



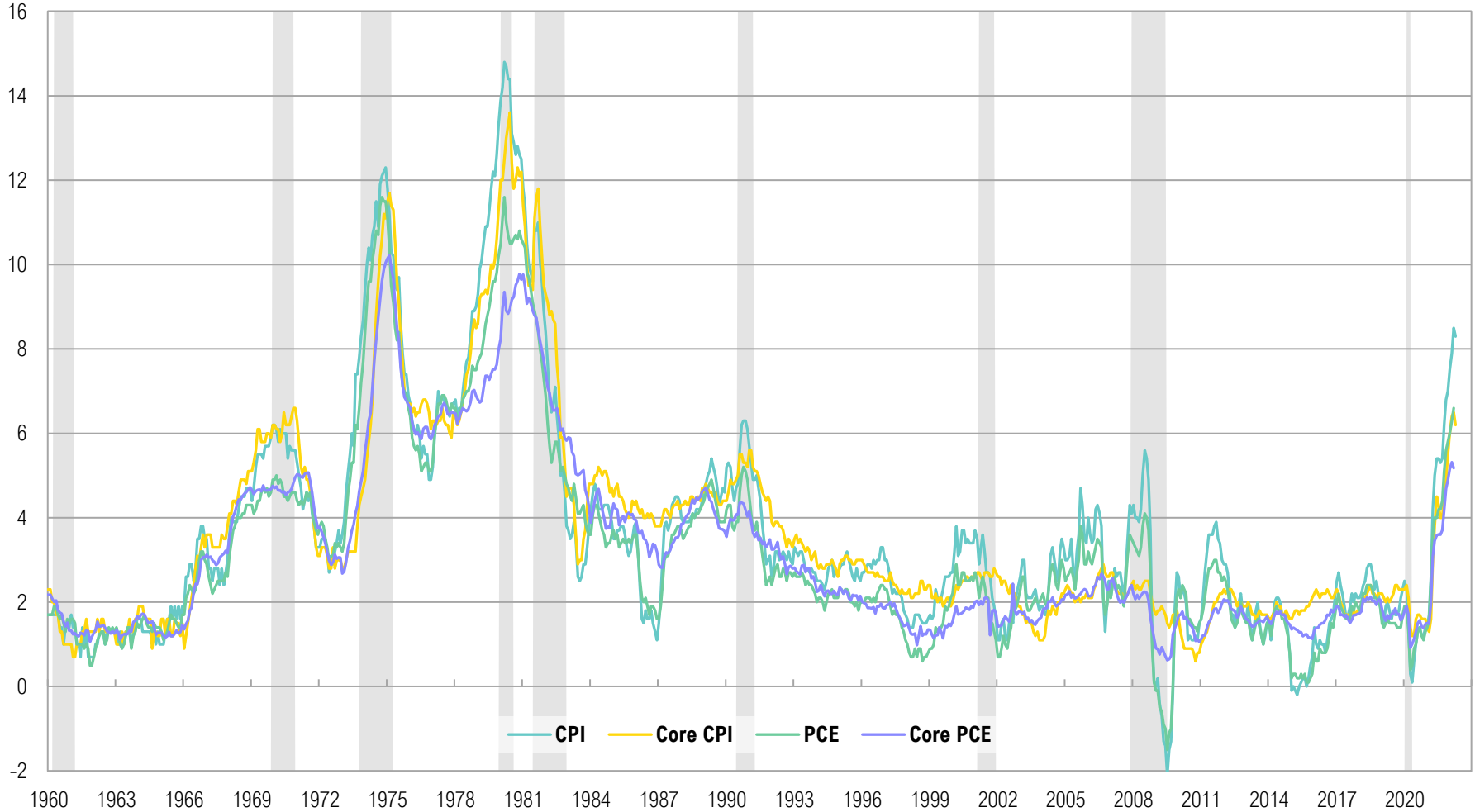
Topical Research:

## **U.S. Inflation Trends**

*As of 5/16/22*

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

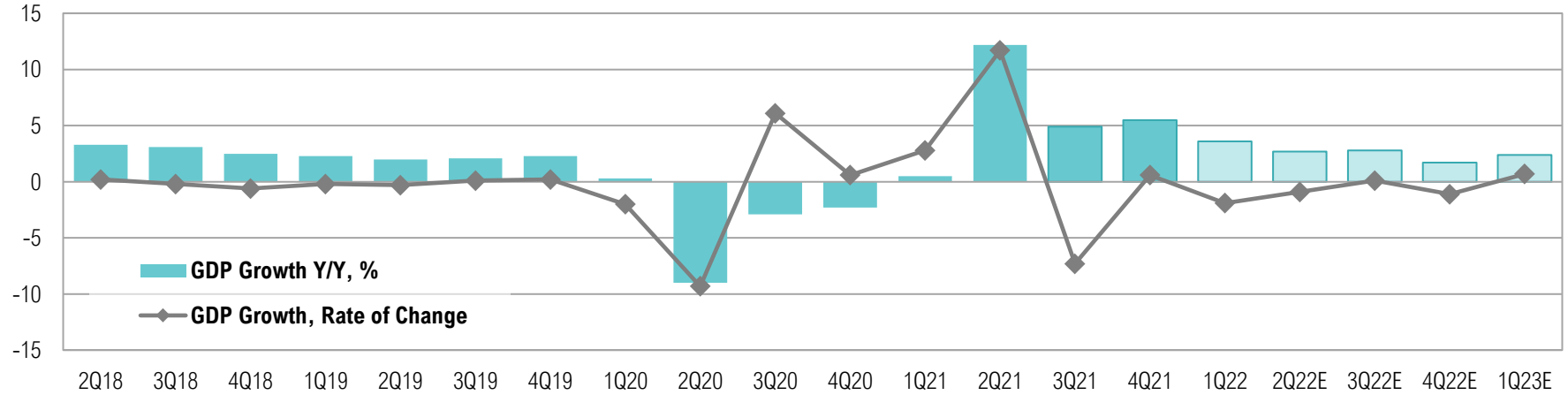
U.S. INFLATION MEASURES Y/Y: CPI, CORE CPI, PCE, CORE PCE, 1960 - CURRENT



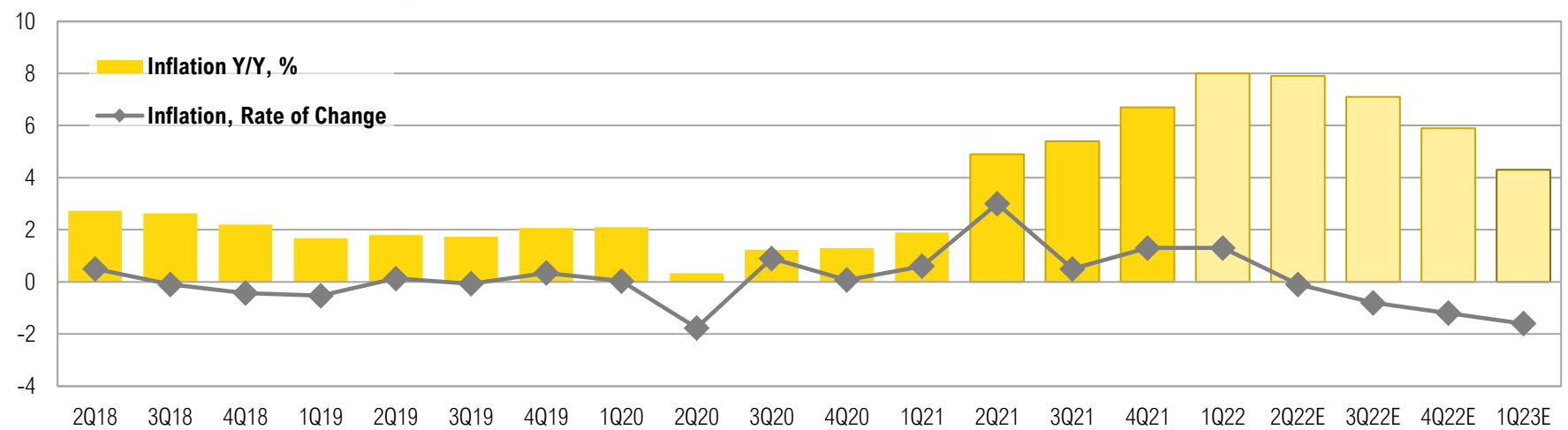
Source: Bloomberg

# ➤ Growth peaked in 4Q 2021 while inflation is expected to have peaked in April and should decelerate, but remain high, through the end of the year

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



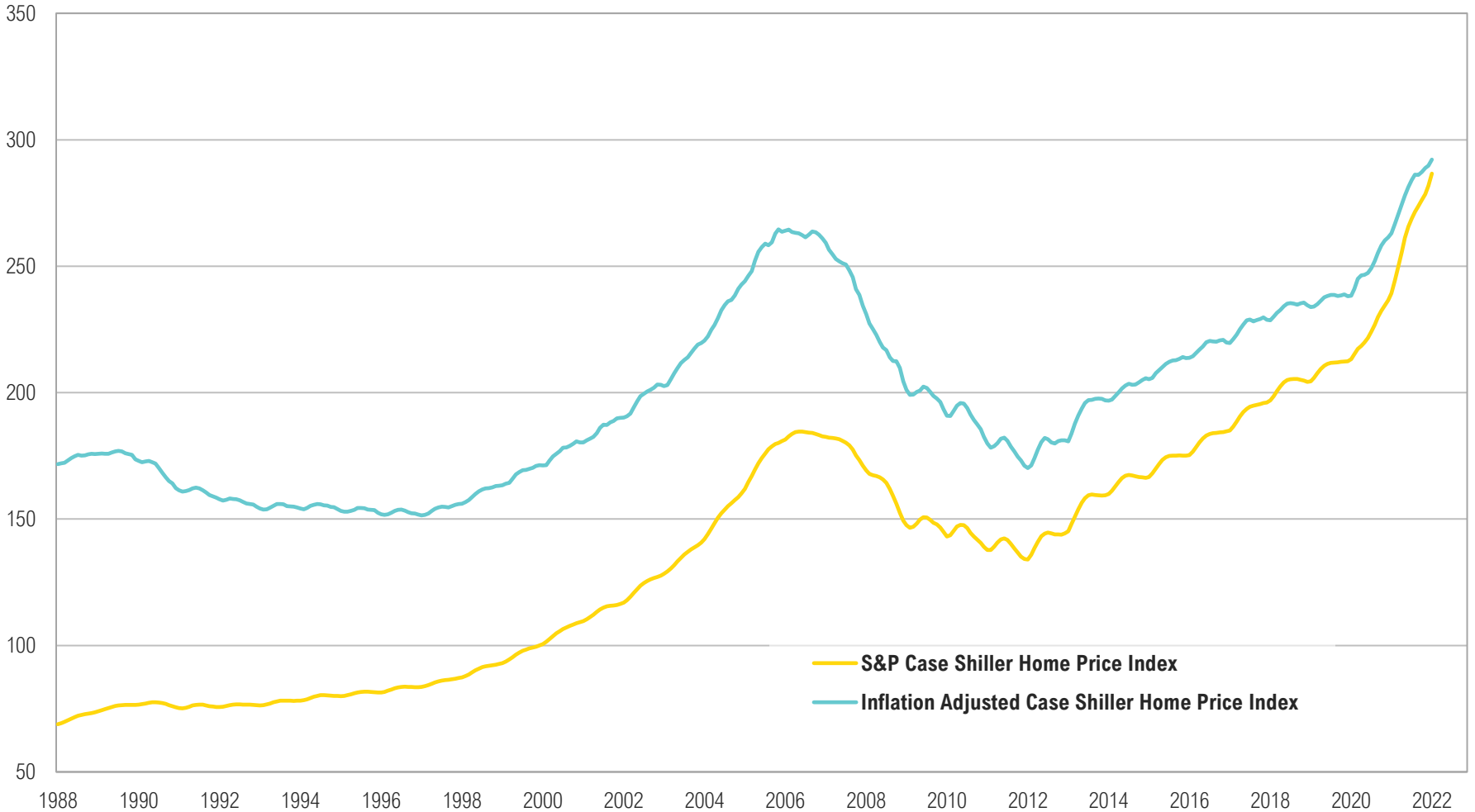
INFLATION LEVELS & RATE OF CHANGE, Y/Y %



Source: SpringTide calculations, Bloomberg estimates

# House prices are continuing to make new nominal highs and have surpassed the peak of 2006 on an inflation-adjusted basis

