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Key Takeaways: Tuesday, April 25, 2023

- **MEDIUM TERM (3-12mos):** We have long expected risk assets to chop around between SPX ~3800 and SPX ~4200 until the Phase 2 Credit Cycle downturn begins sometime in 2H23. No change to that view.

    - **MODAL OUTCOME (High Probability):** Our "resilient US economy = resilient US inflation" theme continues to perpetuate the Phase 1 Liquidity Cycle downturn. As such, we believe the Fed is likely to continue tightening monetary policy despite mounting stress in the financial sector. We expect a final rate hike in May and QT extending through yearend 2023. Investors should expect no unencumbered liquidity provision from the Fed until 2024 at the earliest.

    - **LEFT TAIL RISK (Middling Probability):** Our analysis suggests the US economy is unlikely to enter recession until late-2023. Thus, a recession that develops much sooner than our expectation will likely cause risk assets to crash from elevated levels given that the Phase 2 Credit Cycle downturn has yet to be priced in.

    - **RIGHT TAIL RISK (Low Probability):** China's recovery from Zero COVID and Europe's recovery from the worst of its energy crisis are on track and supportive of global growth. Moreover, Debt Ceiling dynamics are likely to inflate @42Macro Adjusted Net Liquidity modestly through midyear into a likely "pause pivot" by the Fed. Each of these outcomes is bearish for the US$ and may continue to inflate risk assets given bearish POSITIONING and trending cross-asset correlations.

- **RISK MANAGEMENT:**
    - **SELLS:** n/a
    - **BUYS:** n/a
    - **OVERBOUGHT:** n/a
    - **OVERSOLD:** n/a

- **EDUCATIONAL RESOURCES:**
    - https://42macro.com/walkthrough
    - https://42macro.com/the-playbook/
    - https://bit.ly/3DcrL21

We Use The @42Macro Weather Model In Conjunction With Our GRID Model Framework To Anticipate Inflections In The Liquidity Cycle And Dispersion Within And Across Asset Markets

Ten Principal Components of Macro: Real Economy Indicators

Growth	Previous Value	Latest Value	Previous Signal	Latest Signal
OECD Composite Leading Indicator	98.5	98.5	⬇	⬇
Bloomberg Consensus NTM Real GDP Δ	-150bps	-140bps	⬇	⬇

Inflation	Previous Value	Latest Value	Previous Signal	Latest Signal
Headline CPI YoY	6.0%	5.0%	⬇	⬇
Bloomberg Consensus NTM Headline CPI Δ	-295bps	-170bps	⬇	⬇

Employment	Previous Value	Latest Value	Previous Signal	Latest Signal
Unemployment Rate	3.6%	3.5%	⬇	⬇
Bloomberg Consensus NTM Unemployment Rate Δ	110bps	100bps	⬆	⬆

Corporate Profits	Previous Value	Latest Value	Previous Signal	Latest Signal
Bloomberg Consensus NTM Sales Growth Rate	1.5%	1.5%	⬇	⬇
Bloomberg Consensus NTM EPS Growth Rate	-2.2%	-2.2%	⬆	⬆

Fiscal Policy	Previous Value	Latest Value	Previous Signal	Latest Signal
Sovereign Fiscal Balance/Nominal GDP	-5.5%	-6.9%	⬆	⬇
Real Effective Exchange Rate	106.2	106.7	⬇	⬇

United States 4/25/2023

Asset	3-Month Outlook
Stock Market	🟡
Bond Market	🟢
US Dollar	🔴
Commodities	🟡
Bitcoin	🟡

Ten Principal Components of Macro: Financial Economy Indicators

Latest Signal	Previous Signal	Latest Value	Previous Value	Monetary Policy
⬇	⬇	$5,711	$5,697	@42Macro Adjusted Net Liquidity $bn
⬇	⬇	$30,165	$30,202	Global Central Bank Balance Sheet $bn

Latest Signal	Previous Signal	Latest Value	Previous Value	Liquidity
⬇	⬇	-8.3%	-3.3%	Domestic Narrow Money Supply YoY
⬇	⬇	-1.3%	0.7%	Global PPP-Weighted Narrow Money Supply YoY

Latest Signal	Previous Signal	Latest Value	Previous Value	Interest Rates
⬆	⬆	5.00%	5.00%	Benchmark Policy Rate
⬇	⬇	-108bps	-91bps	2yr Nominal Yield Spread vs. Benchmark Policy Rate

Latest Signal	Previous Signal	Latest Value	Previous Value	Fear
❌	⚠	10%	14%	Extreme Aggregated US Dollar POSITIONING
⚠	⚠	-12%	-14%	Extreme Aggregated US Rates POSITIONING

Latest Signal	Previous Signal	Latest Value	Previous Value	Greed
⚠	⚠	5%	-3%	Extreme Aggregated Commodities POSITIONING
⚠	⚠	-5%	-5%	Extreme Aggregated US Equities POSITIONING

GRID Regime: DEFLATION
Conviction: HIGH

K.I.S.S. Portfolio Construction Process = Keep It Simple & Systematic

I. Factor Selection Process: Start with a rigorously backtested understanding of market history via our GRID Asset Market Backtests.

- Step 1: Determine the Probability-Adjusted Annualized Expected Return for each asset in each GRID Regime. Use that figure to calculate Expected Sharpe Ratios for each asset in each GRID Regime.

- Step 2: Allocate a Target Exposure of 10% to three of the top five Expected Sharpe Ratios in each of the three asset classes (Equities, Fixed Income, and Macro) and the final 10% Target Exposure to a qualitative best idea – each according to the current GRID Regime as indicated by the @42Macro Weather Model.

- Step 3: If the @42Macro Weather Model indicates a HIGH-conviction GRID Regime, then all three exposures per asset class must correspond to that GRID Regime. If the @42Macro Weather Model indicates a MEDIUM-conviction GRID Regime, then two of the three exposures per asset class must correspond to that GRID Regime and the final one to the GRID Regime implied by consensus NTM growth and inflation expectations. If the @42Macro Weather Model indicates a LOW-conviction GRID Regime, then only one of the three exposures per asset class must correspond to that GRID Regime and the final two to the GRID Regime implied by consensus NTM growth and inflation expectations.

II. Top-Down Risk Management Overlay: Systematically incorporate changing market conditions via Expected Volatility Targeting.

- If the @42Macro Weather Model signal for the respective asset class (Equites, Fixed Income, and Macro = Currencies, [Gold = inverse of US Dollar], Commodities, Digital Assets, and [Volatility = inverse of Equities]) is BULLISH, then the Target Exposure per corresponding position = 10%.

- If the @42Macro Weather Model signal for the respective asset class (Equites, Fixed Income, and Macro = Currencies, [Gold = inverse of US Dollar], Commodities, Digital Assets, and [Volatility = inverse of Equities]) is NEUTRAL, then the Target Exposure per corresponding position = 7.5%.

- If the @42Macro Weather Model signal for the respective asset class (Equites, Fixed Income, and Macro = Currencies, [Gold = inverse of US Dollar], Commodities, Digital Assets, and [Volatility = inverse of Equities]) is BEARISH, then the Target Exposure per corresponding position = 5%.

III. Bottom-Up Risk Management Overlay: Systematically incorporate "the wisdom of the crowd" via Dynamic Position Sizing.

- If the exposure is Bullish VAMS, then the Actual Exposure = 100% of the Target Exposure
- If the exposure is Neutral VAMS, then the Actual Exposure = 50% of the Target Exposure
- If the exposure is Bearish VAMS, then the Actual Exposure = 0% of the Target Exposure

