



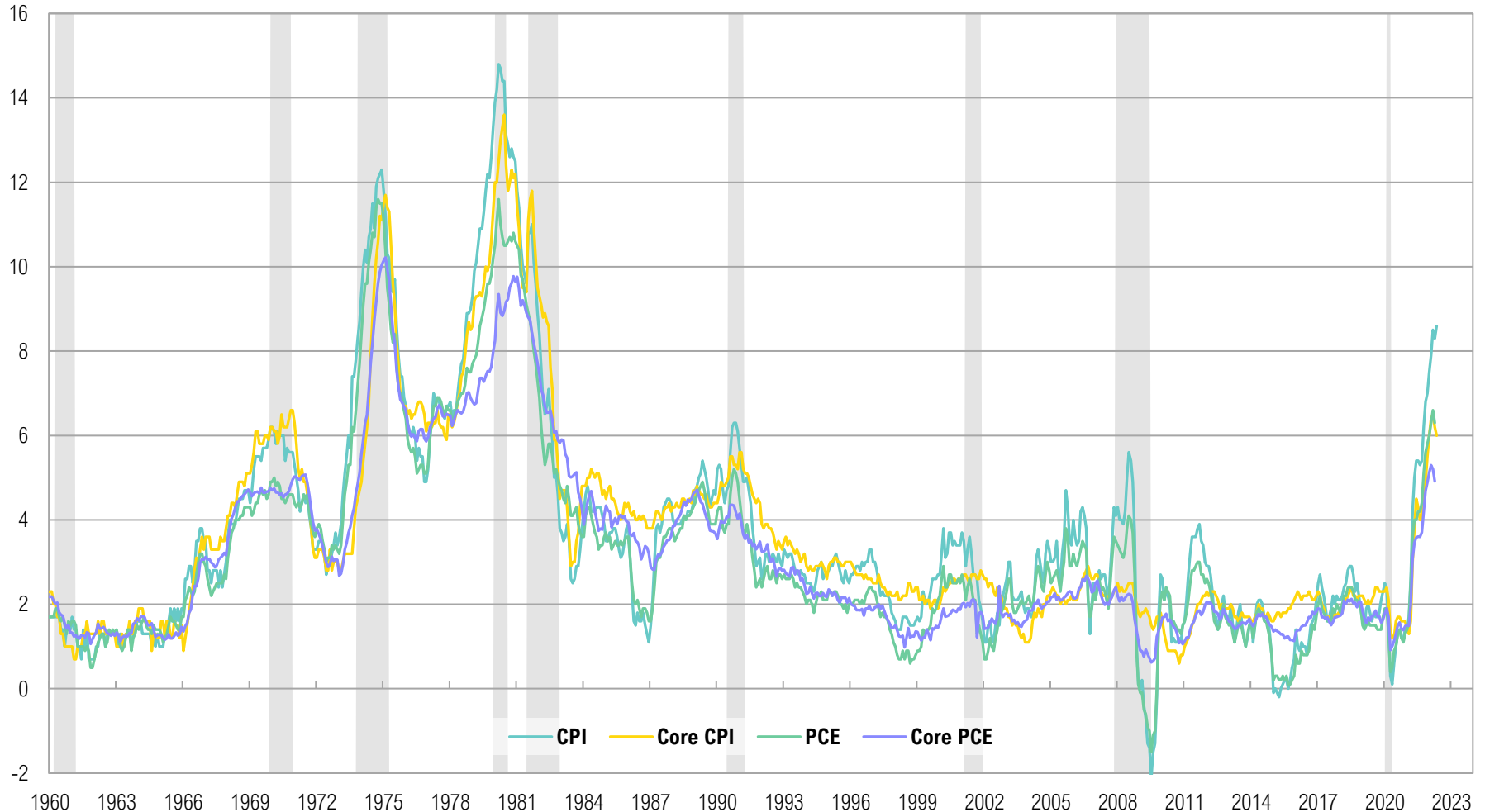
Topical Research:

U.S. Inflation Trends

As on 6/13/2022

➤ From “fighting” low inflation for over a decade, policymakers now must deal with the unfamiliar problem of inflation (now at 40-year highs)

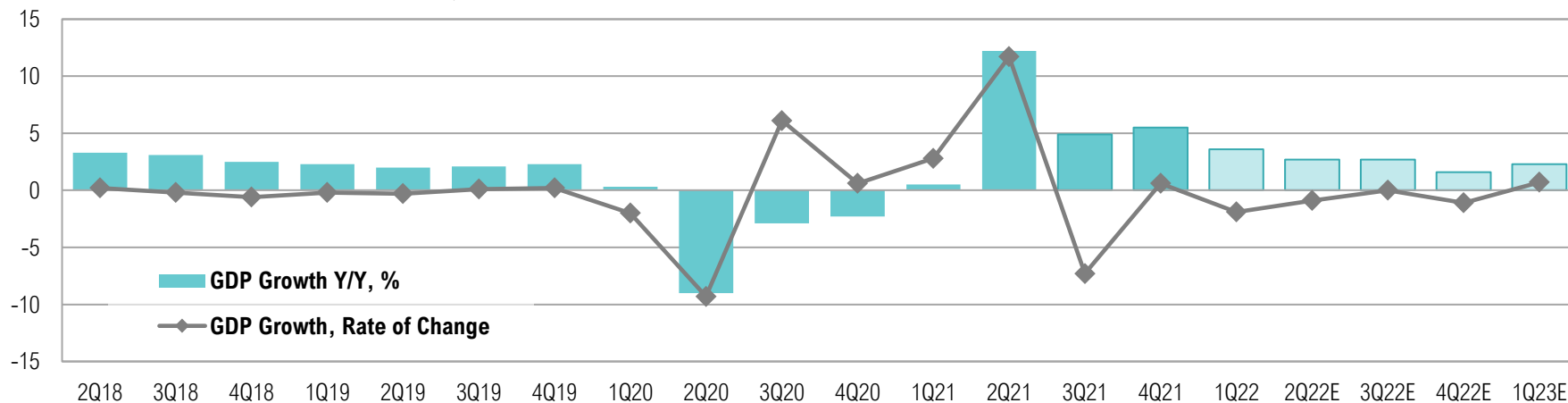
U.S. INFLATION MEASURES Y/Y: CPI, CORE CPI, PCE, CORE PCE, 1960 - CURRENT



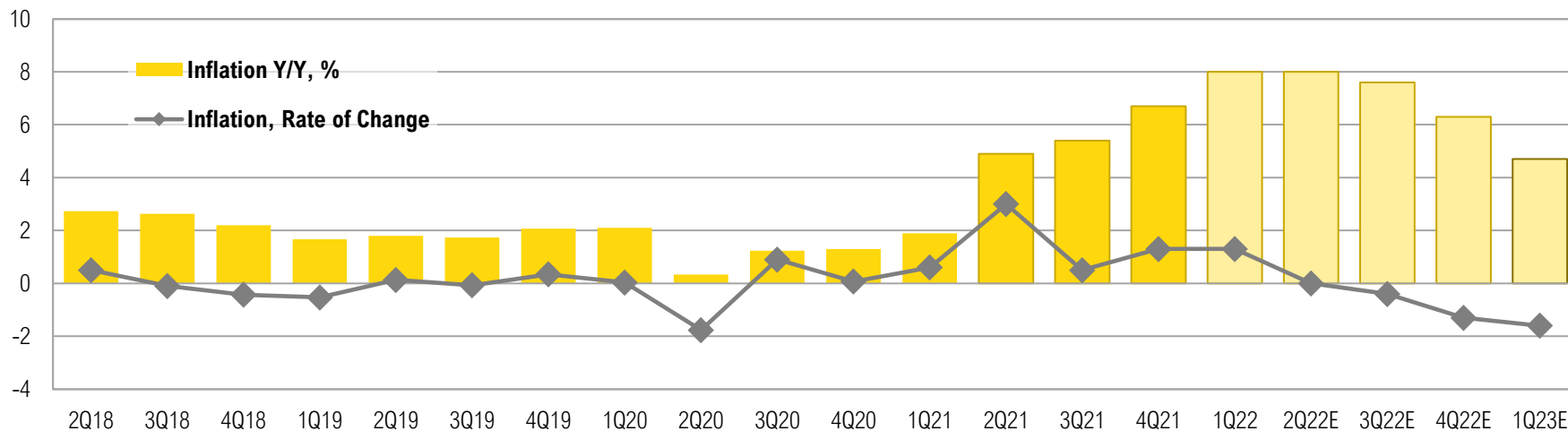
Source: Bloomberg

Growth peaked in 4Q 2021, and while inflation surprised higher in May, it should start to decelerate, but remain elevated, for the rest of the year

GDP GROWTH LEVELS & RATE OF CHANGE, Y/Y %



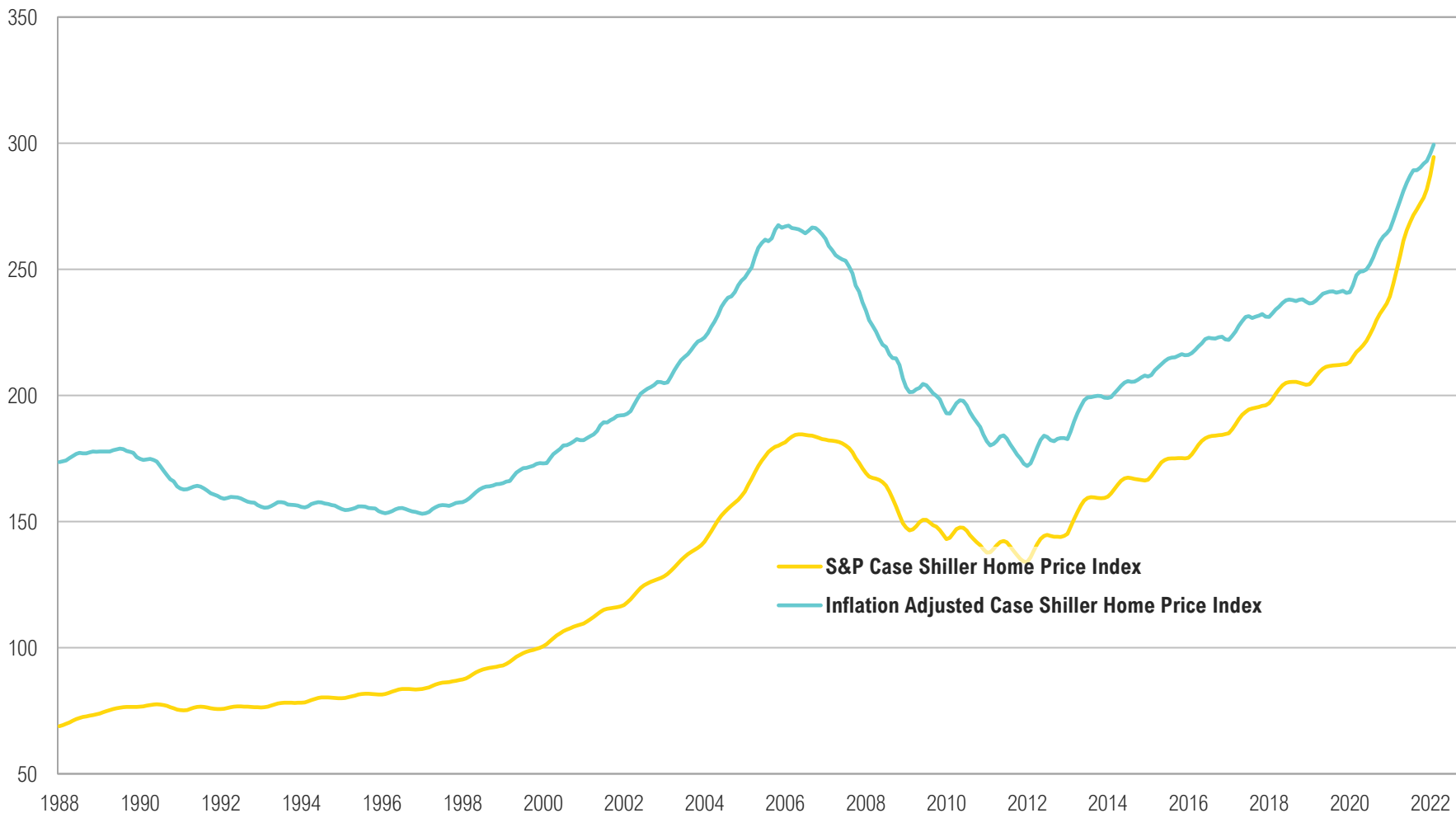
INFLATION LEVELS & RATE OF CHANGE, Y/Y %



Source: SpringTide calculations, Bloomberg estimates

➤ House prices continued to make new nominal highs, surpassed the peak of 2006 on an inflation-adjusted basis; will likely cool on higher mortgage rates

S&P 500 CASE-SHILLER HOUSING PRICE INDEX* VS. INFLATION-ADJUSTED INDEX IN CURRENT DOLLARS

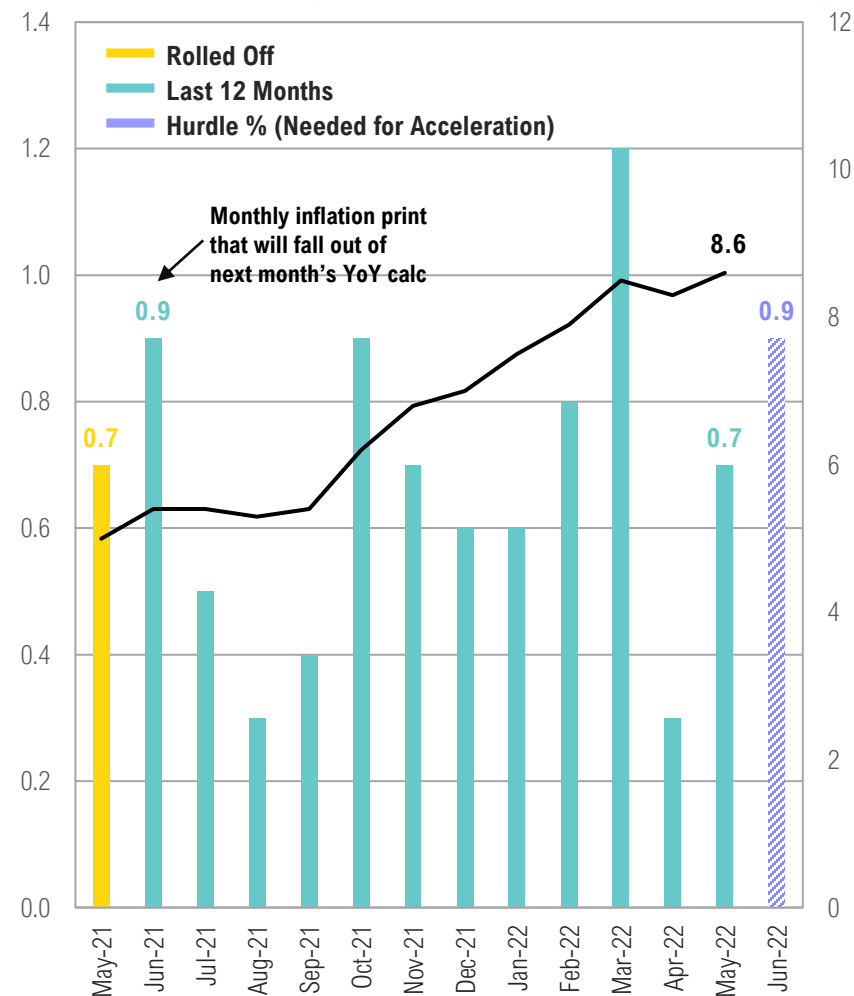


Source: Bloomberg

➤ For inflation to moderate in June, MoM CPI change only needs to be lower than 0.9% for CPI and below 0.8% for PPI