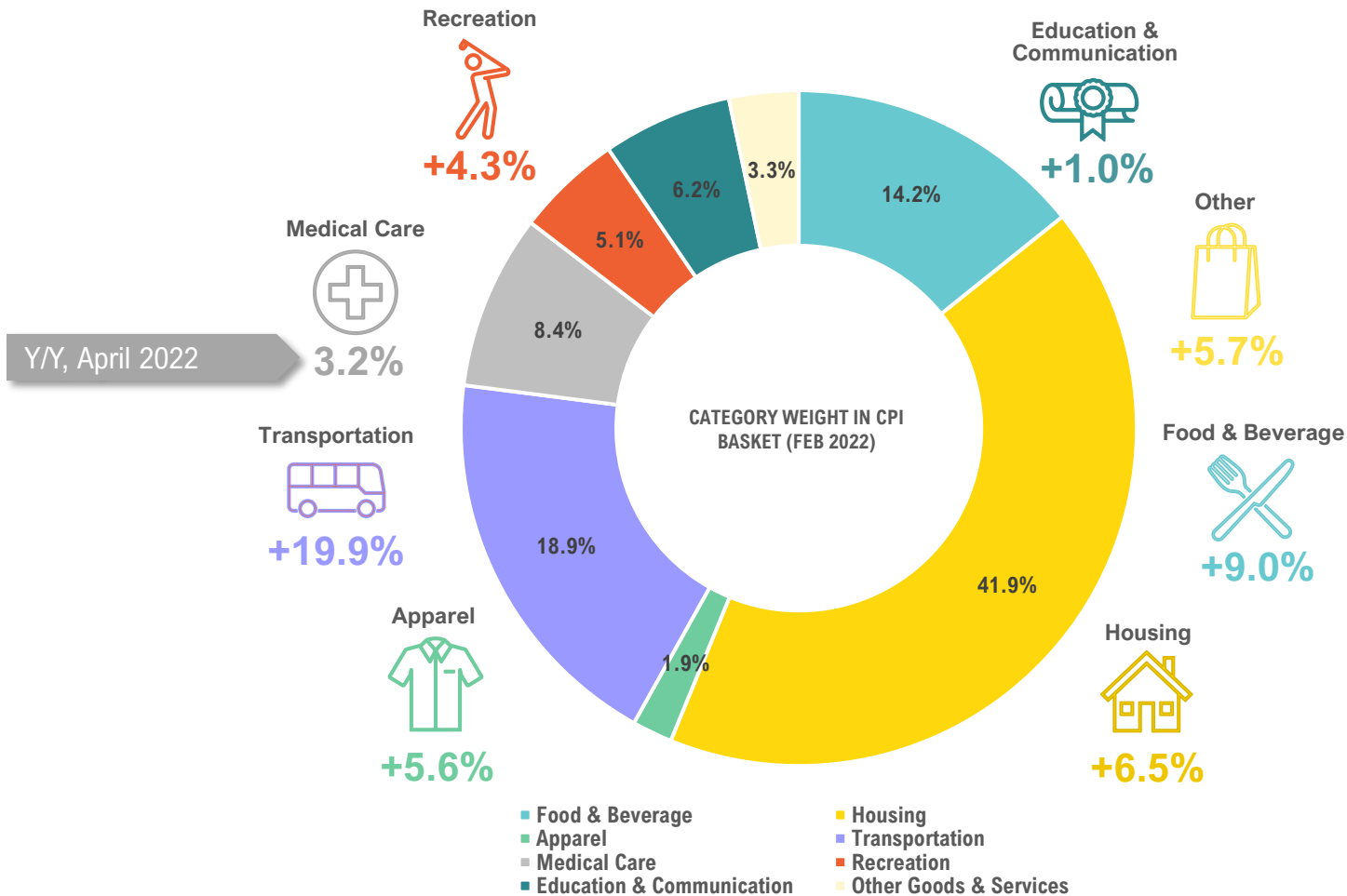
S&P 500 CASE-SHILLER HOUSING PRICE INDEX\* VS. INFLATION-ADJUSTED INDEX IN CURRENT DOLLARS



Source: Bloomberg

# ➤ CPI rose 8.3% Y/Y, above consensus estimates; Food, electricity, and shelter were the largest contributors in April

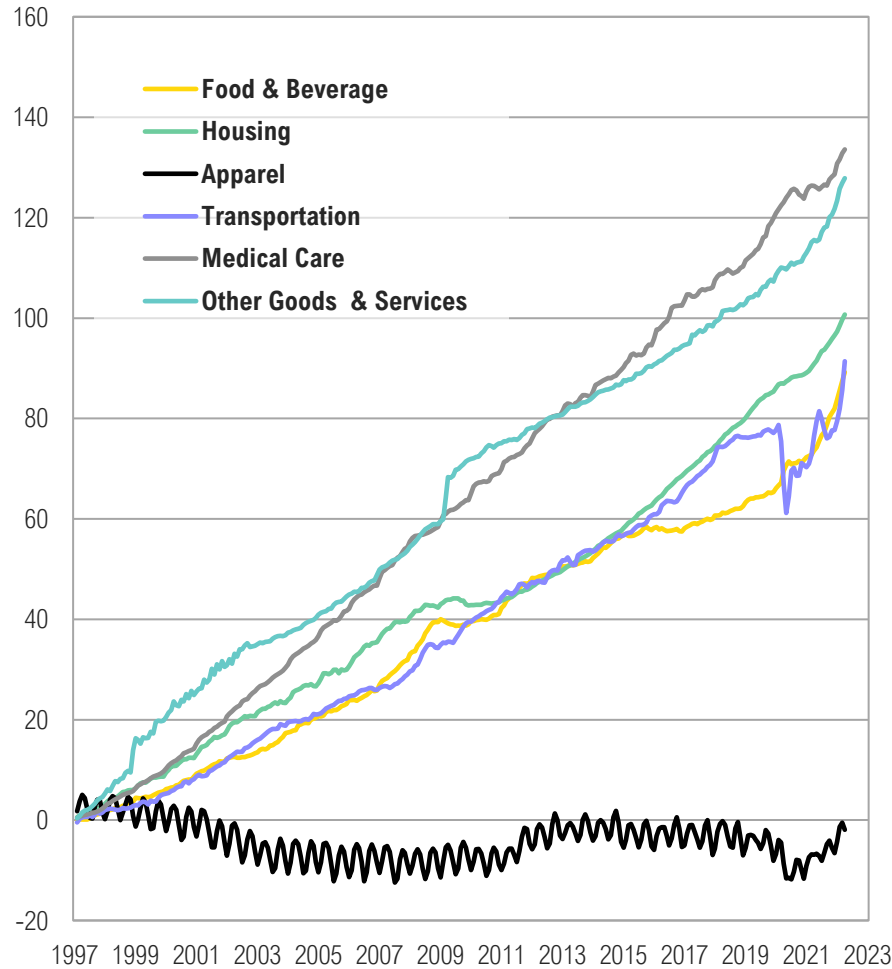
CPI COMPONENT CATEGORIES, WEIGHTS, & Y/Y CHANGE<sup>1</sup>



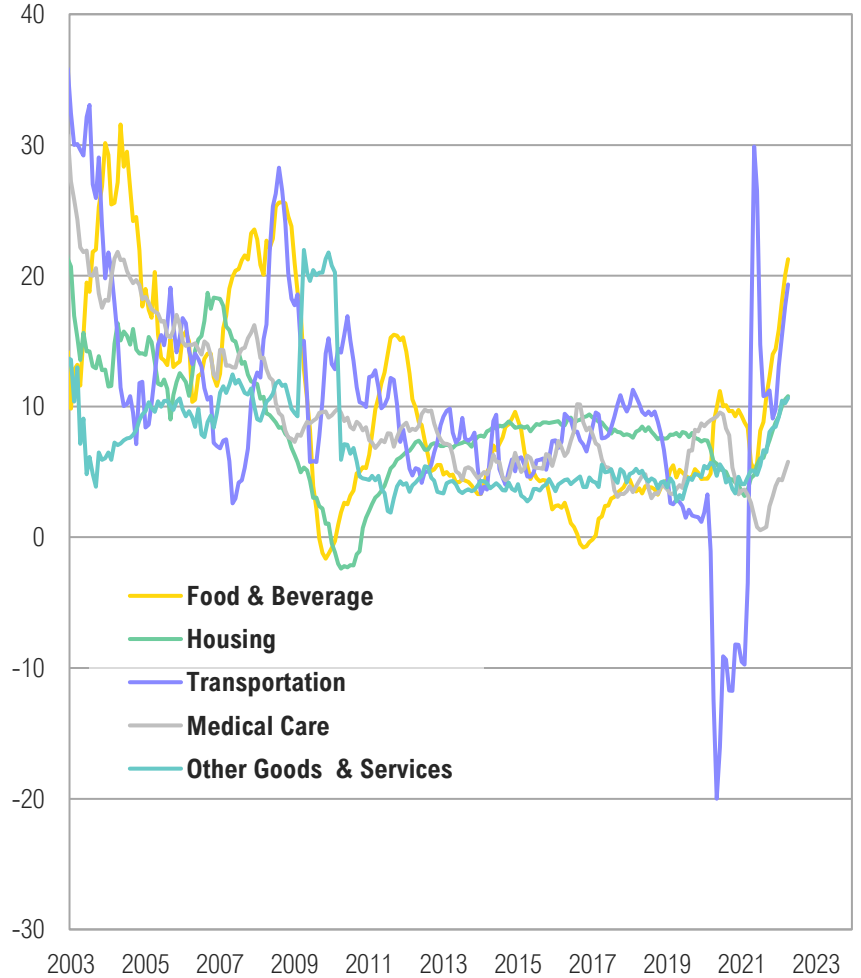
Source: BLS: <https://www.bls.gov/news.release/cpi.t03.htm>. <sup>1</sup> Transportation proxied by Transportation Services sub-component; Housing by Shelter; Food & Beverage by Food in CPI Table 1: Expenditure by category, Other estimated based on residual components.

# ➤ Inflation across categories is mixed, but undeniably broadening out

CONSUMER PRICE INDEX: SELECT CATEGORY PRICE GROWTH



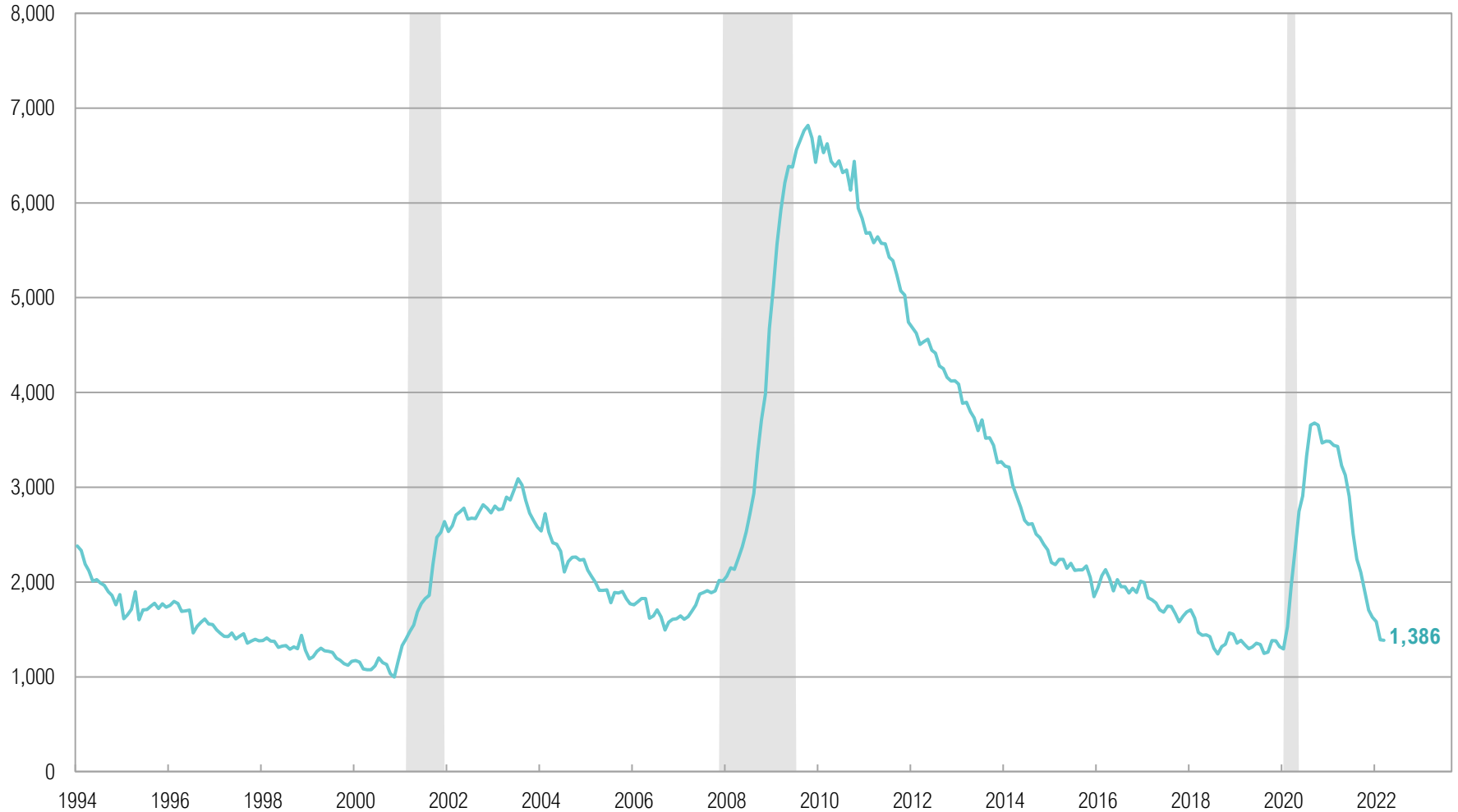
CONSUMER PRICE INDEX: Y/Y CHANGE FOR SELECT CATEGORIES