@42Macro GRID Asset Market Backtests: DEFLATION

FACTOR (ETF)	Annualized Expected Return				Percent Positive Ratio				Volatility				Covariance w/ US Equity βeta				FACTOR (ETF)	KISS Expected Sharpe Ratio Rankings			
	GOLDILOCKS	REFLATION	INFLATION	DEFLATION	GOLDILOCKS	REFLATION	INFLATION	DEFLATION	GOLDILOCKS	REFLATION	INFLATION	DEFLATION	GOLDILOCKS	REFLATION	INFLATION	DEFLATION		GOLDILOCKS	REFLATION	INFLATION	DEFLATION
S&P 500 (SPY)	24%	13%	-8%	-3%	72%	66%	44%	52%	11%	9%	15%	16%	1.00	1.00	1.00	1.00	S&P 500 (SPY)	24	4	21	20
S&P 100 (OEF)	25%	14%	-6%	-5%	73%	63%	45%	51%	11%	10%	14%	15%	0.99	0.98	0.99	0.99	S&P 100 (OEF)	18	7	14	24
NASDAQ 100 (QQQ)	36%	27%	-4%	-3%	72%	65%	52%	51%	13%	16%	23%	24%	0.83	0.79	0.81	0.86	NASDAQ 100 (QQQ)	9	2	6	14
S&P 400 (VO)	34%	18%	-7%	-1%	84%	66%	51%	53%	10%	10%	14%	20%	0.88	0.78	0.90	0.96	S&P 400 (VO)	2	1	24	12
Russell 2000 (IWM)	42%	16%	-8%	-3%	77%	67%	49%	53%	14%	12%	18%	21%	0.82	0.68	0.79	0.93	Russell 2000 (IWM)	6	5	16	15
High Beta (SPHB)	49%	22%	-15%	-11%	74%	59%	44%	52%	20%	15%	27%	30%	0.87	0.78	0.87	0.94	High Beta (SPHB)	13	14	22	26
Low Beta (SPLV)	19%	8%	-4%	4%	75%	57%	46%	52%	8%	8%	12%	12%	0.83	0.63	0.79	0.85	Low Beta (SPLV)	19	23	11	4
Dividend Compounders (SPHD)	25%	9%	-3%	3%	84%	58%	52%	56%	8%	8%	11%	15%	0.90	0.78	0.82	0.91	Dividend Compounders (SPHD)	3	19	9	5
Momentum (MTUM)	29%	19%	-4%	-1%	76%	63%	49%	53%	12%	11%	15%	16%	0.91	0.83	0.83	0.92	Momentum (MTUM)	16	3	10	11
Quality (QUAL)	26%	13%	-5%	0%	74%	64%	49%	50%	11%	9%	13%	15%	0.97	0.95	0.98	0.97	Quality (QUAL)	20	10	13	9
Growth (IWF)	26%	17%	-7%	-1%	71%	61%	48%	50%	12%	11%	15%	17%	0.96	0.92	0.96	0.96	Growth (IWF)	25	8	19	10
Value (IWD)	26%	11%	-6%	-4%	74%	61%	47%	54%	11%	8%	13%	16%	0.96	0.89	0.95	0.96	Value (IWD)	17	16	18	21
Consumer Discretionary (XLY)	34%	17%	-7%	-3%	80%	60%	45%	53%	11%	12%	17%	20%	0.89	0.85	0.87	0.93	Consumer Discretionary (XLY)	4	13	15	17
Consumer Staples (XLP)	17%	4%	-2%	6%	69%	54%	59%	53%	7%	9%	11%	13%	0.67	0.53	0.47	0.71	Consumer Staples (XLP)	21	31	8	2
Communications Services (XLC)	12%	9%	-9%	-7%	56%	52%	51%	53%	10%	15%	20%	17%	0.58	0.60	0.75	0.69	Communications Services (XLC)	30	29	17	28
Energy (XLE)	28%	13%	-8%	3%	70%	57%	43%	51%	15%	16%	19%	25%	0.53	0.42	0.56	0.71	Energy (XLE)	27	26	12	7
Financials (XLF)	33%	13%	-10%	-10%	75%	57%	44%	53%	13%	14%	18%	23%	0.88	0.66	0.83	0.87	Financials (XLF)	12	20	23	30
Health Care (XLV)	18%	10%	0%	8%	74%	61%	51%	59%	9%	10%	12%	14%	0.76	0.56	0.60	0.78	Health Care (XLV)	26	22	3	1
Industrials (XLI)	30%	17%	-7%	-6%	82%	63%	45%	53%	11%	12%	14%	20%	0.86	0.87	0.88	0.94	Industrials (XLI)	7	11	20	22
Information Technology (XLK)	34%	25%	-4%	-3%	72%	63%	51%	52%	13%	16%	24%	23%	0.81	0.79	0.86	0.87	Information Technology (XLK)	14	6	5	13
Materials (XLB)	33%	13%	-13%	0%	75%	63%	40%	49%	12%	14%	17%	22%	0.76	0.67	0.79	0.86	Materials (XLB)	8	21	25	8
Real Estate (XLRE)	18%	7%	0%	-5%	86%	53%	53%	64%	3%	8%	11%	13%	0.94	0.49	0.81	0.87	Real Estate (XLRE)	1	24	2	29
Utilities (XLU)	8%	6%	8%	-2%	64%	60%	61%	56%	10%	12%	14%	14%	0.40	0.16	0.49	0.57	Utilities (XLU)	31	30	1	18
Int'l ex-US (ACWX)	31%	12%	-17%	-6%	75%	66%	37%	52%	12%	9%	13%	18%	0.78	0.74	0.87	0.90	Int'l ex-US (ACWX)	11	9	30	23
Emerging Markets (EEM)	43%	18%	-23%	-8%	79%	63%	39%	51%	14%	13%	17%	23%	0.63	0.50	0.68	0.83	Emerging Markets (EEM)	5	12	31	25
Brazil (EWZ)	45%	22%	-7%	-17%	62%	57%	47%	49%	24%	28%	31%	33%	0.60	0.25	0.57	0.69	Brazil (EWZ)	29	27	7	31
China (FXI)	41%	17%	-34%	4%	77%	57%	33%	54%	17%	23%	23%	32%	0.42	0.24	0.42	0.61	China (FXI)	15	28	29	6
India (INDA)	45%	22%	-1%	-4%	74%	65%	49%	48%	17%	18%	20%	21%	0.33	0.26	0.39	0.66	India (INDA)	10	15	4	16
Japan (DXJ)	30%	16%	-13%	-7%	71%	64%	42%	47%	13%	13%	13%	16%	0.42	0.18	0.43	0.69	Japan (DXJ)	23	17	26	27
United Kingdom (EWU)	25%	8%	-17%	8%	69%	63%	44%	54%	14%	10%	16%	22%	0.42	0.43	0.60	0.65	United Kingdom (EWU)	28	25	28	3
Eurozone (EZU)	26%	12%	-15%	-4%	72%	59%	47%	49%	11%	10%	16%	18%	0.84	0.43	0.82	0.84	Eurozone (EZU)	22	18	27	19
Barclays Agg (AGG)	6%	1%	4%	8%	66%	55%	62%	70%	4%	3%	6%	5%	0.16	(0.00)	0.17	0.23	Barclays Agg (AGG)	10	13	7	3
EM Local Currency Bonds (EMLC)	8%	7%	-5%	1%	67%	63%	47%	55%	6%	6%	7%	10%	0.65	0.30	0.50	0.72	EM Local Currency Bonds (EMLC)	11	9	13	13
EM USD Bonds (EMB)	13%	7%	8%	3%	72%	65%	63%	64%	5%	5%	7%	13%	0.51	0.30	0.53	0.66	EM USD Bonds (EMB)	5	7	6	10
5-10yr TIPS (TIP)	4%	4%	8%	3%	61%	61%	65%	67%	4%	4%	5%	6%	0.07	0.08	(0.05)	0.47	5-10yr TIPS (TIP)	13	10	4	7
5-10yr Treasurys (IEF)	1%	-1%	8%	10%	57%	45%	64%	68%	4%	4%	5%	5%	(0.24)	(0.07)	(0.28)	(0.13)	5-10yr Treasurys (IEF)	14	14	3	1
1-3yr Treasurys (SHY)	1%	1%	3%	4%	74%	60%	69%	79%	1%	1%	1%	2%	(0.33)	(0.07)	(0.20)	(0.25)	1-3yr Treasurys (SHY)	7	14	1	1
Convertibles (CWB)	27%	15%	-8%	3%	89%	69%	46%	59%	8%	6%	8%	13%	0.88	0.74	0.86	0.89	Convertibles (CWB)	1	1	15	8
High Yield Credit (HYG)	16%	8%	2%	1%	80%	72%	60%	62%	6%	4%	6%	11%	0.77	0.40	0.57	0.72	High Yield Credit (HYG)	3	3	10	12
Investment Grade Credit (LQD)	9%	2%	2%	9%	64%	60%	58%	69%	6%	3%	7%	7%	0.32	0.10	0.29	0.46	Investment Grade Credit (LQD)	8	12	11	5
MBS (MBB)	6%	2%	4%	8%	76%	55%	63%	79%	5%	2%	7%	7%	0.15	(0.01)	0.22	0.14	MBS (MBB)	9	11	9	4
25+ Year Treasurys (TLT)	-2%	-5%	15%	14%	56%	45%	61%	59%	8%	8%	10%	13%	(0.22)	(0.11)	(0.25)	(0.14)	25+ Year Treasurys (TLT)	15	15	5	9
0-5yr TIPS (STIP)	2%	4%	4%	1%	59%	69%	63%	56%	2%	2%	2%	3%	0.19	0.17	(0.08)	0.56	0-5yr TIPS (STIP)	12	4	12	9
BDCs (BIZD)	32%	20%	-9%	-3%	77%	69%	49%	51%	15%	10%	13%	29%	0.75	0.56	0.73	0.84	BDCs (BIZD)	6	5	14	14
Leveraged Loans (BKLN)	10%	7%	2%	1%	90%	88%	67%	67%	4%	2%	3%	8%	0.57	0.23	0.35	0.55	Leveraged Loans (BKLN)	2	1	8	11
Preferreds (PFF)	10%	9%	-2%	-5%	74%	68%	58%	57%	4%	5%	8%	11%	0.44	0.42	0.50	0.56	Preferreds (PFF)	4	6	12	15
US Dollar (UUP)	-3%	0%	4%	4%	45%	52%	53%	54%	5%	4%	5%	6%	(0.50)	(0.42)	(0.36)	(0.64)	US Dollar (UUP)	10	11	4	1
Inverse US Dollar (UDN)	4%	1%	-3%	-4%	55%	48%	51%	44%	5%	4%	5%	6%	0.48	0.43	0.35	0.65	Inverse US Dollar (UDN)	4	9	10	10
Gold (GLD)	11%	8%	24%	7%	56%	51%	56%	55%	16%	13%	23%	14%	0.08	0.14	0.07	0.16	Gold (GLD)	5	5	2	2
Commodities (DBC)	7%	13%	-2%	-7%	60%	64%	46%	43%	6%	7%	7%	10%	0.23	0.34	0.09	0.39	Commodities (DBC)	3	2	9	9
Agriculture (DBA)	9%	1%	12%	-10%	52%	46%	50%	44%	15%	14%	22%	17%	0.08	0.16	(0.01)	0.25	Agriculture (DBA)	6	10	6	6
Energy (USO)	-1%	24%	-5%	-16%	39%	65%	45%	49%	20%	21%	28%	29%	0.04	0.22	0.02	0.46	Energy (USO)	8	3	8	8
Industrial Metals (DBB)	33%	17%	-14%	-10%	67%	61%	43%	46%	17%	15%	16%	18%	0.49	0.38	0.30	0.60	Industrial Metals (DBB)	2	4	11	7
Precious Metals (DBP)	7%	6%	13%	1%	54%	47%	52%	51%	18%	15%	25%	15%	0.13	0.22	0.10	0.21	Precious Metals (DBP)	7	8	7	4
Bitcoin (BITO)	483%	77%	79%	-26%	100%	54%	53%	32%	29%	36%	26%	19%	0.05	0.05	0.16	0.25	Bitcoin (BITO)	1			11
Interest Rate Volatility (PFIX)	-10%	7%	6%	-3%	33%	51%	52%	40%	12%	13%	11%	10%	(0.19)	(0.11)	(0.47)	(0.53)	Interest Rate Volatility (PFIX)	9	6	5	5
Equity Volatility (VIXM)	-36%	26%	82%	28%	36%	49%	56%	44%	45%	47%	87%	70%	(0.73)	(0.53)	(0.68)	(0.75)	Equity Volatility (VIXM)	11	7	3	3

GRID Asset Market Backtests sample = [Jan-68 through Dec-82] + [Jan-98 through present].

Sectors omitted from actual KISS Portfolio Construction process.

