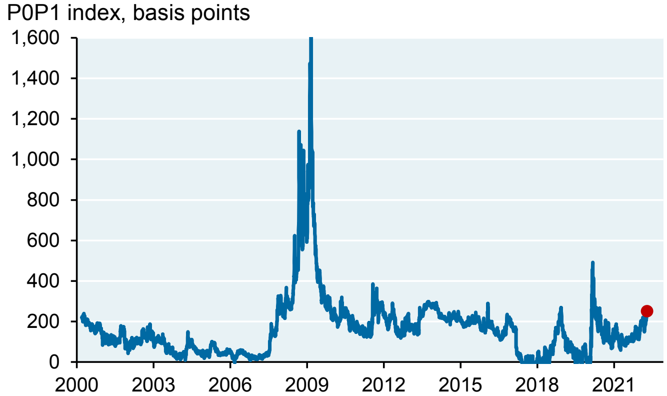
Source: Datastream, JPMAM. May 13, 2022.

Drawdowns of NASDAQ and Russell 1000 Growth stocks from their respective peaks
Cumulative percent of stocks with drawdowns greater than threshold



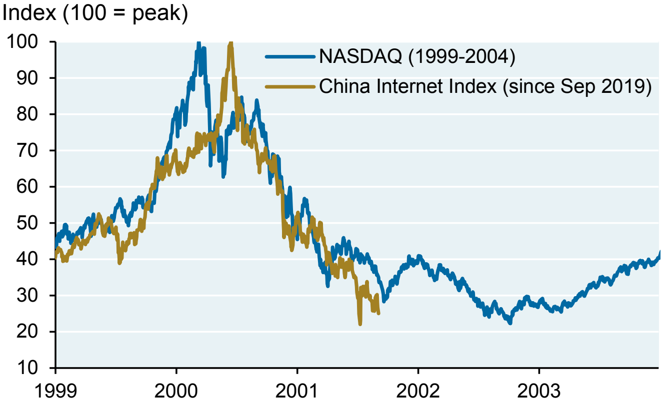
Source: Bloomberg, JPMAM. May 16, 2022.

Fixed rate preferred securities option adjusted spread
P0P1 index, basis points



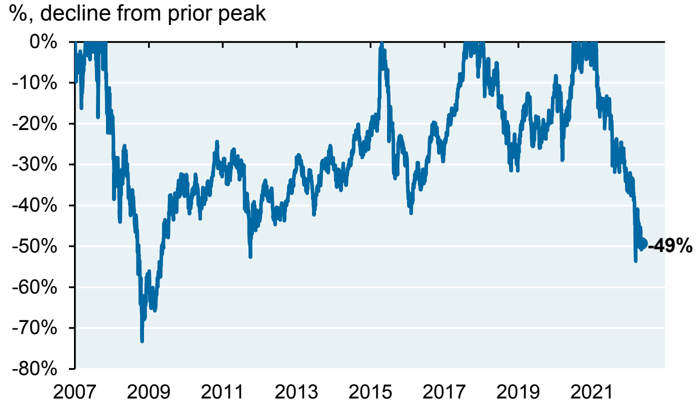
Source: Bloomberg, J.P. Morgan. May 13, 2022.

China internet stocks 2022 vs NASDAQ 2001
Index (100 = peak)



Source: Bloomberg, JPMAM. May 16, 2022.

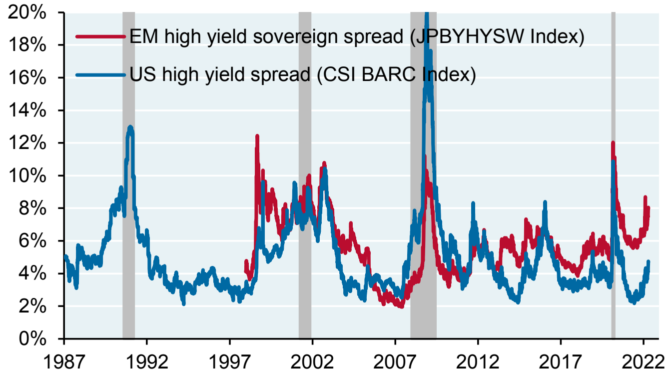
MSCI China equity index drawdowns
%, decline from prior peak



Source: Bloomberg, JPMAM. May 13, 2022. Dot represents latest drawdown.

Bear market barometers: fixed income

US and emerging market high yield credit spreads
%



Source: Bloomberg. May 13, 2022. Shaded areas indicate recessions.

