



Equity Market Report

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Summary

High and rising interest rates should continue to pressure valuation multiples in the equity market. The investment grade corporate bond yield is higher than the S&P 500 earnings yield for the first time in over a decade (5.8% vs 5.4%). And the US 10-year Treasury yield is more than double the S&P 500 dividend yield (4.2% vs. 1.7%). The TINA effect ("there is no alternative" to stocks) that underpinned rising valuations in the 2010s continues to reverse.

While the market may have a short-term rally, pressure on valuations from higher rates, an earnings slowdown, and a potential recession are all likely to weigh on the equity market medium-term. In other words, there's downside risk to both the price-to-earnings ratio itself and to the denominator (earnings).

The max drawdown in the S&P 500 so far has been 25% over a 9-month period. The current bear market hasn't quite reached historical central tendencies in terms of depth or duration, but it's getting close. To review the history of S&P bear markets, the mean bear market duration is 17 months (with a massive range: 1-42 months), median is 13 months, and central tendency is 8-21 months. The mean decline is 39% (also with an extensive range), the median is 34%, and the central tendency is 27-49%. Also, markets tend to bottom in a recession rather than before a recession, with the market typically down in the first half of a recession and up in the second half.

The current macroeconomic and market environment likely still favors defensive sector tilts (+energy) and value factor tilts. As noted recently, ultra-short duration TIPS may provide attractive absolute returns and diversification benefits to traditional stocks and bonds, particularly against the risk of inflation remaining elevated longer than what's currently priced into the market. Short-term real rates (currently near +2%) are in the top decile of their historical range, above longer-term real rates, and well above most estimates of the neutral real rate (r^*).

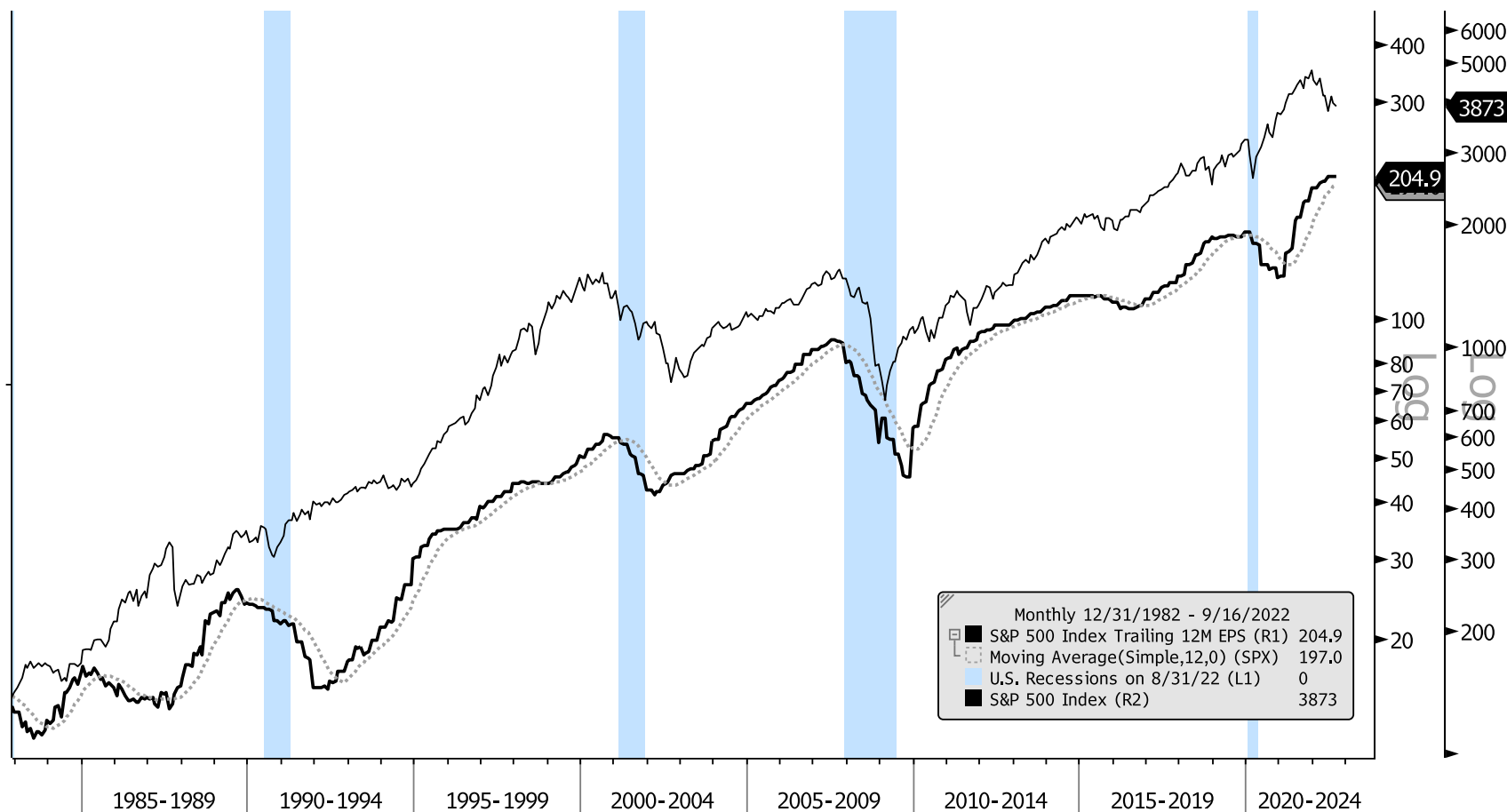
The US dollar appears to be approaching a major turning point. Real interest rate differentials and terms of trade no longer favor the dollar. Dollar strength at this stage is likely primarily driven by the ongoing global growth slowdown and associated global dollar short squeeze, perhaps to peak around the time that high yield credit spreads peak and/or around the time that Fed swap line uptake becomes meaningful (e.g., >\$50B). A secularly weakening dollar should support international stock markets (and emerging markets in particular) relative to the domestic market. For now, the path of least resistance for the dollar is likely still higher in the short-term.

In summary, the balance of risks to the market remain skewed to the downside but there are number of plausible paths the market could take from here and uncertainty remains elevated. As always, the outlook remains data dependent and everyone needs to put probability and reward-to-risk assessments in the context of their strategy, process, and time horizon.

-Nick Reece, CFA

Earnings Backdrop

S&P 500 Trailing 12-month Earnings per Share and the S&P 500



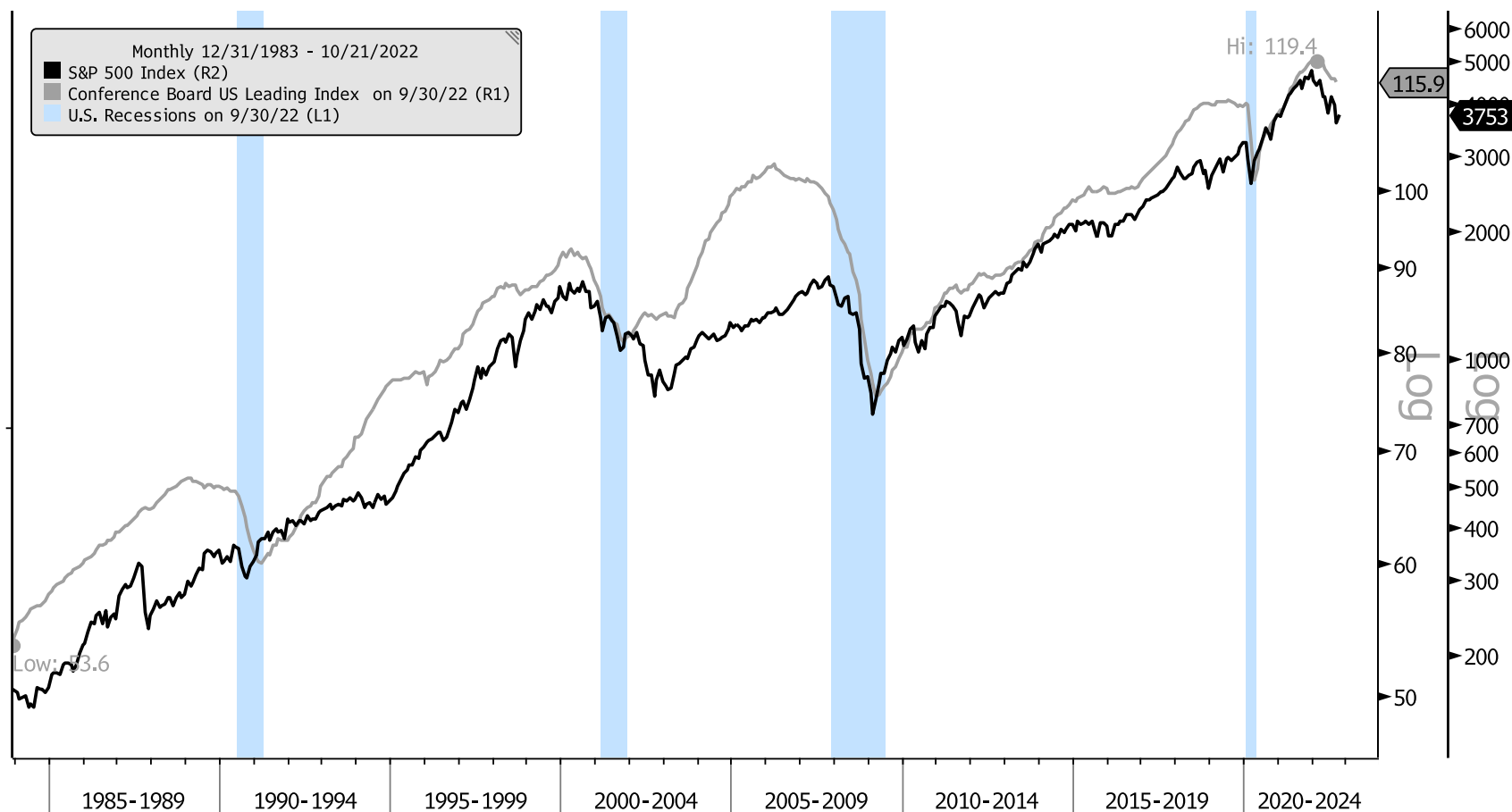
Source: © Merk Investments, Bloomberg

Analysis: Factset's 2022 calendar year earnings growth estimate is +6.7% (down from last month's estimate). Currently, 2022 earnings for the S&P are estimated to be 222 (down from last month's forecast). So, the market is trading at about 17x this year's earnings. Next year's earnings are expected to be 239. Chart Framework: I'd get incrementally negative if earnings fall below their 12-month moving average while the market is at or near bull market highs. This is more of a coincident or confirmatory indicator. Fundamentals don't exist in a vacuum; they should be looked at relative to price.

https://advantage.factset.com/hubfs/Website/Resources%20Section/Research%20Desk/Earnings%20Insight/EarningsInsight_102122A.pdf

Business Cycle Backdrop

Leading Economic Indicators (LEI) Index and the S&P 500

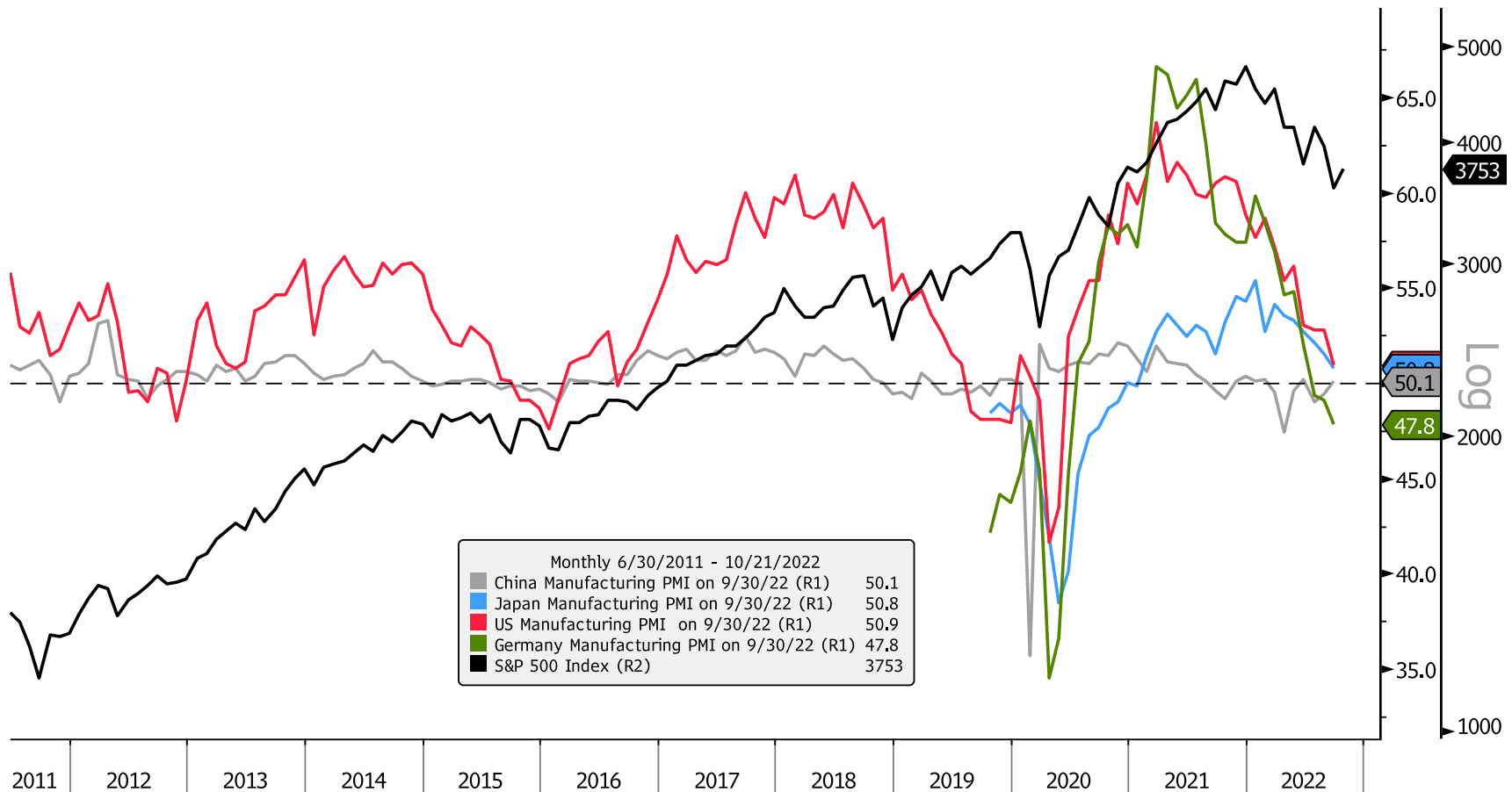


Source: © Merk Investments, Bloomberg

Analysis: The LEI index has moved lower over the past seven months, indicative of a coming recession. The last recession ended in April 2020, making it the shortest recession on record. It underscores why the market bottomed when it did—bear markets usually bottom before recessions end. It was a two-month recession, and about a one-month bear market. It might be better thought of as a crash. Chart Framework: I'd get incrementally positive on the market outlook if the LEI Index ticks up. Fundamentals don't exist in a vacuum; they should be looked at relative to price. If the market moves ahead of fundamentals deteriorating, there may be little to no benefit from taking defensive action. Currently, the market seems to be pricing in a high probability of at least a mild recession.

Global Growth Backdrop

Large Economy Manufacturing PMIs (Purchasing Managers Index) and the S&P 500



Source: © Merk Investments, Bloomberg

Analysis: Manufacturing PMIs were mostly lower over the past month. China has moved back above 50 but Germany remains below 50. I remain neutral/negative on this framework. Chart Framework: I'd get incrementally positive on the market outlook with three or more PMIs moving higher or all PMIs back above 50. Fundamentals don't exist in a vacuum; they should be looked at relative to price.

U.S. Financial Conditions

Chicago Fed National Financial Conditions Index (inverted in grey) and the S&P 500 (black)



Source: © Merk Investments, Bloomberg

Analysis: Financial conditions have tightened over the past month and remain restrictive. Chart Framework: I'd get incrementally positive on the market outlook if financial conditions materially ease. Fundamentals don't exist in a vacuum; they should be looked at relative to price.

S&P 500 and G3 Central Bank Assets

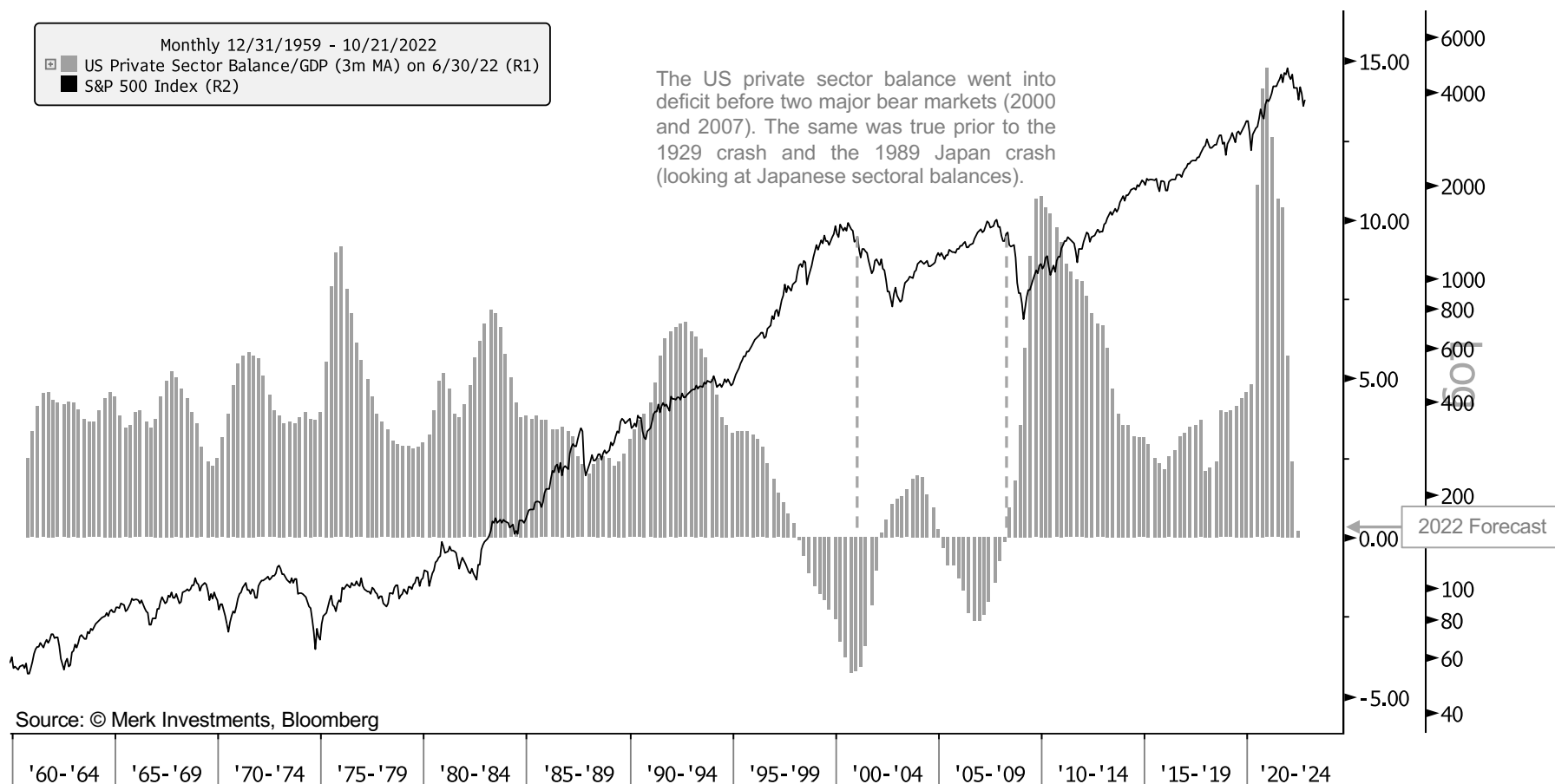
S&P 500 Index and G3 (U.S., Eurozone, and Japan) Central Bank Total Assets



Analysis: G3 (Fed, ECB, and BoJ) central bank total assets continue to decline. Fed QT has fully ramped up now, and the ECB has ended QE. It's important to include policy makers in market analysis. I'm currently negative on this framework. Chart Framework: I'd get incrementally positive on the market outlook if if total G3 assets started moving higher again. Fundamentals don't exist in a vacuum; they should be looked at relative to price.