Highest Expected Sharpe Ratios By @42Macro GRID Regime

GOLDILOCKS	REFLATION	INFLATION	DEFLATION
Top 5 Equity Factors	**Top 5 Equity Factors**	**Top 5 Equity Factors**	**Top 5 Equity Factors**
Mid Caps (VO)	Mid Caps (VO)	India (INDA)	United Kingdom (EWU)
Dividend Compounders (SPHD)	Mega Cap Growth (QQQ)	Mega Cap Growth (QQQ)	Low Beta (SPLV)
Emerging Markets (EEM)	Momentum (MTUM)	Brazil (EWZ)	Dividend Compounders (SPHD)
Small Caps (IWM)	United States (SPY)	Dividend Compounders (SPHD)	China (FXI)
Mega Cap Growth (QQQ)	Small Caps (IWM)	Momentum (MTUM)	Quality (QUAL)
Bottom 5 Equity Factors	**Bottom 5 Equity Factors**	**Bottom 5 Equity Factors**	**Bottom 5 Equity Factors**
Brazil (EWZ)	China (FXI)	Emerging Markets (EEM)	Brazil (EWZ)
United Kingdom (EWU)	Brazil (EWZ)	International ex-US (ACWX)	Japan (DXJ)
Growth (IWF)	United Kingdom (EWU)	China (FXI)	High Beta (SPHB)
United States (SPY)	Low Beta (SPLV)	United Kingdom (EWU)	Emerging Markets (EEM)
Japan (DXJ)	Dividend Compounders (SPHD)	Eurozone (EZU)	Size (OEF)
Top 5 Fixed Income Factors	**Top 5 Fixed Income Factors**	**Top 5 Fixed Income Factors**	**Top 5 Fixed Income Factors**
Convertibles (CWB)	Leveraged Loans (BKLN)	1-3yr Treasurys (SHY)	1-3yr Treasurys (SHY)
Leveraged Loans (BKLN)	Convertibles (CWB)	0-5yr TIPS (STIP)	5-10yr Treasurys (IEF)
High Yield Credit (HYG)	High Yield Credit (HYG)	5-10yr Treasurys (IEF)	Barclays Agg (AGG)
Preferreds (PFF)	0-5yr TIPS (STIP)	5-10yr TIPS (TIP)	MBS (MBB)
Emerging Market US$ Bonds (EMB)	BDCs (BIZD)	Long Bond (TLT)	Investment Grade Credit (LQD)
Bottom 5 Fixed Income Factors	**Bottom 5 Fixed Income Factors**	**Bottom 5 Fixed Income Factors**	**Bottom 5 Fixed Income Factors**
Long Bond (TLT)	Long Bond (TLT)	Convertibles (CWB)	Preferreds (PFF)
5-10yr Treasurys (IEF)	5-10yr Treasurys (IEF)	BDCs (BIZD)	BDCs (BIZD)
5-10yr TIPS (TIP)	Barclays Agg (AGG)	EM Local Currency Bonds (EMLC)	EM Local Currency Bonds (EMLC)
0-5yr TIPS (STIP)	Investment Grade Credit (LQD)	Preferreds (PFF)	High Yield Credit (HYG)
EM Local Currency Bonds (EMLC)	MBS (MBB)	Investment Grade Credit (LQD)	Leveraged Loans (BKLN)
Top 5 Macro Factors	**Top 5 Macro Factors**	**Top 5 Macro Factors**	**Top 5 Macro Factors**
Bitcoin (BITO)	Bitcoin (BITO)	Bitcoin (BITO)	US Dollar (UUP)
Industrial Metals (DBB)	Commodities (DBC)	Gold (GLD)	Gold (GLD)
Commodities (DBC)	Energy (USO)	Equity Volatility (VIXM)	Equity Volatility (VIXM)
Inverse US Dollar (UDN)	Industrial Metals (DBB)	US Dollar (UUP)	Precious Metals (DBP)
Gold (GLD)	Gold (GLD)	Interest Rate Volatility (PFIX)	Interest Rate Volatility (PFIX)
Bottom 5 Macro Factors	**Bottom 5 Macro Factors**	**Bottom 5 Macro Factors**	**Bottom 5 Macro Factors**
Equity Volatility (VIXM)	US Dollar (UUP)	Industrial Metals (DBB)	Bitcoin (BITO)
US Dollar (UUP)	Agriculture (DBA)	Inverse US Dollar (UDN)	Inverse US Dollar (UDN)
Interest Rate Volatility (PFIX)	Inverse US Dollar (UDN)	Commodities (DBC)	Commodities (DBC)
Energy (USO)	Precious Metals (DBP)	Energy (USO)	Energy (USO)
Precious Metals (DBP)	Equity Volatility (VIXM)	Precious Metals (DBP)	Industrial Metals (DBB)

Our Current Portfolio Construction

42 Macro Portfolio Construction: 4/24/23

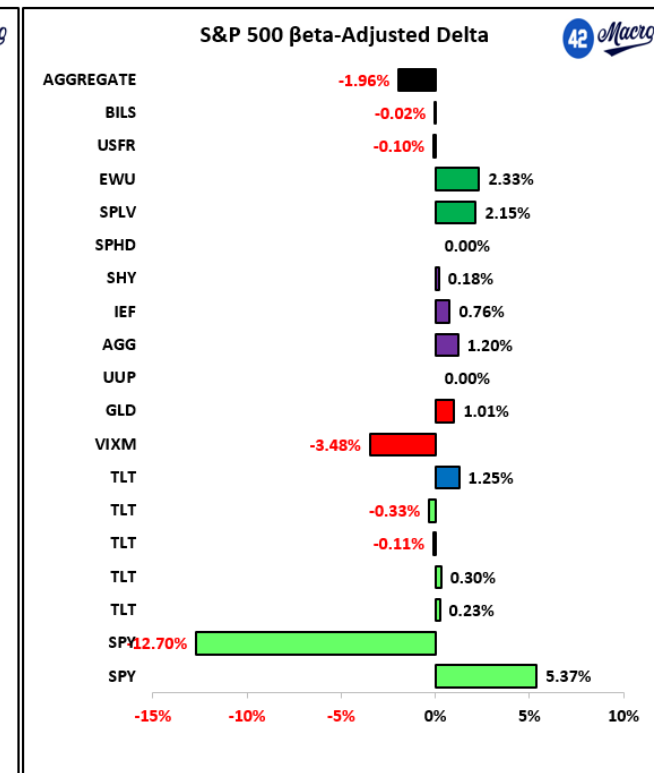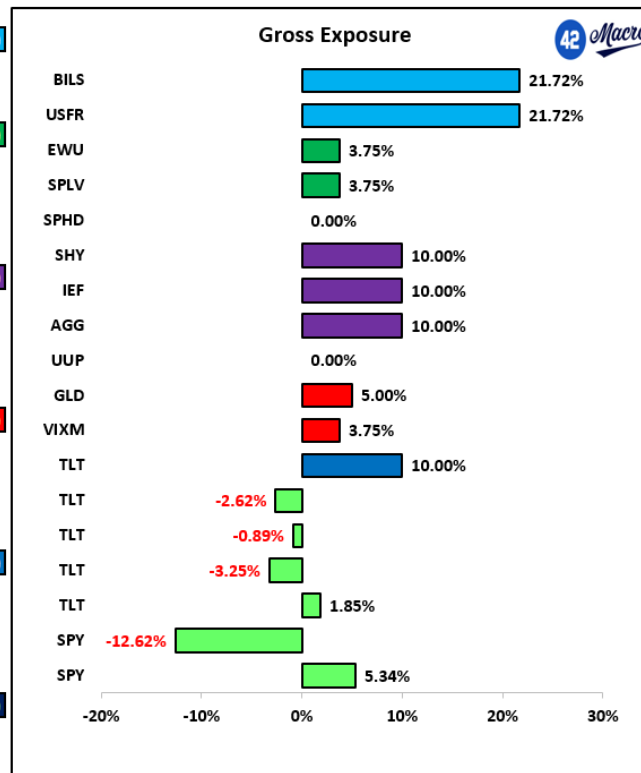|	Weather Model Target Exposure	VAMS Actual Exposure	Δ Since Prior Update	6mo βeta to S&P 500
Liquidity (Percent of MAX Exposure of 100%): 43%				
BILS	n/a	21.72%		-0.0
USFR	n/a	21.72%		-0.0
Equities (Percent of MAX Exposure of 30%): 25%				
EWU	7.50%	3.75%		0.6
SPLV	7.50%	3.75%		0.6
SPHD	7.50%	0.00%		0.8
Fixed Income (Percent of MAX Exposure of 30%): 100%				
SHY	10.00%	10.00%		0.0
IEF	10.00%	10.00%		0.1
AGG	10.00%	10.00%		0.1
Macro (Percent of MAX Exposure of 30%): 29%				
UUP	5.00%	0.00%		-0.2
GLD	10.00%	5.00%		0.2
VIXM	7.50%	3.75%		-0.9
Best Idea (Percent of MAX Exposure of 10%): 100%				
TLT	10.00%	10.00%		0.1

Options Overlay: 1.85%	Premium	Margin	Delta	6mo βeta to S&P 500
TLT US 07/21/23 P100 ($1.31)	0.12%		-2.62%	0.1
TLT US 07/21/23 C120 ($0.36)	-0.08%	1.50%	-0.89%	0.1
TLT US 05/19/23 P103 ($0.83)	0.14%		-3.25%	-0.1
TLT US 05/19/23 P101 ($0.41)	-0.08%		1.85%	0.1
SPY US 05/19/23 P405 ($3.89)	0.44%		-12.62%	1.0
SPY US 05/19/23 P390 ($1.54)	-0.19%		5.34%	1.0

Gross Exposure

BILS	21.72%
USFR	21.72%
EWU	3.75%
SPLV	3.75%
SPHD	0.00%
SHY	10.00%
IEF	10.00%
AGG	10.00%
UUP	0.00%
GLD	5.00%
VIXM	3.75%
TLT	10.00%
TLT	-2.62%
TLT	-0.89%
TLT	-3.25%
TLT	1.85%
SPY	-12.62%
SPY	5.34%