Source: Bloomberg

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

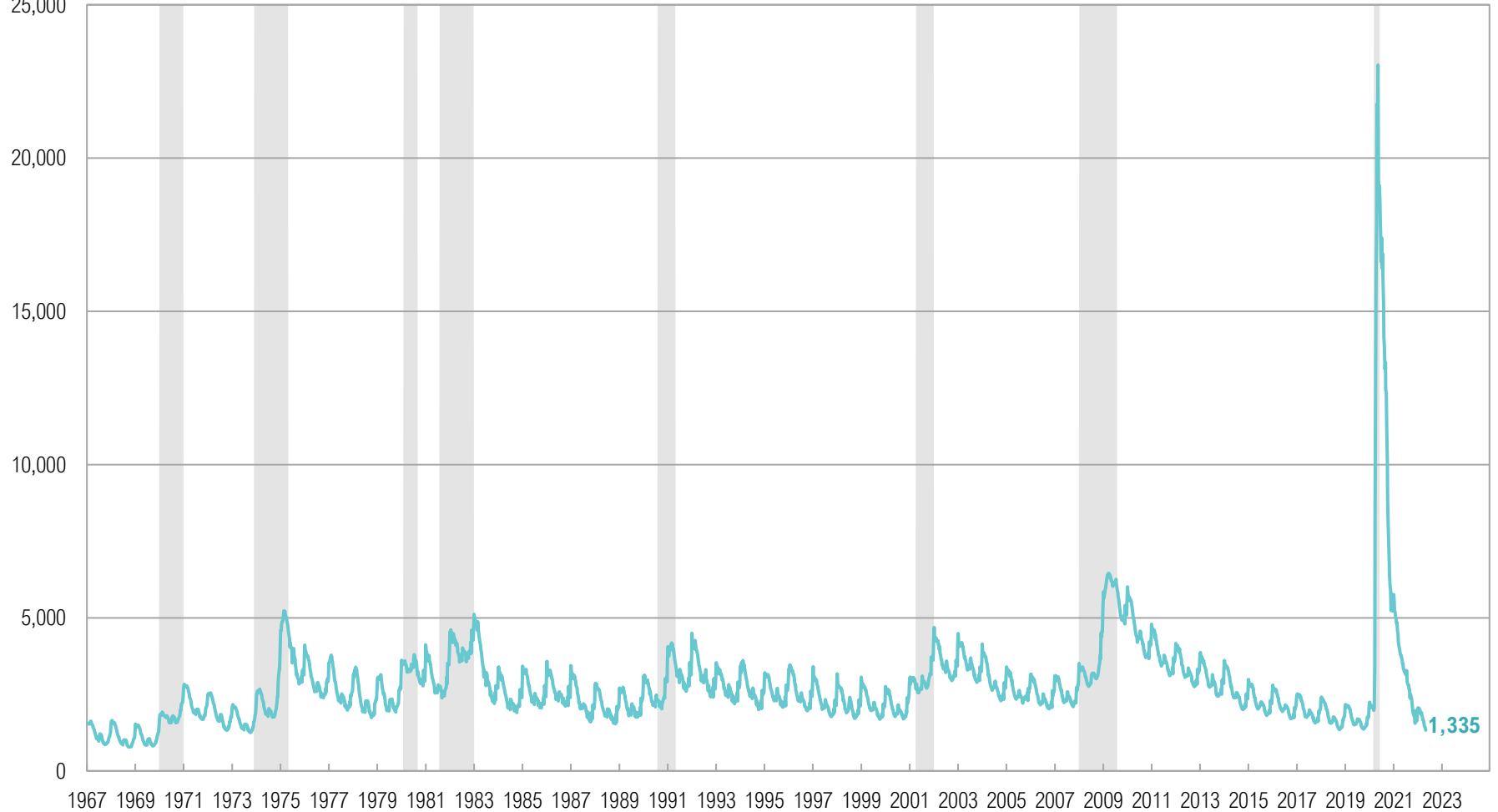
U.S. UNEMPLOYMENT: PERMANENT JOB LOSSES, 1994 - CURRENT