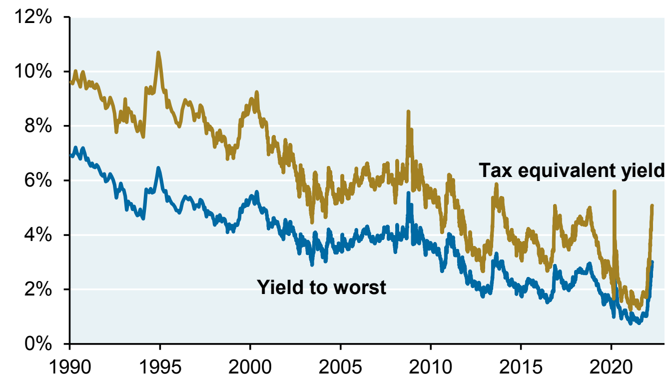
US investment grade credit spreads
%, corporate BAA 10 year spread (BICLB10Y Index)

Source: Bloomberg. May 13, 2022. Shaded areas indicate recessions.

S&P 500 leveraged loan price index
SPBDALB index

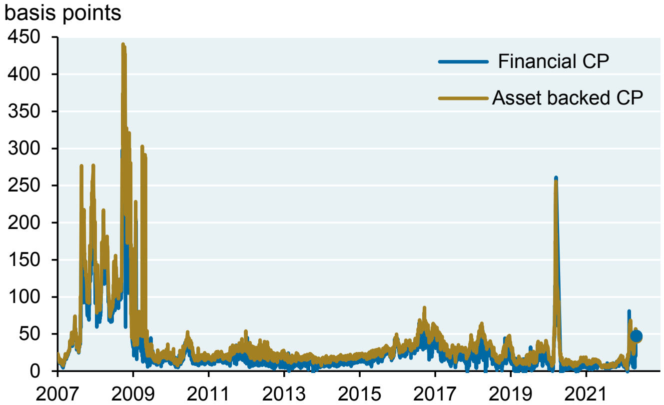
Source: S&P/LSTA, Bloomberg. May 15, 2022.

US 10 year municipal bond yields
% (LM10TR Index)



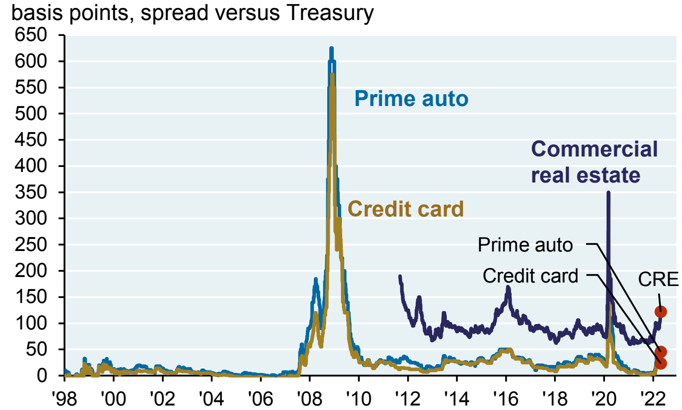
Source: Bloomberg, JPMAM. May 13, 2022. Assumes top federal rate.

US commercial paper spread vs 3 month Treasury
basis points



Source: Bloomberg. May 12, 2022.

AAA asset backed securities spreads
basis points, spread versus Treasury



Source: J.P. Morgan. May 13, 2022.

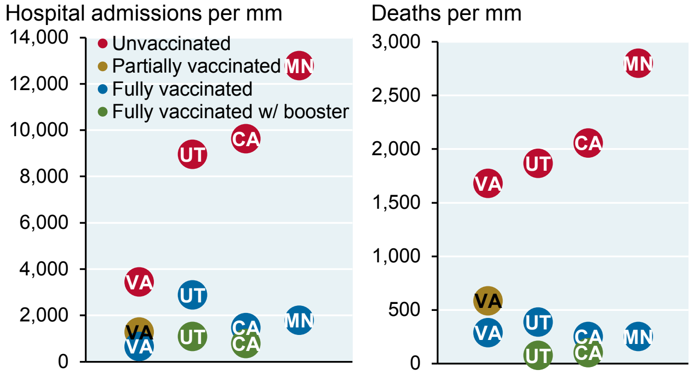
A COVID apology

COVID vaccines continue to yield massive public health benefits. Data from multiple states show a large gap between vaccinated and unvaccinated hospitalizations and deaths during the Omicron variant surge last winter[4]. These benefits are critical now that Omicron variants are becoming more transmissible, more resistant to monoclonal antibodies and more prone to "immunity escape" (i.e., lower cross-immunity for unvaccinated people who had BA.1)[5]. Still, some people do not believe that vaccines work based on theories which have been described by my science advisory group as unsubstantiated and false (and those are their kinder words).