S&P 500 βeta-Adjusted Delta

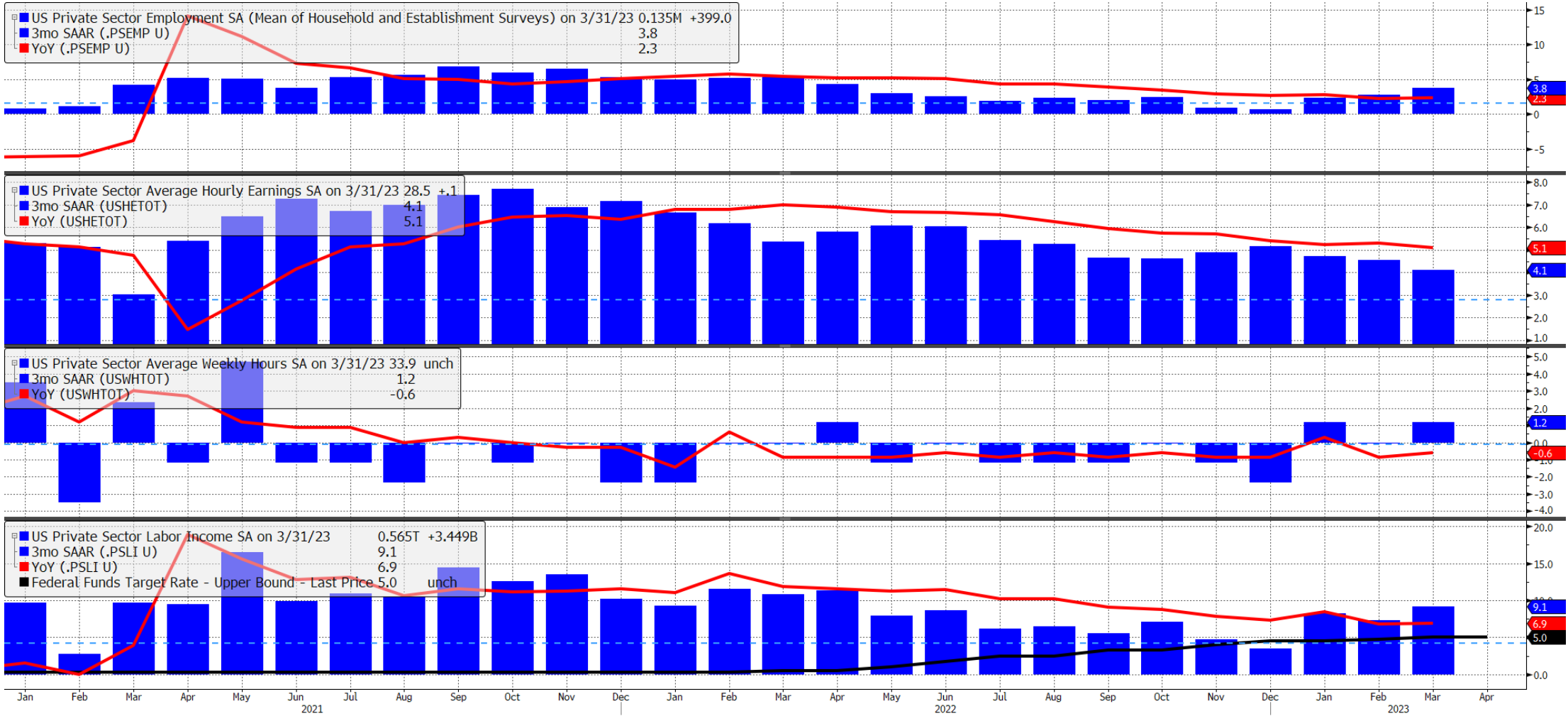|	
AGGREGATE	-1.96%
BILS	-0.02%
USFR	-0.10%
EWU	2.33%
SPLV	2.15%
SPHD	0.00%
SHY	0.18%
IEF	0.76%
AGG	1.20%
UUP	0.00%
GLD	1.01%
VIXM	-3.48%
TLT	1.25%
TLT	-0.33%
TLT	-0.11%
TLT	0.30%
TLT	0.23%
SPY	-12.70%
SPY	5.37%

Options insight

Why The GRIDs Work

- *"I knew which shifts in the environment caused asset classes to move around, and I knew that those relationships had remained essentially the same for hundreds of years. There were only two big forces to worry about: growth and inflation. Each could be rising or falling, so I saw that by finding four different investment strategies – each one of which would do well in a particular environment (rising growth with rising inflation, rising growth with falling inflation, and so on) – I could construct an asset allocation mix that was balanced to do well over time while being protected against unacceptable losses."*
–Ray Dalio, Principles pg. 70

- *"Subjective confidence in a judgment is not a reasoned evaluation of the probability that this judgment is correct. Confidence is a feeling, which reflects the coherence of the information and the cognitive ease of processing it. It is wise to take admissions of uncertainty serious, but declarations of high confidence mainly tell you that an individual has constructed a coherent story in his mind, not necessarily that the story is true."*
–Danny Kahneman & Amos Tversky, Thinking, Fast and Slow pg. 212

- *"You cannot beat the market, says the standard market doctrine. Granted. But you can sidestep its worst punches."*
–Benoit Mandelbrot, The (Mis)Behavior of Markets pg. 249

Modal Outcome

The US Economy Remains Resilient: Robust Labor Income

US Private Sector Employment SA (Mean of Household and Establishment Surveys) on 3/31/23 0.135M +399.0
3mo SAAR (.PSEMP U) 3.8
YoY (.PSEMP U) 2.3

US Private Sector Average Hourly Earnings SA on 3/31/23 28.5 +.1
3mo SAAR (USHETOT) 4.1
YoY (USHETOT) 5.1

US Private Sector Average Weekly Hours SA on 3/31/23 33.9 unch
3mo SAAR (USWHTOT) 1.2
YoY (USWHTOT) -0.6

US Private Sector Labor Income SA on 3/31/23 0.565T +3.449B
3mo SAAR (.PSLI U) 9.1
YoY (.PSLI U) 6.9
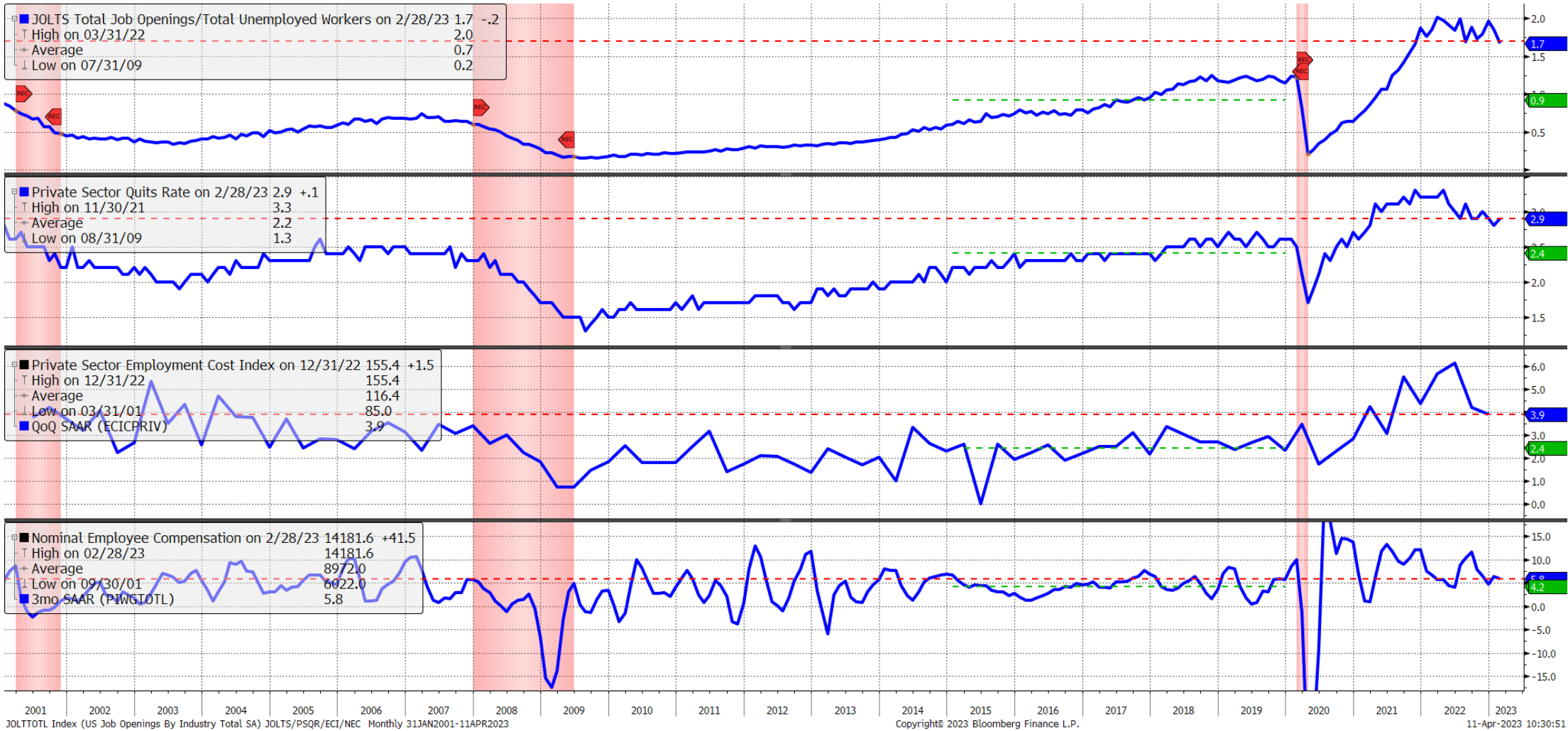Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