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

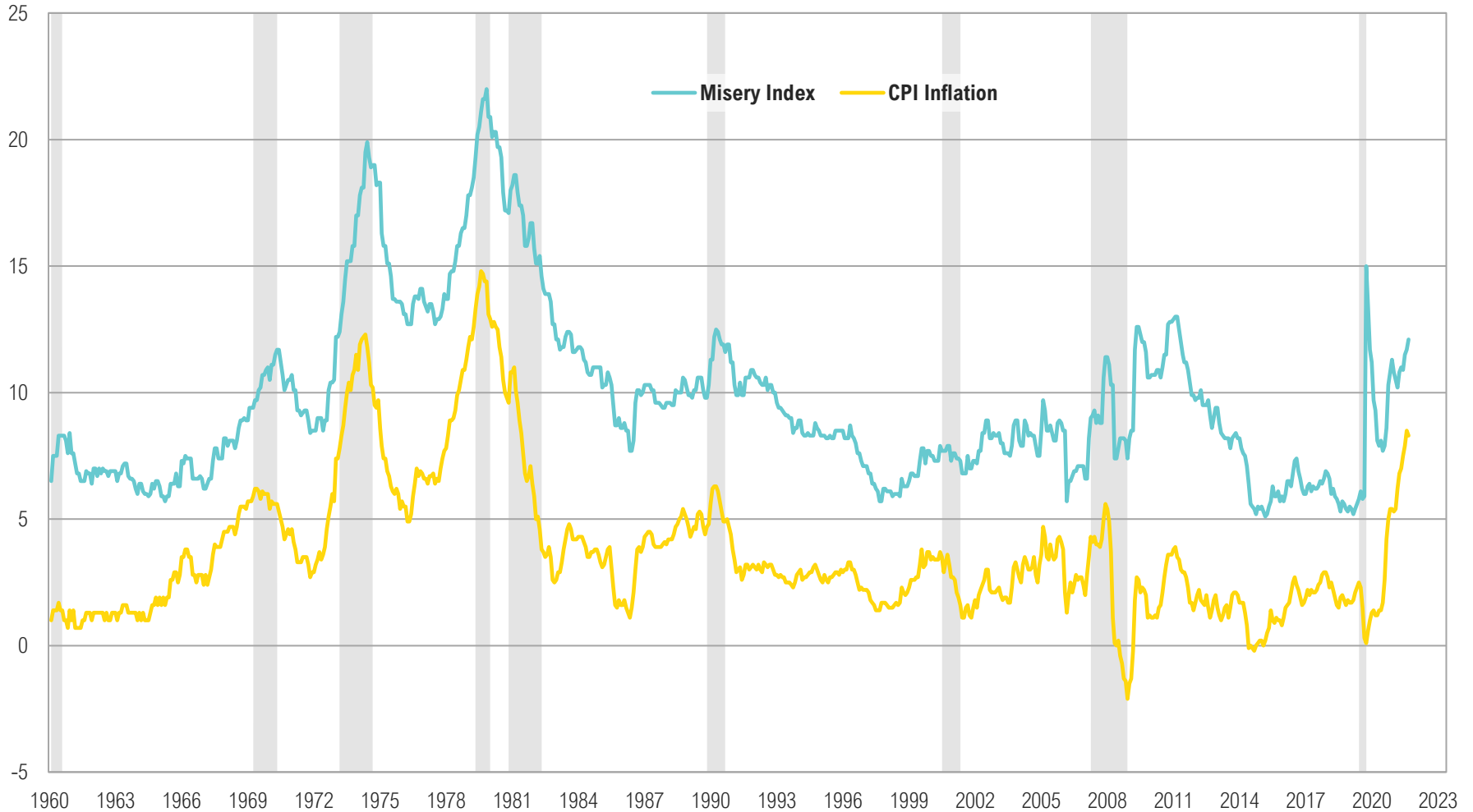


Source: Bloomberg



# 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

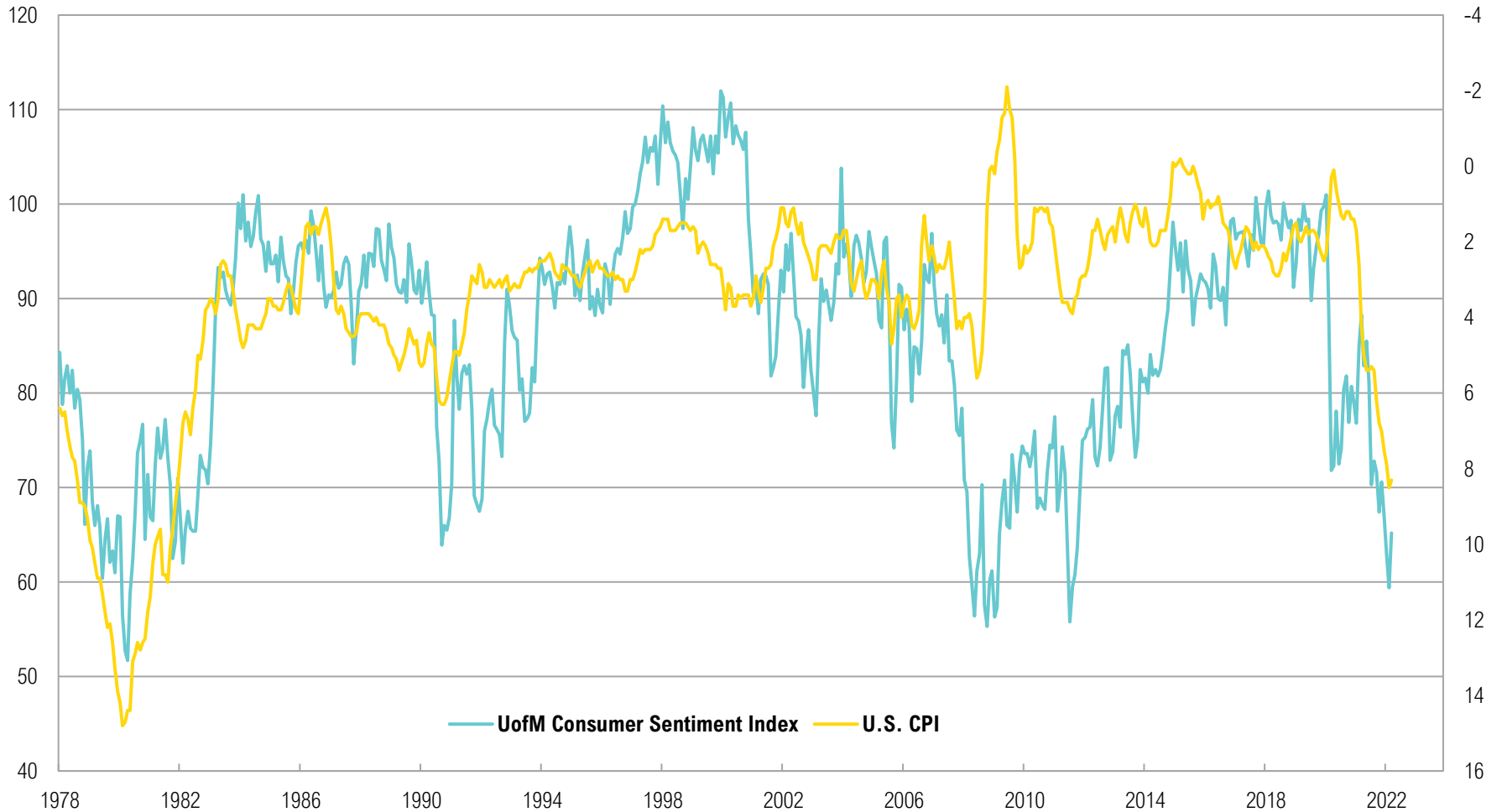


Source: Bloomberg

# Consumers aren't enjoying the current inflationary episode as much as policymakers hoped they would

UNIVERSITY OF MICHIGAN CONSUMER SENTIMENT INDEX

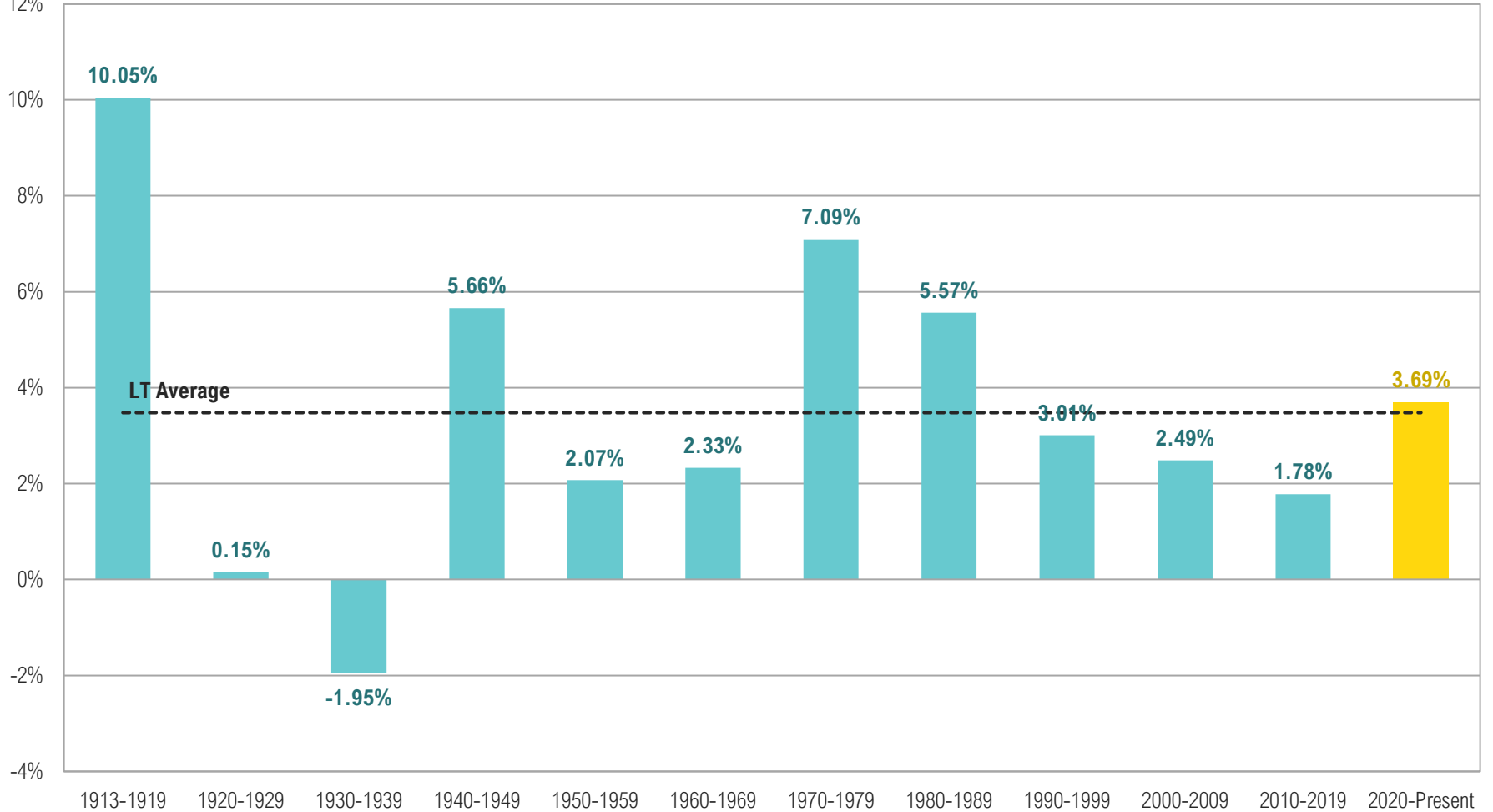
U.S. CPI Y/Y (INVERTED), %



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

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

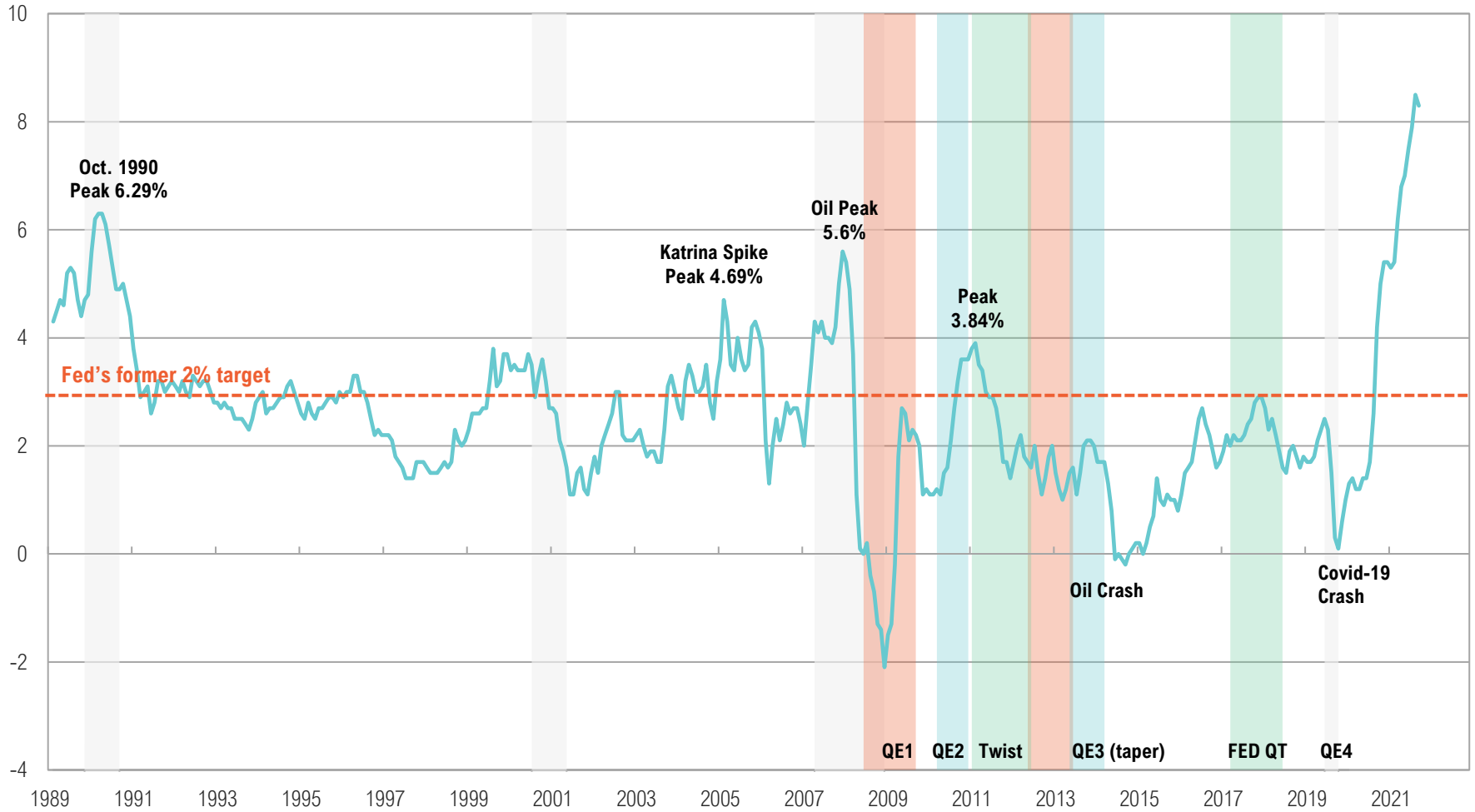
U.S. CPI INFLATION BY DECADE\*



Source: Bloomberg  
\*Averages are arithmetic

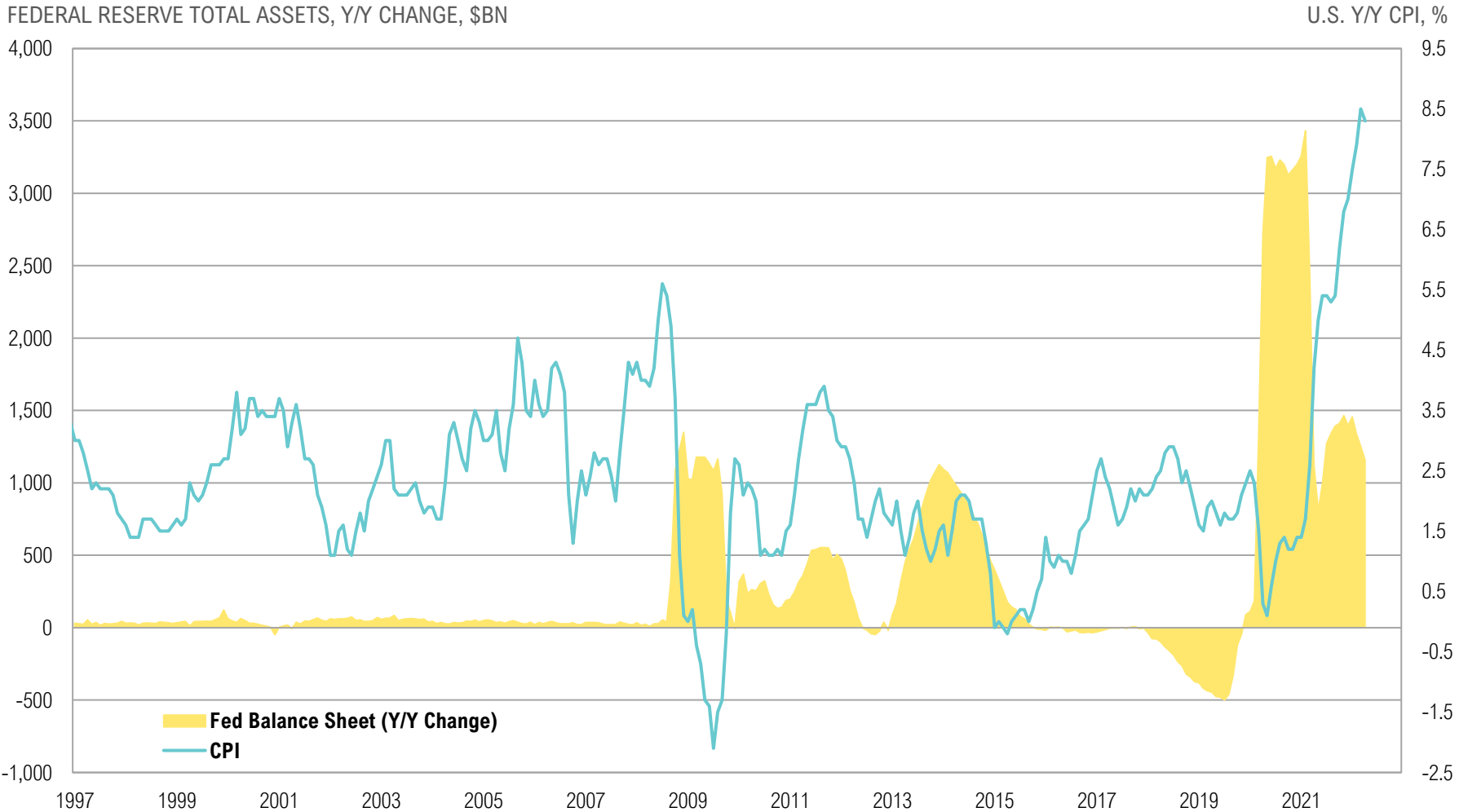
# Legacy pandemic issues, overly accommodative monetary/fiscal policy, supply chain issues has pushed inflation to a 40-year high