Private Sector Balance and S&P 500

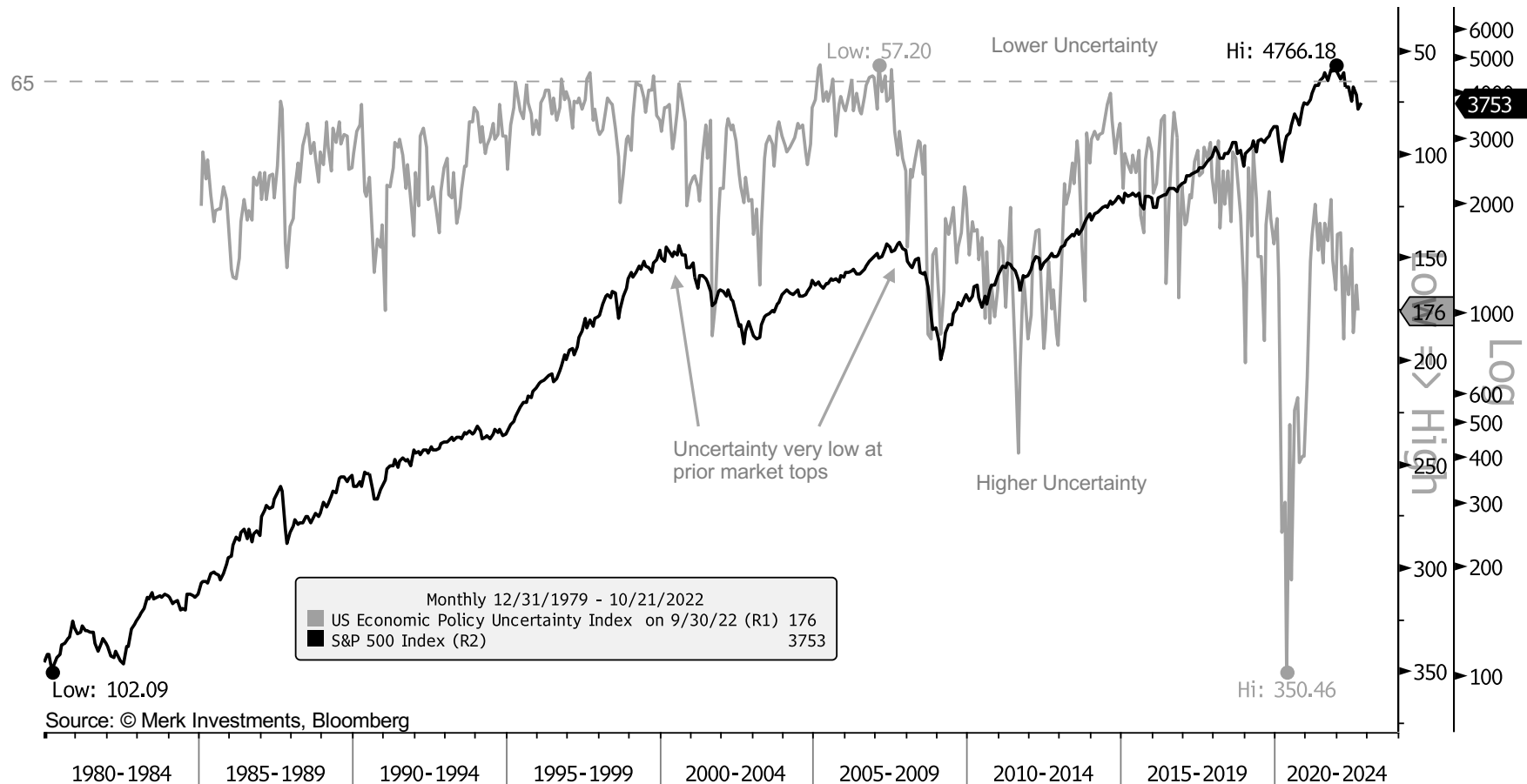
U.S. Domestic Private Sector Surplus/Deficit relative to GDP (12-month Moving Average) (grey) and the S&P 500 Index (black)



Analysis: The domestic private sector balance has been close to zero in the first two quarters of the year (H1 2022). The domestic private sector balance went into deficit before two major bear markets (that started in 2000 and 2007). The same was true ahead of the 1929 crash and the 1989 Japan crash (looking at Japanese sectoral balances). The US private sector balance is the inverse of the US government budget deficit net of the trade deficit. In other words, US govt deficits flow to US households and businesses, and to the rest of the world via the trade deficit. The private sector surplus is forecast to be +0.4% for 2022 and +0.8% for 2023. I'm currently neutral on this picture. Chart Framework: I'd get incrementally positive on the market outlook if the domestic private sector balance moves back above a 1% surplus, and negative if it moves below zero for multiple quarters. Fundamentals don't exist in a vacuum; they should be looked at relative to price.

Uncertainty ("Wall-of-Worry")

U.S. Economic Uncertainty Index (inverted in grey) and S&P 500 (black)

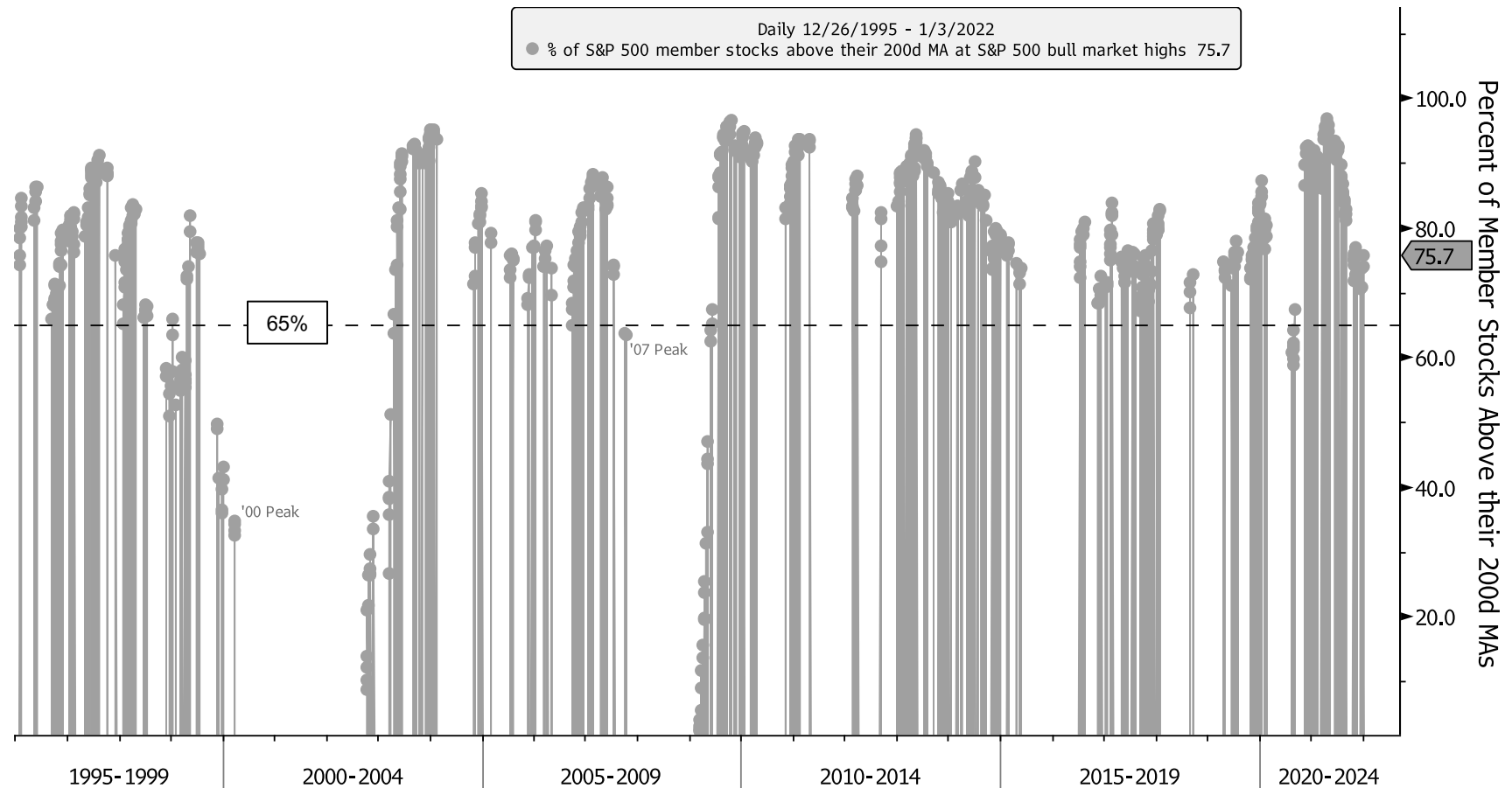


Analysis: There is a wall-of-worry for the market to climb. Counterintuitively, I would argue that uncertainty is generally a positive for the market on a forward-looking basis, as it provides more room for uncertainty to decline. Worrying headlines are fuel for a bull market. As the expression goes: if you wait for an all-clear sign, you'll buy at the top. This chart also reminds us that markets don't bottom on good news. Chart Framework: I'd get incrementally negative on the market outlook around the 65 level on policy uncertainty (dashed line) with the market flat to higher. Fundamentals don't exist in a vacuum; they should be looked at relative to price.

Methodology: The index quantifies newspaper coverage of policy-related economic uncertainty, the number of federal tax code provisions set to expire in future years, and disagreement among economic forecasters. <http://www.policyuncertainty.com/methodology.html>

Market Breadth

Percent of S&P 500 member stocks above their 200d Moving Averages when the S&P 500 Makes a New Bull Market High

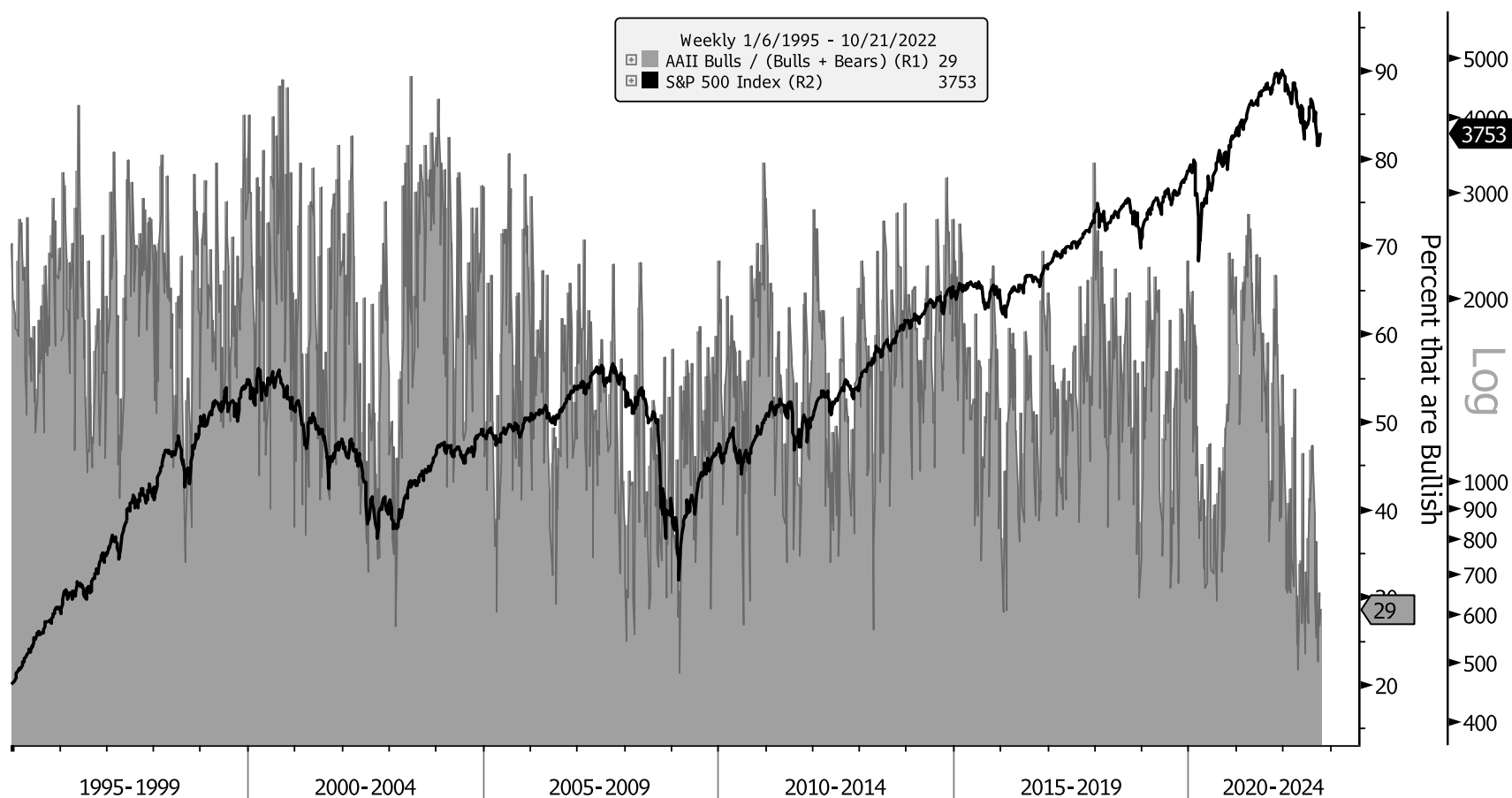


Source: © Merk Investments, Bloomberg

Analysis: Breadth at the most recent market high (1/3/2022) was 76% (well above the 65% warning level). Typically, as a bull market ages, breadth declines—you can see that in the 1999/2000 peak and the 2007 peak. The last bull market (2009-2020) had an unnatural end due to the pandemic/lockdowns. As a result of the crash and new bull market, breadth was reset to 2009 levels and then started gradually coming down. Chart Framework: I'd get incrementally negative on the market outlook if the S&P made new bull market highs with breadth below 65%.

Market Sentiment

Percent that are Bullish (bulls / bulls+bears) and S&P 500

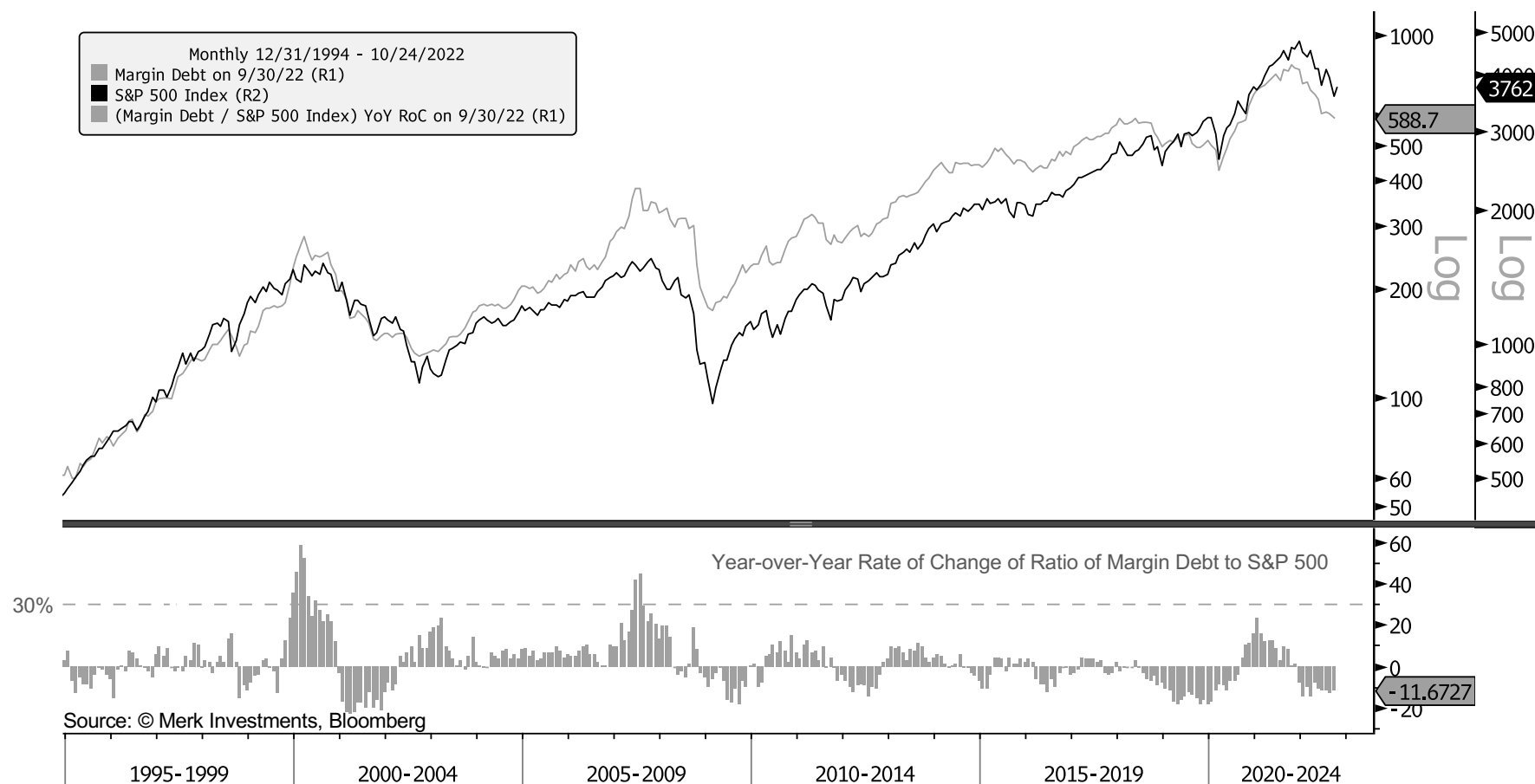


Source: © Merk Investments, Bloomberg

Analysis: Sentiment is currently 29% bullish. This chart should be looked at from a contrarian perspective, particularly at extremes. Given that bullish sentiment is currently low, my interpretation of this chart is positive for the market. Chart Framework: I'd get incrementally negative on the market outlook with sentiment near or above 70, and positive near or below 30. The neutral range is roughly between 40 and 60.