.PSEMP U Index (US Private Sector Employment S) Jobs Report Monthly 31JAN2021-11APR2023   Copyright© 2023 Bloomberg Finance L.P.   11-Apr-2023 10:30:28
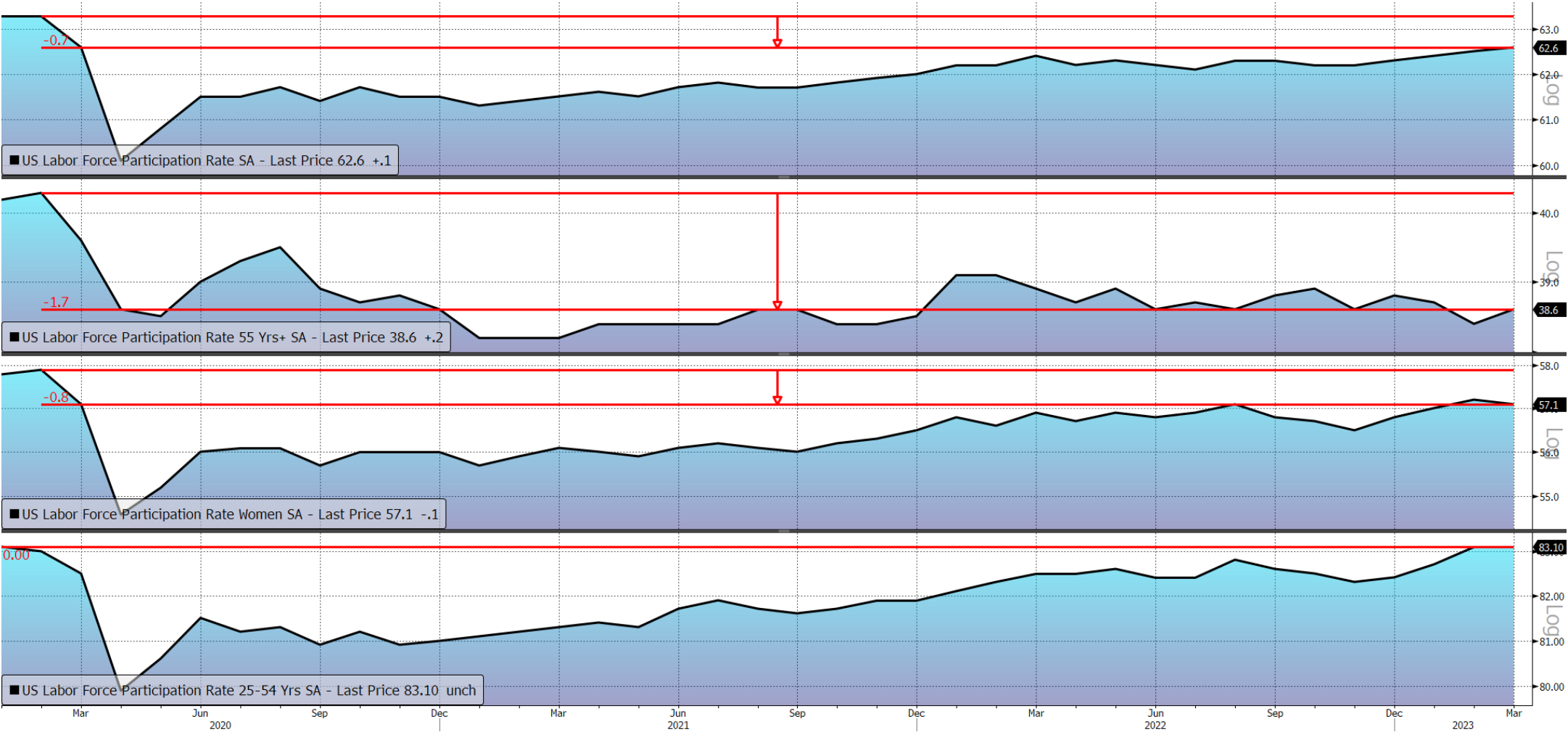
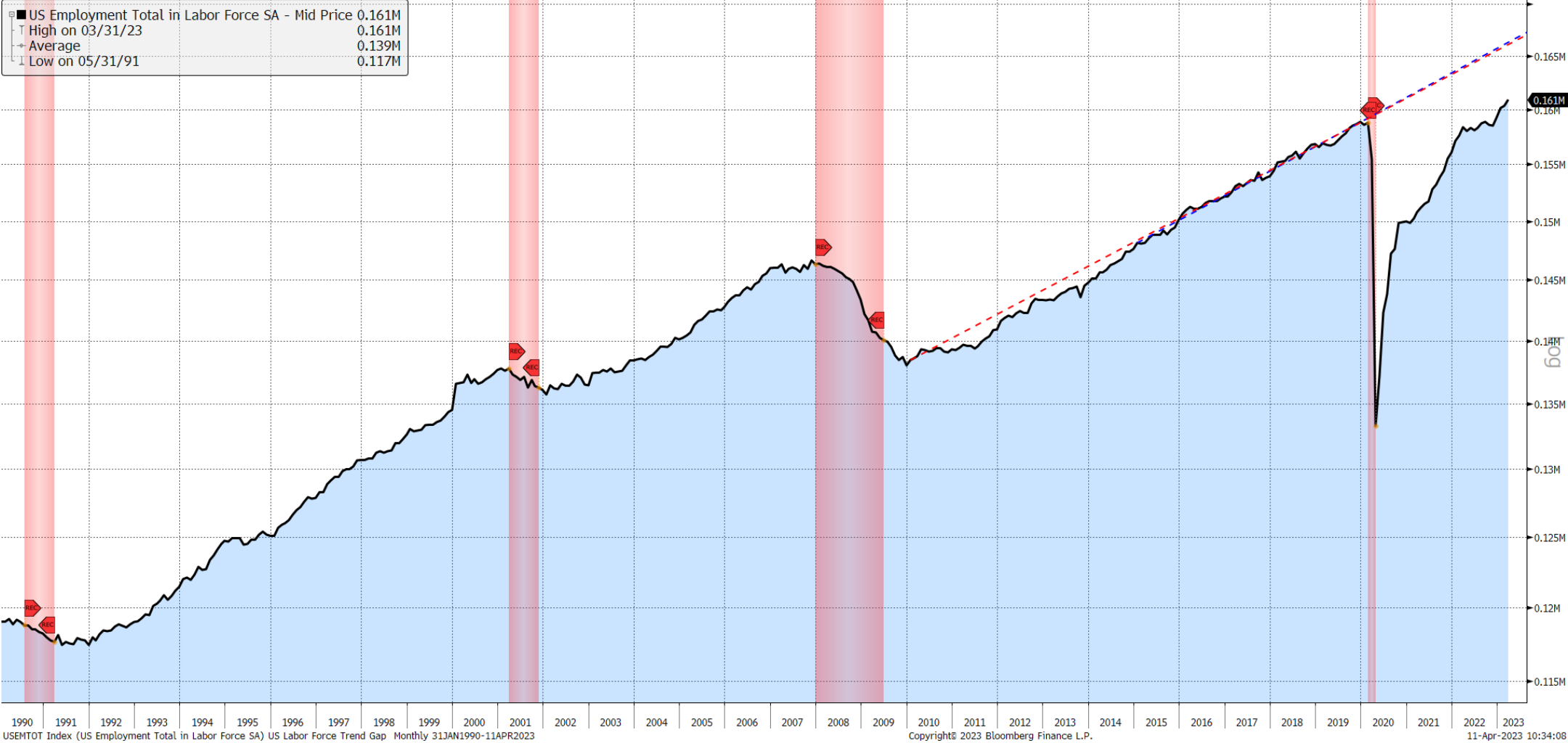# The US Economy Remains Resilient: Tight Labor Market

JOLTS Total Job Openings/Total Unemployed Workers on 2/28/23 1.7 -.2
- High on 03/31/22 — 2.0
- Average — 0.7
- Low on 07/31/09 — 0.2

Private Sector Quits Rate on 2/28/23 2.9 +.1
- High on 11/30/21 — 3.3
- Average — 2.2
- Low on 08/31/09 — 1.3

Private Sector Employment Cost Index on 12/31/22 155.4 +1.5
- High on 12/31/22 — 155.4
- Average — 116.4
- Low on 03/31/01 — 85.0
- QoQ SAAR (ECICPRIV) — 3.9

Nominal Employee Compensation on 2/28/23 14181.6 +41.5
- High on 02/28/23 — 14181.6
- Average — 8972.0
- Low on 09/30/01 — 6022.0
- 3mo SAAR (PIWGTOTL) — 5.8

JOLTTOTL Index (US Job Openings By Industry Total SA) JOLTS/PSQR/ECI/NEC Monthly 31JAN2001-11APR2023

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11-Apr-2023 10:30:51

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The Post-COVID Reduction In Labor Supply Appears Permanent

US Labor Force Participation Rate SA - Last Price 62.6 +.1

US Labor Force Participation Rate 55 Yrs+ SA - Last Price 38.6 +.2

US Labor Force Participation Rate Women SA - Last Price 57.1 -.1

US Labor Force Participation Rate 25-54 Yrs SA - Last Price 83.10 unch

PRUSTOT Index (US Labor Force Participation Rate SA) Labor Supply Monthly 31JAN2020-11APR2023   Copyright© 2023 Bloomberg Finance L.P.   11-Apr-2023 10:33:32

The Labor Market Is Still "Missing" ~5 Million Workers

US Employment Total in Labor Force SA - Mid Price 0.161M	
High on 03/31/23	0.161M
Average	0.139M
Low on 05/31/91	0.117M

USEMTOT Index (US Employment Total in Labor Force SA) US Labor Force Trend Gap Monthly 31JAN1990-11APR2023

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11-Apr-2023 10:34:08

Red dotted line = post-GFC trend. Blue dotted line = 2015-19 trend.