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**

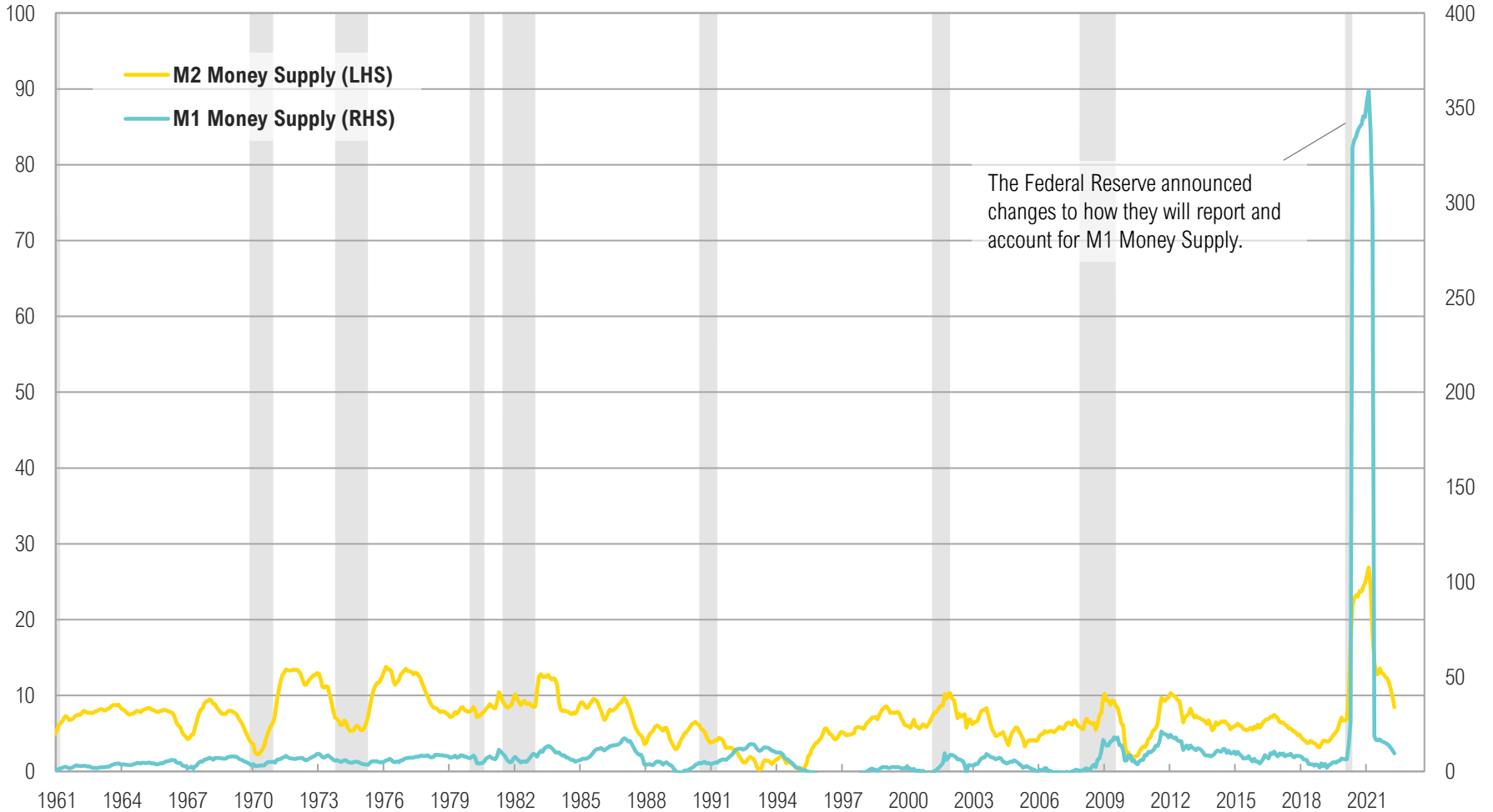


Source: Bloomberg

# 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 %

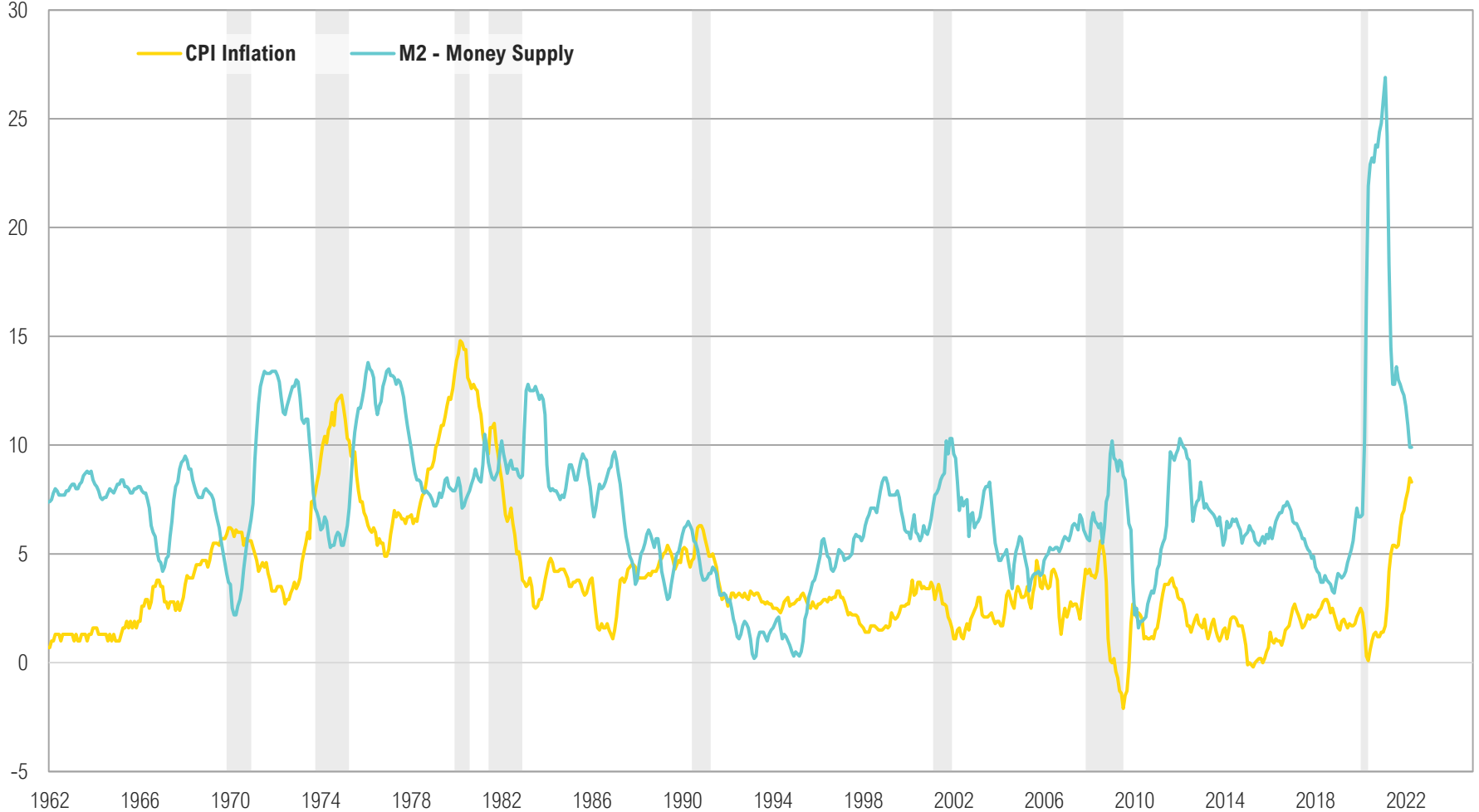
M1 MONEY SUPPLY Y/Y %



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

# Fed may have less ability to curtail inflation as Russia invasion and China zero policy COVID lockdowns impact supply chains