Margin Debt

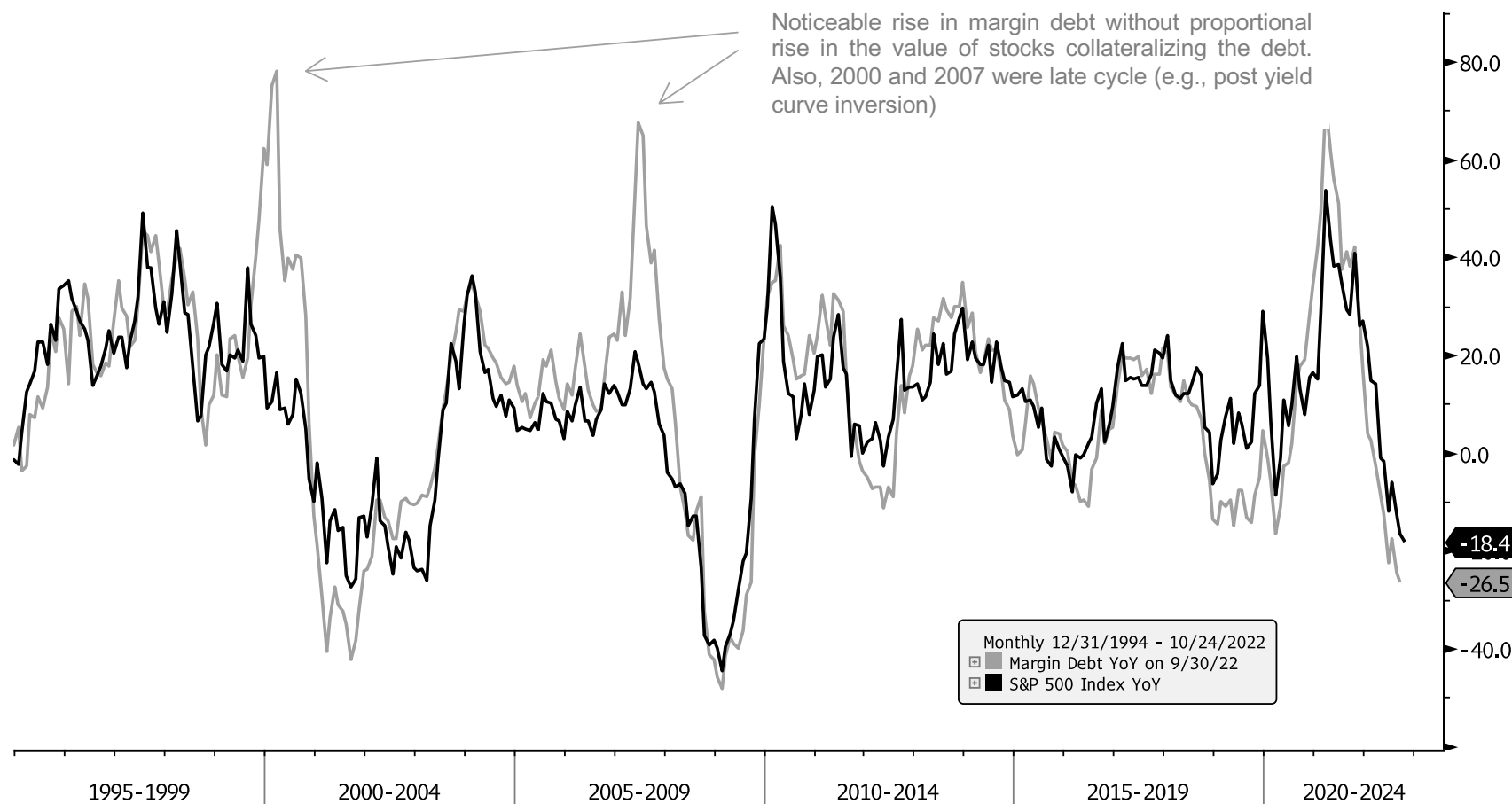
Margin Debt and S&P 500 (top panel), 12-month change in Ratio of Margin Debt / S&P 500 (bottom panel)



Analysis: Nominal margin debt build-up has been roughly in-line with the market's rise over the past two years. In the previous two major market tops for the S&P 500 (2000 and 2007), margin debt rose significantly relative to the equity market, possibly reflecting the euphoric phase of the bull market, or long positions switching from strong hands (unleveraged) to weak hands (leveraged). It may be worth noting that margin debt didn't rise relative to the stock market (bottom panel) coming into the 2020 Covid-crash and the market recovered to new all-time highs quickly. Also, commentators that focus on the dollar value of margin debt have been (wrongly) warning about it since 2013. Chart Framework: I'd get incrementally negative on the market outlook if the YoY rate of change of the ratio (bottom panel) moves above 30 with the market at or near all-time highs. It might be worth noting that margin debt build-up was one of the key features of the 1929 bubble market top.

Margin Debt

YoY Percentage Change in the S&P 500 (black) and Margin Debt (grey)

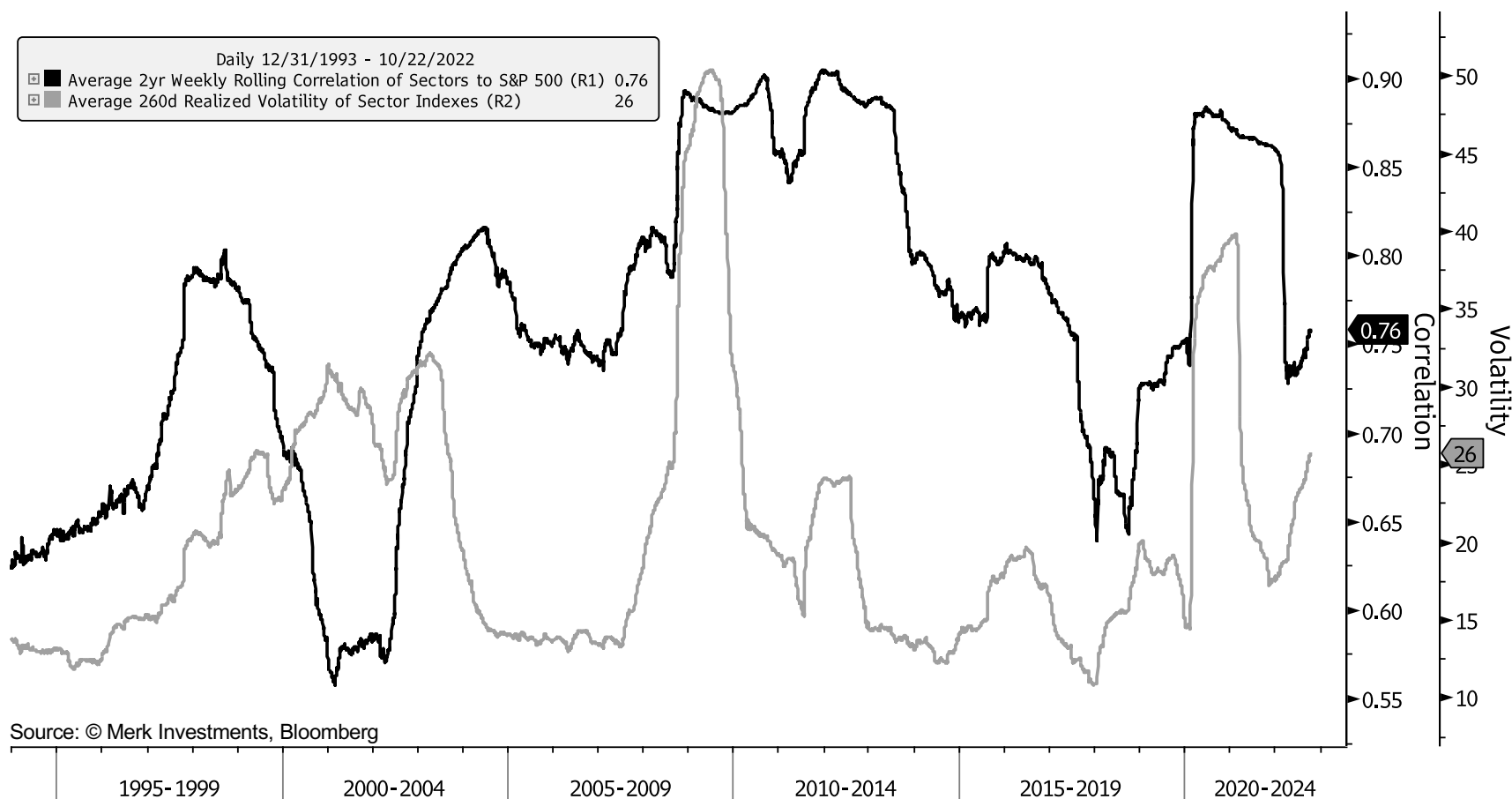


Source: © Merk Investments, Bloomberg

Analysis: This is another way of looking at margin debt relative to the market. Margin debt grew rapidly coming out of the Covid crash, but so did the market's value. 2020's rise in margin debt is in stark contrast to the build up seen in 2000 and 2007, which were not accompanied by an offsetting rise in the market's value.

S&P 500 Correlation and Volatility

Avg. 2-yr Correlation of GICS* Sector Indexes to the S&P 500 Index and Avg. GICS Sector Index 1-yr realized volatility

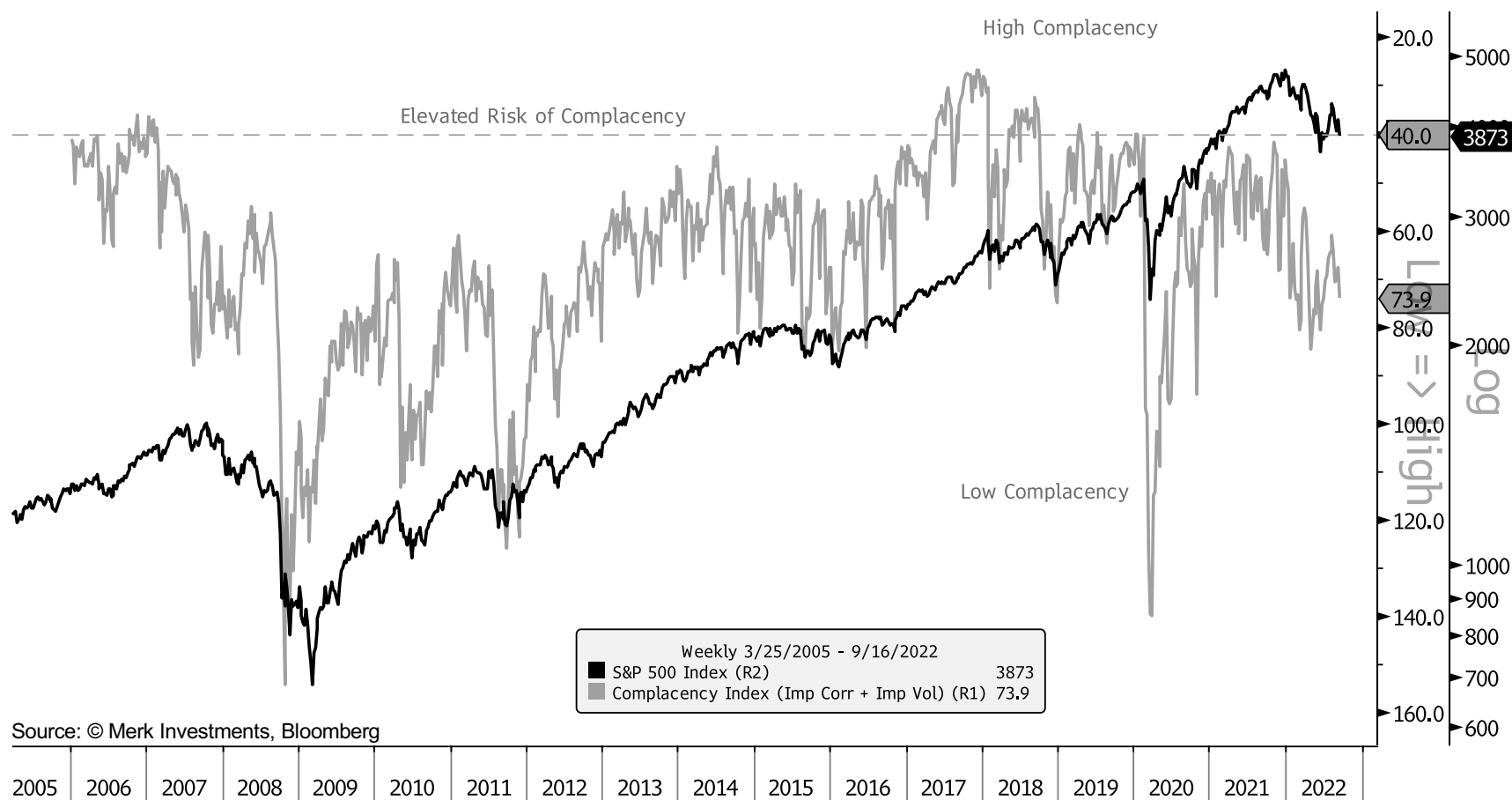


Analysis: Realized volatility has been moving higher from a relatively low level and correlation has also been rising recently. In my view, this chart should be looked at from a contrarian perspective, and currently suggests a neutral outlook medium/longer term as both correlation and volatility are near average levels. Framework: S&P 500 subsequent medium-term returns are likely to be most attractive when both correlation and volatility are high and have lots of room to decline (like in 2009).

*GICS = Global Industry Classification Standards. The 10 sectors used for this analysis are: Consumer Disc., Consumer Stap., Energy, Financials, Health Care, Industrials, Information Technology, Materials, Telecommunication Services, and Utilities. In 2016 Real Estate was added as an 11th GICS Sector, which had been part of the Financials sectors. The S&P 500 stocks are each assigned to a sector. The correlation reading (black line) represents the average of all sector correlations to the S&P 500 (i.e., Correlation between Financials and S&P 500 + Correlation between Energy and S&P 500 etc., divided by 10). The volatility reading (grey line) represents the average the sector volatilities (i.e., Volatility of Financials + Volatility of Energy etc., divided by 10)

S&P 500 Implied Correlation and Volatility

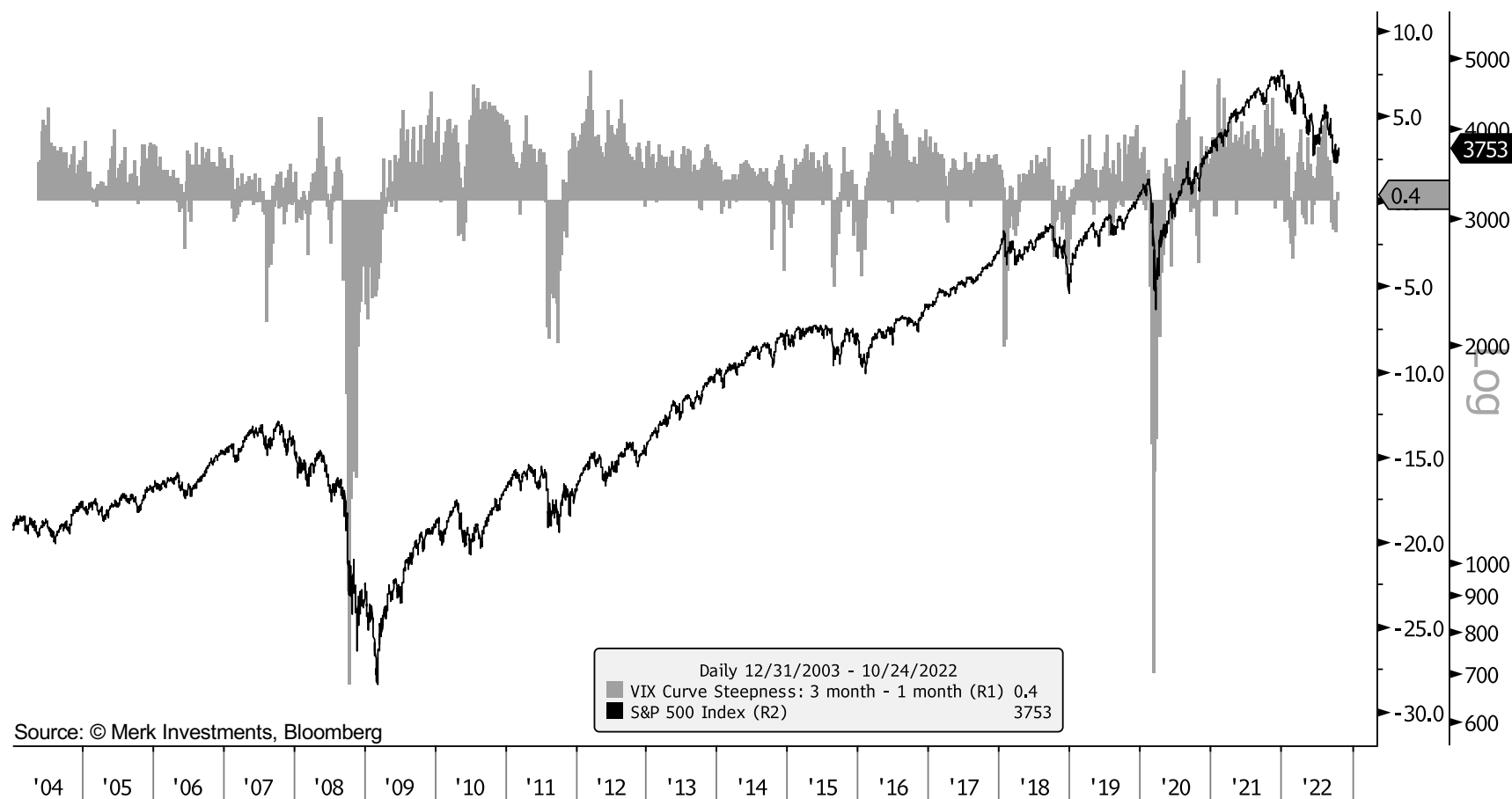
S&P 500 Index (black) and CBOE Implied Correlation Index + CBOE Implied Volatility Index (VIX) (grey)



Analysis: The complacency index (Implied Correlation + Implied Volatility) is near the middle of its long-term range. Risk of complacency is elevated at or below 40 (inverted axis). Prior to the current bear market, complacency was relatively elevated.

VIX Curve

(3-month futures implied VIX minus 1-month futures implied VIX) and S&P 500



Analysis: As of last week's close, the VIX curve was positively sloped—meaning three-month future expected VIX is higher than one-month future expected VIX. VIX represents an estimate of the 30-day implied volatility of the S&P 500. In my view, when the VIX curve is negative a market drawdown phase is likely still ongoing. When positive, it may suggest the drawdown may be over for the time being. Chart Framework: In my view, this chart is best used for judging when drawdown periods might be over. If a negatively sloped VIX curve (i.e., grey area below zero) persisted, that could be a sign of stress remaining in the market. To some extent, I think this metric gives an idea of how far out into the future the market is willing to look. In other words, when the VIX curve is inverted the market is focused on the very short-term.

S&P 500 Technicals

S&P 500 daily open-high-low-close chart with 50-day and 200-day Moving Averages (MA)



Source: © Merk Investments, Bloomberg

Analysis: The 50-day moving average remains below the 200-day moving average and the 200-day moving average remains in a downtrend. I'm currently negative on this picture. Chart Framework: I'd get incrementally positive on the market outlook if/when the S&P 500 200d MA moves back into an uptrend and when the 50-day MA crosses back above the 200-day MA.