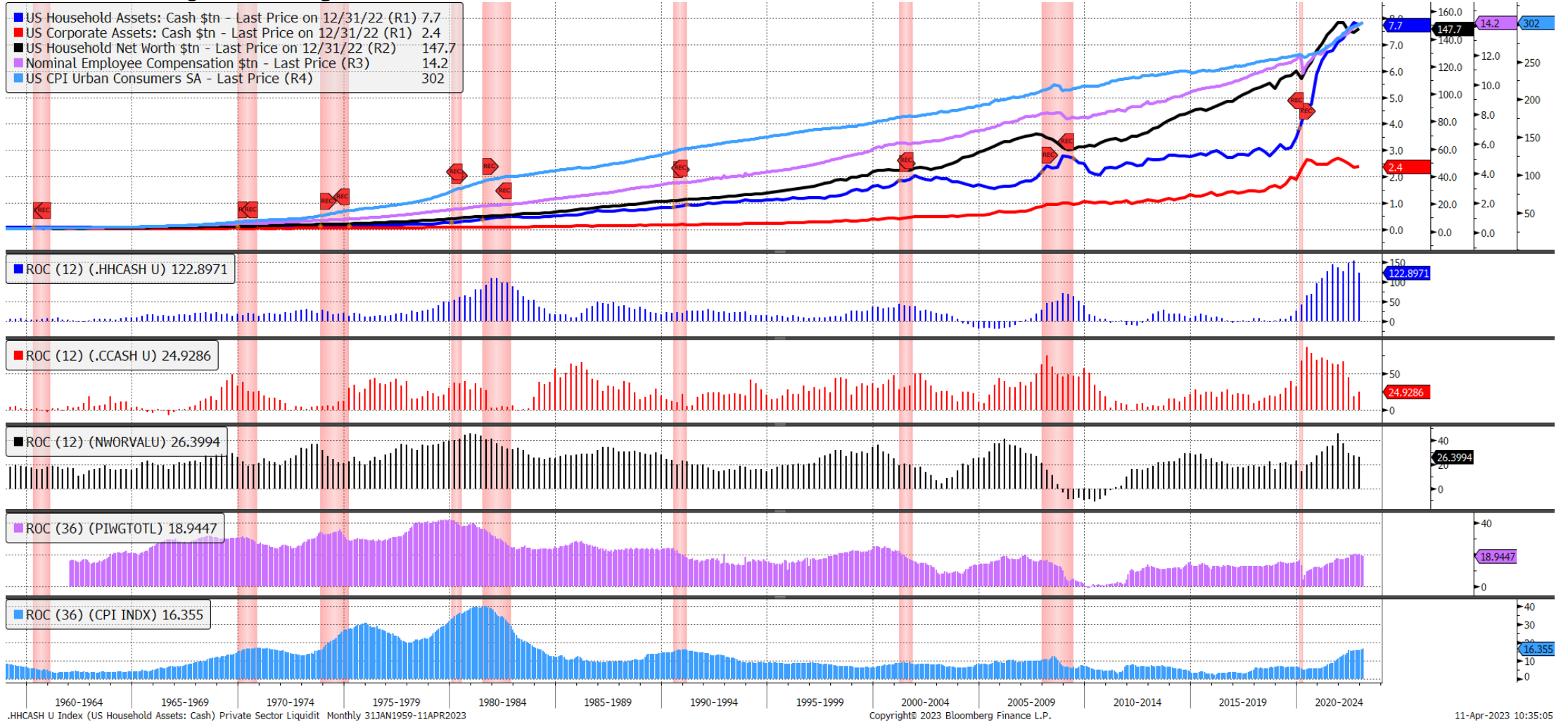# The US Economy Remains Resilient: Housing Reaccelerating
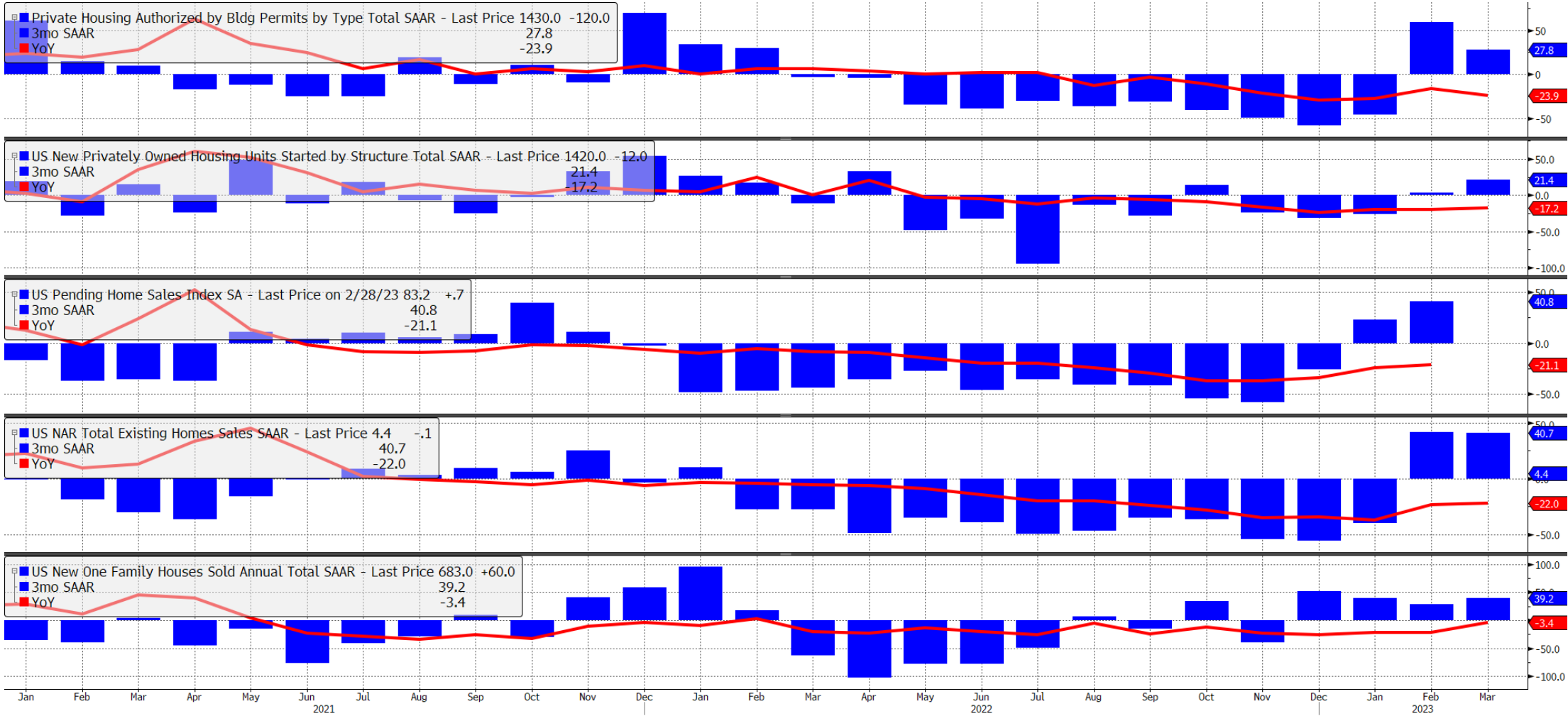
NHSPATOT Index (Private Housing Authorized by Bldg Permits by Type Total SAAR) Housing Monthly 31JAN2021-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 14:20:13
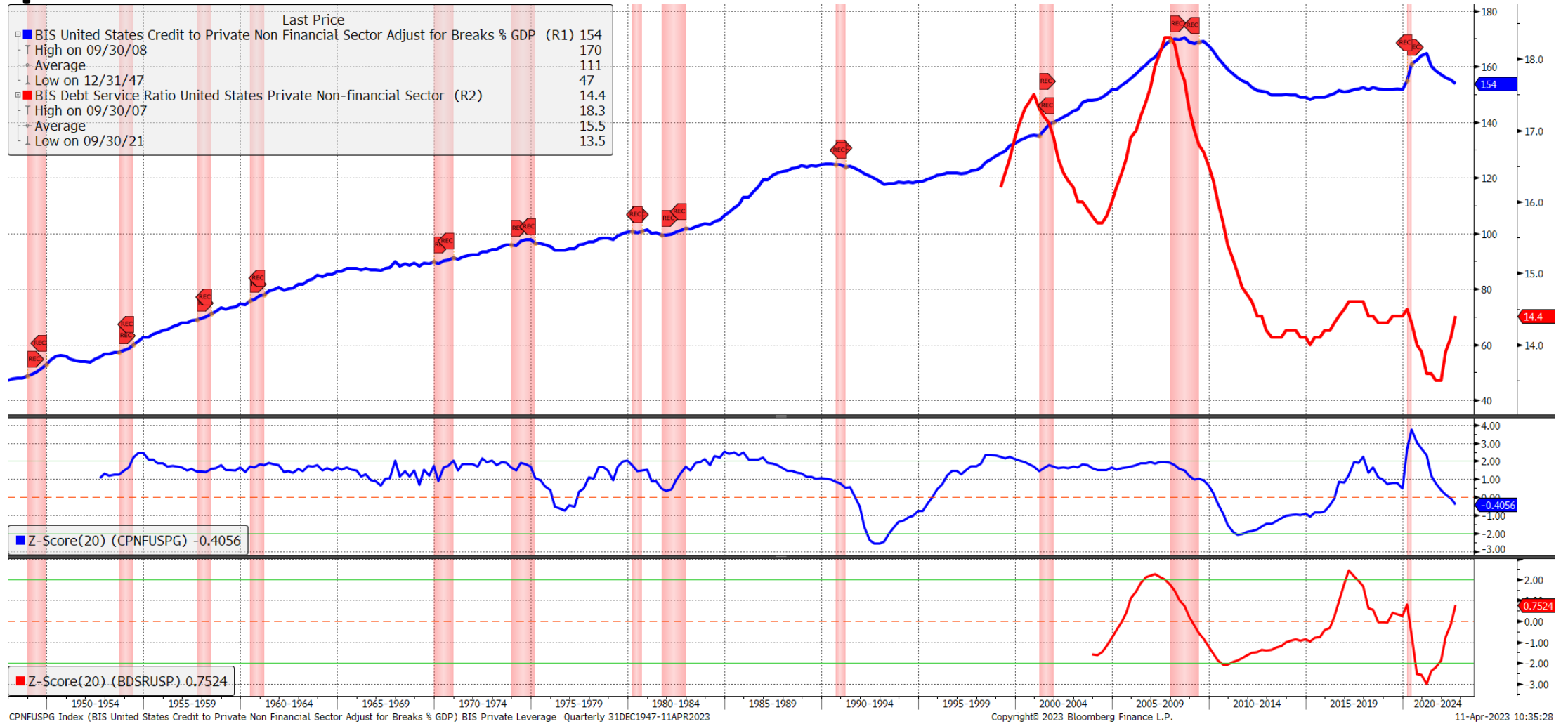
Why Has The US Economy Been So Resilient?: Record Private Sector Liquidity Growth
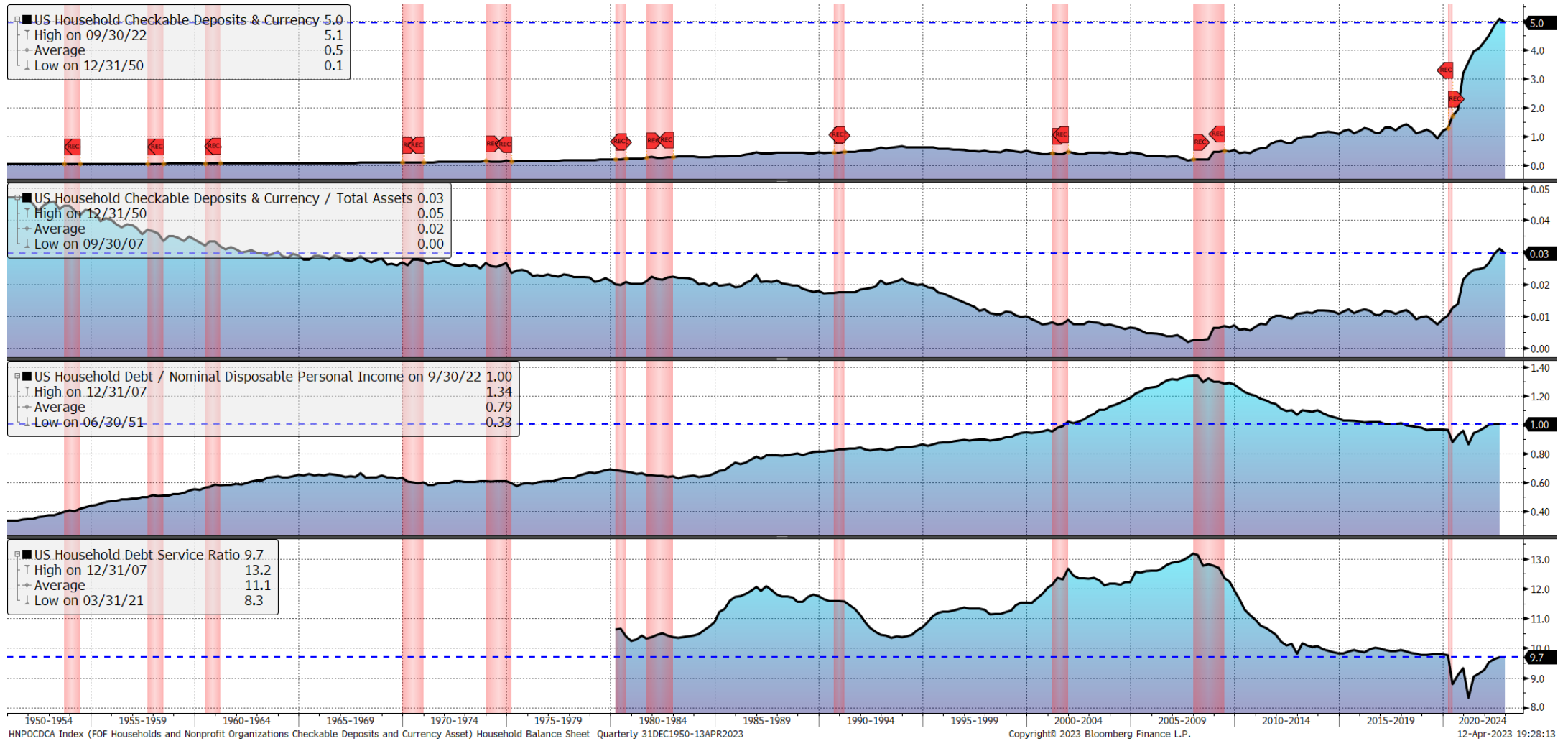
17