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

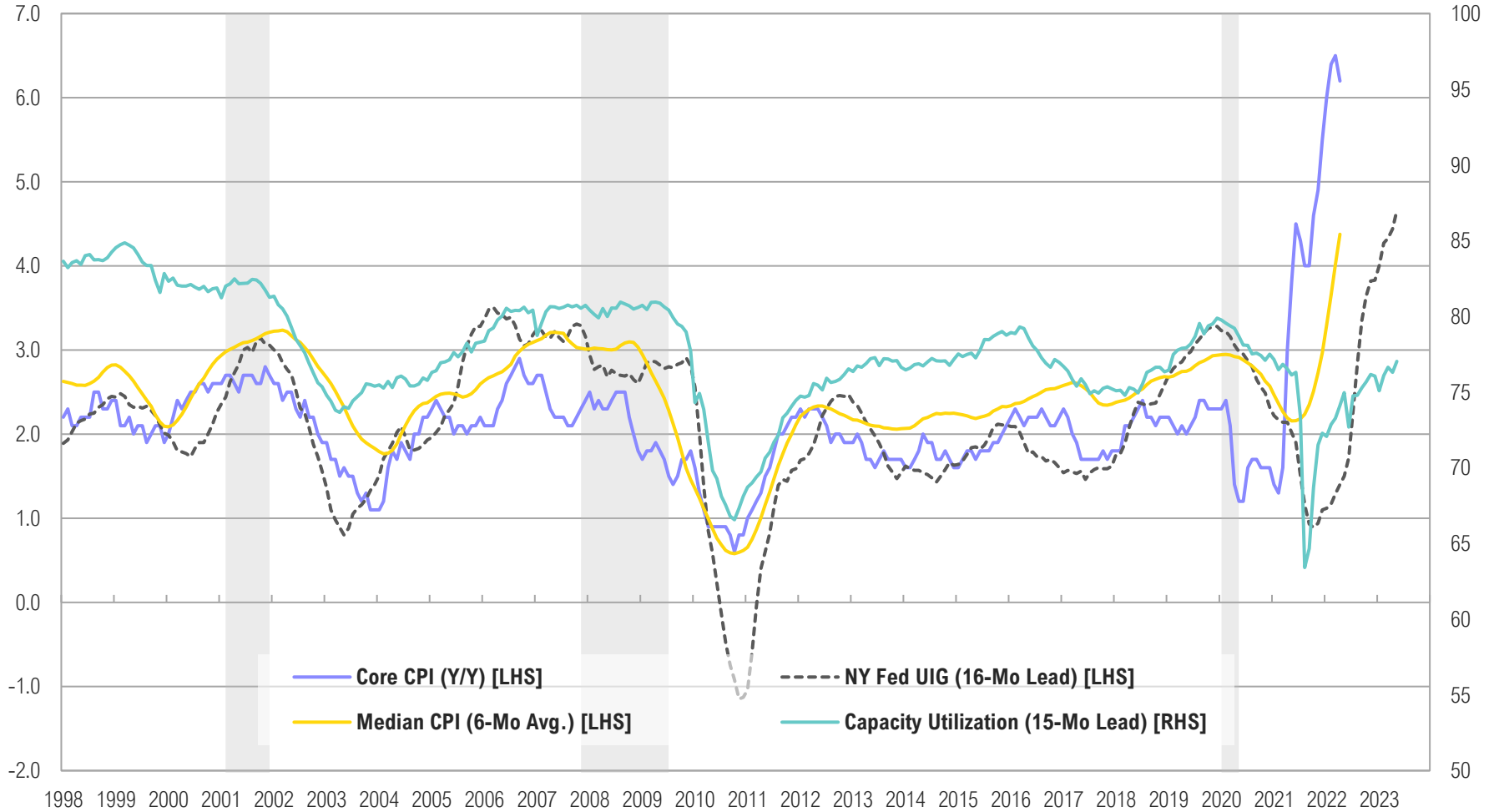


Source: Bloomberg

# Forward indicators continue to suggest worryingly high inflation for some time

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

CAPACITY UTILIZATION %

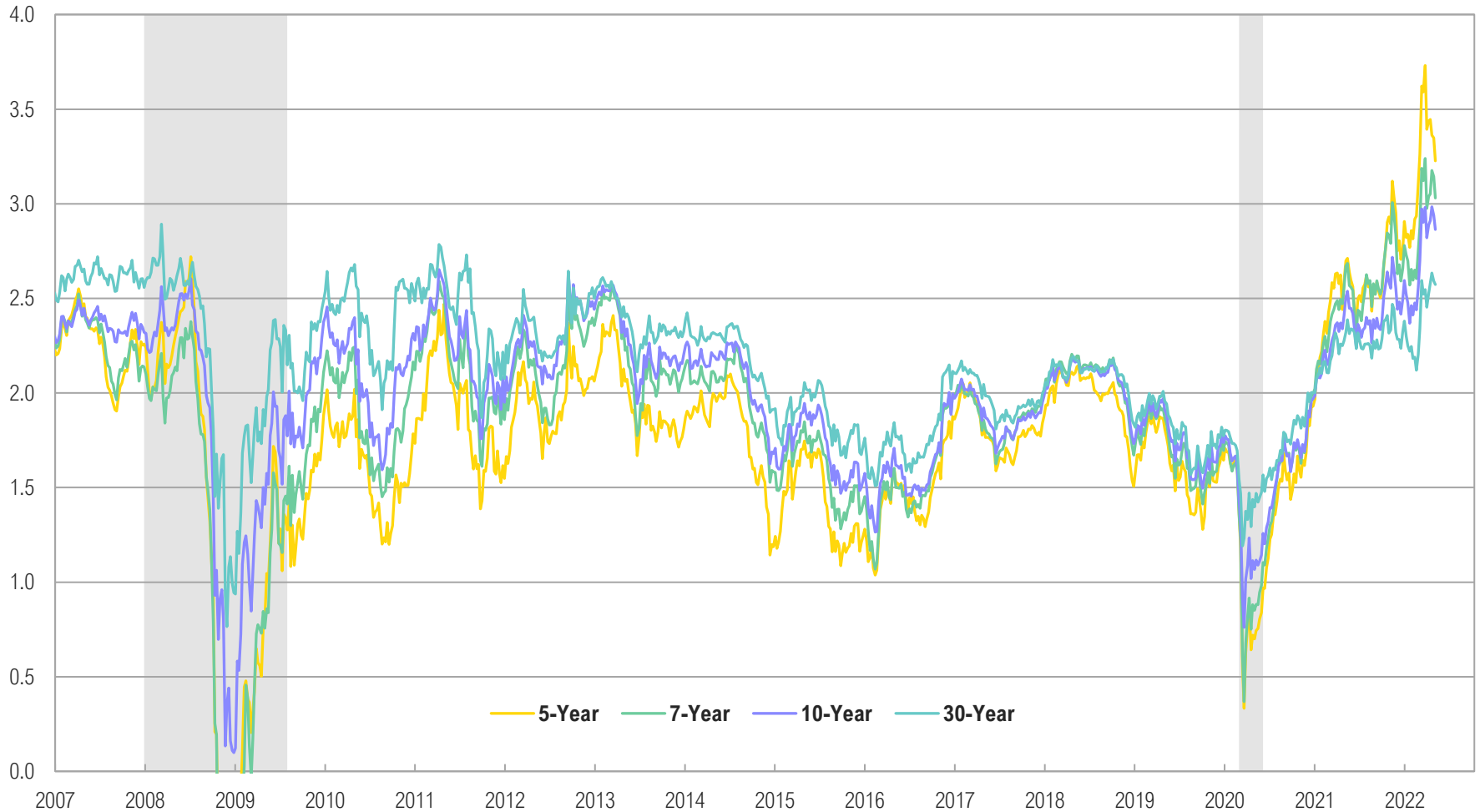


Source: Bloomberg



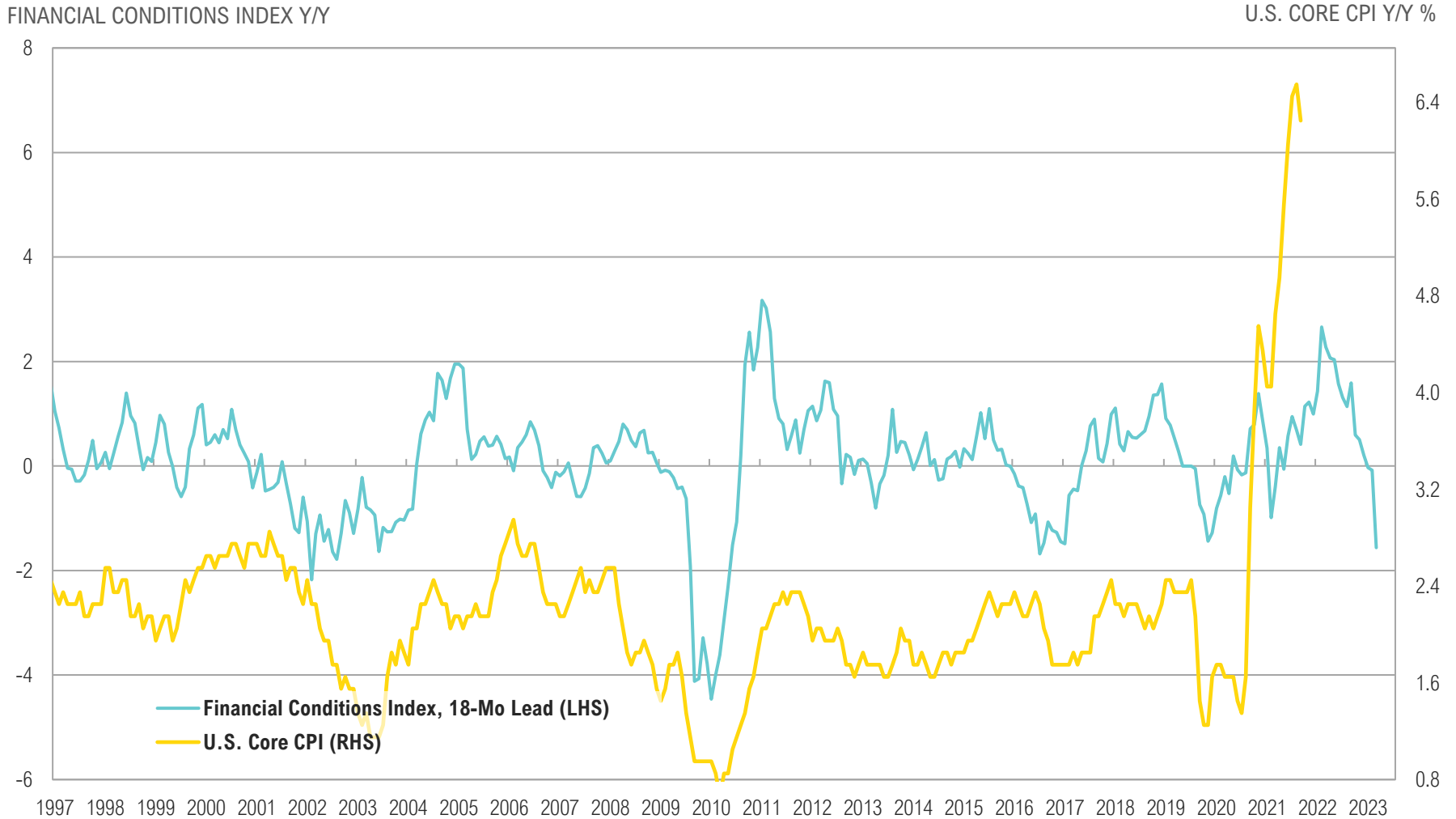
# Market-implied inflation expectations have spiked and remain elevated after correctly predicting inflation would *not* be transitory

TREASURY IMPLIED INFLATION BREAKEVEN RATES



Source: Bloomberg

**➤ The “good” for inflation is that if financial conditions continue to tighten, which would be bad news for risky assets, growth may slow down enough to tame inflation**

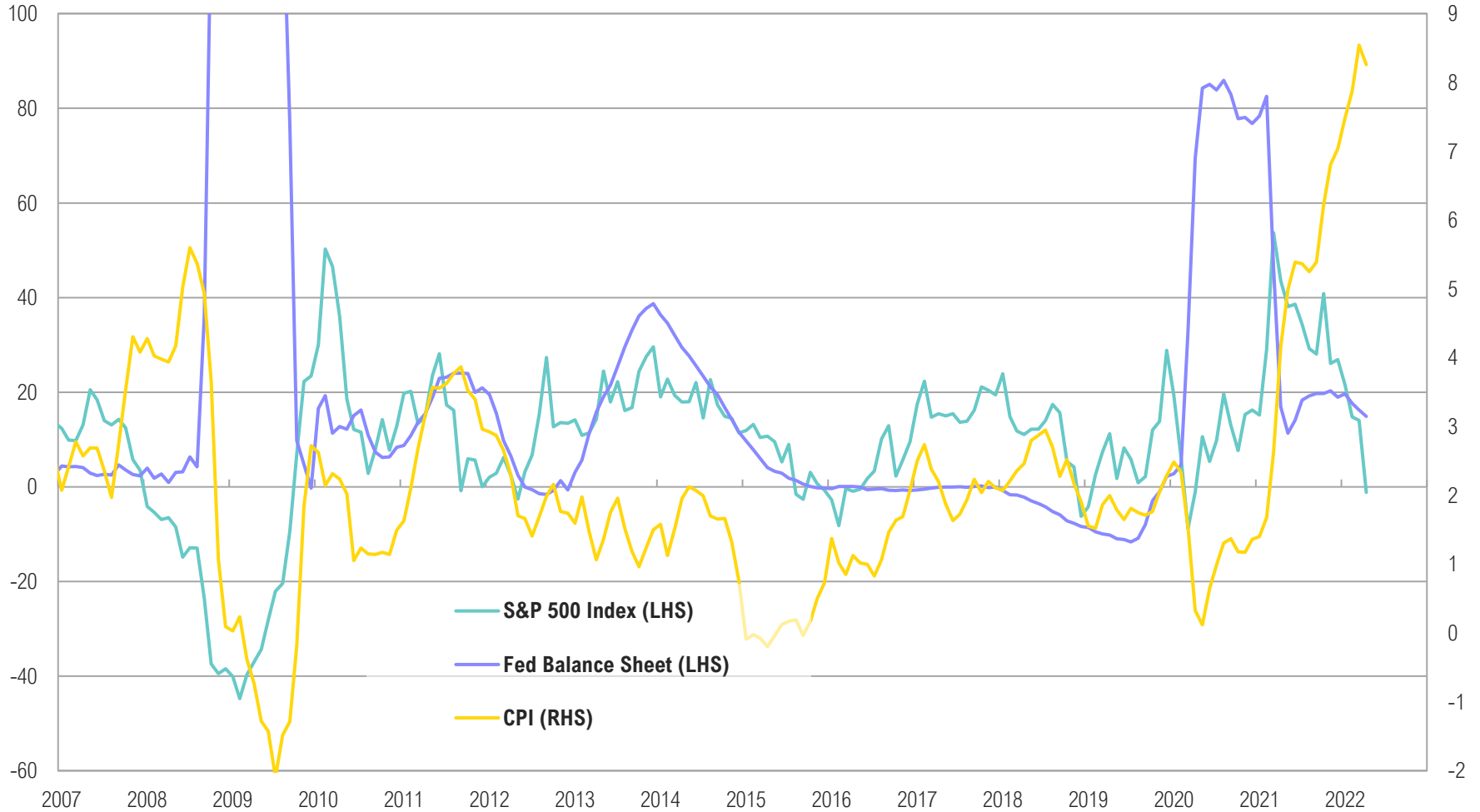


Source: Bloomberg

**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, %

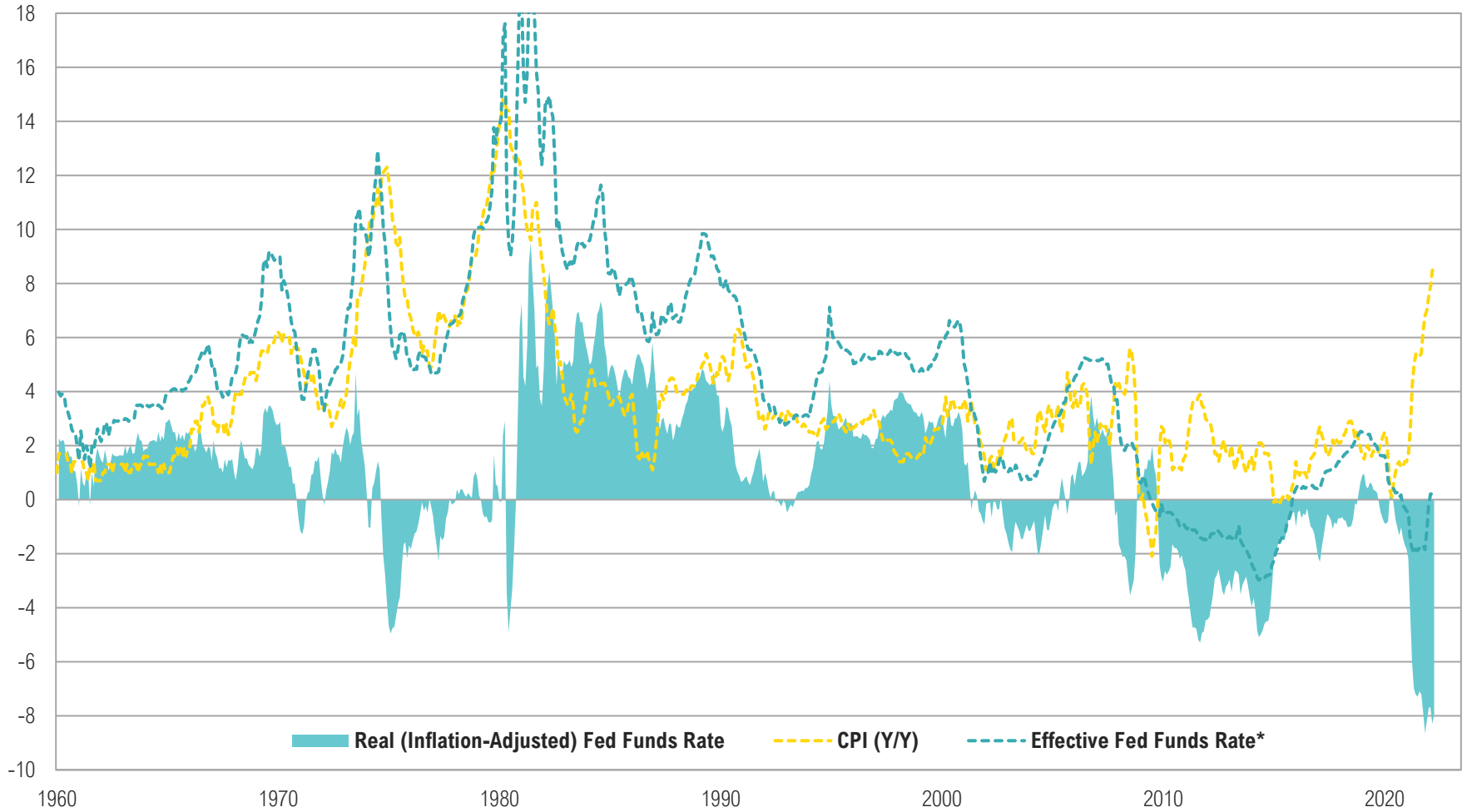
CPI Y/Y, %



Source: Bloomberg

**The Fed is falling further behind the curve & unless inflation rolls over, will be forced to hike into an economic slowdown and possibly into a recession**