S&P 500 Valuation Indicator

Aggregate Equity Allocation Proxy (From Fed Z.1 Report) and S&P 500 Subsequent 10-year annualized Returns



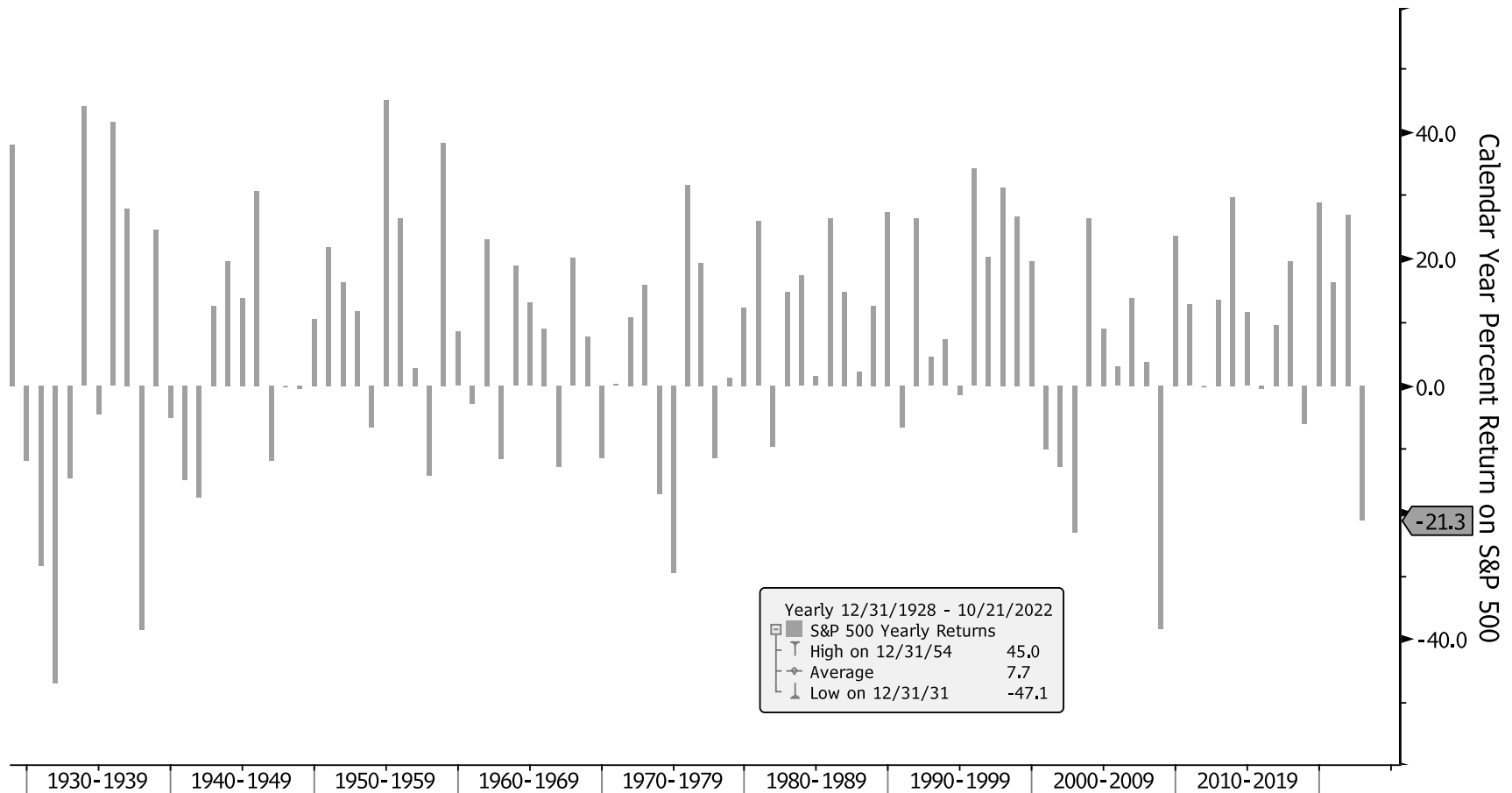
Source: © Merk Investments, Bloomberg

Analysis: If history is any guide, this chart suggests annualized S&P 500 returns (w/o dividends) might be near zero over the ten-year period starting 6/30/2022. The grey dotted line is the market value of US equity divided by the total market value of US equity and debt, which is used as a proxy for aggregate equity allocation. A 44.8% allocation is relatively high (as of 6/30/2022). The data comes from the quarterly Federal Reserve Z.1 report. Chart Framework: I'd get incrementally positive on the longer-term market outlook at an allocation level below 35%, which would likely only be after a substantial bear market.

Reference paper: <http://www.philosophicaleconomics.com/2013/12/the-single-greatest-predictor-of-future-stock-market-returns/>

Calendar Year S&P 500 Returns

1928-to-Present Calendar Year Returns (dividends not included)



Source: © Merk Investments, Bloomberg

Analysis: As of 10/21/2022 the S&P 500 is -21% year-to-date. Coming into 2022, sell-side forecasts were for a 0% to 7% return for next year. Usually the consensus forecast is wrong (either too high or too low). For context: from 1928 through 2020 the S&P 500 average annual return was 7.7% (w/o dividends). The S&P 500 returned between 0-10% in only 16 of those 93 years (17% of the time). In other words, average years are actually rare. 52% of years had returns above 10%, and 31% of years had negative returns. It may be worth noting that the S&P 500 is up over 10% in most years.

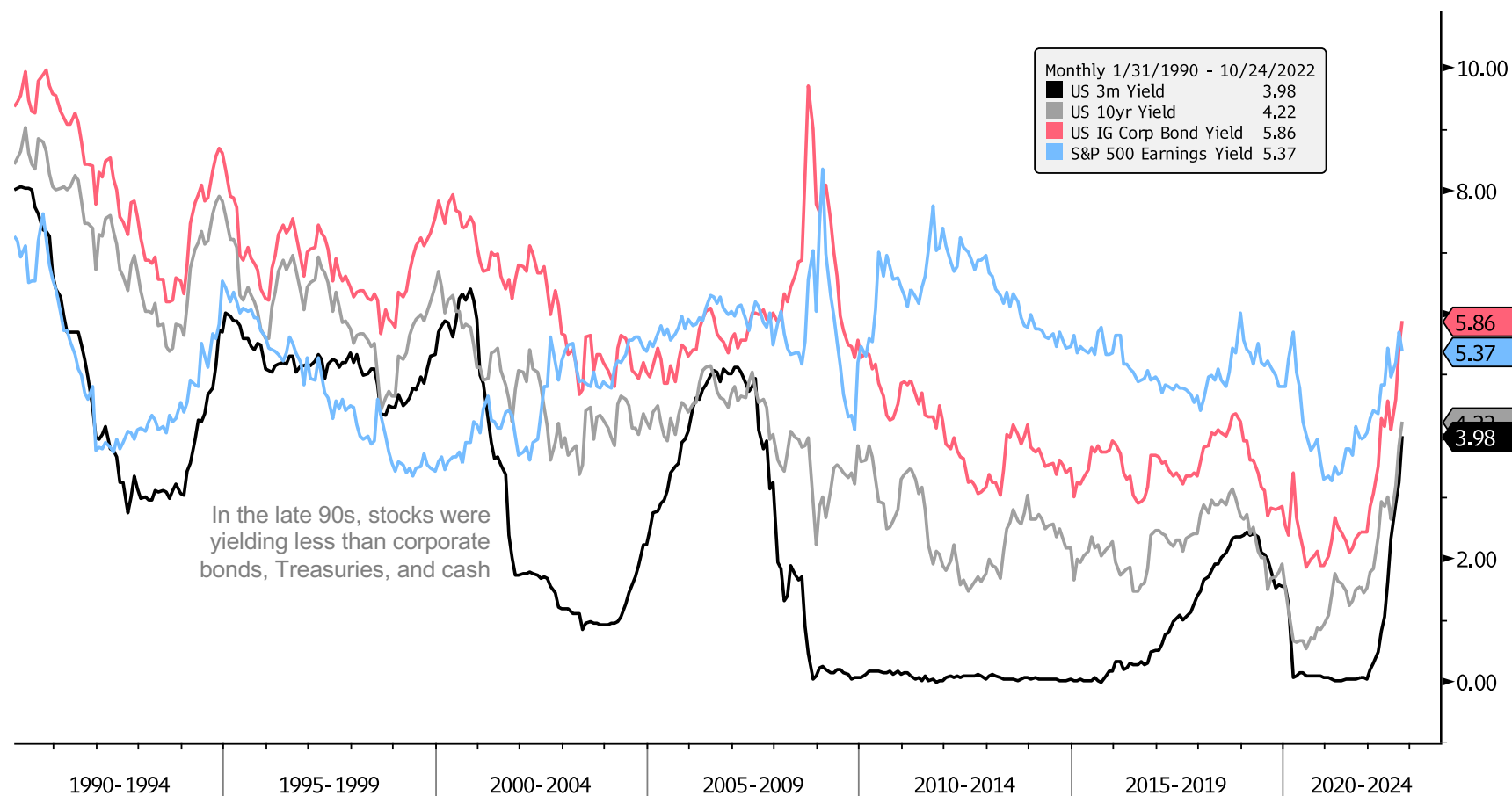
Checklist

Chart	Time Horizon	Per Framework Characterization
Earnings	Short/Medium Term	Neutral/Negative
Business Cycle	Short/Medium Term	Negative
Global growth	Short/Medium Term	Negative
Financial Conditions	Short/Medium Term	Negative
Central Bank Support	Medium Term	Negative
Private Sector Balance	Medium Term	Neutral
Uncertainty*	Medium Term	Positive
Market Breadth	Medium/Longer Term	Neutral/Positive
Market Sentiment*	Short/Medium Term	Positive
Margin Debt*	Medium/Longer Term	Positive
Correlation/Volatility*	Medium/Longer Term	Neutral
VIX Curve	Short Term	Positive
S&P 500 Technicals	Medium Term	Negative
Valuation	Longer Term	Negative
Time Horizon		Overall Characterization
	Short Term (<6 months)	Negative with high uncertainty
	Medium/Longer Term (6m - 2years)	Neutral with high uncertainty

*contrarian indicators
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Risk Premia

Yield on Cash, Treasuries, Corporate Bonds, and Stocks

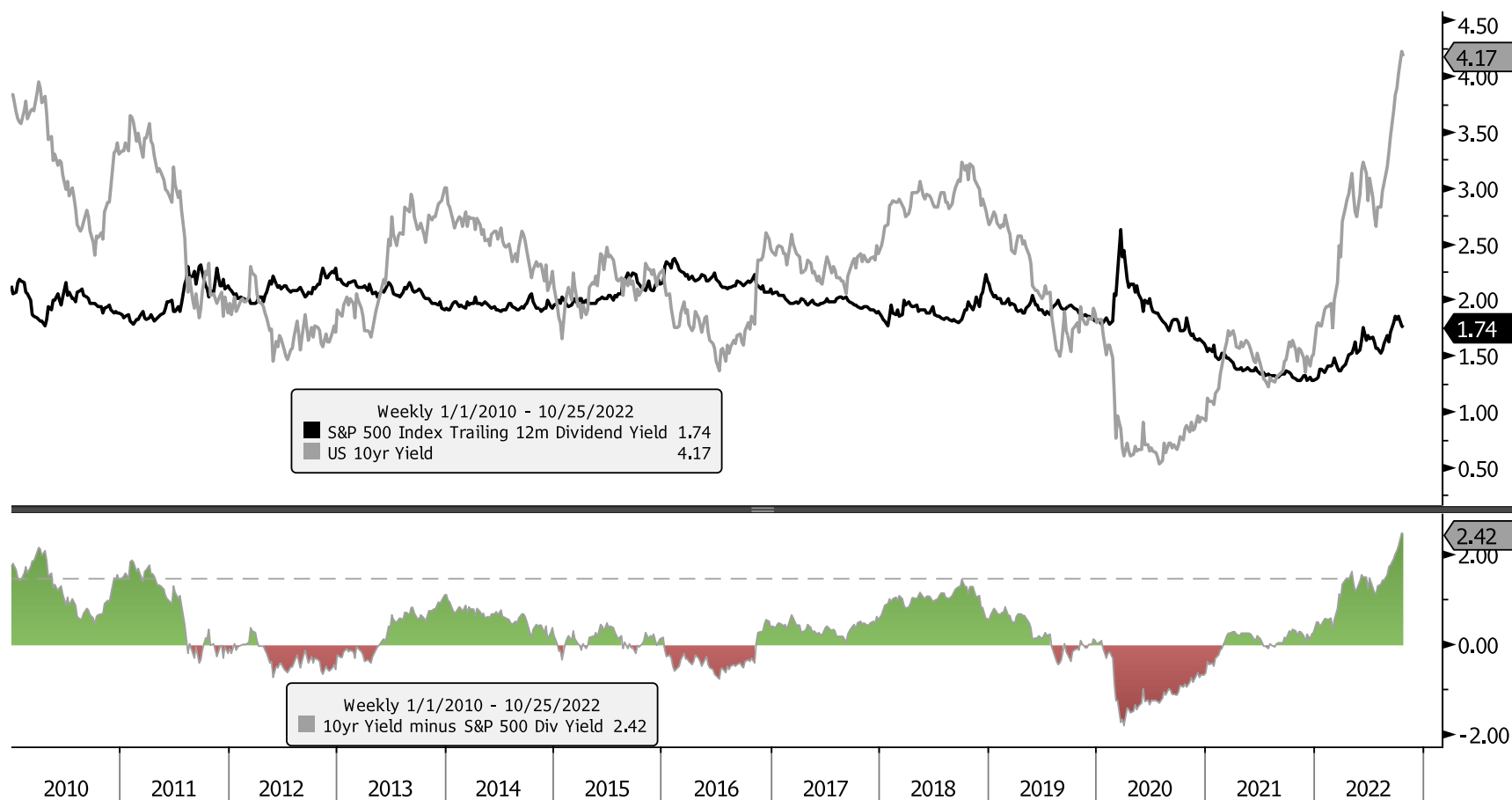


Source: © Merk Investments, Bloomberg

Analysis: Investment grade corporate bond yields are now higher than equity earnings yields (5.8% vs. 5.4%). To put this chart into the context of charts showing P/E ratios, the equity yield shown above (the blue line) is the earnings-to-price yield, or E/P ratio, which is merely the inverse of the P/E ratio.

TINA Effect: Equities vs. Bonds

U.S. Treasury 10yr Yield (grey) and S&P 500 Index Dividend Yield (black)



Source: © Merk Investments, Bloomberg

Analysis: US 10yr yields are at the best level in over a decade relative to S&P 500 dividend yields. This relates to the so-called “TINA” effect (There Is No Alternative (to stocks)).

S&P 500 Price/Earnings Ratio vs U.S. 10yr Yield

U.S. Treasury 10yr Yield (inverted) and S&P 500 Price/Earnings Ratio

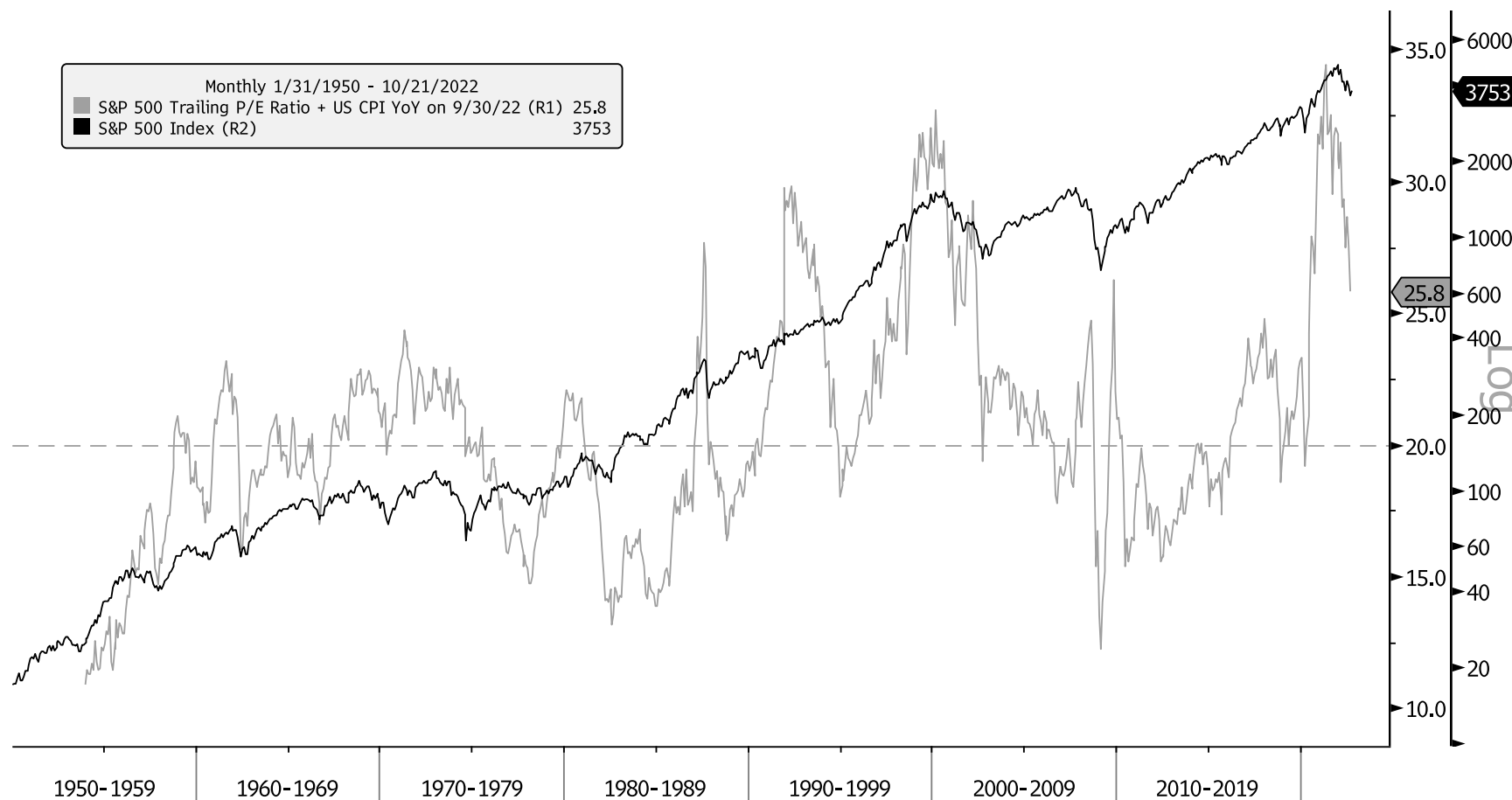


Source: © Merk Investments, Bloomberg

Analysis: A US 10yr yield at 4.22% corresponds to a forward multiple of 12.3x (based on a linear regression analysis), which is about 25% lower than the current multiple of 16.9x. Yields have increased dramatically in the past year, putting pressure on the forward multiple. Rising yields (and rising inflation expectations) generally warrant a decline in the P/E multiple.