Why Has The US Economy Been So Resilient?: Scant Evidence Of Capital Misallocation

CPNFUSPG Index (BIS United States Credit to Private Non Financial Sector Adjust for Breaks % GDP) BIS Private Leverage Quarterly 31DEC1947-11APR2023   Copyright© 2023 Bloomberg Finance L.P.   11-Apr-2023 10:35:28
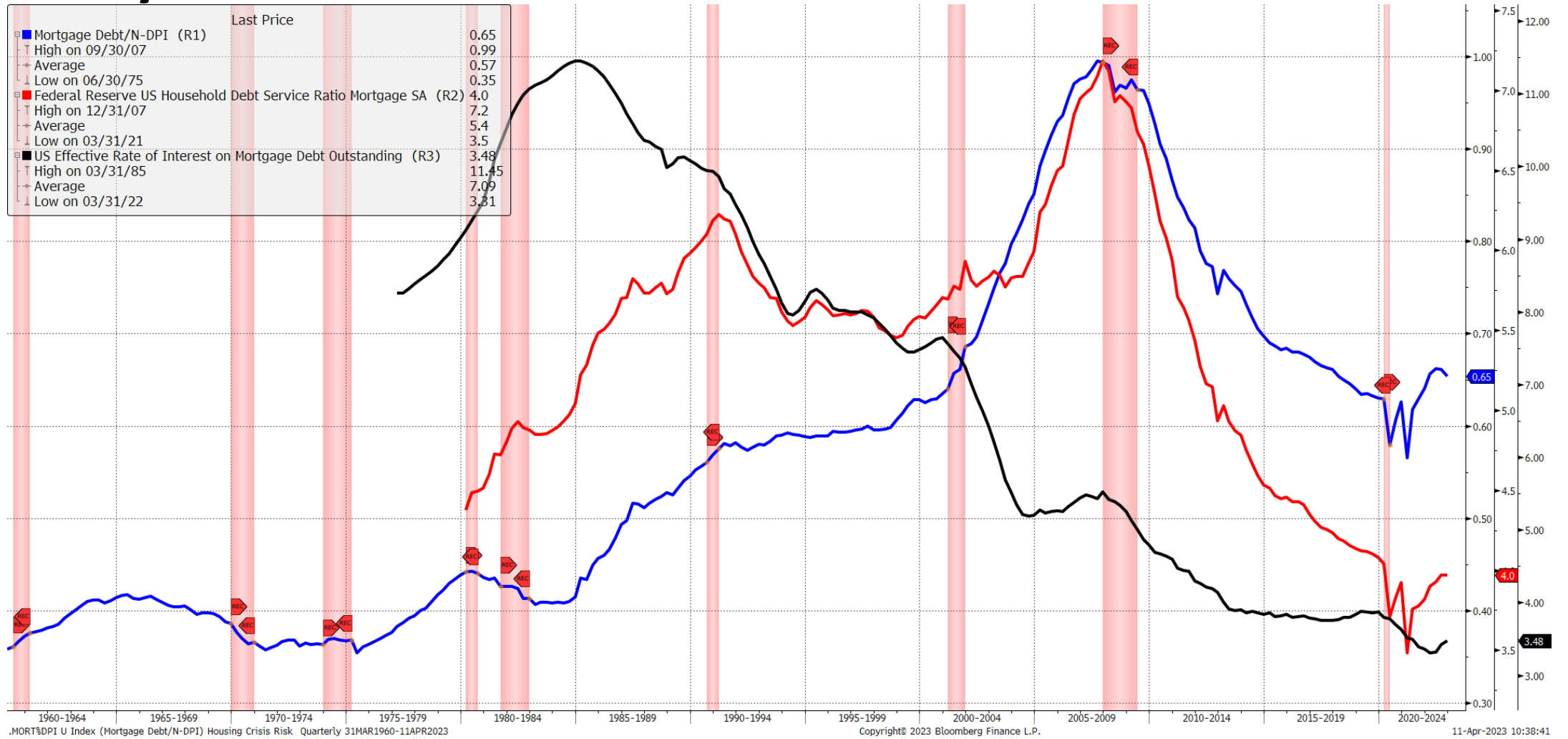
Why Has The US Economy Been So Resilient?: Record Cash On Household Balance Sheets

US Household Checkable Deposits & Currency 5.0
High on 09/30/22 — 5.1
Average — 0.5
Low on 12/31/50 — 0.1

US Household Checkable Deposits & Currency / Total Assets 0.03
High on 12/31/50 — 0.05
Average — 0.02
Low on 09/30/07 — 0.00

US Household Debt / Nominal Disposable Personal Income on 9/30/22 1.00
High on 12/31/07 — 1.34
Average — 0.79
Low on 06/30/51 — 0.33

US Household Debt Service Ratio 9.7
High on 12/31/07 — 13.2
Average — 11.1
Low on 03/31/21 — 8.3

HNPOCDCA Index (FOF Households and Nonprofit Organizations Checkable Deposits and Currency Asset) Household Balance Sheet Quarterly 31DEC1950-13APR2023   Copyright© 2023 Bloomberg Finance L.P.   12-Apr-2023 19:28:13

Why Has The US Economy Been So Resilient?: Near-Record Cash On Corporate Balance Sheets

US Corporate Checkable Deposits & Currency 1552
⊤ High on 06/30/20 — 1885
→ Average — 263
⊥ Low on 03/31/53 — 24

US Corporate Checkable Deposits & Currency / Total Assets 0.03
⊤ High on 12/31/50 — 0.05
→ Average — 0.02
⊥ Low on 12/31/08 — 0.01

US Corporate Debt / Nominal Gross Domestic Income 0.49
⊤ High on 06/30/20 — 0.58
→ Average — 0.36
⊥ Low on 09/30/51 — 0.20

US Corporate Debt Service Ratio on 9/30/22 40.1
⊤ High on 06/30/01 — 46.6
→ Average — 40.8
⊥ Low on 12/31/13 — 36.5

NFCBCDCA Index (FOF Nonfarm Nonfinancial Corp Business Checkable Deposits and Currency Asset NSA) Corporate Balance Sheet Quarterly 31DEC1950-13APR2023

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Why Has The US Economy Been So Resilient?: The Housing Market Is Hardly Sensitive To Rate Hikes

	Last Price
■ Mortgage Debt/N-DPI (R1)	0.65
⊤ High on 09/30/07	0.99
• Average	0.57
⊥ Low on 06/30/75	0.35
■ Federal Reserve US Household Debt Service Ratio Mortgage SA (R2)	4.0
⊤ High on 12/31/07	7.2
• Average	5.4
⊥ Low on 03/31/21	3.5
■ US Effective Rate of Interest on Mortgage Debt Outstanding (R3)	3.48
⊤ High on 03/31/85	11.45
• Average	7.09
⊥ Low on 03/31/22	3.31

.MORT%DPI U Index (Mortgage Debt/N-DPI) Housing Crisis Risk Quarterly 31MAR1960-11APR2023   Copyright© 2023 Bloomberg Finance L.P.   11-Apr-2023 10:38:41

Why Has The US Economy Been So Resilient?: Limited Exposure To The Volatile Manufacturing Sector

© 42 Macro LLC. Data Source: Bloomberg.
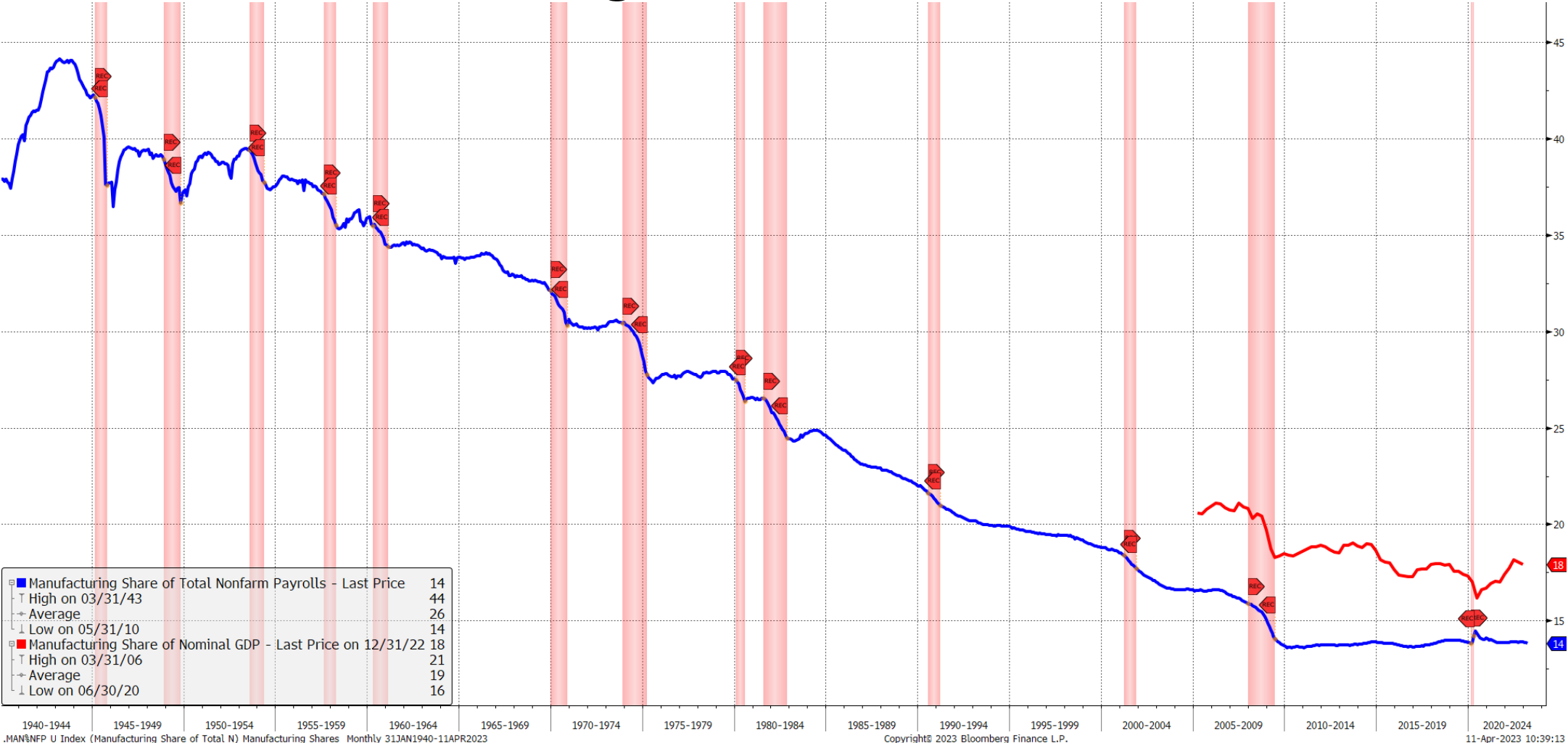
Unfortunately, Resilient US Economy = Resilient US Inflation: Headline Inflation