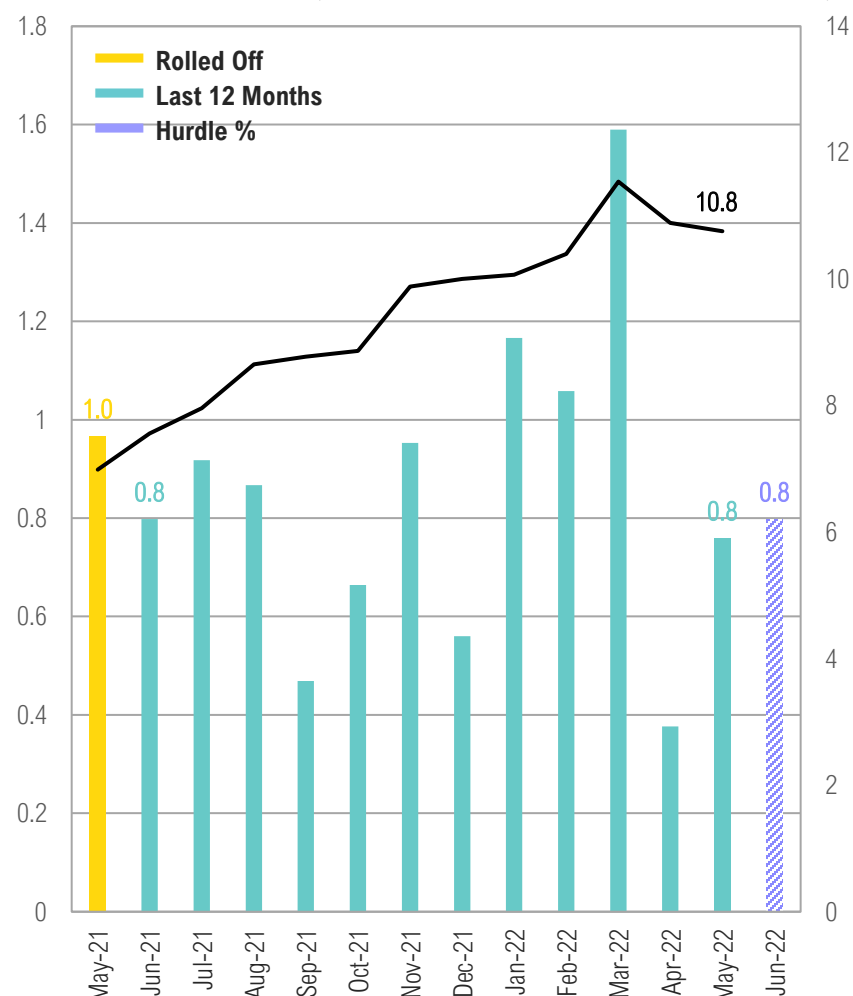
MONTH-OVER-MONTH CPI, %

YEAR-OVER-YEAR CPI, %



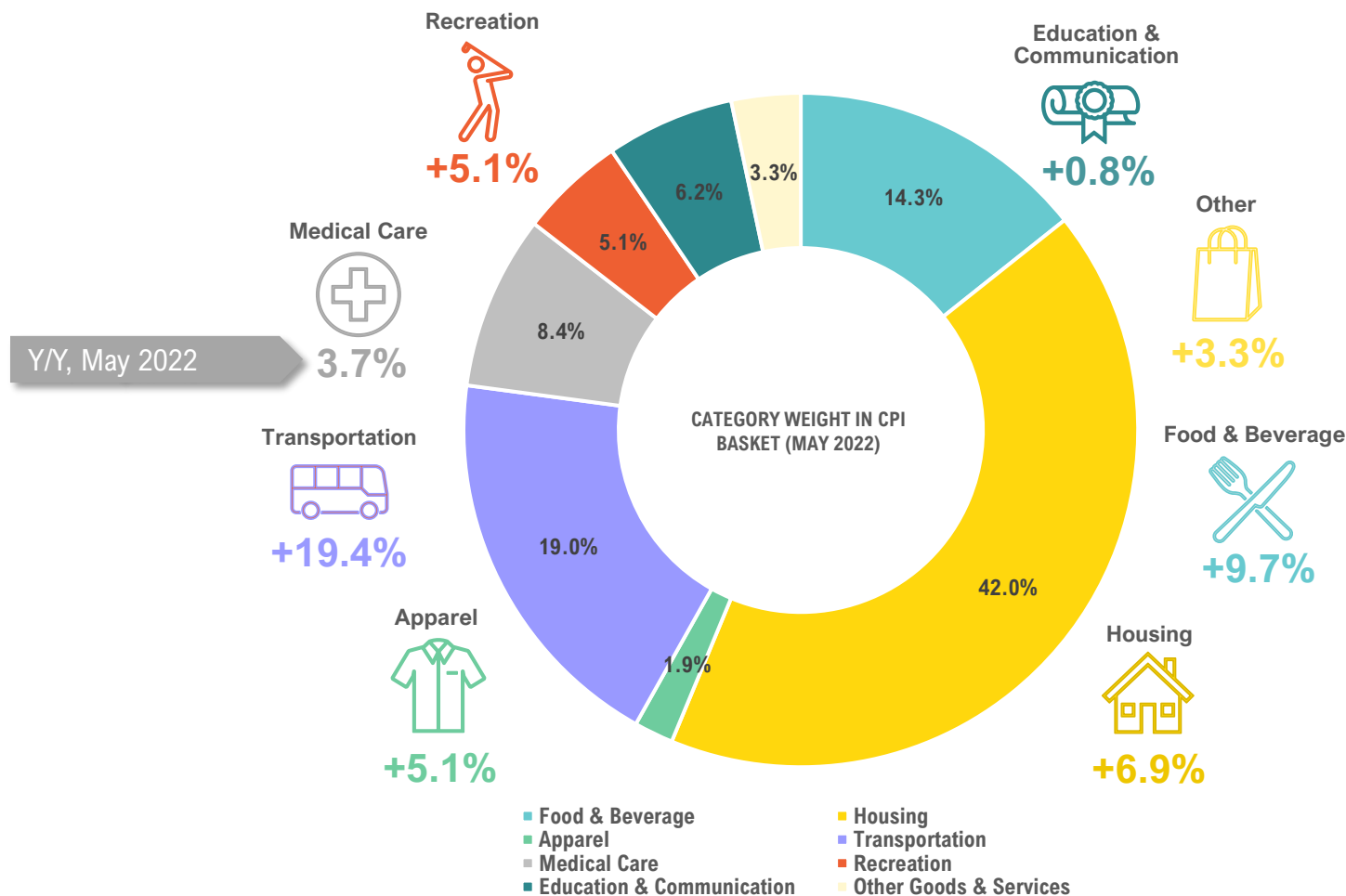
MONTH-OVER-MONTH PPI, %

YEAR-OVER-YEAR PPI, %



Source: Bloomberg

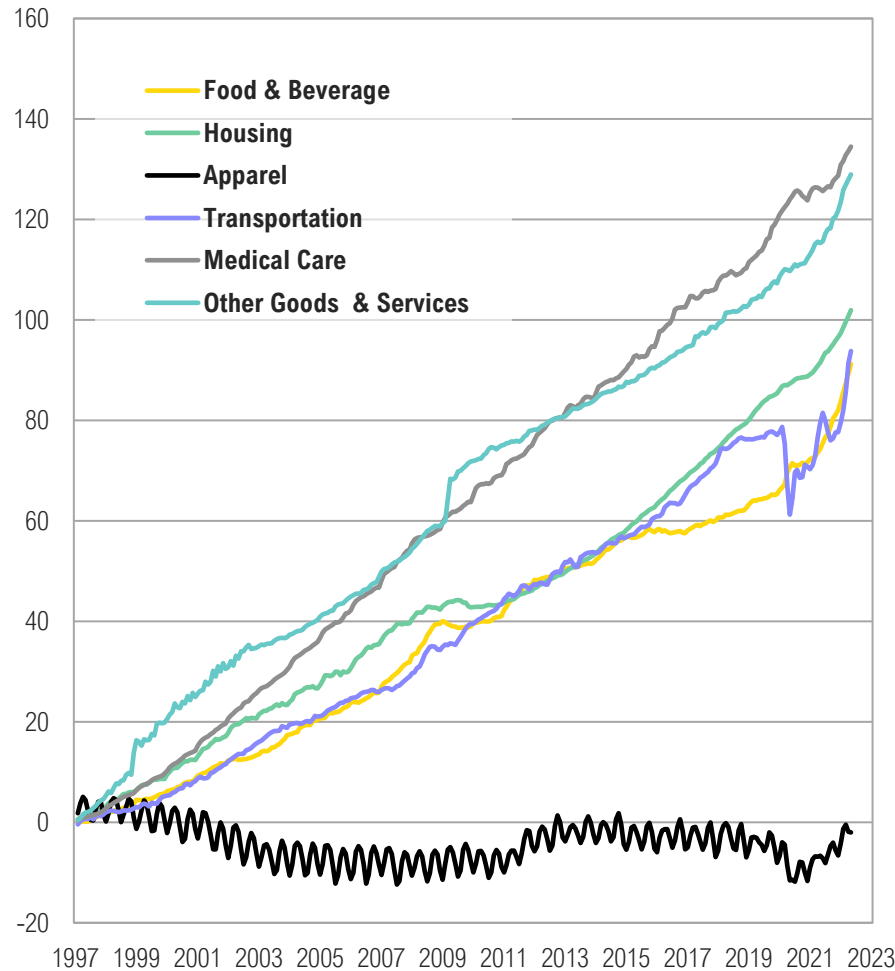
➤ CPI rose 8.6% Y/Y, above consensus estimates, marking a new 40-year high; Food, electricity, and shelter were the largest contributors in May

CPI COMPONENT CATEGORIES, WEIGHTS, & Y/Y CHANGE¹

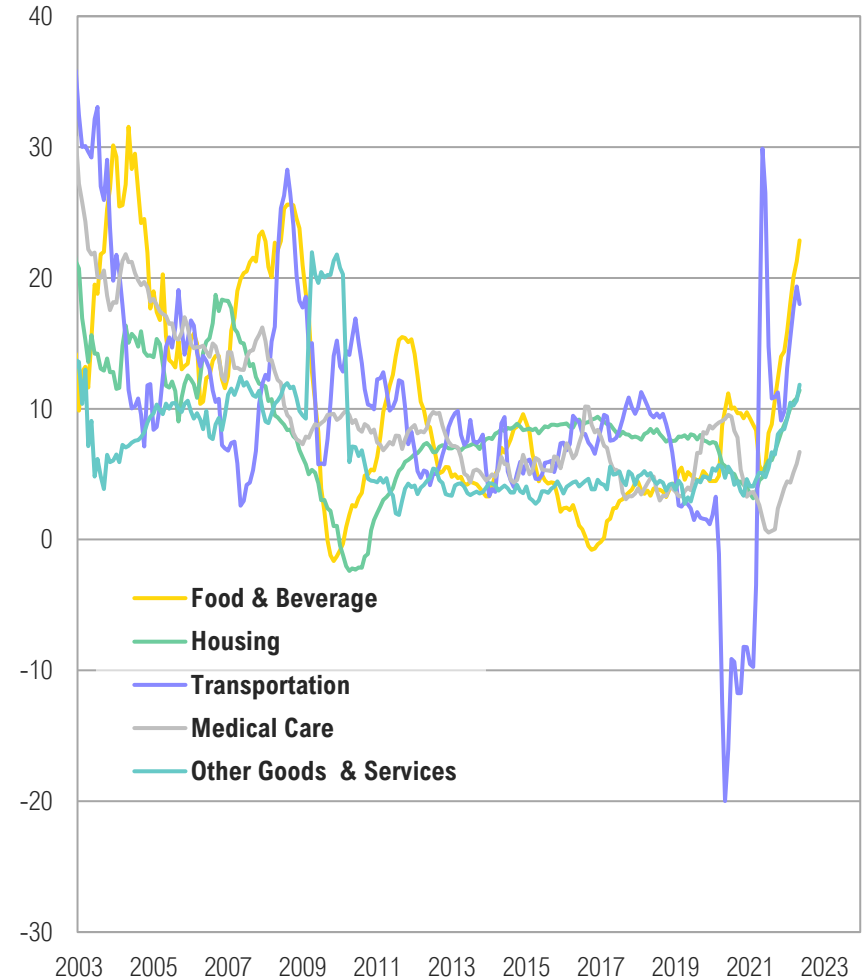
Source: BLS: <https://www.bls.gov/news.release/cpi.t03.htm>. ¹ Transportation proxied by Transportation Services sub-component; Housing by Shelter; Food & Beverage by Food in CPI Table 1: Expenditure by category, Other estimated based on residual components.