That said, I have an apology to make. On two occasions this year in the Eye on the Market, I disparagingly mentioned how someone I've known for 20 years has differing views on COVID vaccines based on research he published and some personal correspondence we had. **I was wrong to do that**; I described his views rather than pointing people to where they could read them for themselves; I did not allow him to articulate his point of view in these pages in a point-counterpoint discussion; and I did not acknowledge that his primary focus was not epidemiology but the impact on markets if the vaccines are as ineffective as he believes they are.

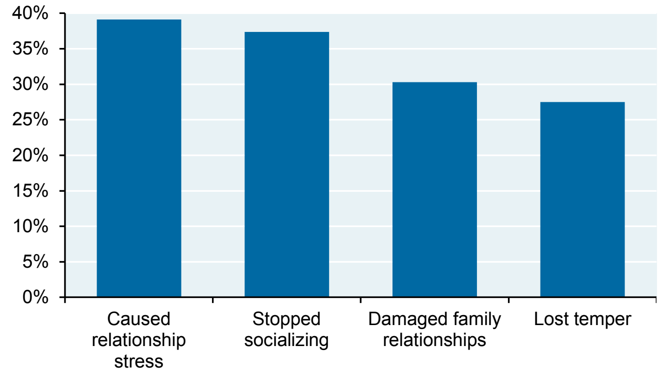
As things stand now, each of us believes that the other is hopelessly lost in a sea of disinformation. I am still not sure how to deal with that, but preserving the relationship has turned out to be more important to me than rupturing it over our inability to see things the same way. As shown in the bar chart, COVID has done this to a lot of people: lost tempers, damaged relationships and a lot of stress. So, no more judgments from me; just the data and the latest research on our portal which everyone can interpret for themselves.

Vaccinated vs unvaccinated total hospitalizations and deaths from November 2021 to April 2022



Source: State health departments, JPMAM. April 30, 2022.

Impact of COVID-19 disagreements on relationships
% of COVID Family Impact Survey respondents



Source: South Dakota State University. September 2021.

Omicron variant update	BA.1	BA.2	BA.2.12.1	BA.4 and BA.5
Transmissibility increase	Reference	30% increase	25% over BA.2	~10% over BA.2
Immune escape	Reference	+	+++	+++
Ability to infect cells	Reference	+	++	Like BA.1
Cross-Immunity w/ BA.1	Reference	Mostly preserved	Reduced	Reduced
Resistance to monoclonal antibodies	Reference	++	+++	+++
Places where dominant	Outcompeted	>100 countries	US regions (NJ, NY)	South Africa
2 shot effic. vs hospitalization	32%	50%	TBD	TBD
3 shot effic. vs hospitalization	81%	83%	TBD	TBD

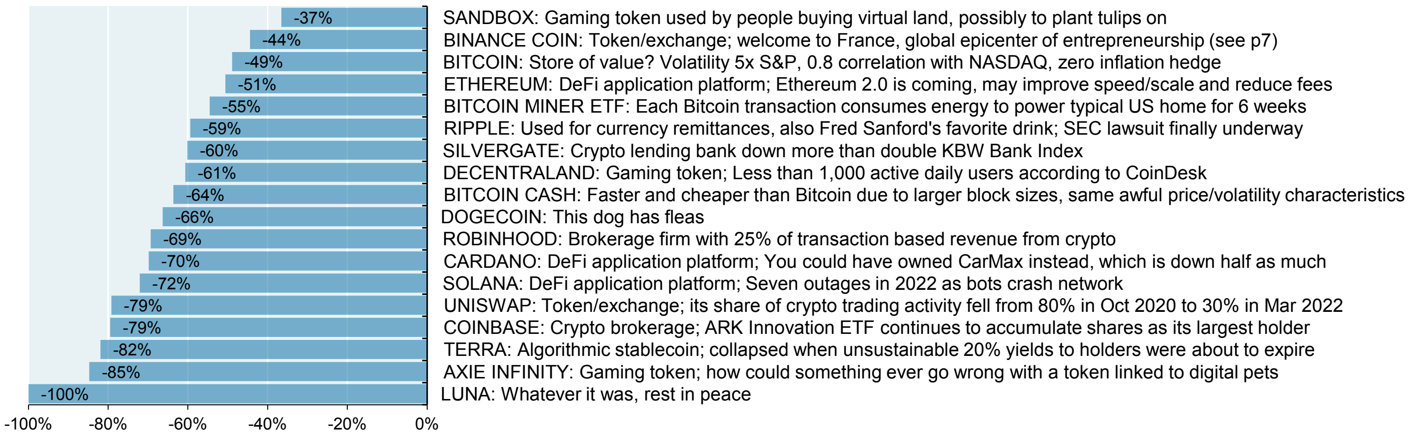
Source: Eric Topol, Scripps Research. May 4, 2022.