“Rule of 20”

Valuation Framework for Bear Market Bottoms

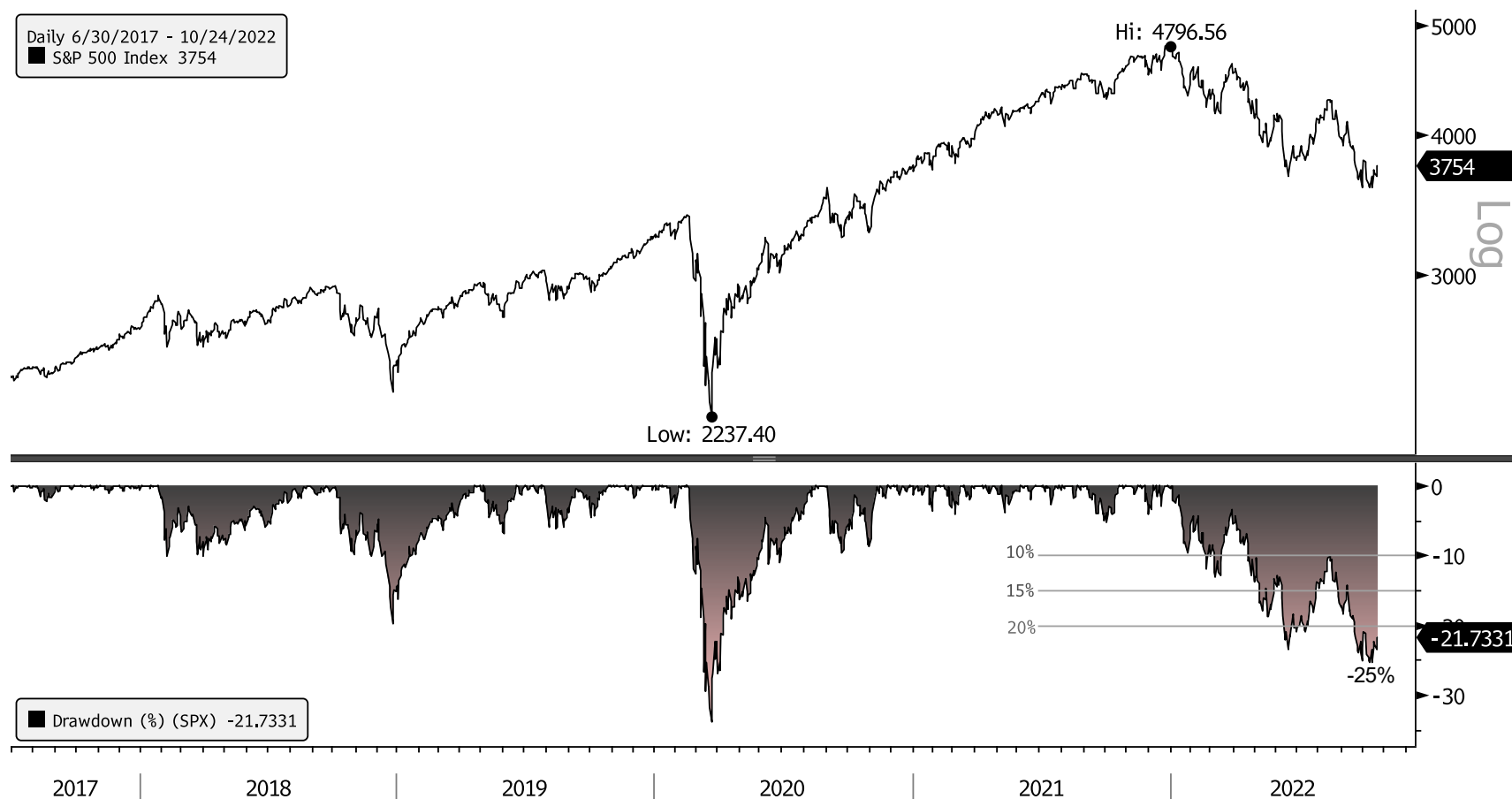


Source: © Merk Investments, Bloomberg

Analysis: For what it's worth, this framework suggests that all past bear market lows (since the early 1950s) have a trailing P/E multiple + CPI YoY inflation rate below 20. For example, if inflation comes down to 4%, the trailing P/E would need to fall to 16. The currently trailing multiple is 18.4x, so the market would need fall about 15% with inflation coming down to 4%, plausible over the next year.

S&P 500 Underwater Chart

S&P 500 Index (upper panel) and drawdowns (lower panel)

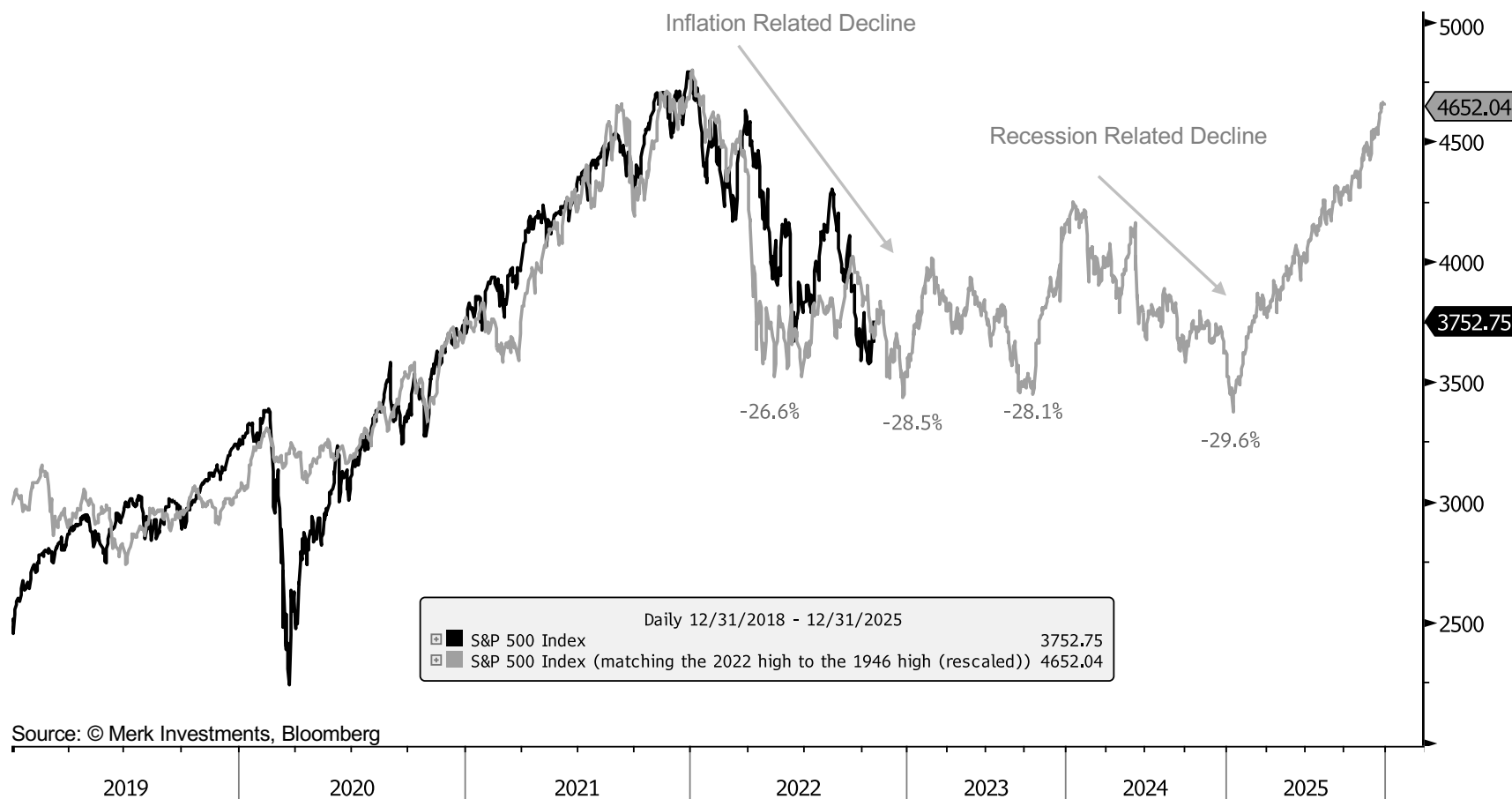


Source: © Merk Investments, Bloomberg

Analysis: The low so far, hit in mid-October, was down 25% from the peak at the beginning of the year. To review the history of S&P bear markets, the mean bear market duration is 17 months (with a massive range: 1-42 months), median is 13 months, and central tendency is 8-21 months. The mean decline is 39% (also with an extensive range), the median is 34%, and the central tendency is 27-49%.

1946-49 Analog

Matching the Current Market Decline to the 1946 Market Decline



Source: © Merk Investments, Bloomberg

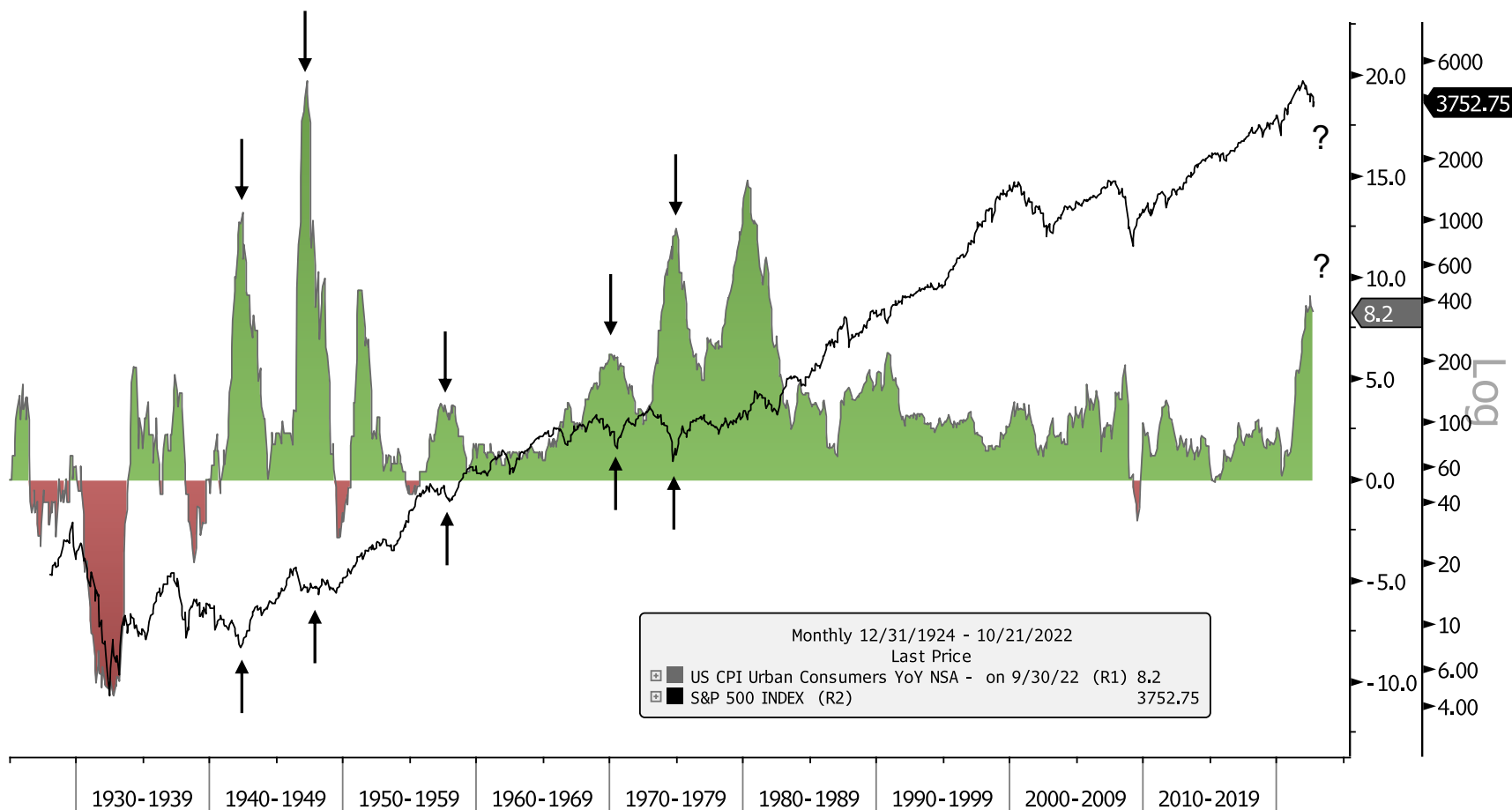
Analysis: The 1946-49 market decline might be an analog worth considering with regards to the current market and economic environment. It was a 20-30% decline that bounced along the bottom for a while, eventually through a mild recession. Not a great picture, but it might mean the market is currently not too far from its lows.

(This is not a forecast or investment advice)

History of US inflations: https://www.bls.gov/opub/mlr/2014/article/one-hundred-years-of-price-change-the-consumer-price-index-and-the-american-inflation-experience.htm#_ednref30

Inflation and the S&P 500

CPI YoY and S&P 500 Index

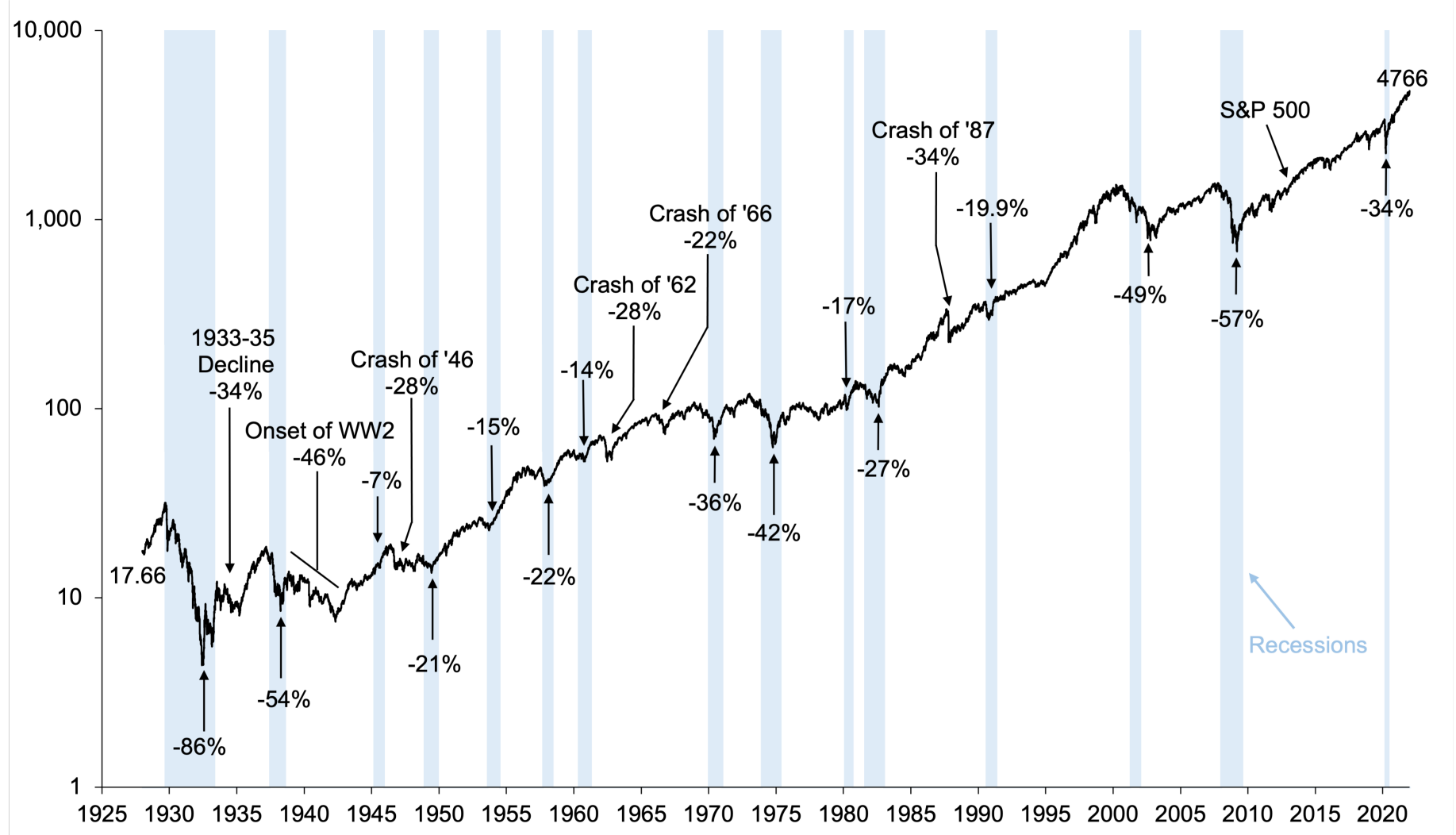


Source: © Merk Investments, Bloomberg

Analysis: In cases of inflation spikes coinciding with market declines, historically the market has bottomed (or been not far from the bottom) around the peak YoY rate of inflation. Headline CPI inflation very well may be (finally) falling.

Recessions and S&P 500 Drawdowns

S&P 500 (black) and Recessions (blue)



Source: © Merk Investments, FRED, Bloomberg

Analysis: Over the past 94 years, there have been 15 recessions, 16 bear markets (10 recession-bear-markets and 6 non-recession bear markets), and 5 recessions without bear markets. In the above chart, numbers below the index line represent recession-bear-markets. Numbers of above the index line represent recessions without bear markets (i.e., max drawdowns less than 20%) or bear markets without recessions, which are all specifically labeled (e.g., “Crash of ‘62” etc.). The details of the categories and dates are presented on the next page.