➤ Inflation across categories is mixed, but undeniably broadening out

CONSUMER PRICE INDEX: SELECT CATEGORY PRICE GROWTH



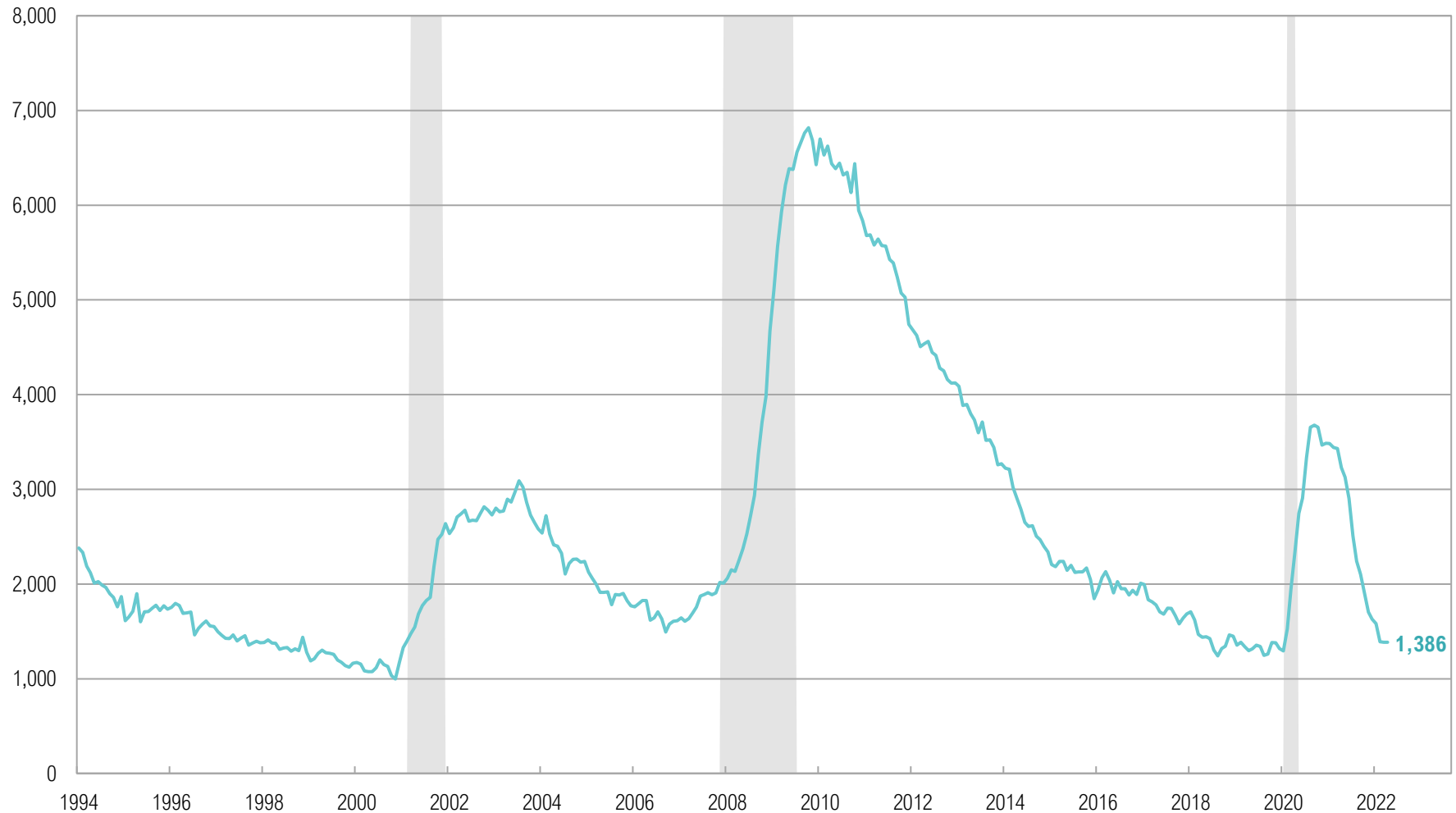
CONSUMER PRICE INDEX: Y/Y CHANGE FOR SELECT CATEGORIES



Source: Bloomberg

➤ The labor market—a trailing indicator—is healthy with permanent job losses approaching pre-pandemic levels

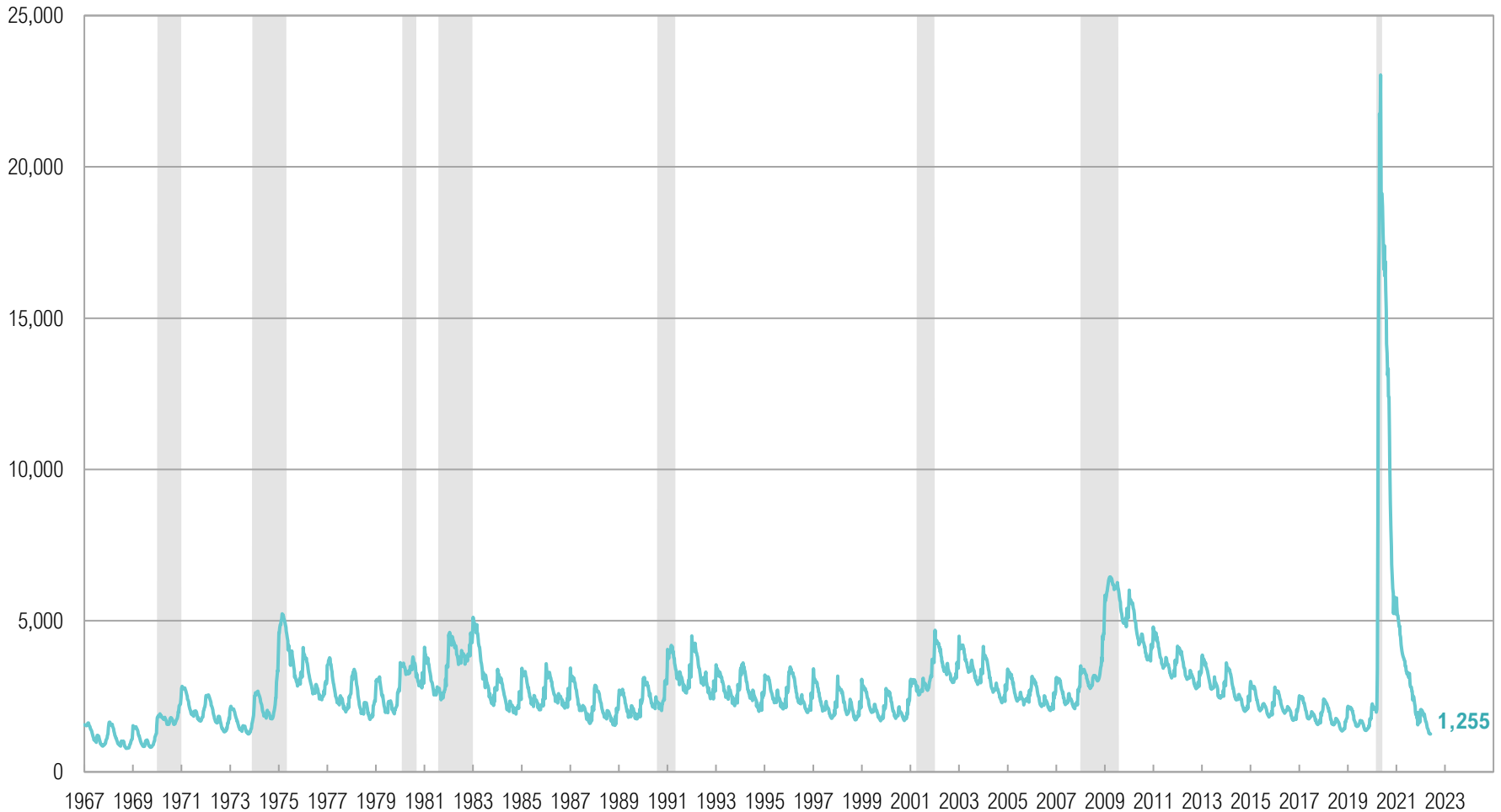
U.S. UNEMPLOYMENT: PERMANENT JOB LOSSES, 1994 - CURRENT



Source: Bloomberg

➤ The majority of pandemic assistance programs expired in September 2021; Continuing jobless claims have now dropped to below pre-covid levels

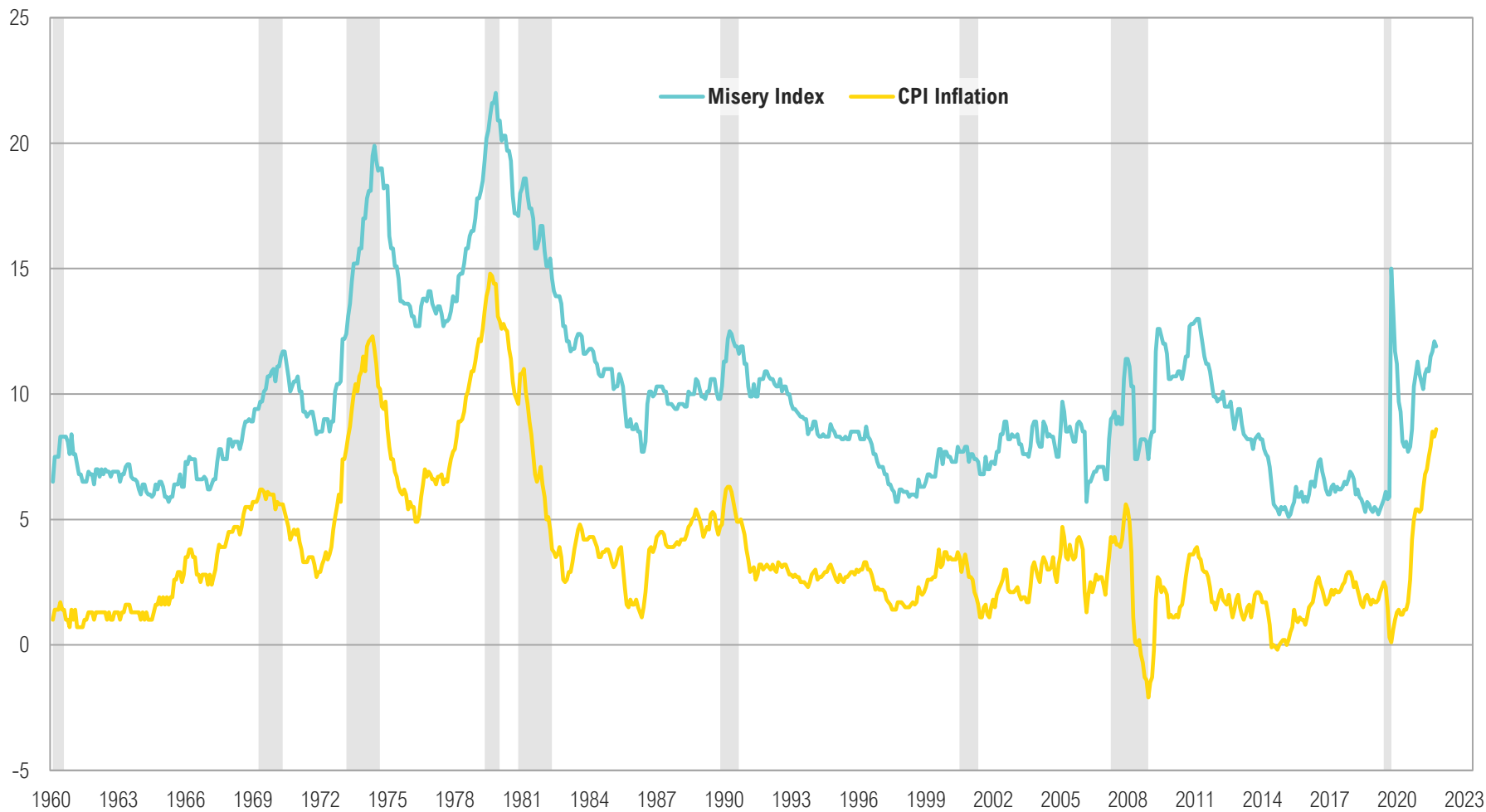
U.S. CONTINUING JOBLESS CLAIMS (NSA), '000



Source: Bloomberg

Misery index (inflation + unemployment) has continued to rise as inflation moves higher, highlighting the risk of stagflation

U.S. MISERY INDEX VS. CPI INFLATION Y/Y

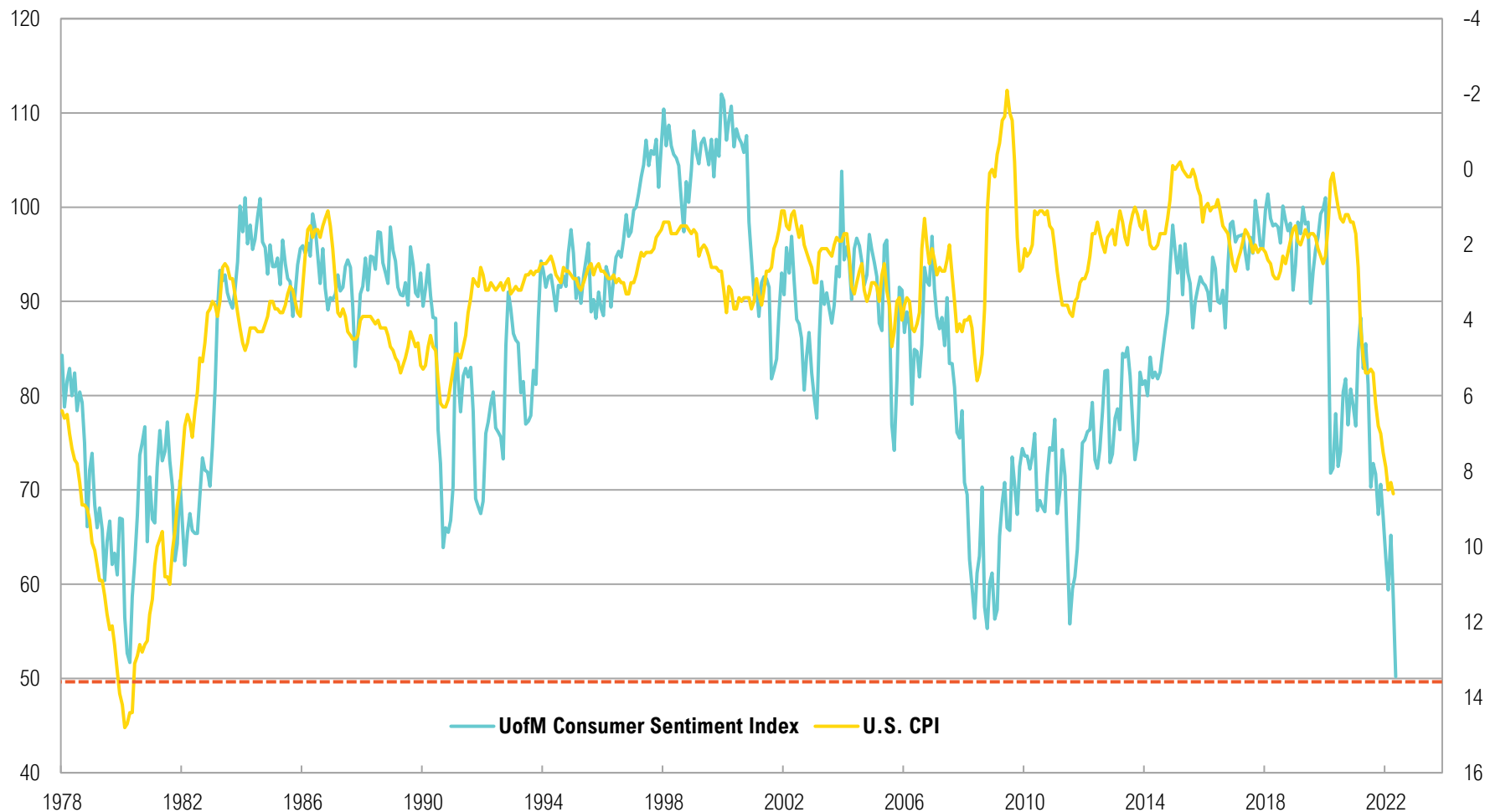


Source: Bloomberg

➤ Consumer sentiment is now lower than at any point ever recorded, including during the Global Financial Crisis