CPI & EFFECTIVE FUNDS RATE, %

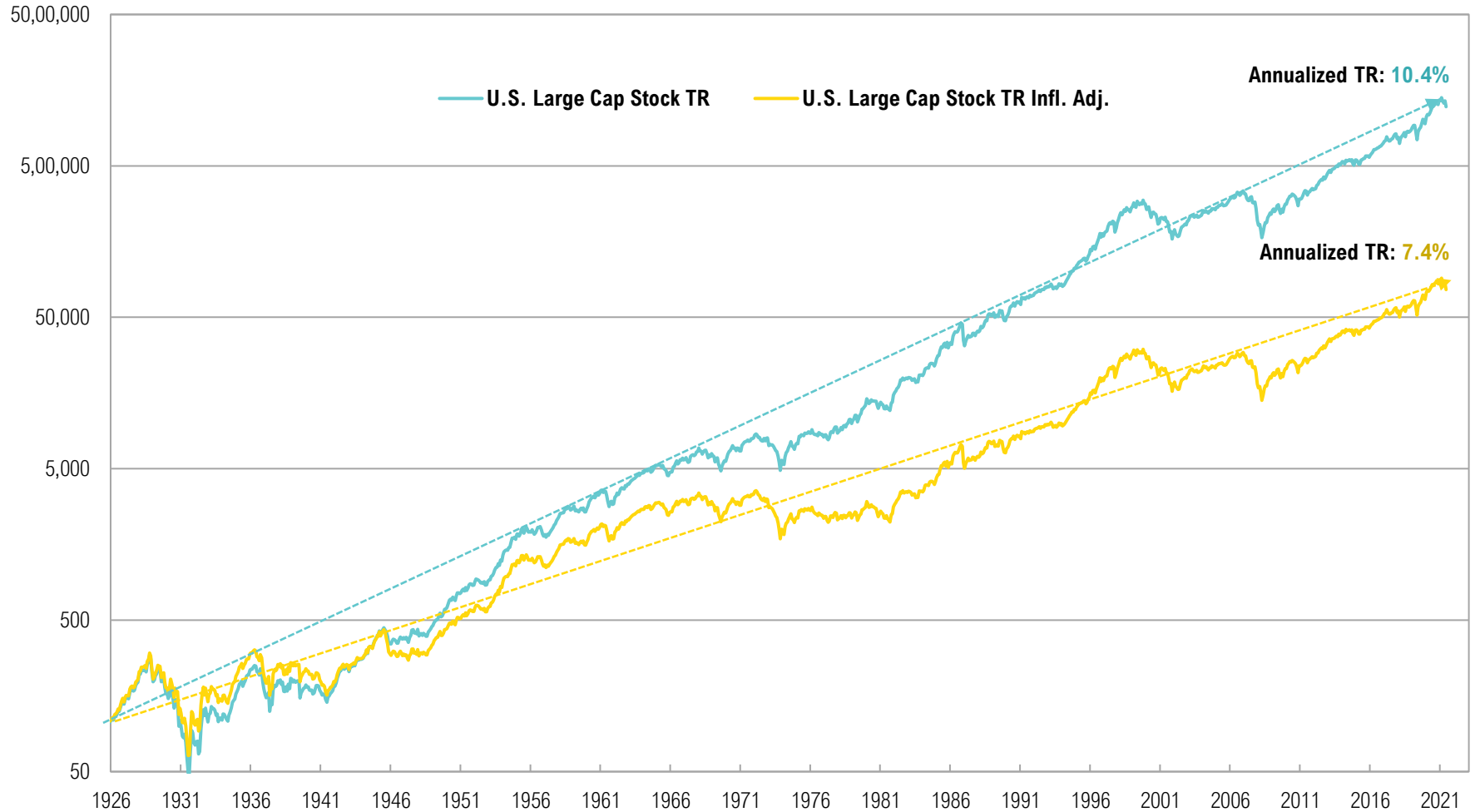


Source: Atlanta & St. Louis Fed.

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

# Periods of high inflation have substantially eroded real returns for investors

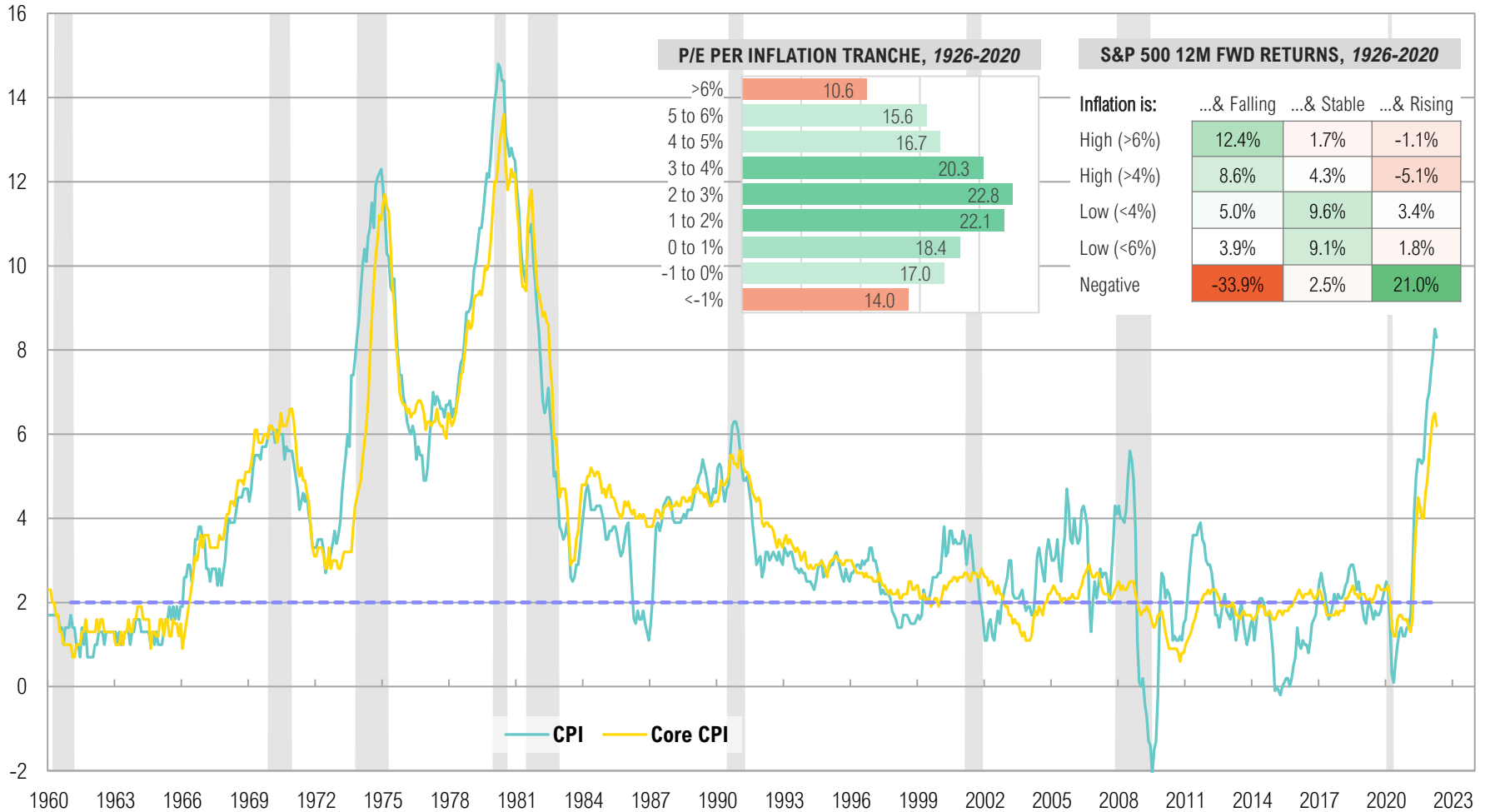
U.S. LARGE CAP STOCK NOMINAL VS. REAL TOTAL RETURN GROWTH OF 100, LOG SCALE



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

# Historically, inflation has been a significant issue for the stock market when it is above 4%

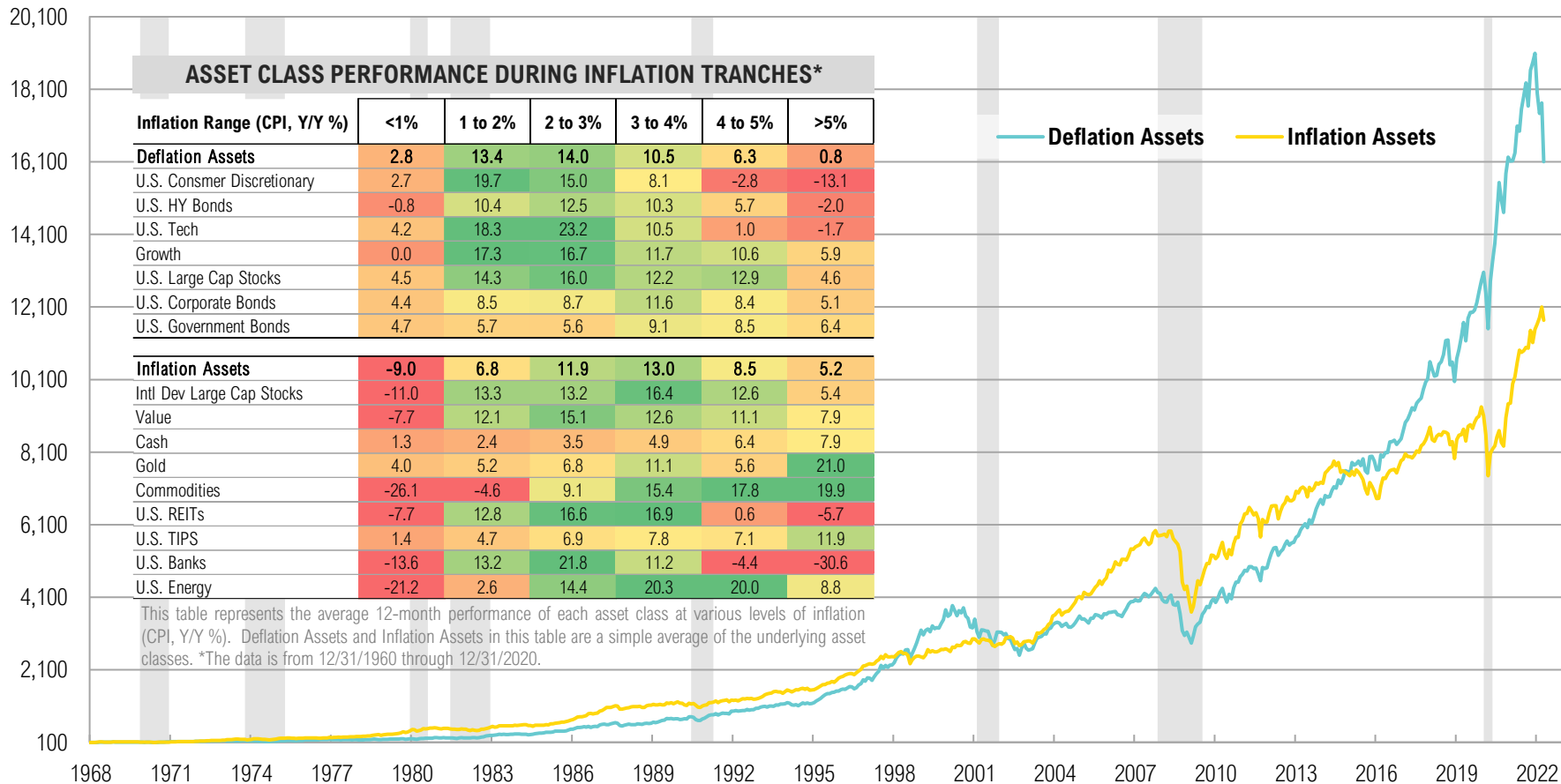
CPI & CORE CPI % Y/Y



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. DEFLATION ASSETS GROWTH OF 100



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 SBBI U.S. IT Govt TR Index; U.S. Large Cap Stocks = IA SBBI 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 SBBI 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 Vale NR Index, Banks = S&P 500 Banks TR Index, Energy = S&P 500 Energy TR Index.