Recessions and S&P 500 Drawdowns

Source: Merk, Bloomberg

Source: Merk, Bloomberg			Recession Dates		Rec. Duration (months)	Index Dates		Index Levels		Duration (months)	Decline (percent)
Event		Years	Peak*	Trough		Mkt. Peak	Mkt. Trough	Mkt. Peak	Mkt. Trough		
Recession	Bear Market	1929-33	Aug-29	Mar-33	43	9/16/29	6/1/32	31.86	4.40	32.5	-86.2%
	Bear Market	1933-35				7/18/33	3/14/35	12.20	8.06	19.8	-33.9%
Recession	Bear Market	1937-38	May-37	Jun-38	13	3/10/37	3/31/38	18.67	8.50	12.7	-54.5%
	Bear Market	1938-42				11/9/38	4/28/42	13.79	7.47	41.6	-45.8%
Recession		1945	Feb-45	Oct-45	8	3/7/45	3/26/45	14.38	13.39	0.6	-6.9%
	Bear Market	1946-47				5/29/46	5/19/47	19.25	13.77	11.7	-28.5%
Recession	Bear Market	1948-49	Nov-48	Oct-49	11	6/15/48	6/13/49	17.06	13.55	11.9	-20.6%
Recession		1953-54	Jul-53	May-54	10	1/5/53	9/14/53	26.66	22.71	8.3	-14.8%
Recession	Bear Market	1957-58	Aug-57	Apr-58	8	8/2/56	10/22/57	49.74	38.98	14.7	-21.6%
Recession		1960-61	Apr-60	Feb-61	10	8/3/59	10/25/60	60.71	52.30	14.8	-13.9%
	Bear Market	1961-62				12/12/61	6/26/62	72.64	52.32	6.4	-28.0%
	Bear Market	1966				2/9/66	10/7/66	94.06	73.20	7.9	-22.2%
Recession	Bear Market	1968-70	Dec-69	Nov-70	11	11/29/68	5/26/70	108.37	69.29	17.8	-36.1%
Recession	Bear Market	1973-75	Nov-73	Mar-75	16	1/11/73	10/3/74	120.24	69.29	20.7	-42.4%
Recession		1980	Jan-80	Jul-80	6	2/13/80	3/27/80	118.44	98.22	1.4	-17.1%
Recession	Bear Market	1981-82	Jul-81	Nov-82	16	11/28/80	8/12/82	140.52	102.42	20.4	-27.1%
	Bear Market	1987				8/25/87	12/4/87	336.77	223.92	3.3	-33.5%
Recession		1990-91	Jul-90	Mar-91	8	7/16/90	10/11/90	368.95	295.46	2.9	-19.9%
Recession	Bear Market	2000-02	Mar-01	Nov-01	8	3/24/00	10/9/02	1527.46	776.76	30.5	-49.1%
Recession	Bear Market	2007-09	Dec-07	Jun-09	18	10/9/07	3/9/09	1565.15	676.53	17.0	-56.8%
Recession	Bear Market	2020	Feb-20	Apr-20	2	2/19/20	3/23/20	3386.15	2237.40	1.1	-33.9%
Honorable Mentions											
Big Correction		1976-78				9/21/76	3/6/78	107.83	86.90	17.4	-19.4%
Big Correction		1998				7/17/98	8/31/98	1186.75	957.28	1.5	-19.3%
Big Correction		2011				4/29/11	10/3/11	1363.61	1099.23	5.2	-19.4%
Big Correction		2018				9/20/18	12/24/18	2930.75	2351.10	3.1	-19.8%

*the peak month is the last month of the expansion, the recession starts the following month

Source: © Merk Investments, FRED, Bloomberg

China CSI 300 and S&P 500

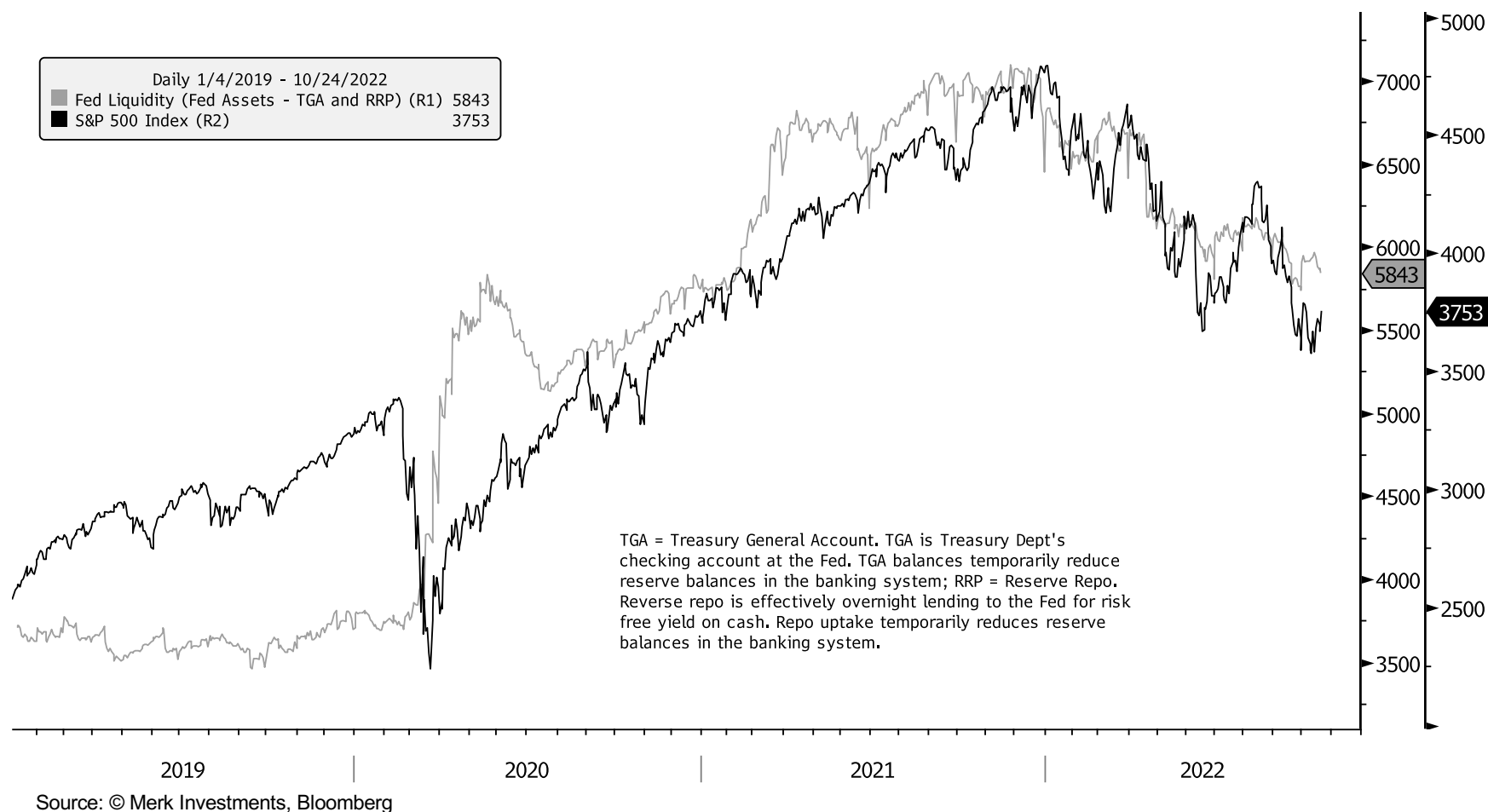
S&P 500 (black) and CSI 300 (grey)



Analysis: the China CSI 300 Index has recently broken to new lows. The Chinese market was the first to peak (in Feb 2021) and may be the first to trough—no convincing sign of that yet.

Fed Net Liquidity

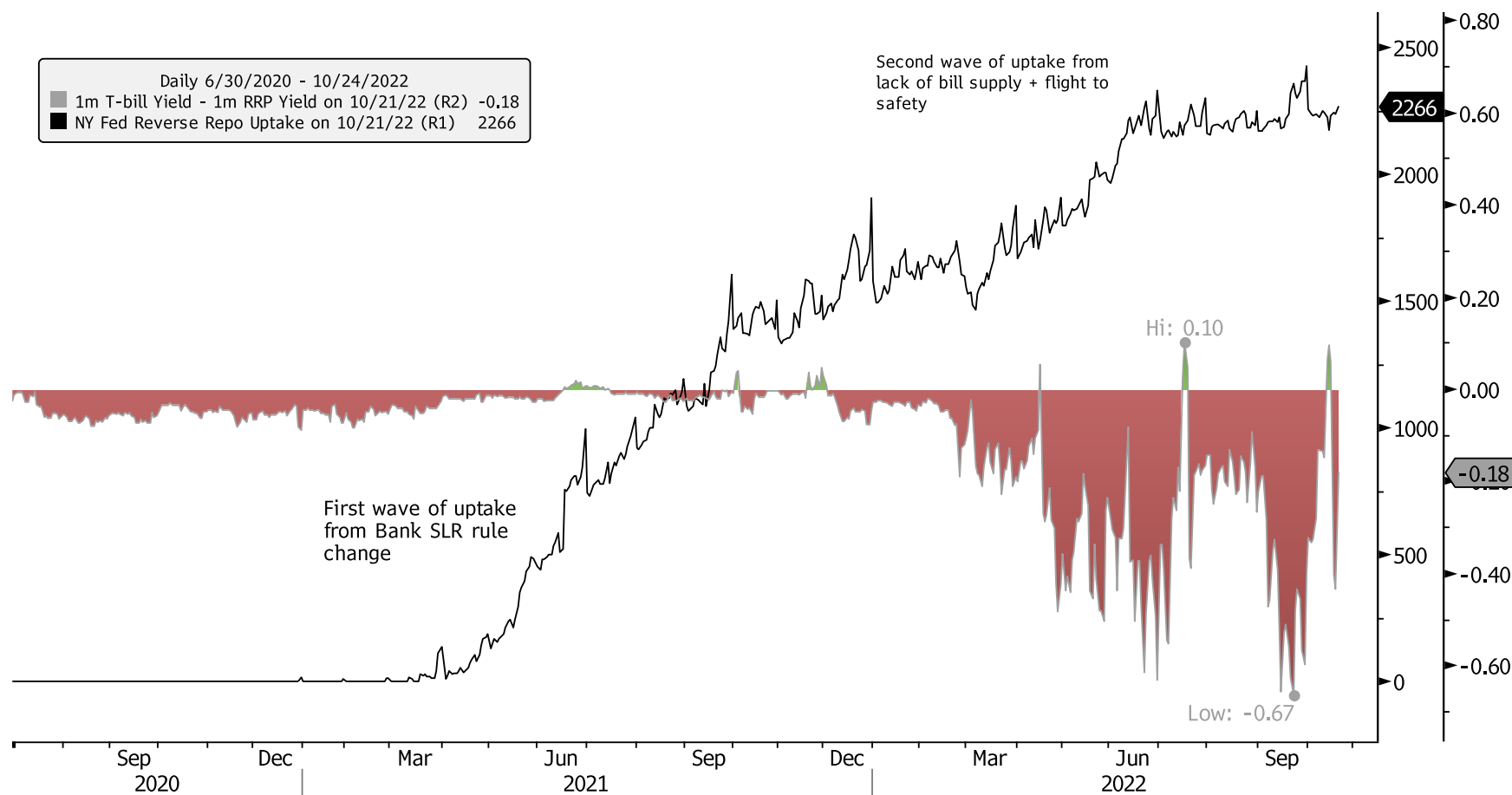
Fed Assets – (TGA + RRP)



Analysis: Fed net liquidity is not just impacted by the Fed's balance sheet size (and QT), but also by the Treasury General Account and the Reverse Repo Facility, which drain reserves from the banking system. Any drawdown in TGA and RRP are net additive to market liquidity.

Reverse Repo (RRP)

RRP uptake in \$ Billions

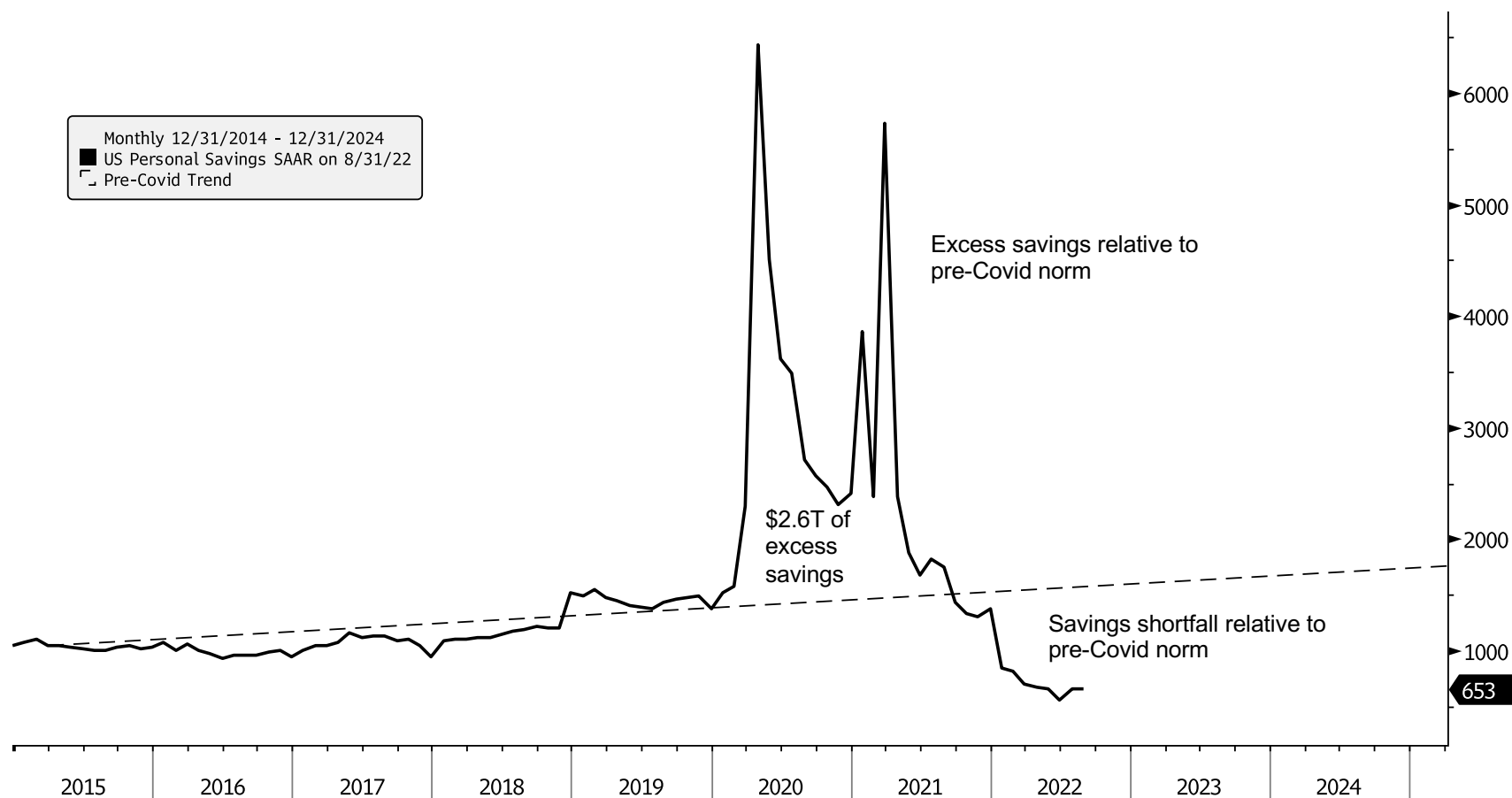


Source: © Merk Investments, Bloomberg

Analysis: Reverse Repo (RRP) represents market participants lending to the Fed on an overnight basis. Uptake is affected by bank regulation, net T-bill supply from US government issuance, and demand for safe haven assets. Lack of T-bill supply continues to be a problem and is supporting demand for RRP.

Pace of Personal Savings

US Personal Savings (\$ Billions per month SAAR)

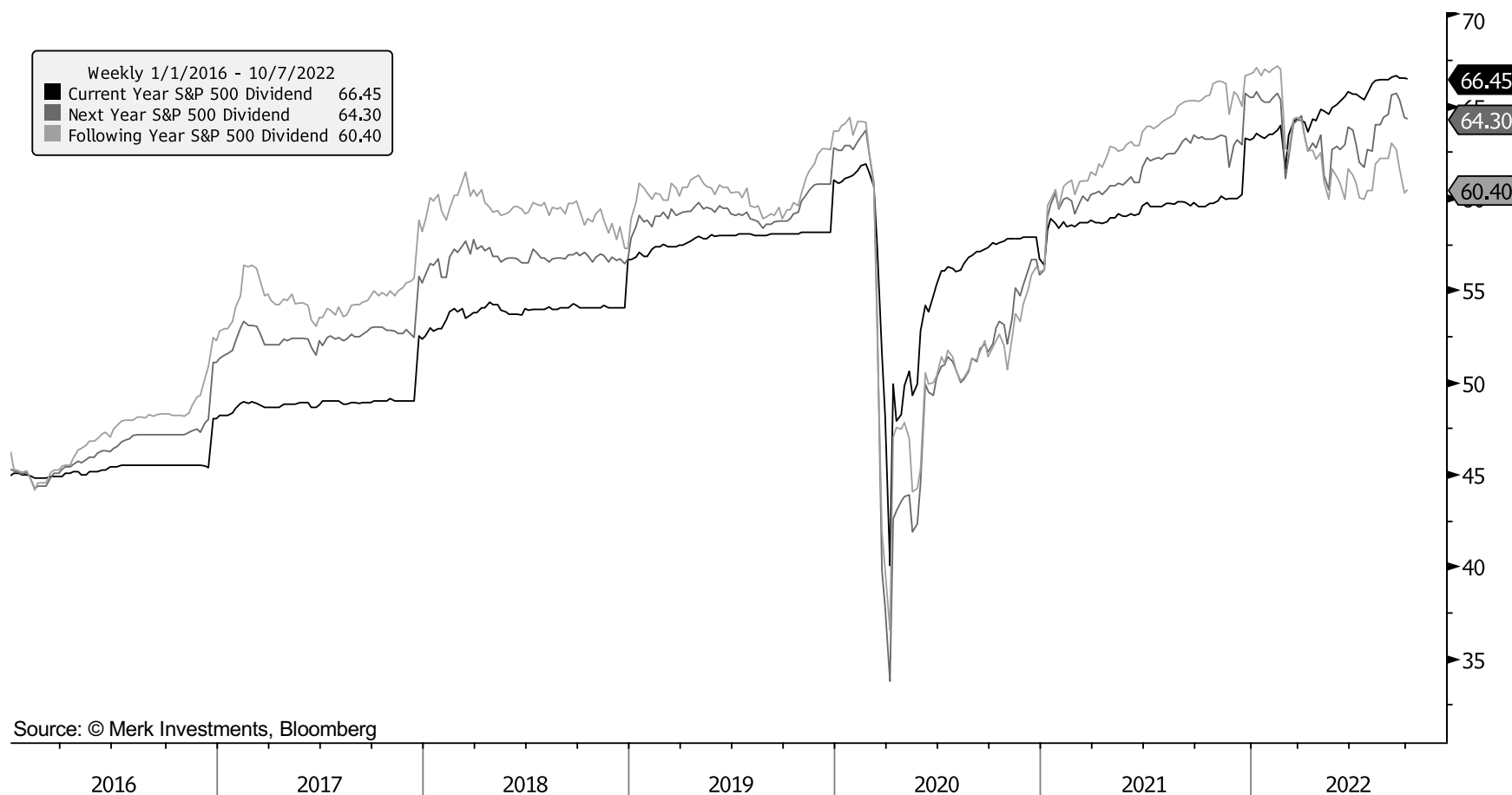


Source: © Merk Investments, Bloomberg

Analysis: The monthly pace of savings is now below the pre-Covid trend. There are still accumulated excess savings as only about 25% of the excess savings from 2020 and 2021 have been drawn down on. Built-up savings could keep the economic expansion going, and perhaps keep inflation elevated.