UNIVERSITY OF MICHIGAN CONSUMER SENTIMENT INDEX

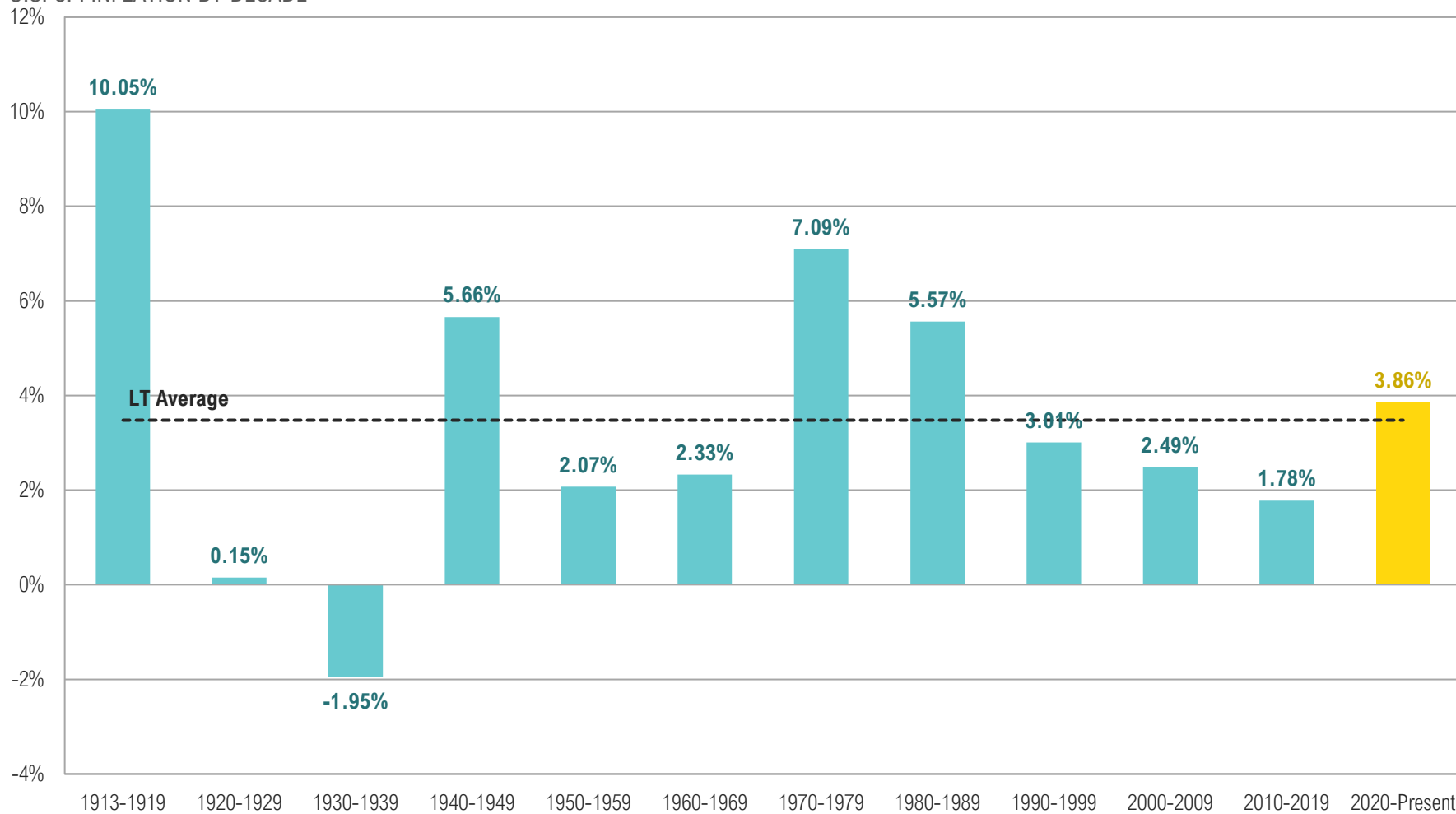
U.S. CPI Y/Y (INVERTED), %



Source: Bloomberg. UofM Consumer Sentiment Index data for June is preliminary.

The foundation for the current policy mistake (too much accommodation), was two decades of the Fed missing their 2% inflation goal

U.S. CPI INFLATION BY DECADE*



Source: Bloomberg

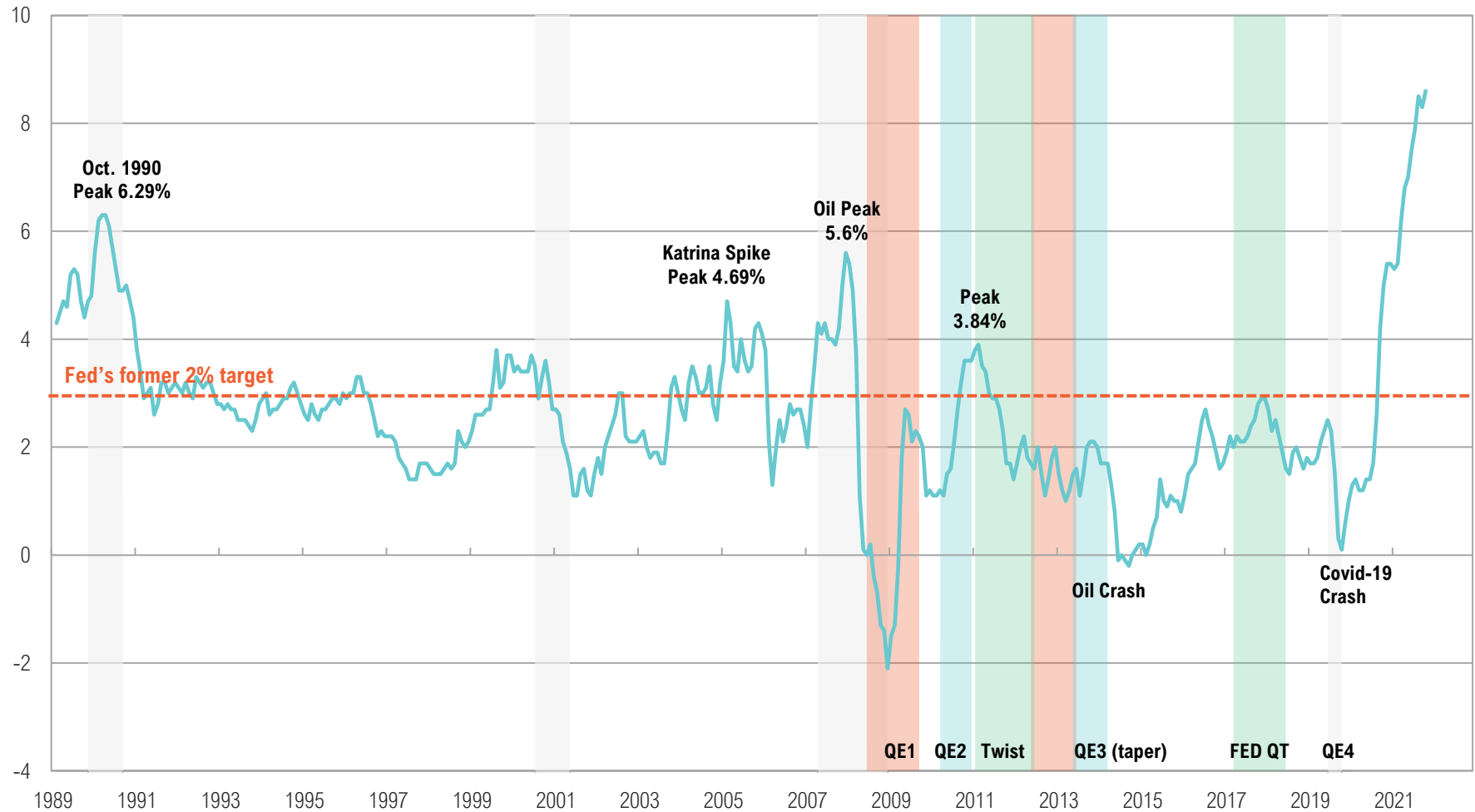
*Averages are arithmetic

U.S. Inflation Trends

SEE IMPORTANT DISCLOSURES AT THE END OF THIS PRESENTATION

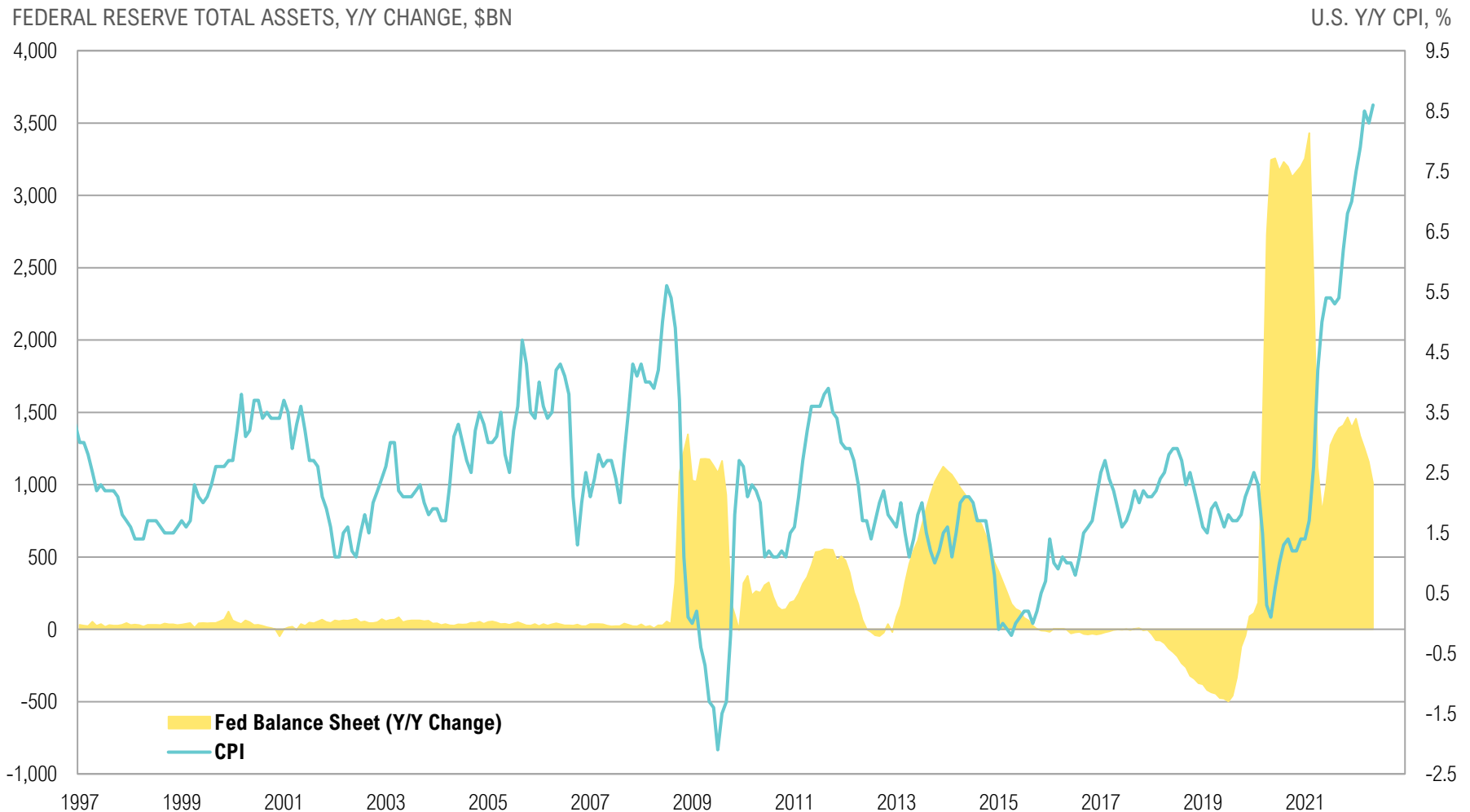
➤ Overly accommodative monetary/fiscal policy, pandemic lockdowns and other supply chain issues have all pushed inflation to a 40-year high

U.S. CONSUMER PRICE INDEX (CPI) & FED PROGRAMS



Source: Bloomberg

➤ The combination of adding financial stability to its mandate, the pandemic, and the employment backdrop also caused the Fed to overreact



Source: Bloomberg

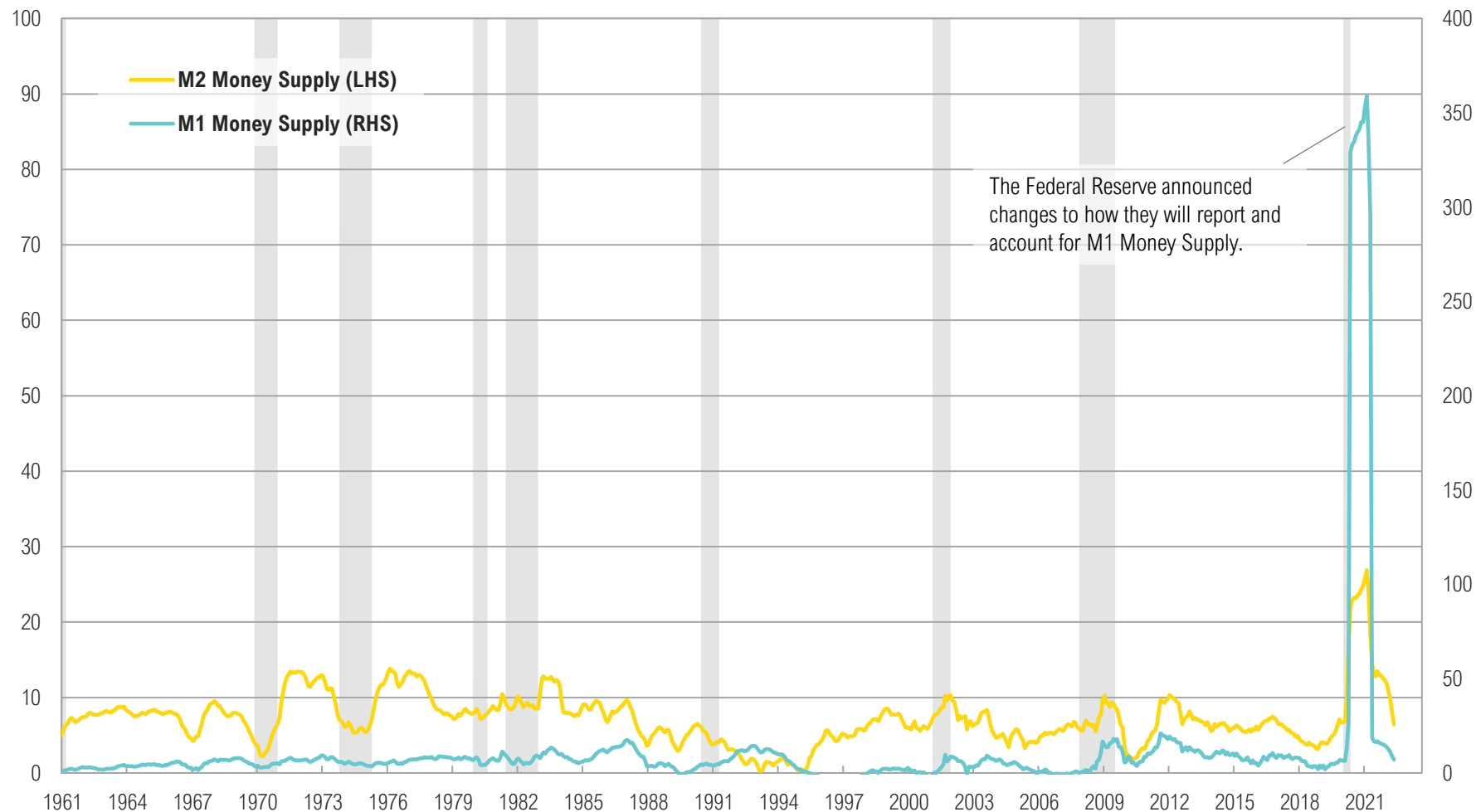
U.S. Inflation Trends

SEE IMPORTANT DISCLOSURES AT THE END OF THIS PRESENTATION

M2 money supply jumped as a result of fiscal response to pandemic, peaking at almost 30% year-over-year in 1Q21, collapsing lower now