[4] NYC: the unvaccinated hospitalization rate was 16x higher than the vaccinated rate from February to April.

[5] Pfizer has tested a vaccine/booster based on BA.1. Results are expected by the end of June after which the FDA will make vaccine recommendations for the fall. The limited protection that BA.1 infection provides against new subvariants in lab studies has raised questions about how useful new Omicron-specific vaccines might be. The virus may be evolving too quickly for strain-specific vaccines to keep up.

Crypto update since our "Maltese Falcoin" piece: Fortune may not favor the brave after all

Tales from the Crypt
% return since November 2021



Source: Bloomberg, Coin Market Cap, JPMAM. May 15, 2022.

Crypto valuation theories

- "Store of Value" argument continues to disintegrate given Bitcoin volatility that is 5x the S&P 500, and its 0.8 correlation with the NASDAQ
- "Crypto as an inflation hedge" repudiated as crypto prices plummet while inflation rises
- Bitcoin as a means of exchange? Not yet; confirmed transactions per day still below 2018-2020 levels
- DeFi lending use case also crumbling as expected: since most DeFi lending is collateralized by crypto, DeFi lending activity has declined 25% YTD along with declining crypto prices
- Gaming tokens financed by venture capitalists plummet as Metaverse user base falls short of expectations. Decentraland, Axie Infinity and Sandbox tokens have higher valuations and fewer users than non-blockchain games like Fortnite, Candy Crush, etc. Sandbox and Decentraland average daily users were around 1,000 people in late April. I think that's the number of people still using Lotus 1-2-3
- Some crypto collapses can be linked to unsustainably high "staking" yields paid to crypto holders that eventually reset closer to prevailing short term interest rates
- Growing list of developing countries with full or partial bans on crypto as a means of payment
- Coinbase claimed to have 3 million users on its NFT waitlist but since launch has yet to see more than 200 NFT transactions on any given day
- Increase in daily verified Ethereum contracts per day since February report (i.e., a scarce positive)
- Stablecoins Tether and USDC continue to trade close to par. As explained in our piece, stablecoin valuations have little relevance for directional crypto prices when they are collateralized by liquid reserves. The adoption of blockchain applications using stablecoins also has no relevance for directional crypto prices. On Tether, the company has reportedly disclosed it holds $40 billion in government bonds and cash out of its $79 billion in total reserves; the rest of its reserve composition is a mix of commercial paper, CDs, money market funds, loans, corporate bonds, precious metals and other digital tokens

Regulatory

- Terra's CEO reportedly founded another stablecoin called Basis Cash (using a pseudonym from the animated *Rick & Morty* show) which failed when it lost its peg in 2021 and **is now trading at 1 cent on the dollar**. Some believe that the Terra collapse resulted from a coordinated attack or manipulation, which I find strange since "pump and dump" schemes and other activities that would be prohibited in regular securities markets are by definition not illegal on decentralized blockchains
- **Cryptocurrency investors are not paying the IRS** at least half of the taxes they owe on their virtual-currency trades according to Barclays. The IRS has begun to crack down on tax evasion among crypto investors and in 2023 will begin requiring brokers to report transactions worth at least $10,000
- Fidelity announced plans to allow customers to put some of their retirement savings into Bitcoin, which was immediately met by "statements of concern" and **reminders of "fiduciary care"** by the Department of Labor
- Crypto exchange Binance reportedly **shared information with the Russian gov't** on its users that donated to imprisoned Putin opponent Alexei Navalny, raising questions about how anonymous crypto holders are depending on where and how they transact. This also raises questions about the decision by **France** to be the first European country to give Binance a regulatory stamp of approval
- Gensler/SEC highlights problems in crypto market due to **insufficient Chinese walls** across custody, market making and trading at crypto exchanges
- **Cryptocurrency crime** hit a new all-time high in 2021 with illicit addresses receiving $14 billion over the course of the year, up from $7.8 billion in 2020. As of early 2022, illicit addresses held at least $10 billion of cryptocurrency with the vast majority held by wallets associated with cryptocurrency theft

Sources: Bloomberg, Fortune, Forbes, Blockchain.com, Etherscan, DeFi Pulse, TechCrunch, Cointelegraph, Reuters, Chainalysis, CoinDesk, Barron's, CNBC. "Fortune Favors the Brave" refers to a Crypto.Com commercial which aired during the Super Bowl in 2022. Tales from the Crypt refers to a US television show which aired from 1989 to 1996.

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