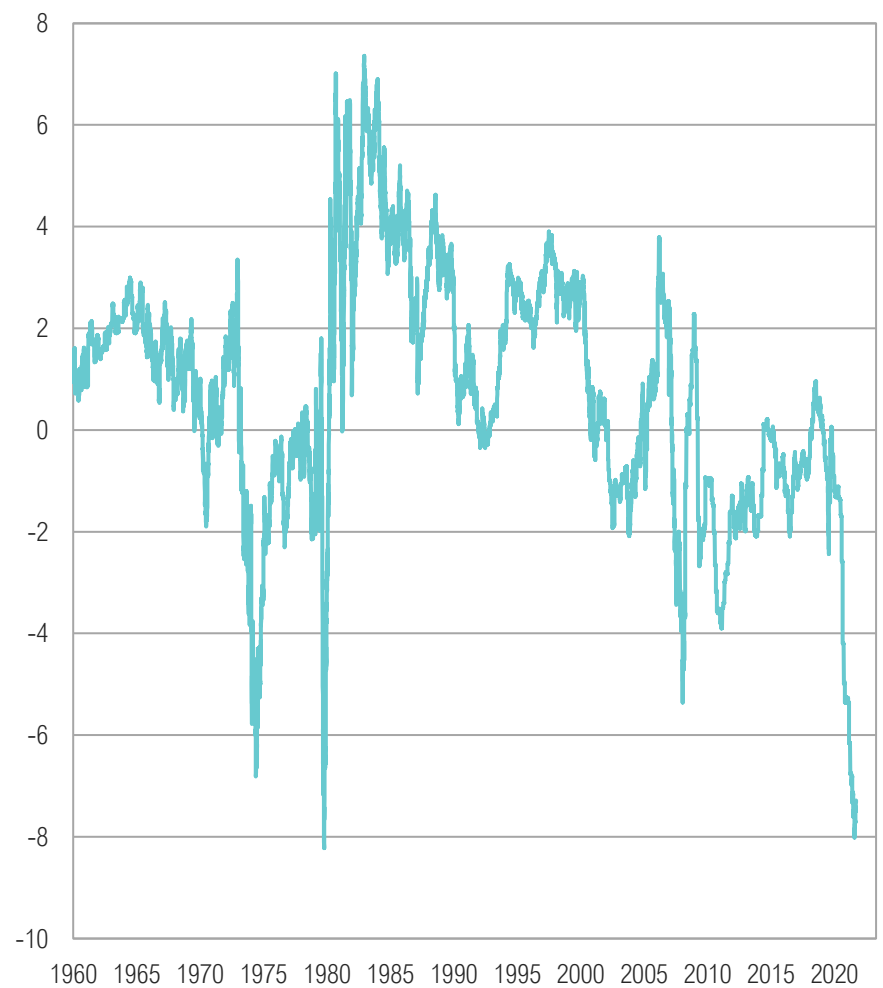
# ➤ The extreme policy backdrop raised the risk of holding cash over the long term and created an epic incentive to take risk, which may be unwinding

U.S. DOLLAR VALUE DEFLATED BY CPI



Source: Bloomberg

U.S. 3-MONTH REAL YIELD

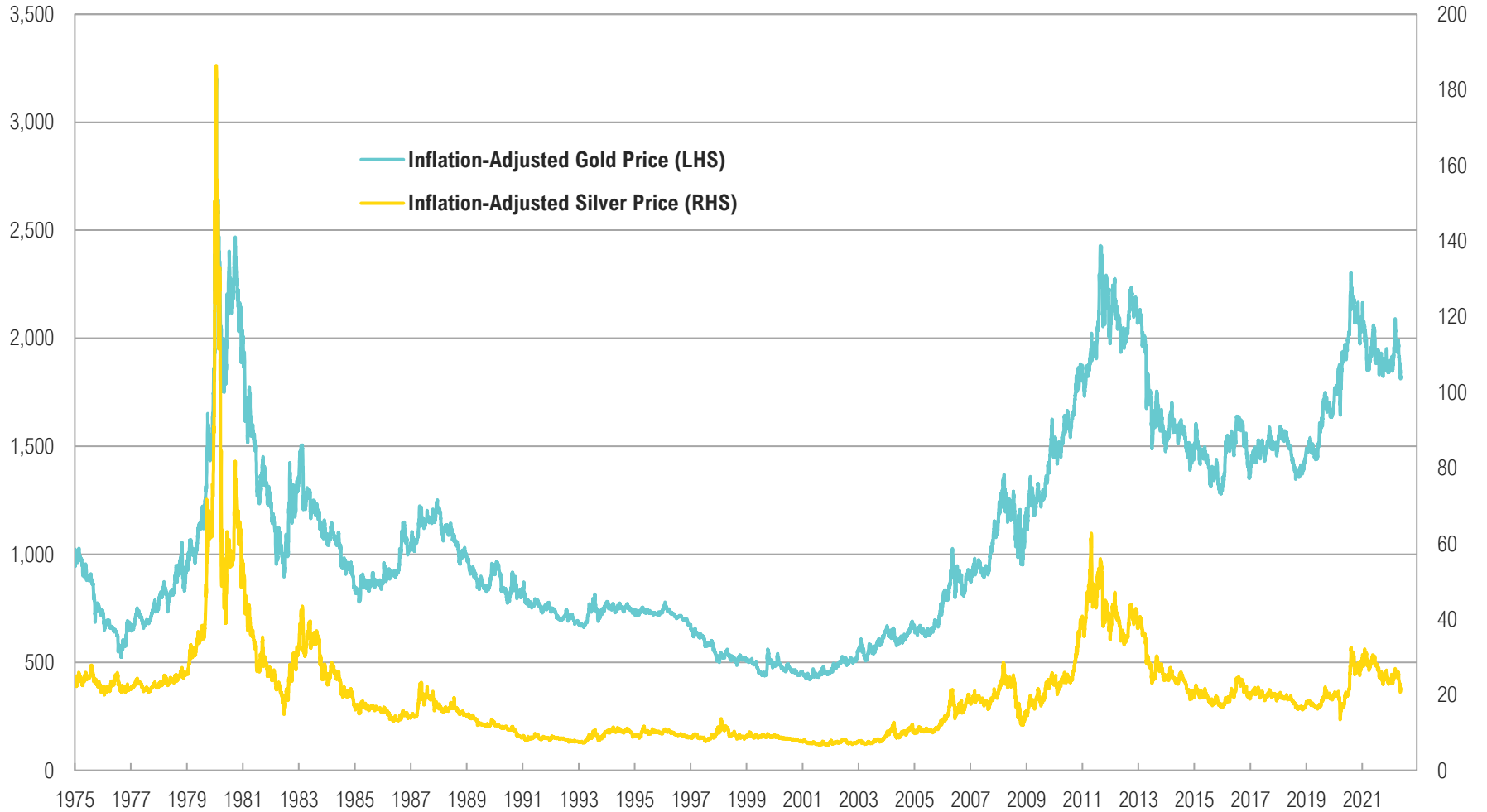




# Physical gold and silver still look attractive when adjusted for inflation

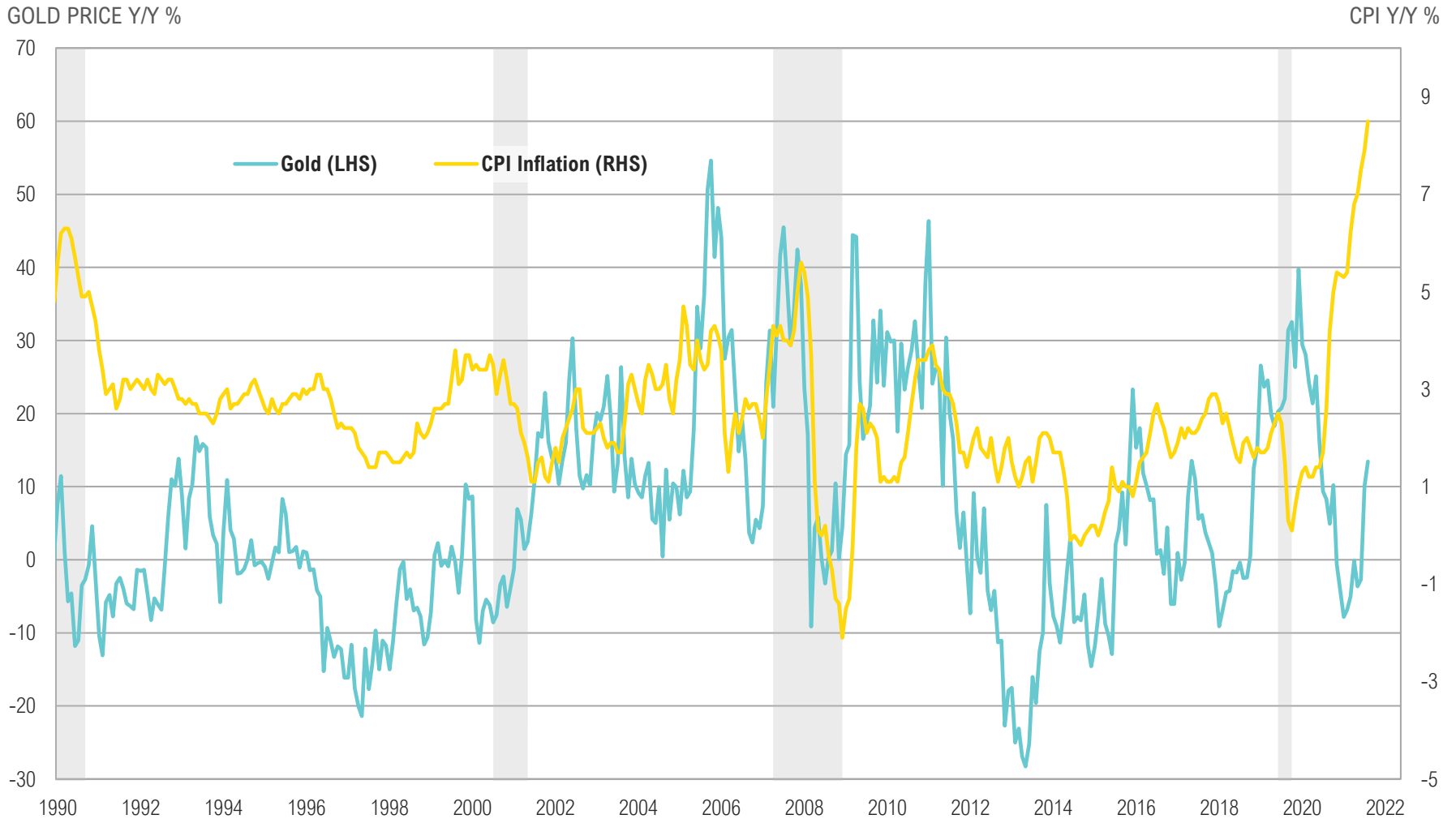
GOLD INFLATION-ADJUSTED PRICE \$/OZ

SILVER INFLATION-ADJUSTED PRICE \$/OZ



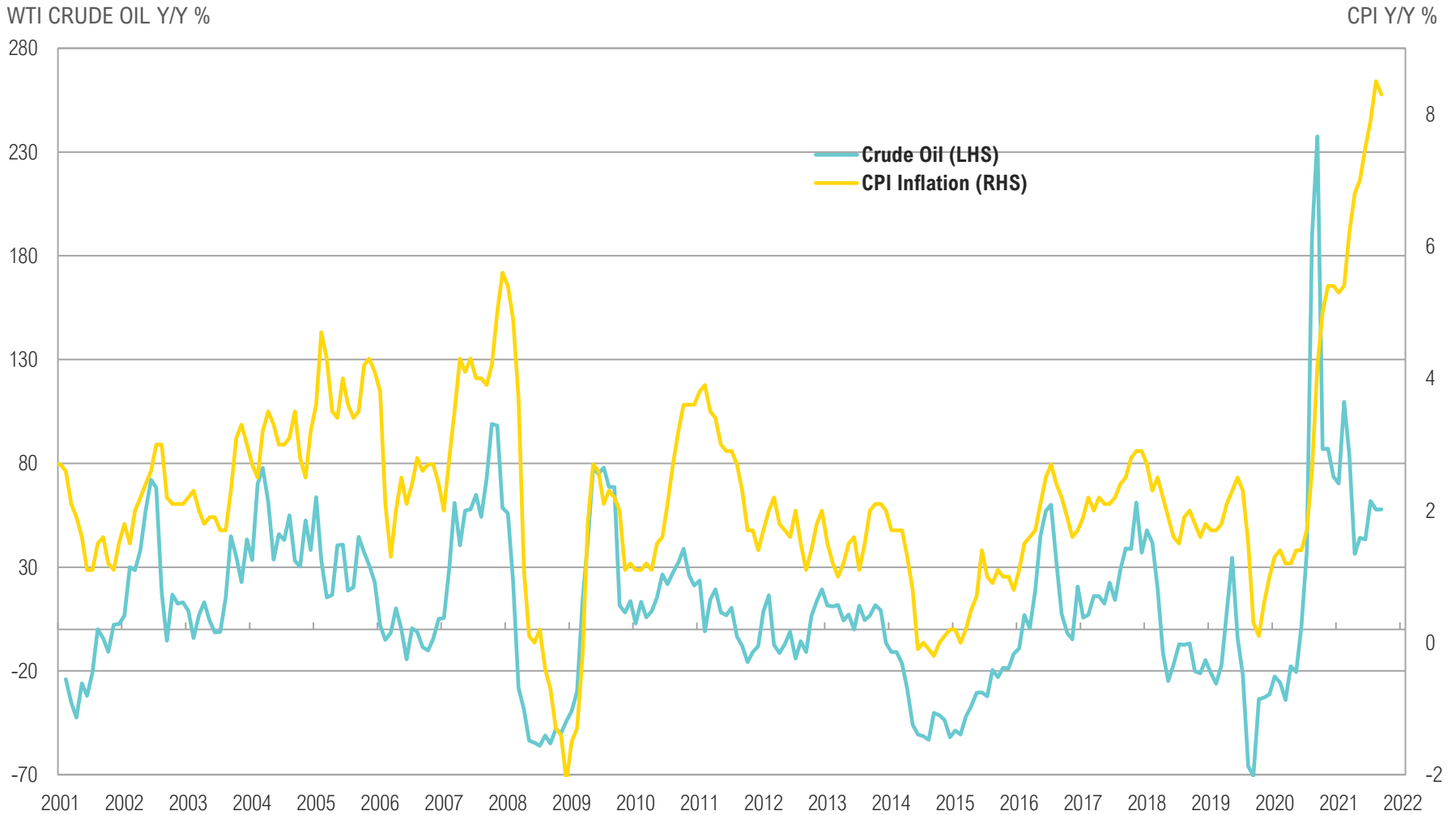
Source: Bloomberg

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



Source: Bloomberg

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



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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