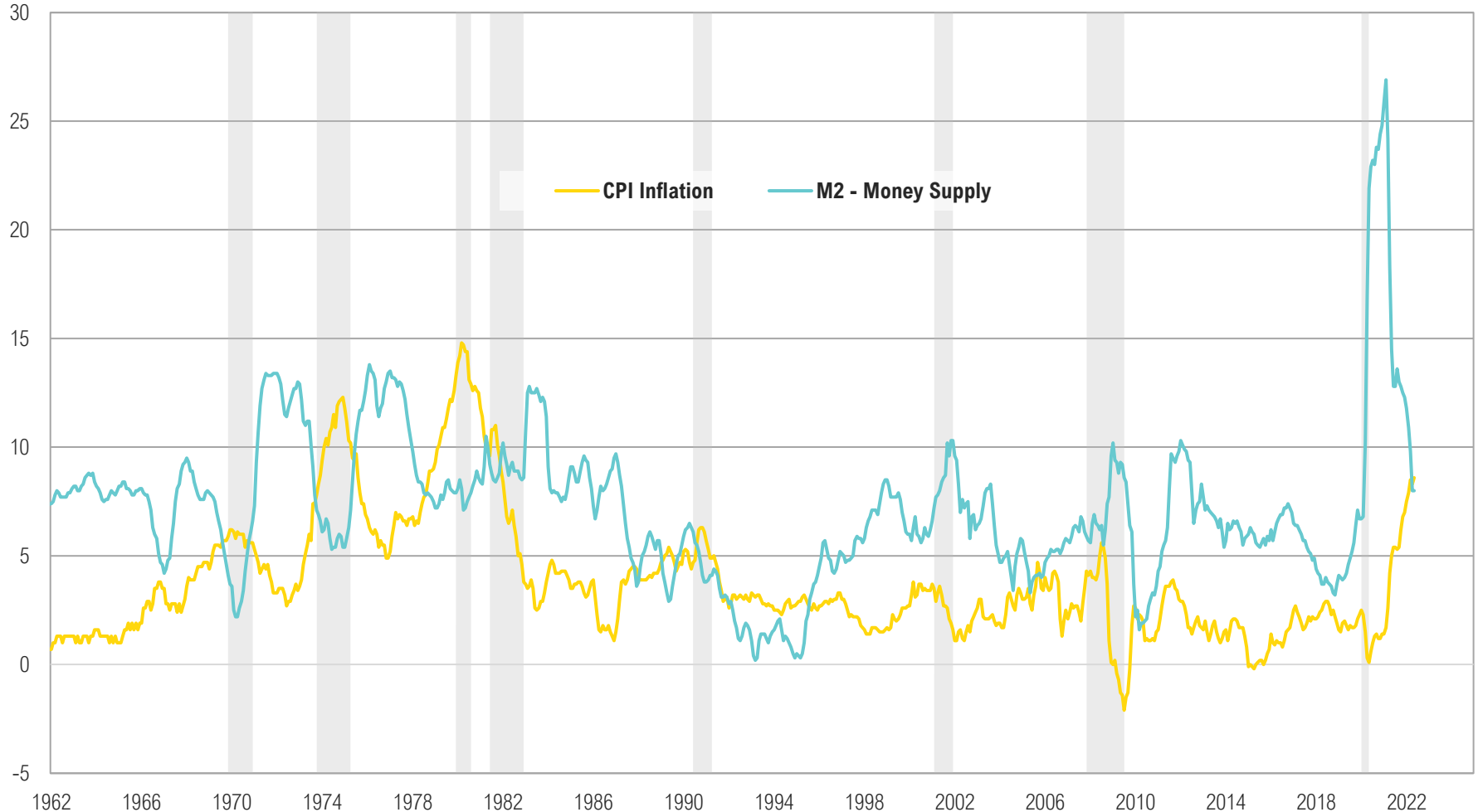
M2 MONEY SUPPLY Y/Y %

M1 MONEY SUPPLY Y/Y %

Source: Bloomberg, FRED: <https://www.federalreserve.gov/feeds/h6.html>

Fed may have less ability to curtail inflation as there are now additional factors outside of their control (Russia/Ukraine, energy crisis, China lockdowns, etc.)

CPI INFLATION Y/Y VS. M2 MONEY SUPPLY Y/Y %

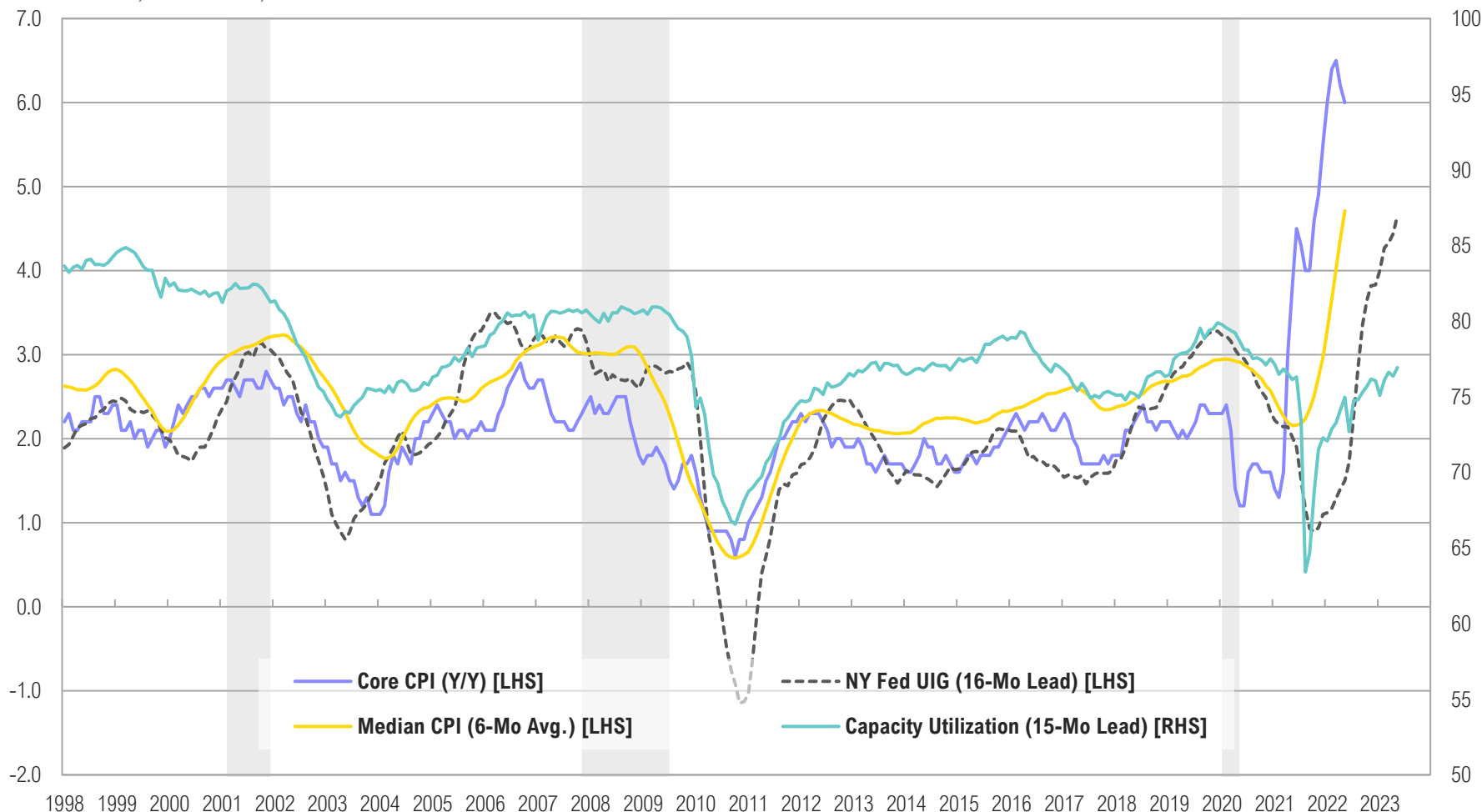


Source: Bloomberg

Forward indicators continue to suggest worryingly high inflation for some time, although Core CPI rolling over is a welcome sign

U.S. CORE CPI, MEDIAN CPI, NY FED UIG

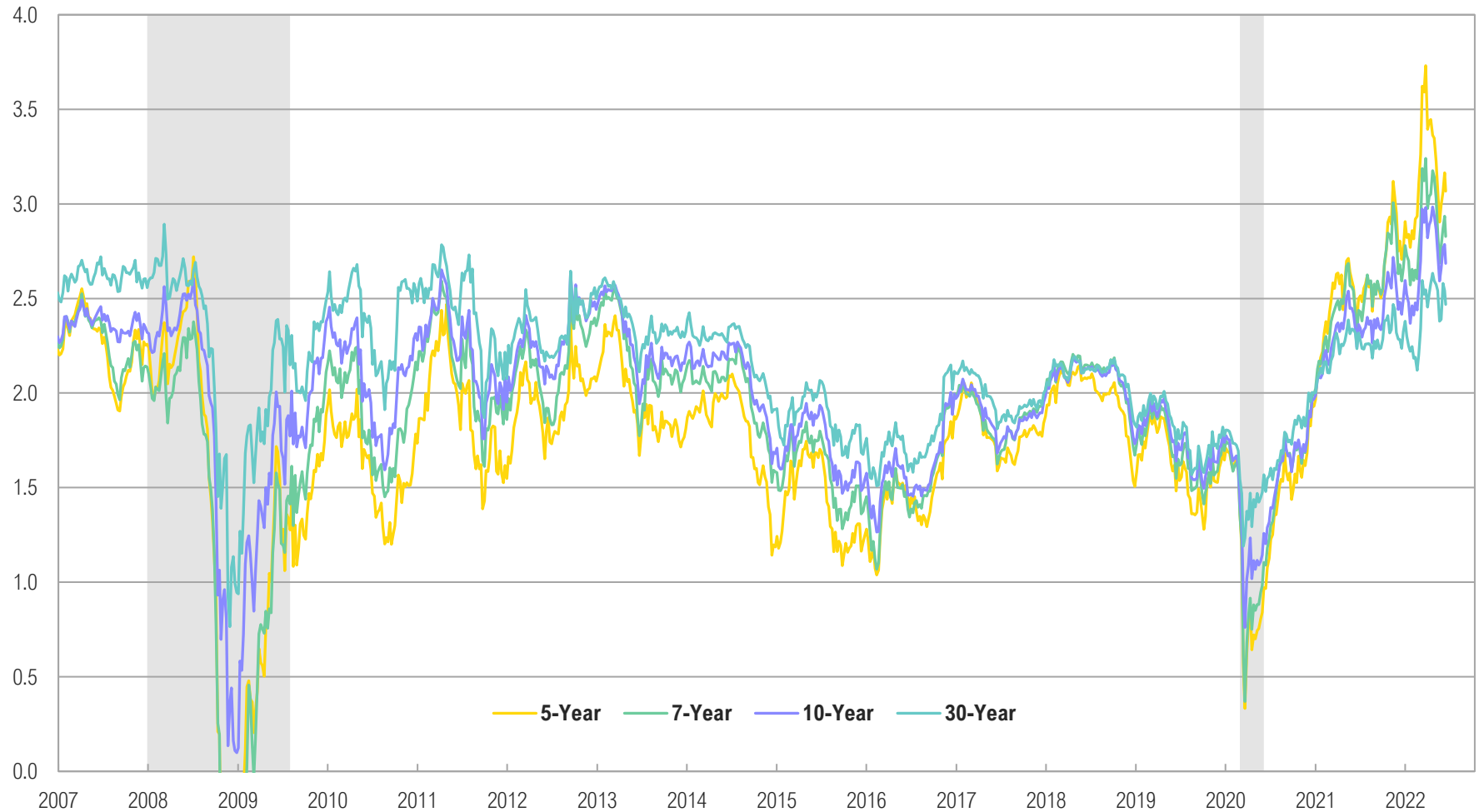
CAPACITY UTILIZATION %



Source: Bloomberg

➤ Market-implied inflation expectations have spiked and remain elevated after correctly predicting inflation would *not* be transitory

TREASURY IMPLIED INFLATION BREAKEVEN RATES

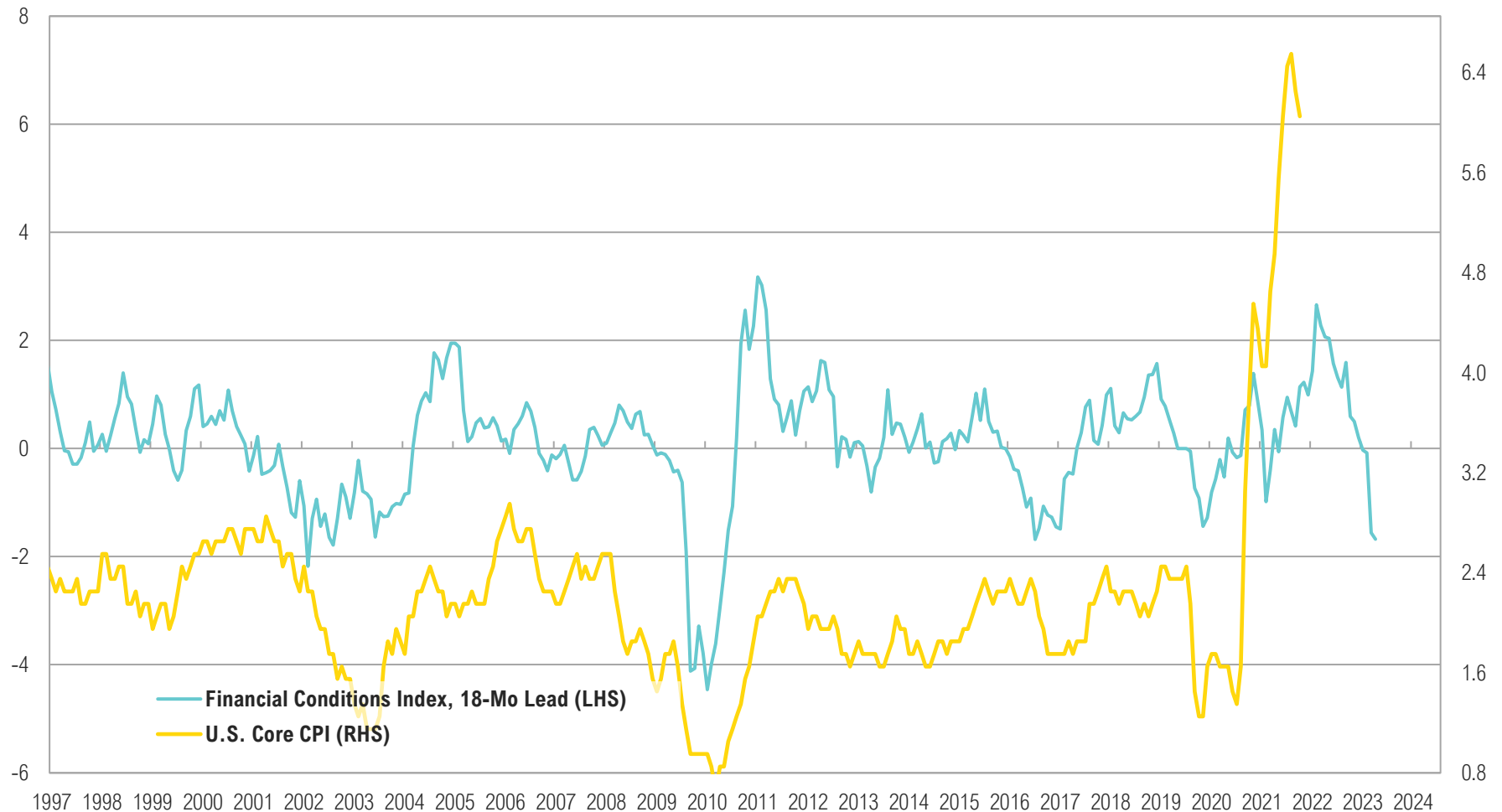


Source: Bloomberg

➤ The “good” news for inflation is bad news for risky assets; if financial conditions continue to tighten, growth may slow down enough to stem inflation