S&P 500 Dividend Futures

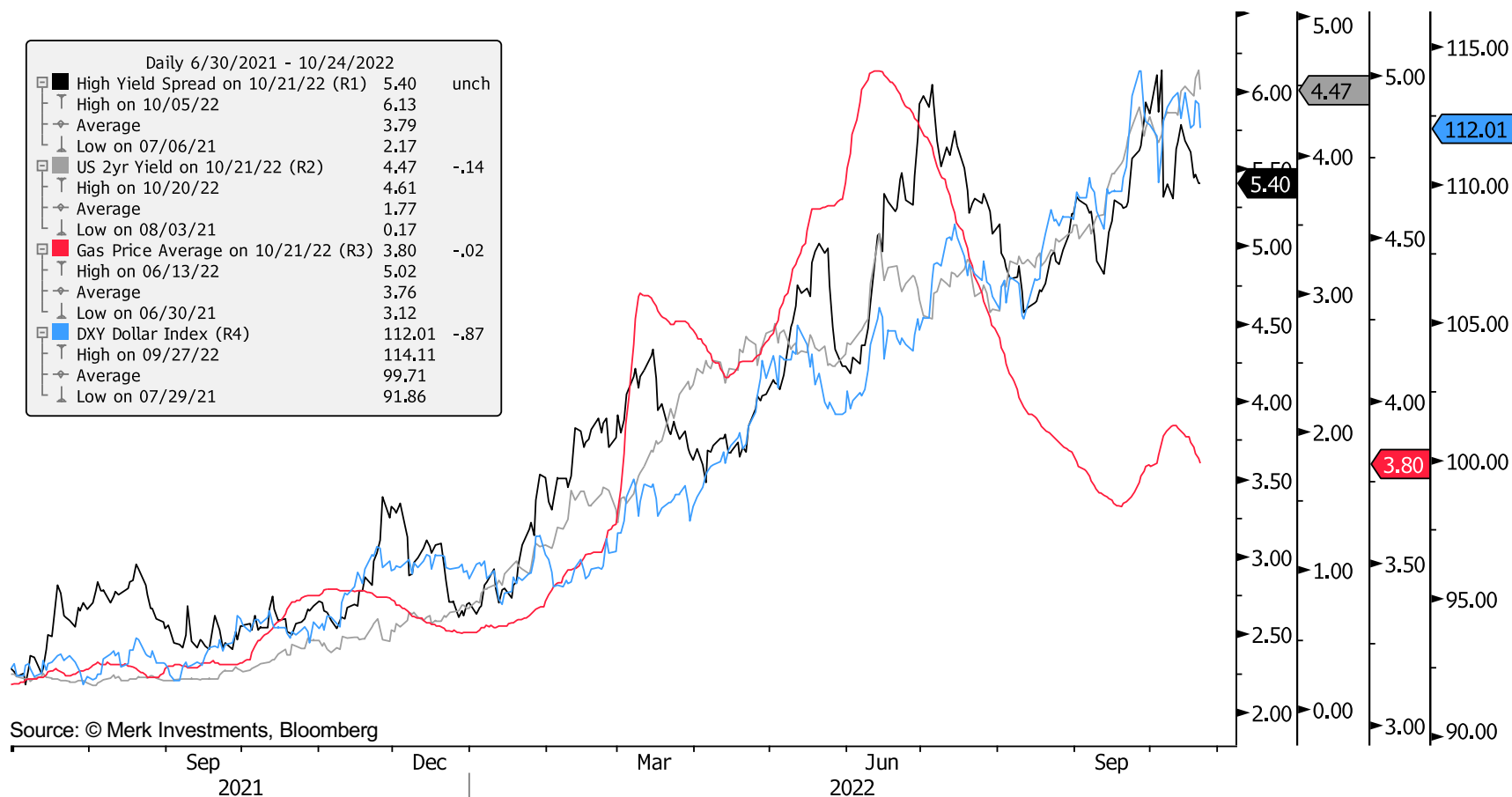
Current Year, Next Year, and Following Year



Analysis: S&P 500 dividend futures are pricing in dividend cuts for 2023 and 2024, at the very least implying that the market is pricing in a high probability of recession. Dividends are typically only cut in a bona fide recession (not in a mere earnings recession). If and when a recession does materialize, we would likely still see downside volatility in the equity market. On that note, analyst estimates of forward 12-month earnings for the S&P don't necessarily provide an accurate picture of what's actually priced into markets—as witnessed by the market reaction to Q2 earnings season. The market is almost certainly pricing in weaker earnings than the published projections, but that also means the market is trading at a higher multiple than the stated forward P/E would imply.

Key Data

US 2-Year Yield (grey), US Dollar, High Yield Spread, and Gasoline Price



Analysis: Here is a summary of what I see as the most important market data right now. In mid August these trends started to diverge. Gasoline prices have continued lower, but the dollar, 2yr yields, and high yield spreads have been making new highs recently.

Real Interest Rate Differential and the US Dollar

US 10-year Real Rate minus 10yr Average Real Rate for Eurozone, Japan, and UK (grey) vs the US Dollar Index (black)

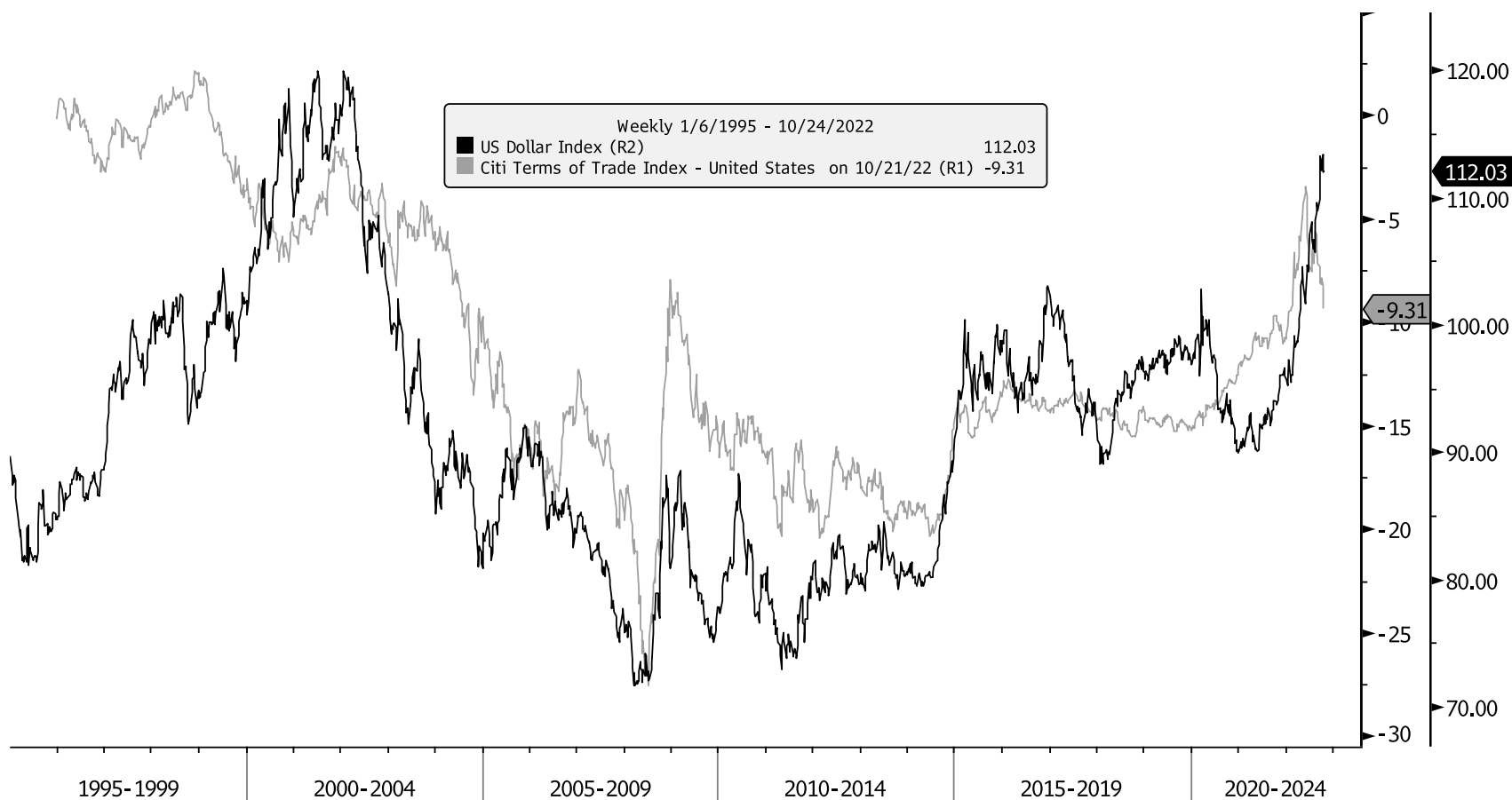


Source: © Merk Investments, Bloomberg

Analysis: Real interest rate differentials in the G4 (US, Eurozone, Japan, and UK) are no longer in favor of the dollar. The differential peaked in May of this year and has dropped sharply since.

Terms of Trade and the US Dollar Index

US Terms of Trade (grey) vs. US Dollar Index (black)

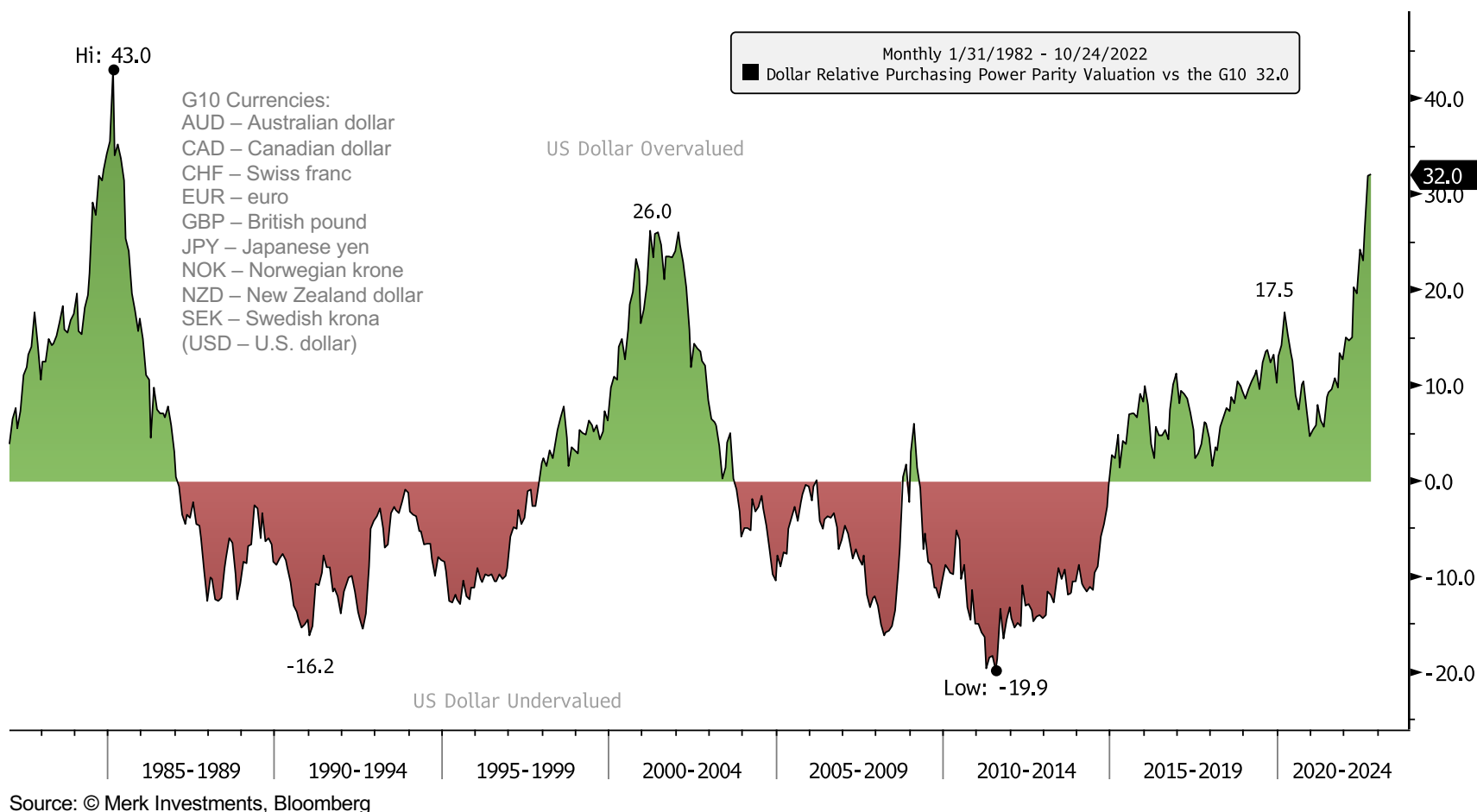


Source: © Merk Investments, Bloomberg

Analysis: Terms of trade are no longer in favor of the dollar. The terms of trade peaked in June of this year. Per the OECD, terms of trade are defined as the ratio between the index of export prices and the index of import prices.

U.S. Dollar Relative Purchasing Power Parity (PPP) Valuation

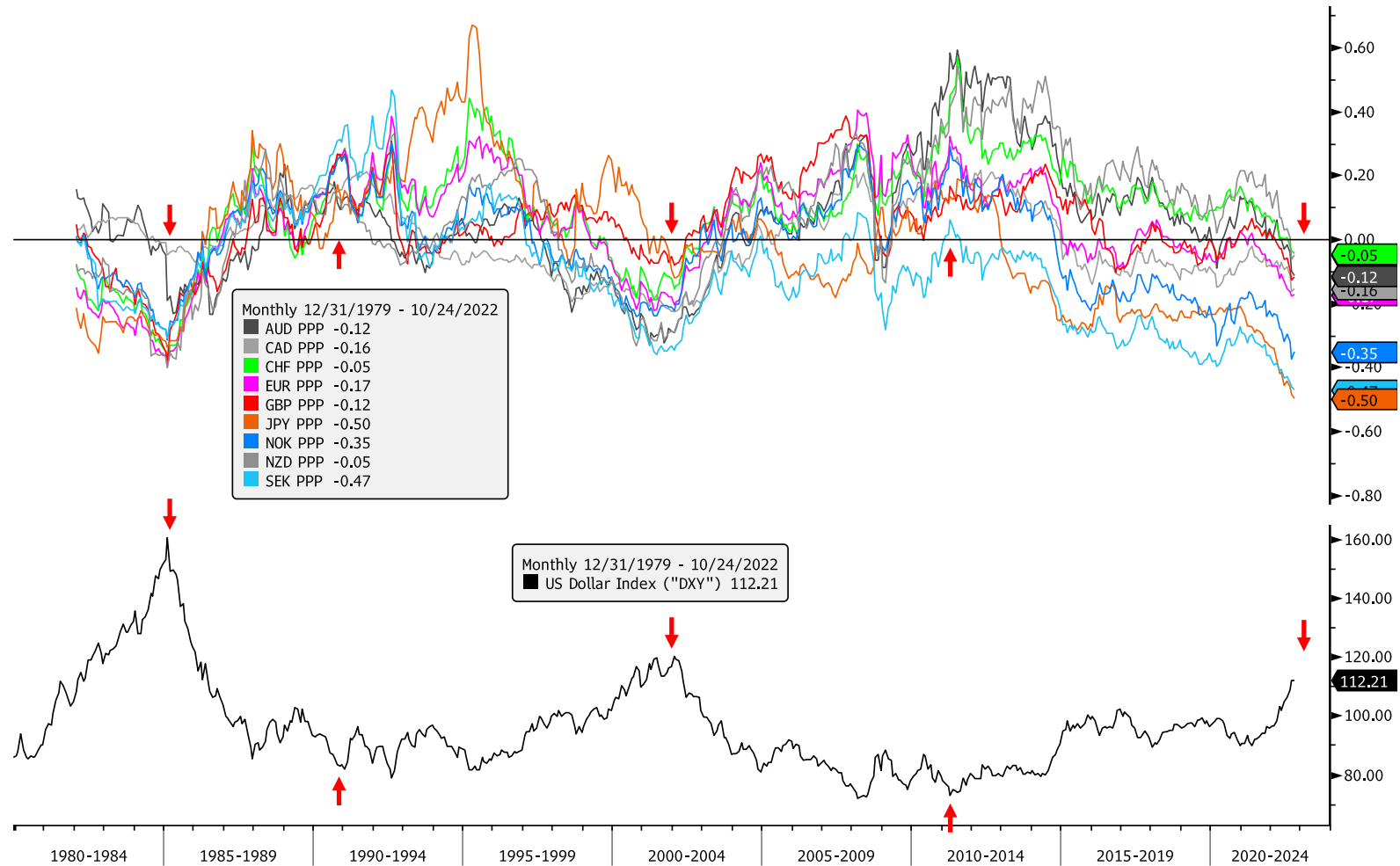
U.S. Dollar Relative PPP Valuation vs equally-weighted G10



Analysis: The chart the above is the U.S. dollar's value (in relative purchasing power) compared to an equally-weighted average of the other G10 currencies. For reference, the G10 currencies are listed in the chart above. PPP Framework: Nominal exchange rates tend to gravitate toward their long-run purchasing power parity (PPP) equilibrium values. The foundation for PPP is the so-called "law of one price," which suggests that identical goods should trade at the same price across countries when valued in terms of a common currency. Relative PPP extends the law of one price to a broad range of goods and services and takes into account trade impediments.

G10 PPP Valuations vs the Dollar

Non-dollar G10 vs U.S. Dollar – Relative PPP Valuation

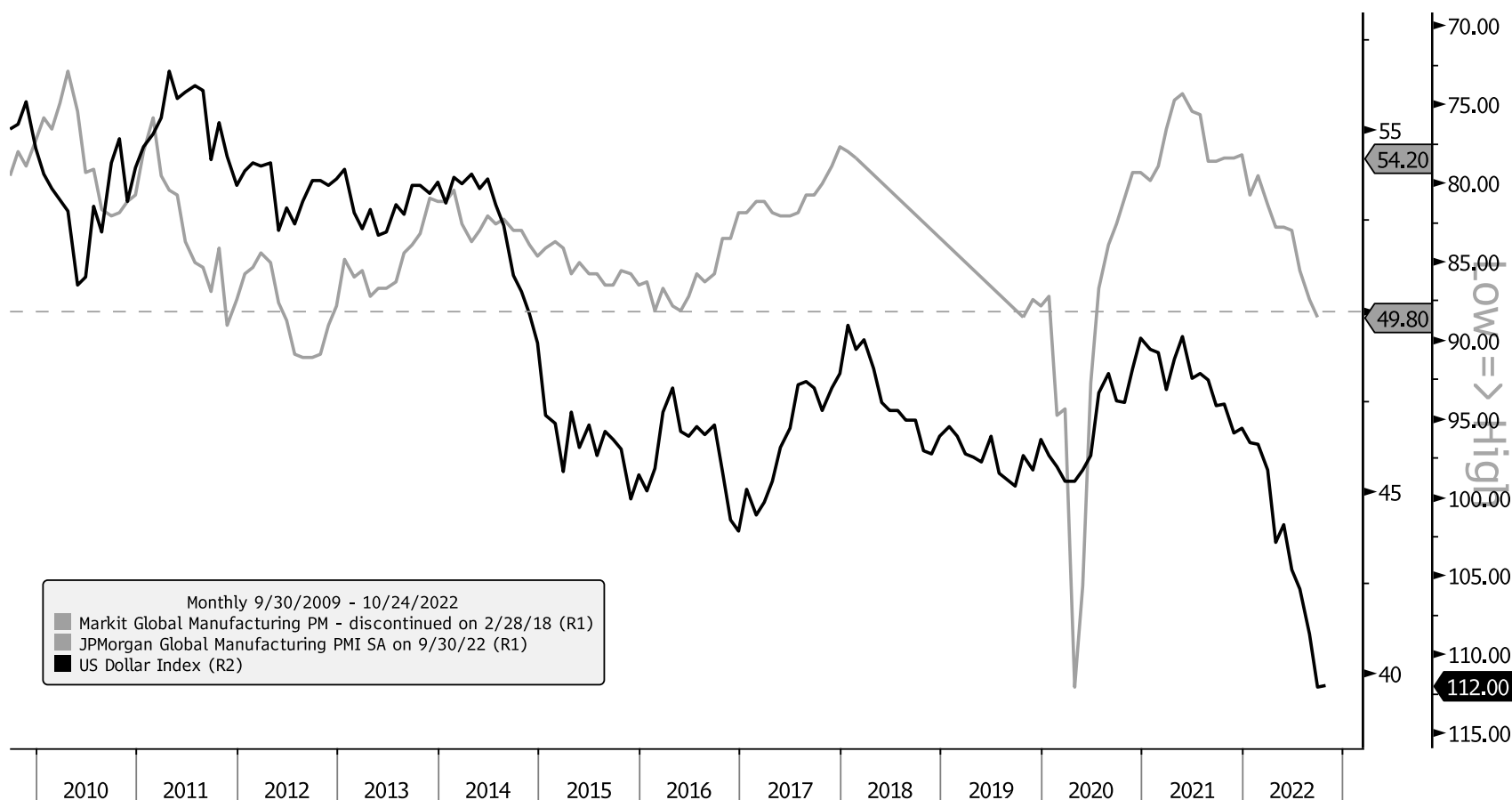


Source: © Merk Investments, Bloomberg

Analysis: When G10 PPP valuations are all over on one side (as they are now), that's typically near a major turning point for the dollar. This chart shows the relative purchasing power of the various G10 currencies vs the U.S. dollar. Currencies below the zero line represent "undervalued" currencies (according to the relative purchasing power parity (PPP) framework). According to relative PPP, the Japanese yen, the Swedish krona, and the Norwegian krone are all particularly undervalued.