FINANCIAL CONDITIONS INDEX Y/Y

U.S. CORE CPI Y/Y %

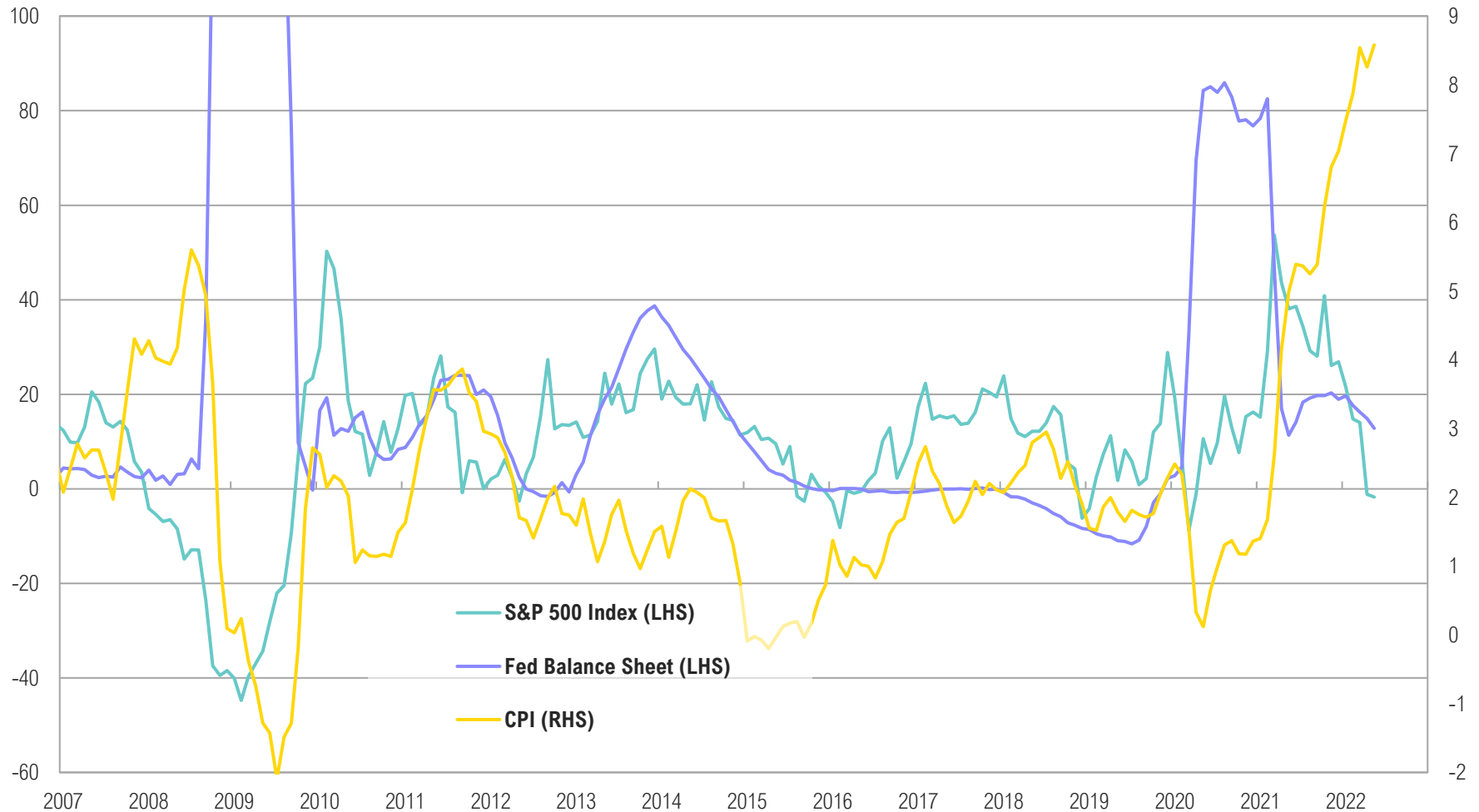


Source: Bloomberg

Equities have generally responded favorably to increases in Fed balance sheet and moderate inflation, but inflation has moved beyond “moderate”

BALANCE SHEET & S&P 500 INDEX Y/Y, %

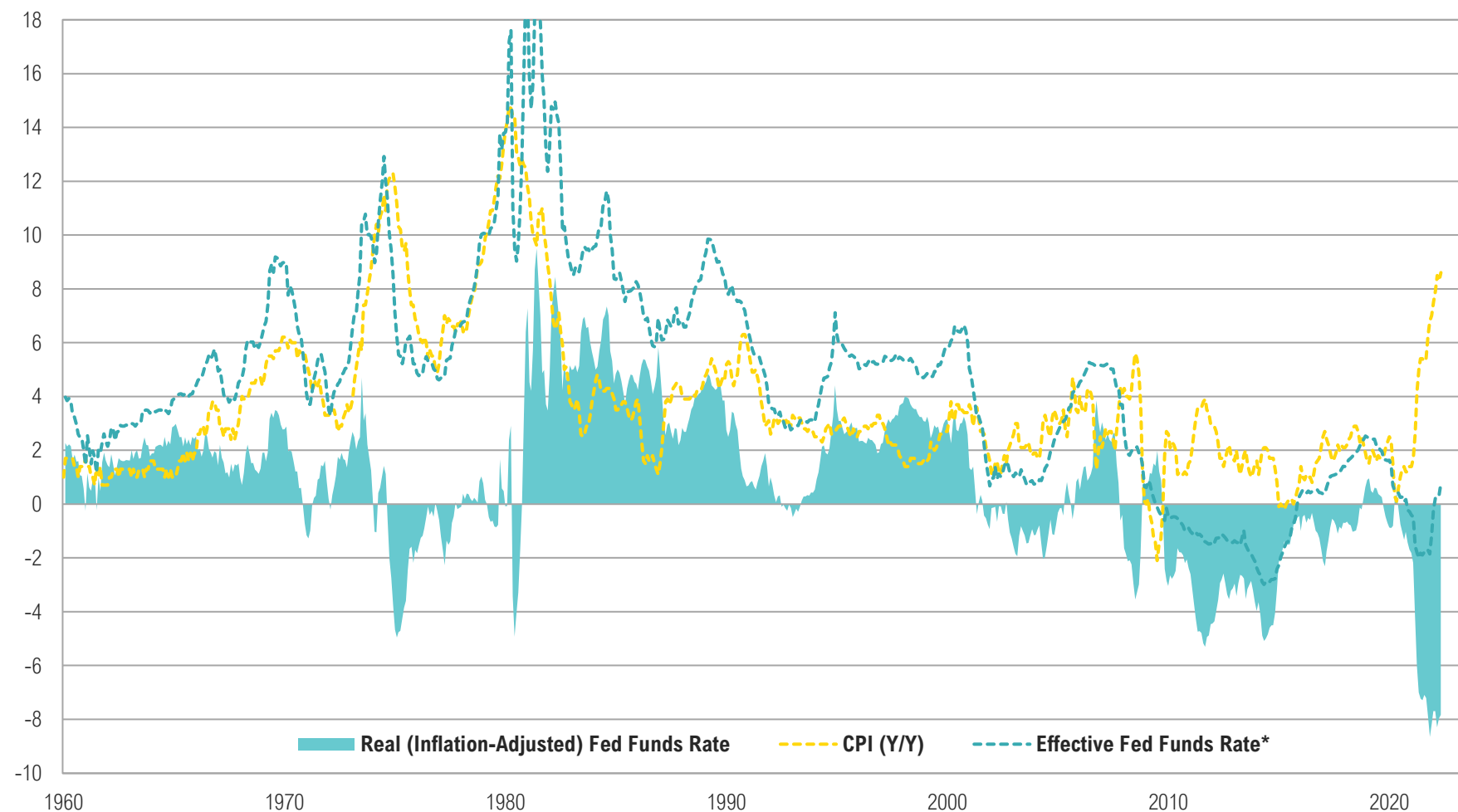
CPI Y/Y, %



Source: Bloomberg

➤ The Fed has fallen so far behind the curve that unless inflation rolls over, they will be forced to continue to hike into an economic slowdown, likely recession

CPI & EFFECTIVE FUNDS RATE, %



Source: Atlanta & St. Louis Fed.

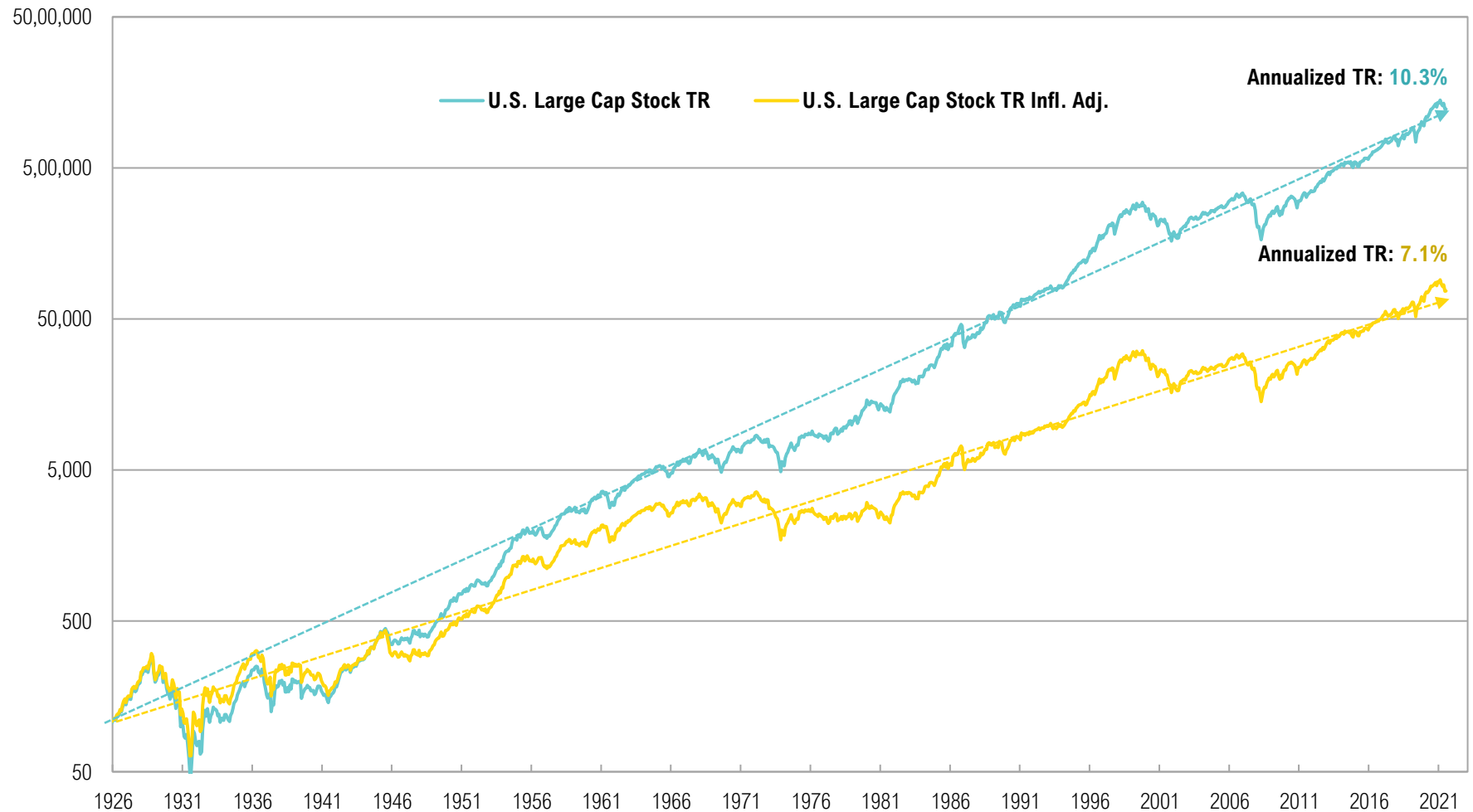
*Effective Fed Funds Rate represents Wu-Xia Shadow Federal Funds Rate during periods of quantitative easing

U.S. Inflation Trends

SEE IMPORTANT DISCLOSURES AT THE END OF THIS PRESENTATION

Periods of high inflation have substantially eroded real returns for investors

U.S. LARGE CAP STOCK NOMINAL VS. REAL TOTAL RETURN GROWTH OF 100, LOG SCALE



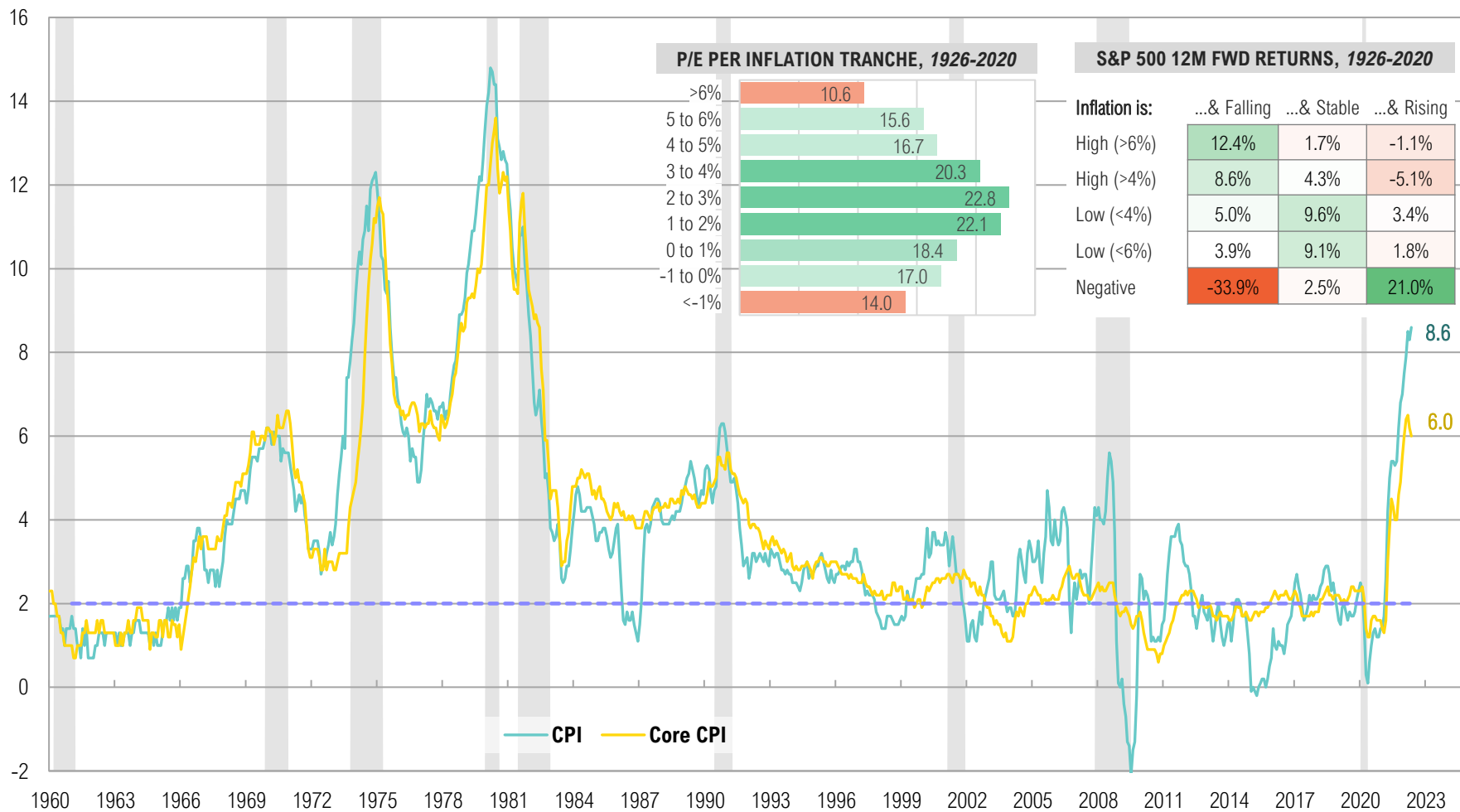
Source: Bloomberg
U.S. Large Cap Stock is represented by the Ibbotson Associates (IA) SBBI US Large Cap Stock Index.