Dollar Strengthening in Global Slowdown

Global Mfg PMI (grey) vs. US Dollar Index (black)



Source: © Merk Investments, Bloomberg

Analysis: At this stage, the dollar is likely primarily driven by the ongoing global growth slowdown. The US dollar, as the de facto world reserve currency, tends to strengthen in global growth slowdowns. The dollar may well peak shortly after the global economy enters recession.

Global Dollar Short Squeeze

High Credit Spread (grey) vs. US Dollar Index (black)



Source: © Merk Investments, Bloomberg

Analysis: The US dollar might peak around the same time the high yield credit spread peaks, which would likely be in a recession (and historically above 8% on the credit spread).

Fed Swap Lines and the US Dollar

Fed Swap Lines + FIMA Repo, the US Dollar Index, and Cross Currency Basis

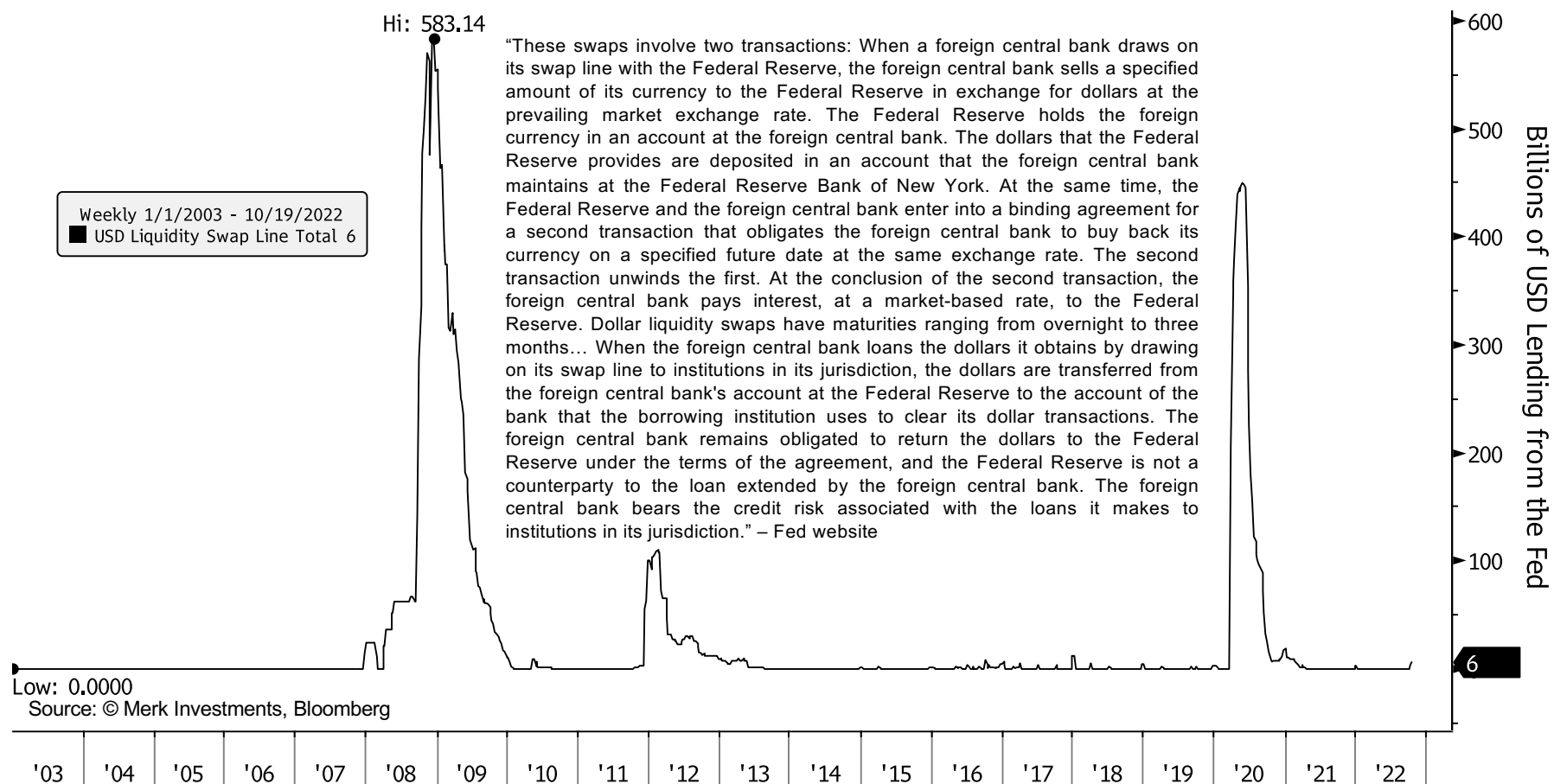


Source: © Merk Investments, Bloomberg

Analysis: The dollar may also peak around the time that Fed swap upline uptake reached a meaningful level (e.g., >\$50B). As you can see in the above chart, Fed lending to foreign central banks tends to alleviate dollar funding stress, as measured by the cross currency basis swaps. That typically also helps bring the dollar down. Cross currency basis swaps measure the difference between benchmark interbank interest rate differentials and forward currency implied interest rate differentials, and are effectively a measure of U.S. dollar funding stress (sometimes indicative of what is called "a dollar shortage").

Fed U.S. Dollar Swap Line Lending to Foreign Central Banks

Billions in USD Swap agreements outstanding to foreign central banks



"These swaps involve two transactions: When a foreign central bank draws on its swap line with the Federal Reserve, the foreign central bank sells a specified amount of its currency to the Federal Reserve in exchange for dollars at the prevailing market exchange rate. The Federal Reserve holds the foreign currency in an account at the foreign central bank. The dollars that the Federal Reserve provides are deposited in an account that the foreign central bank maintains at the Federal Reserve Bank of New York. At the same time, the Federal Reserve and the foreign central bank enter into a binding agreement for a second transaction that obligates the foreign central bank to buy back its currency on a specified future date at the same exchange rate. The second transaction unwinds the first. At the conclusion of the second transaction, the foreign central bank pays interest, at a market-based rate, to the Federal Reserve. Dollar liquidity swaps have maturities ranging from overnight to three months... When the foreign central bank loans the dollars it obtains by drawing on its swap line to institutions in its jurisdiction, the dollars are transferred from the foreign central bank's account at the Federal Reserve to the account of the bank that the borrowing institution uses to clear its dollar transactions. The foreign central bank remains obligated to return the dollars to the Federal Reserve under the terms of the agreement, and the Federal Reserve is not a counterparty to the loan extended by the foreign central bank. The foreign central bank bears the credit risk associated with the loans it makes to institutions in its jurisdiction." – Fed website

Analysis: The Fed set up temporary U.S. Dollar swap lines with several major foreign central banks in late 2007, which were used heavily to alleviate U.S. dollar funding stress overseas in 2008 and 2009 (with a peak of over 500 billion in swap line borrowing in late 08/early 09). In 2010 (when the above data series began) the Fed formed standing arrangements for dollar liquidity swap lines with the Bank of Canada, the Bank of England, the European Central Bank, the Bank of Japan, and the Swiss National Bank. Fed dollar swap lines were used again in 2011-2013 (primarily by the ECB due to stress in the Eurozone). It seems likely that Fed swap lines will be used heavily again in future crises (as was the case with Covid). Yellen has argued it is within the Fed's congressional mandate to respond to global developments given the potential spillover to the US. The IMF's Lagarde (now the ECB chief) has encouraged extending the U.S. dollar swap lines to emerging market central banks as an additional crisis fighting tool.

Link: https://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm

The weights for the euro prior to 1999 were as follows (based on the relative size of international trade for the original 11 members):

Germany (mark): 33.1%
France (franc): 19.7%
Italy (lira): 14.8%
Belgium/Luxembourg (franc): 9.2%
Netherlands (guilder): 8.2%
Spain (peseta): 6.7%
Austria (schilling): 4.4%
Finland (markka): 1.5%
Portugal (escudo): 1.3%
Ireland (pound): 1.1%

U.S. Dollar Index

U.S. Dollar Index ("DXY")

On 1/1/1999, the euro was adopted.

Index Weights

EUR: 57.6%
JPY: 13.6%
GBP: 11.9%
CAD: 9.1%
SEK: 4.2%
CHF: 3.6%

On 8/15/1971, the U.S. unilaterally terminated convertibility of the U.S. dollar into gold, effectively ending the Bretton Woods System.



Analysis: Bretton Woods was a UN monetary conference held in July 1944, following the end of WW2. The agreement on exchange rates was that all participating nations would peg their local currencies to the U.S. dollar, and those foreign governments could convert their U.S. dollars into gold at the fixed rate of \$35/ounce. In August 1971, President Nixon ended the dollar's convertibility into gold, effectively ending the Bretton Woods System.

U.S. Dollar Index

U.S. Dollar Index ("DXY") with Log scale trend channel

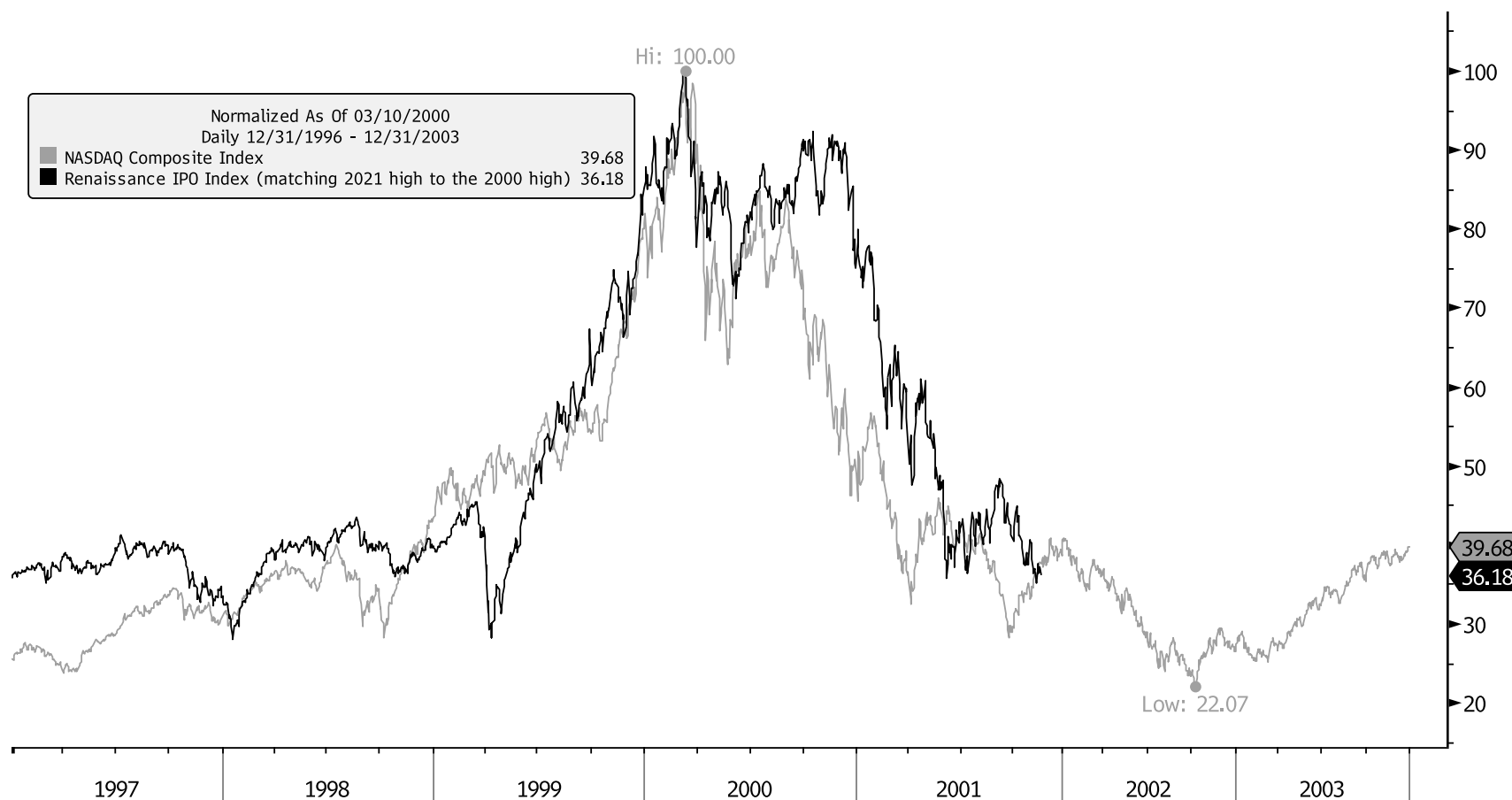


Source: © Merk Investments, Bloomberg

Analysis: The dollar index appears to be in a long-term downtrend, making lower highs and lower lows. If the index makes a new low at the end of the next dollar bear market, it has over 35% downside from the current level of 112 ($(71.8 / 112) - 1 = -36\%$).

Nasdaq Dotcom Bust and IPO Index Decline

Matching the 2021 IPO Index high to the 2000 Nasdaq High

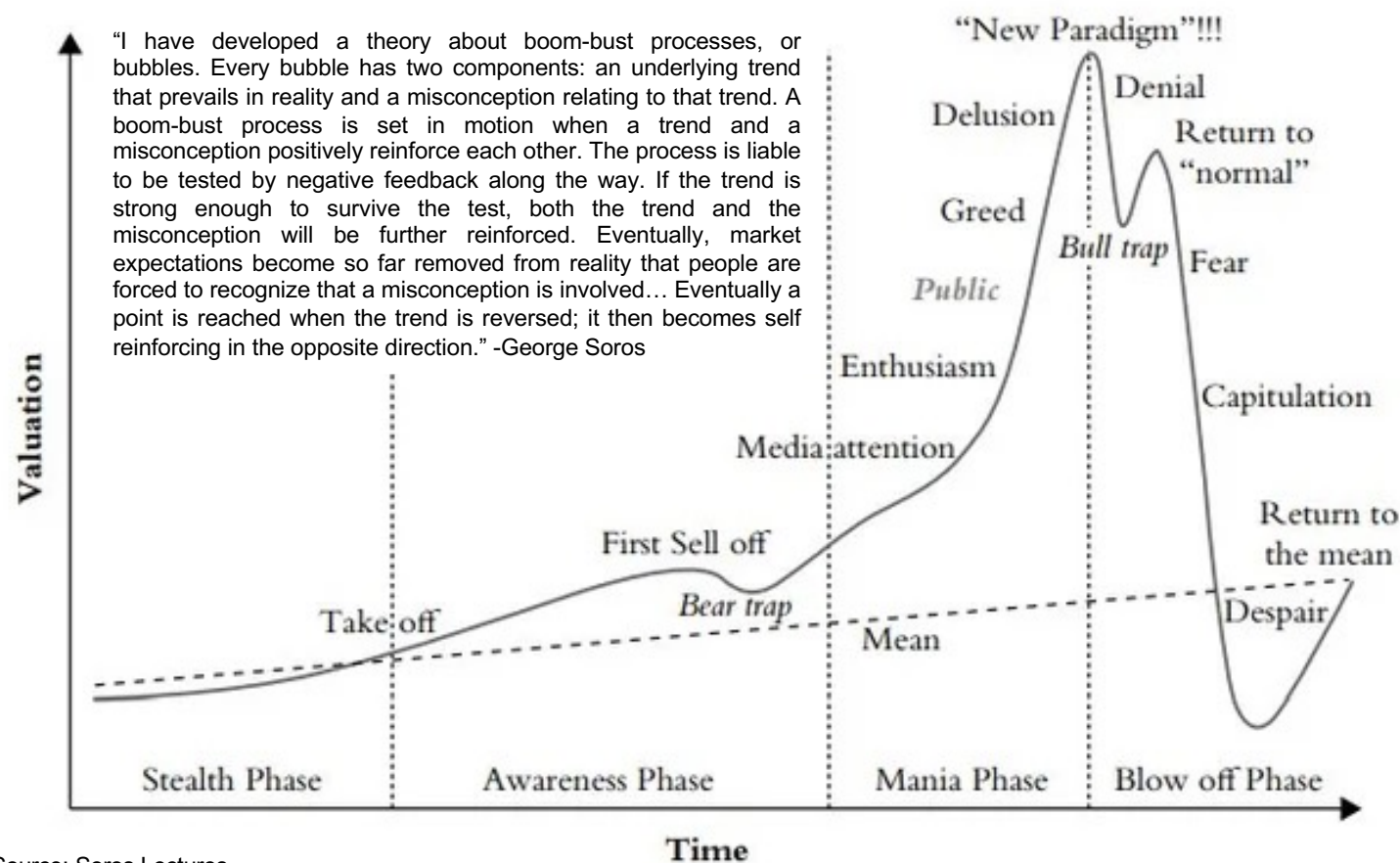


Source: © Merk Investments, Bloomberg

Analysis: The boom-bust in the IPO/SPAC/ARKK/VC segment of the market seems to be following the late 90s, early 2000s tech sector boom-bust. The analog would suggest another 11 months and another 35% of downside from current levels on the IPO Index.

(not a forecast or investment advice)

Anatomy of a Speculative Boom-Bust Process



Source: Soros Lectures

Analysis: Here is a helpful diagram for the speculative boom-bust process with an excerpt from the Soros Lectures on the topic. The peak of the IPO Index was in February 2021—as I noted in April 2021: “On a cautionary note, some medium-term anecdotal contrarian warning signs have cropped up lately. I’ve noticed that some long-time bears have switched to being bullish (with contorted rationalizations)—a contrarian warning sign... Similarly, some long-time bulls are now talking in terms that sound a lot like “new paradigm” and “this time is different”—also a contrarian warning sign.”

(not a forecast or investment advice)

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