U.S. Inflation Trends

SEE IMPORTANT DISCLOSURES AT THE END OF THIS PRESENTATION

Historically, inflation has been a significant issue for the stock market when it is above 4%, even more so when above 6%

CPI & CORE CPI % Y/Y



Source: Bloomberg, SpringTide calculations. S&P 500 returns are price returns. P/E is Shiller/CAPE price-to-earnings ratio.

We believe the multi-decade trend favoring deflation over inflation assets has turned and will revert, *in fits and starts*, in the coming years

INFLATION ASSETS VS. DEFATION ASSETS GROWTH OF 100

20,100

18,100

16,100

14,100

12,100

10,100

8,100

6,100

4,100

2,100

100

ASSET CLASS PERFORMANCE DURING INFLATION TRANCHES*

Inflation Range (CPI, Y/Y %)	<1%	1 to 2%	2 to 3%	3 to 4%	4 to 5%	>5%
Deflation Assets	2.8	13.4	14.0	10.5	6.3	0.8
U.S. Consumer Discretionary	2.7	19.7	15.0	8.1	-2.8	-13.1
U.S. HY Bonds	-0.8	10.4	12.5	10.3	5.7	-2.0
U.S. Tech	4.2	18.3	23.2	10.5	1.0	-1.7
Growth	0.0	17.3	16.7	11.7	10.6	5.9
U.S. Large Cap Stocks	4.5	14.3	16.0	12.2	12.9	4.6
U.S. Corporate Bonds	4.4	8.5	8.7	11.6	8.4	5.1
U.S. Government Bonds	4.7	5.7	5.6	9.1	8.5	6.4
Inflation Assets	-9.0	6.8	11.9	13.0	8.5	5.2
Intl Dev Large Cap Stocks	-11.0	13.3	13.2	16.4	12.6	5.4
Value	-7.7	12.1	15.1	12.6	11.1	7.9
Cash	1.3	2.4	3.5	4.9	6.4	7.9
Gold	4.0	5.2	6.8	11.1	5.6	21.0
Commodities	-26.1	-4.6	9.1	15.4	17.8	19.9
U.S. REITs	-7.7	12.8	16.6	16.9	0.6	-5.7
U.S. TIPS	1.4	4.7	6.9	7.8	7.1	11.9
U.S. Banks	-13.6	13.2	21.8	11.2	-4.4	-30.6
U.S. Energy	-21.2	2.6	14.4	20.3	20.0	8.8

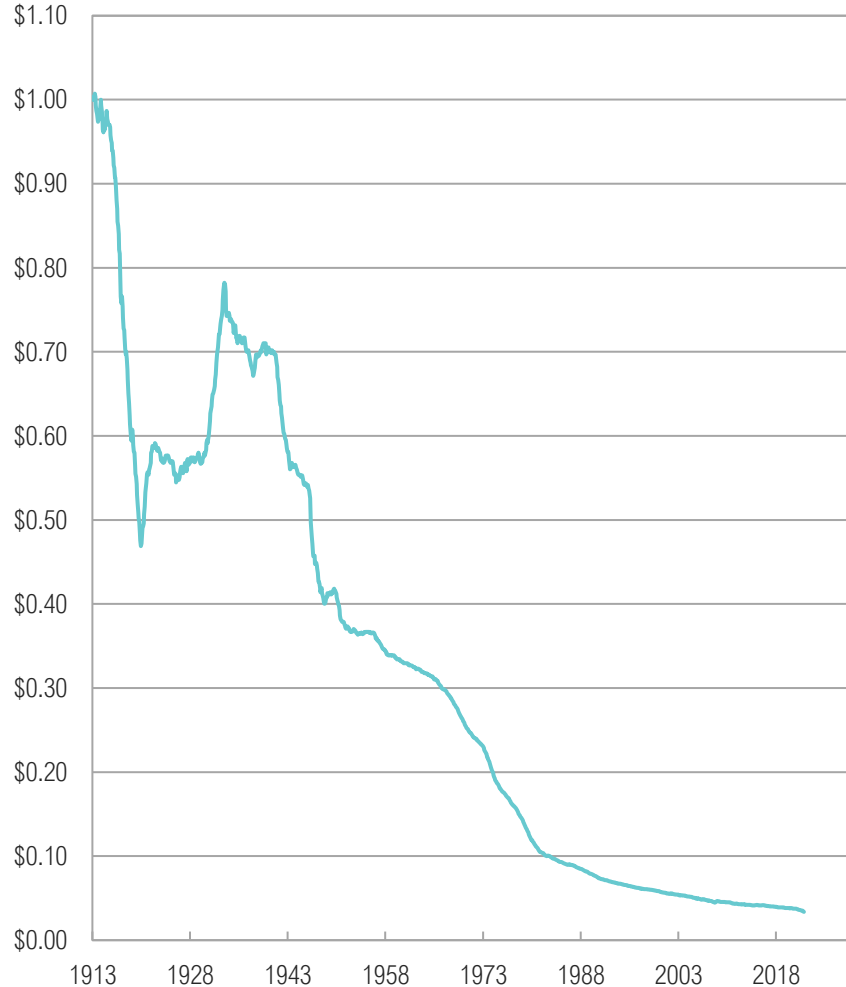
This table represents the average 12-month performance of each asset class at various levels of inflation (CPI, Y/Y %). Deflation Assets and Inflation Assets in this table are a simple average of the underlying asset classes. *The data is from 12/31/1960 through 12/31/2020.

— Deflation Assets — Inflation Assets

Source: Bloomberg. Performance for Deflation Assets represented by the following total return indices (equal weighted): U.S. IG Bonds = Bloomberg U.S. Corporate Bond TR Index; Government Bonds = IA S&P U.S. Govt TR Index; U.S. Large Cap Stocks = IA S&P U.S. Large Stock TR Index/S&P 500 TR Index; Growth Stocks = MSCI USA Growth NR Index; Consumer Discretionary Stocks = S&P 500 Consumer Discretionary TR Index; Tech Stocks = S&P 500 Information Technology TR Index. Performance for Inflation Assets represented by the following total return indices (equal weighted): TIPS = Bloomberg U.S. Treasury U.S. TIPS TR Index, Commodities = Bloomberg Commodity TR Index, Cash = IA S&P U.S. 30 Day Tbill TR Index, Gold = LBMA Gold Price AM Index, International Stocks = MSCI EAFE TR Index, Real Estate = MSCI U.S. REIT NR GR Index, Value Stocks = MSCI USA Value NR Index, Banks = S&P 500 Banks TR Index, Energy = S&P 500 Energy TR Index.

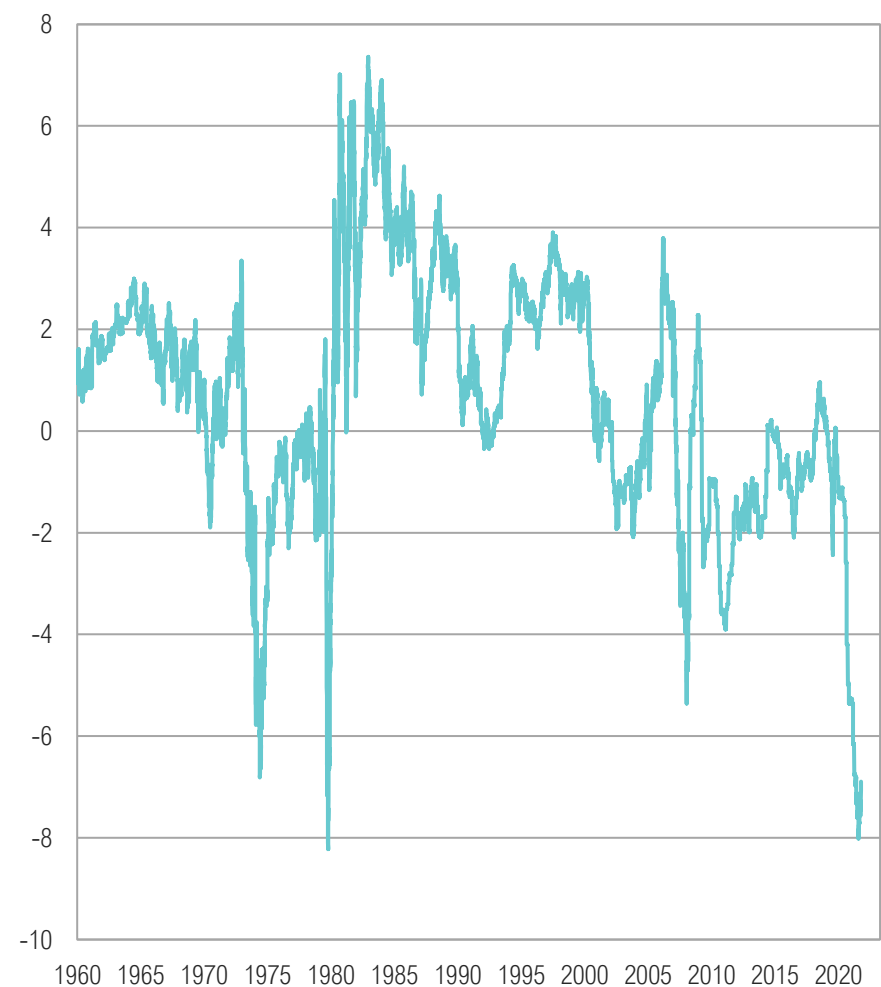
The extreme policy backdrop raised the risk of holding cash over the long term and created an epic incentive to take risk, which we are watching unwind

U.S. DOLLAR VALUE DEFLATED BY CPI



Source: Bloomberg

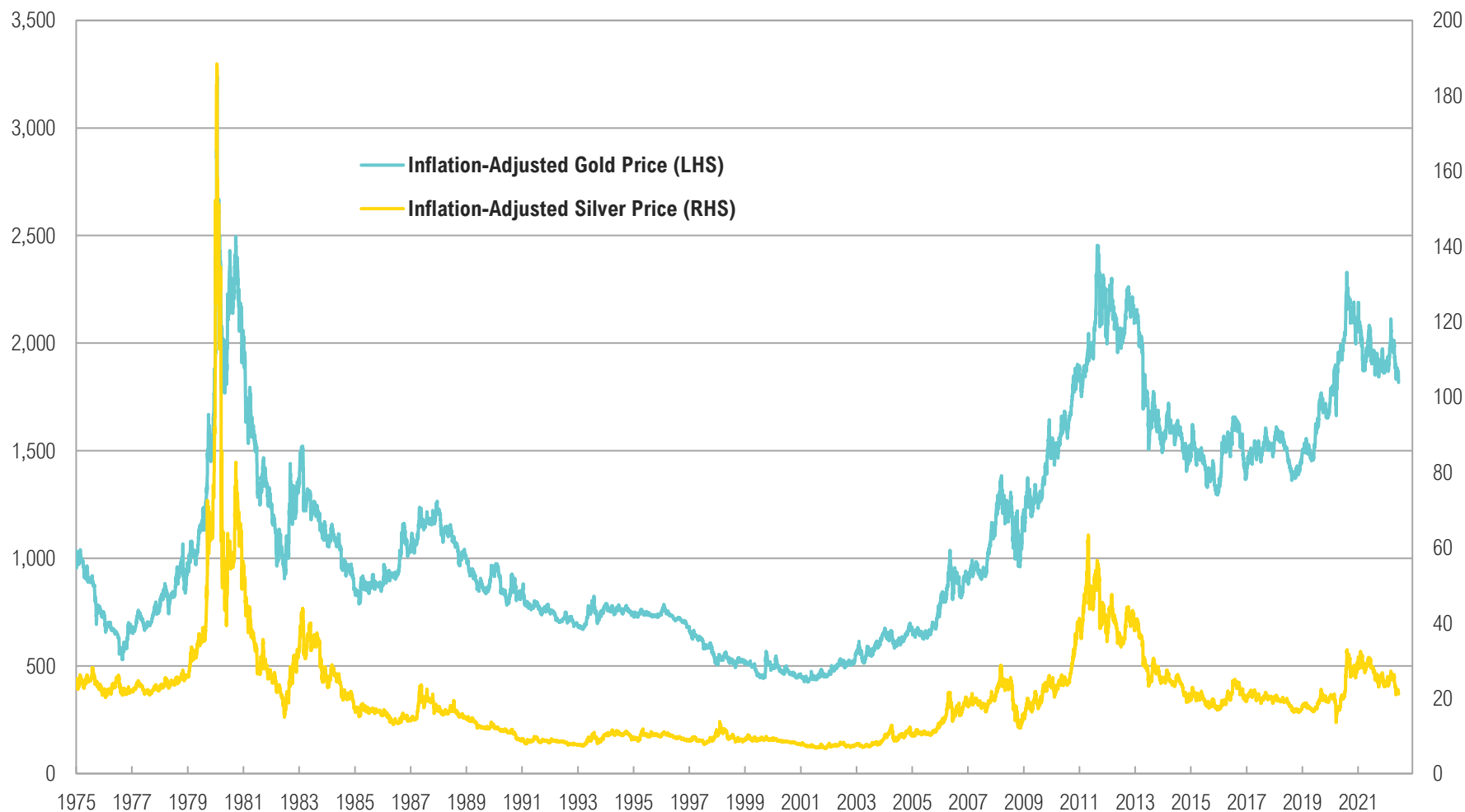
U.S. 3-MONTH REAL YIELD



Physical gold and silver still look attractive when adjusted for inflation

GOLD INFLATION-ADJUSTED PRICE \$/OZ

SILVER INFLATION-ADJUSTED PRICE \$/OZ

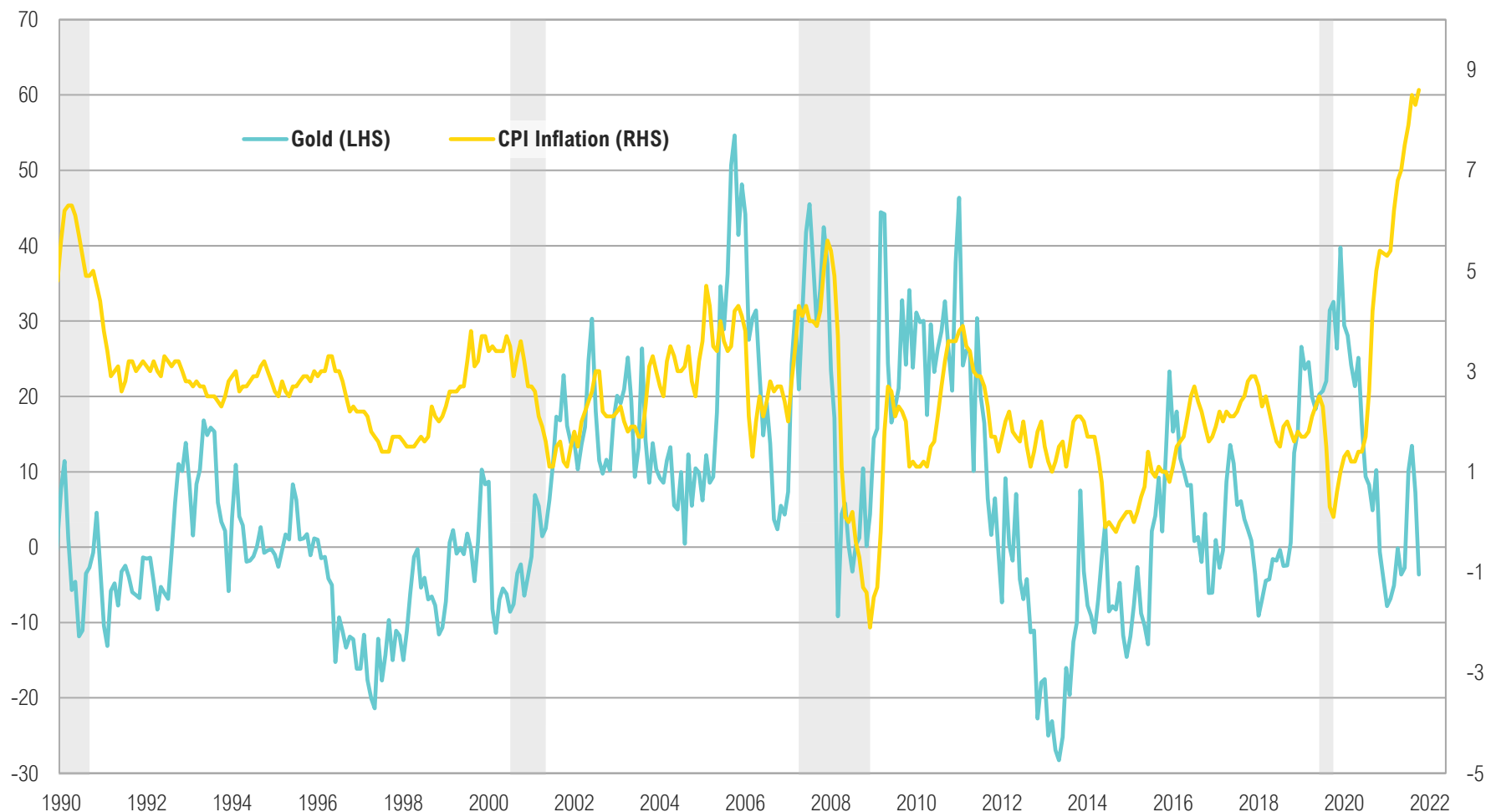


Source: Bloomberg

Gold has had a mixed relationship with inflation; the correlation between the two has been choppy since the start of the COVID-19 crisis

GOLD PRICE Y/Y %

CPI Y/Y %

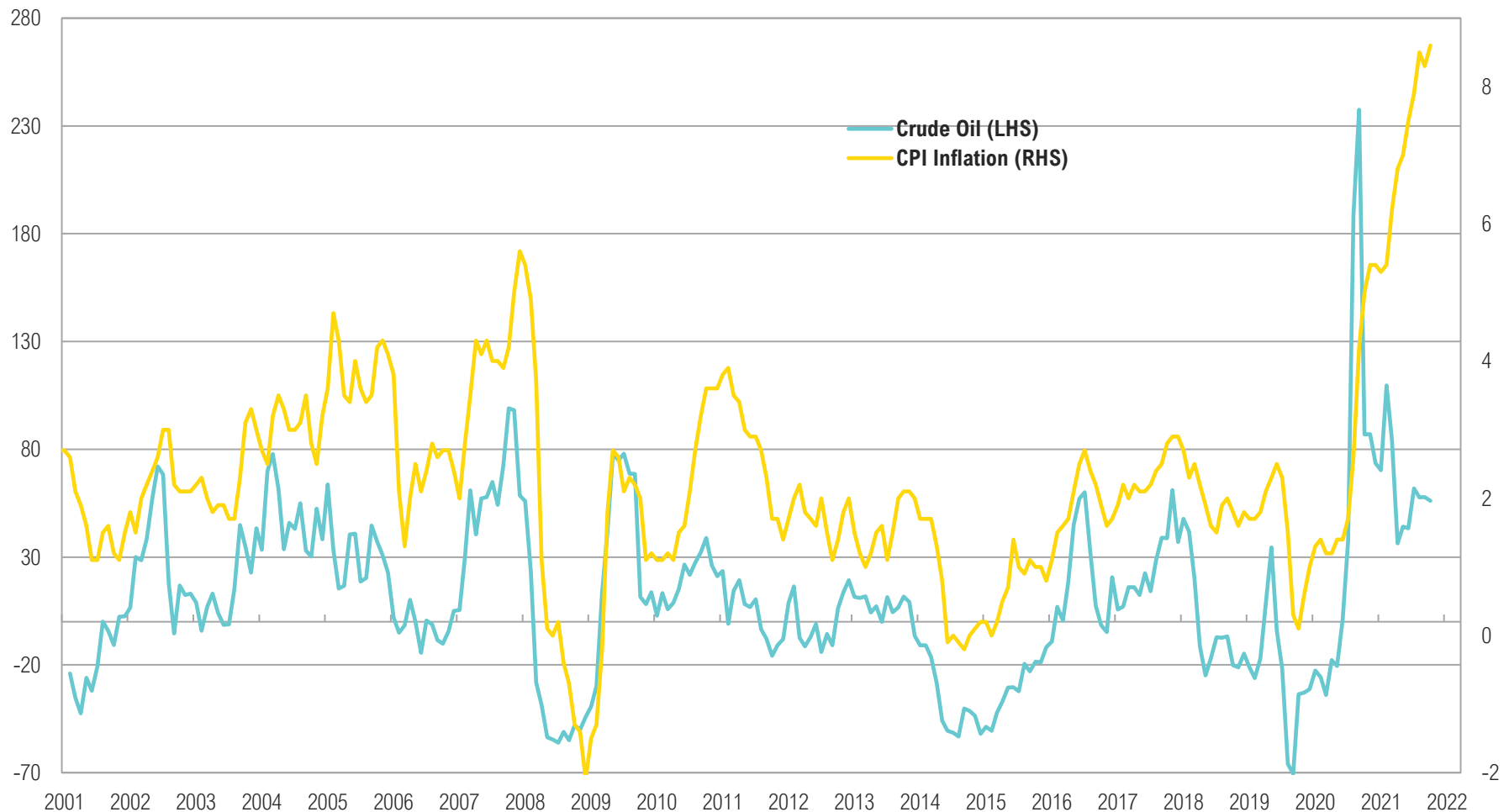


Source: Bloomberg

Crude oil and inflation have an extremely tight historical correlation for obvious reasons

WTI CRUDE OIL Y/Y %

CPI Y/Y %



Source: Bloomberg

APPENDIX: ASSET CLASS CORRELATIONS (10-YEAR)

Asset Class	U.S. Large Cap Stocks	U.S. Small & Micro Cap	Intl Dev Large Cap Stocks	Intl Dev Small & Micro Stocks	Emerging & Frontier Mkt Stocks	Global Stocks	Private Equity	Venture Capital	U.S. Interm-Term Muni Bonds	U.S. Short-Term Muni Bonds	U.S. High Yield Muni Bonds	U.S. Interm-Term Bonds	U.S. Short-Term Bonds	U.S. High Yield Bonds	U.S. Bank Loans	Intl Developed Bonds	Emerging & Frontier Mkt Bonds	Public BDCs	U.S. REITs	Ex U.S. Real Estate Securities	Private Real Estate	Commodity Futures	Midstream Energy	Gold	Long/Short Equity	Managed Futures	Relative Value	Closed-End Funds	Insurance-Linked Securities	Digital Assets	Cash/Ultra-Short Bonds	U.S. Inflation
U.S. Large Cap Stocks	1.00																															
U.S. Small & Micro Cap	0.89	1.00																														
Intl Dev Large Cap Stocks	0.86	0.78	1.00																													
Intl Dev Small & Micro Stocks	0.86	0.81	0.96	1.00																												
Emerging & Frontier Mkt Stocks	0.74	0.68	0.83	0.82	1.00																											
Global Stocks	0.96	0.87	0.96	0.94	0.86	1.00																										
Private Equity	0.24	0.24	0.24	0.26	0.39	0.28	1.00																									
Venture Capital	0.14	0.18	0.13	0.15	0.29	0.17	0.84	1.00																								
U.S. Interm-Term Muni Bonds	0.02	-0.04	0.10	0.13	0.15	0.07	0.02	0.04	1.00																							
U.S. Short-Term Muni Bonds	0.11	0.03	0.14	0.19	0.18	0.15	0.04	0.04	0.81	1.00																						
U.S. High Yield Muni Bonds	0.17	0.15	0.23	0.26	0.28	0.22	-0.02	0.00	0.76	0.55	1.00																					
U.S. Interm-Term Bonds	-0.07	-0.14	-0.03	-0.03	0.09	-0.03	0.01	0.02	0.73	0.51	0.53	1.00																				
U.S. Short-Term Bonds	-0.37	-0.42	-0.31	-0.36	-0.18	-0.33	-0.10	-0.04	0.34	0.30	0.05	0.64	1.00																			
U.S. High Yield Bonds	0.77	0.75	0.78	0.79	0.77	0.83	0.34	0.24	0.31	0.34	0.46	0.20	-0.27	1.00																		
U.S. Bank Loans	0.65	0.68	0.63	0.69	0.59	0.68	0.27	0.18	0.24	0.31	0.46	0.04	-0.45	0.86	1.00																	
Intl Developed Bonds	0.29	0.20	0.43	0.45	0.58	0.41	0.21	0.18	0.44	0.37	0.34	0.51	0.26	0.46	0.26	1.00																
Emerging & Frontier Mkt Bonds	0.56	0.49	0.65	0.63	0.69	0.65	0.16	0.12	0.60	0.52	0.65	0.47	-0.07	0.81	0.67	0.62	1.00															
Public BDCs	0.77	0.83	0.71	0.75	0.61	0.77	0.21	0.12	0.17	0.24	0.33	0.03	-0.38	0.79	0.80	0.27	0.64	1.00														
U.S. REITs	0.67	0.66	0.61	0.60	0.56	0.67	0.16	0.15	0.33	0.20	0.45	0.33	-0.09	0.68	0.58	0.38	0.63	0.68	1.00													
Ex U.S. Real Estate Securities	0.74	0.66	0.87	0.86	0.87	0.85	0.21	0.13	0.27	0.24	0.38	0.19	-0.16	0.78	0.62	0.62	0.76	0.67	0.72	1.00												
Private Real Estate	0.14	0.05	0.25	0.22	0.26	0.20	0.65	0.62	0.11	0.07	0.04	0.06	-0.03	0.23	0.12	0.22	0.19	0.09	0.19	0.28	1.00											
Commodity Futures	0.52	0.51	0.56	0.57	0.63	0.59	0.29	0.19	0.08	0.13	0.19	-0.08	-0.18	0.61	0.48	0.44	0.51	0.50	0.37	0.60	0.22	1.00										
Midstream Energy	0.70	0.67	0.62	0.64	0.55	0.69	0.35	0.23	0.15	0.21	0.24	0.07	-0.34	0.72	0.72	0.27	0.54	0.78	0.56	0.59	0.14	0.48	1.00									
Gold	0.07	0.01	0.12	0.16	0.33	0.15	0.20	0.15	0.36	0.35	0.20	0.43	0.35	0.23	0.05	0.63	0.38	0.08	0.11	0.29	0.07	0.42	0.09	1.00								
Long/Short Equity	0.90	0.90	0.89	0.92	0.83	0.94	0.31	0.22	0.07	0.16	0.28	-0.06	-0.38	0.82	0.74	0.37	0.61	0.82	0.63	0.80	0.15	0.63	0.73	0.16	1.00							
Managed Futures	0.35	0.24	0.31	0.29	0.30	0.35	0.14	0.11	0.25	0.24	0.26	0.33	0.16	0.26	0.15	0.27	0.30	0.23	0.32	0.33	0.17	0.22	0.24	0.34	0.38	1.00						
Relative Value	0.73	0.75	0.77	0.80	0.71	0.79	0.25	0.17	0.28	0.32	0.53	0.04	-0.44	0.88	0.91	0.33	0.75	0.84	0.63	0.75	0.14	0.60	0.76	0.11	0.86	0.28	1.00					
Closed-End Funds	0.85	0.80	0.84	0.86	0.77	0.89	0.27	0.16	0.33	0.32	0.44	0.16	-0.30	0.87	0.78	0.43	0.76	0.87	0.76	0.80	0.18	0.59	0.79	0.19	0.87	0.34	0.87	1.00				
Insurance-Linked Securities	0.14	0.09	0.11	0.14	0.14	0.14	0.01	-0.01	0.10	0.21	0.39	0.02	-0.46	0.60	0.58	0.31	0.52	0.49	0.43	0.58	0.04	0.45	0.40	0.23	0.51	0.12	0.58	0.53	1.00			
Digital Assets	0.27	0.26	0.34	0.32	0.22	0.30	0.23	0.26	0.16	0.12	0.20	0.05	-0.11	0.32	0.30	0.12	0.23	0.36	0.27	0.30	-0.14	0.28	0.40	0.06	0.35	0.31	0.39	0.34	0.06	1.00		
Cash/Ultra-Short Bonds	-0.14	-0.19	-0.12	-0.18	-0.09	-0.13	-0.10	-0.06	-0.02	0.10	-0.09	0.13	0.44	-0.16	-0.22	0.03	-0.12	-0.17	-0.12	-0.09	-0.12	-0.07	-0.21	0.10	-0.18	-0.03	-0.23	-0.16	-0.21	-0.18	1.00	
U.S. Inflation	0.05	0.03	0.07	0.10	0.06	0.06	-0.04	-0.02	0.01	0.06	0.16	-0.15	-0.06	0.09	0.14	0.07	0.06	0.07	-0.01	0.04	-0.04	0.27	0.02	0.07	0.12	-0.02	0.22	0.11	-0.07	0.21	0.03	1.00

Source: Bloomberg, CA, Pitchbook, Morningstar, NAREIT, SpringTide calculations. Data as of 12/31/2021.
Correlations for asset classes with less than 10 years of benchmark data are calculated since inception.

U.S. Inflation Trends

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