Last Price
US CPI Urban Consumers SA - on 3/31/23 301.8 +.2
3mo SAAR 3.8
YoY 5.0
Federal Funds Target Rate - Upper Bound 5.0 unch

Last Price
US CPI Urban Consumers Food SA - on 3/31/23 321.0 +.0
3mo SAAR 3.6
YoY 8.5
Federal Funds Target Rate - Upper Bound 5.0 unch

Last Price
US CPI Urban Consumers Energy SA - on 3/31/23 281.0 -10.3
3mo SAAR -8.7
YoY -6.4
Federal Funds Target Rate - Upper Bound 5.0 unch

Last Price
US Personal Consumption Expenditures Chain Type Price Index SA - on 2/28/23 126.2 +.3
3mo SAAR 4.2
YoY 5.0
Federal Funds Target Rate - Upper Bound 5.0 unch

CPI INDX Index (US CPI Urban Consumers SA) Headline Inflation Monthly 31JAN2021-13APR2023

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12-Apr-2023 19:29:06

Unfortunately, Resilient US Economy = Resilient US Inflation: Core Inflation

US CPI Urban Consumers Less Food & Energy SA - Last Price on 3/31/23 305.2 +1.2
- 3mo SAAR (CPUPAXFE) 5.0
- YoY (CPUPAXFE) 5.6
- Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

US CPI Urban Consumers Commodities Less Food & Energy SA - Last Price on 3/31/23 166.4 +.3
- 3mo SAAR (CPUPCXFE) 1.0
- YoY (CPUPCXFE) 1.6
- Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

US CPI Urban Consumers Services Less Energy Services SA - Last Price on 3/31/23 392.0 +1.8
- 3mo SAAR (CPUPSXEN) 6.5
- YoY (CPUPSXEN) 7.1
- Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

US CPI Urban Consumers Shelter SA - Last Price on 3/31/23 374.9 +2.1
- 3mo SAAR (CPSHSHLT) 8.3
- YoY (CPSHSHLT) 8.2
- Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

US CPI Urban Consumers Core Services Less Housing (Super Core) SA on 3/31/23 397.6 +1.2
- 3mo SAAR (CSXHSPCI) 4.3
- YoY (CSXHSPCI) 5.8
- Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

CPUPAXFE Index (US CPI Urban Consumers Less Food & Energy SA) Core Inflation Monthly 31JAN2021-13APR2023

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12-Apr-2023 19:29:23

Unfortunately, Resilient US Economy = Resilient US Inflation: Underlying Inflation

Cleveland Fed Median CPI 3mo SAAR on 3/31/23   6.8   -.7
Cleveland Fed Median CPI YoY on 3/31/23   7.1   -.1
Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

Cleveland Fed Trimmed Mean CPI 3mo SAAR on 3/31/23 5.1 -1.1
Cleveland Fed Trimmed Mean CPI YoY on 3/31/23   6.2 -.3
Federal Funds Target Rate - Upper Bound - Last Price   5.0 unch

Cleveland Fed Median PCE 3mo SAAR on 2/28/23   5.2   -.2
Cleveland Fed Median PCE YoY on 2/28/23   5.7   -.1
Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

Dallas Fed Trimmed Mean PCE 3mo SAAR on 2/28/23   4.7   +.1
Dallas Fed Trimmed Mean PCE YoY on 2/28/23   4.6   -.0
Federal Funds Target Rate - Upper Bound - Last Price 5.0 unch

US Personal Consumption Expenditures Ex Food & Energy Deflator SA - Last Price on 2/28/23 126.8   +.4
3mo SAAR (PCE CORE)   4.8
US Personal Consumption Expenditure Core Price Index YoY SA - Last Price on 2/28/23   4.6   -.1
Federal Funds Target Rate - Upper Bound - Last Price   5.0   unch

.CFMCPI3 U Index (Cleveland Fed Median CPI 3mo) Underlying Inflation Monthly 31JAN2021-13APR2023   Copyright© 2023 Bloomberg Finance L.P.   12-Apr-2023 19:29:33

If The Fed Wants To Succeed On Its Price Stability Mandate, It Must Continue Tightening Until It Breaks The Economy

Start	End	Primary Trigger	Real GDP Contraction	Starting Private Non-Financial Sector Credit Gap*	Peak Unemployment Rate	Nonfarm Payrolls Max Drawdown	Manufacturing Sector Share of Nonfarm Payrolls	Manufacturing Sector Share of NFP Drawdown	S&P 500 Max Drawdown	S&P 500 TTM EPS Max Drawdown	NIPA Corporate Profits Max Drawdown	Core PCE YoY Peak	Core PCE YoY Trough	bps Change t₋₁	bps Change	bps Change t₊₁	Fed Funds Rate* Peak	Fed Fund Rate* Trough	bps Change t₋₁	bps Change	bps Change t₊₁
Aug-29	Mar-33	Monetary Tightening	-26.7%		24.9%				-86%												
May-37	Jun-38	Fiscal Tightening	-18.2%		19.0%				-54%												
Feb-45	Oct-45	Fiscal Tightening	-12.7%		1.9%	-9%	42%	106%	-6%												
Nov-48	Oct-49	Monetary Tightening	-1.7%	0.9	7.9%	-5%	39%	85%	-21%		-16%										
Jul-53	May-54	Monetary Tightening	-2.6%	1.2	6.1%	-3%	39%	98%	-15%		-22%										
Aug-57	Apr-58	Pandemic	-3.7%	1.5	7.5%	-4%	37%	84%	-21%	-20%	-24%						3.51%	1.02%	84bps	-249bps	165bps
Apr-60	Feb-61	Monetary Tightening	-1.6%	1.4	7.1%	-2%	35%	95%	-14%	-11%	-15%	2.2%	1.2%		-94bps	10bps	4.68%	2.05%	19bps	-263bps	13bps
Dec-69	Nov-70	Monetary Tightening/Fiscal Tightening	-0.6%	1.7	6.1%	-1%	32%	212%	-35%	-18%	-20%	4.8%	4.5%	3bps	-23bps	-88bps	8.08%	4.80%	176bps	-328bps	-70bps
Nov-73	Mar-75	Energy Price Shock	-3.2%	1.8	9.0%	-2%	30%	188%	-48%	-4%	-12%	4.9%	4.9%	179bps	0bps	-387bps	11.00%	5.50%	350bps	-550bps	-75bps
Jan-80	Jul-80	Monetary Tightening/Energy Price Shock	-2.2%	2.0	7.8%	-1%	27%	153%	-15%	-4%	-18%	8.2%	8.2%	144bps	0bps	-37bps	15.50%	9.50%	400bps	-600bps	600bps
Jul-81	Nov-82	Monetary Tightening	-2.7%	0.8	10.8%	-3%	26%	94%	-27%	-22%	-9%	9.8%	5.9%	-37bps	-389bps	-138bps	20.00%	9.00%	600bps	-1100bps	50bps
Jul-90	Mar-91	Energy Price Shock	-1.4%	0.9	7.8%	-1%	22%	121%	-20%	-43%	-6%	4.1%	3.7%	1bps	-42bps	-36bps	9.00%	6.00%	-100bps	-300bps	-200bps
Mar-01	Nov-01	Monetary Tightening	-0.3%	1.4	6.3%	-2%	18%	107%	-49%	-29%	-8%	2.0%	1.2%	3bps	-82bps	-12bps	6.50%	2.00%	-100bps	-450bps	-75bps
Dec-07	Jun-09	Monetary Tightening	-5.1%	1.9	10.0%	-6%	16%	55%	-57%	-35%	-37%	2.6%	0.7%	9bps	-184bps	84bps	5.25%	0.25%	-100bps	-500bps	0bps
Feb-20	Apr-20	Pandemic	-19.2%	0.5	14.7%	-14%	14%	12%	-34%	-16%	-18%	1.8%	0.9%	6bps	-92bps	221bps	2.50%	0.25%	-75bps	-225bps	0bps
		MEDIAN - All	**-2.7%**	**1.4**	**7.8%**	**-3%**	**30%**	**98%**	**-27%**	**-19%**	**-17%**	**4.1%**	**3.7%**	**5bps**	**-82bps**	**-36bps**	**7.3%**	**3.4%**	**52bps**	**-389bps**	**0bps**
		MEDIAN - Monetary Tightening	-2.2%	1.4	7.8%	-3%	30%	96%	-27%	-20%	-17%	3.7%	2.9%	3bps	-88bps	-24bps	7.3%	3.4%	98bps	-475bps	6bps
		MEDIAN - Fiscal Tightening	-12.7%	1.7	6.1%	-5%	37%	159%	-35%	-18%	-20%	4.8%	4.5%	3bps	-23bps	-88bps	8.1%	4.8%	176bps	-328bps	-70bps
		MEDIAN - Energy Price Shock	-2.2%	1.8	7.8%	-1%	27%	153%	-20%	-4%	-12%	4.9%	4.9%	144bps	0bps	-37bps	11.0%	6.0%	350bps	-550bps	-75bps
		MEDIAN - Pandemic	-11.5%	1.0	11.1%	-9%	25%	48%	-27%	-18%	-21%	1.8%	0.9%	6bps	-92bps	221bps	3.0%	0.6%	5bps	-237bps	83bps
		MILD Recession	-2.0%	1.3	7.0%	-2%	29%	124%	-28%	-25%	-13%	3.3%	2.7%	2bps	-60bps	-31bps	7.07%	3.71%	-1bps	-335bps	-83bps
		MODERATE Recession	-2.7%	1.5	8.2%	-3%	32%	123%	-25%	-13%	-17%	7.6%	6.3%	95bps	-130bps	-187bps	12.50%	6.26%	359bps	-625bps	185bps
		SEVERE Recession	-4.2%	1.2	14.1%	-10%	24%	58%	-48%	-25%	-28%	2.2%	0.8%	8bps	-138bps	152bps	3.88%	0.25%	-88bps	-363bps	0bps
		Correlation* to Real GDP Contraction	**1.00**	**0.49**	**(0.79)**	**0.24**	**0.67**	**0.75**	**0.56**	**(0.01)**	**(0.45)**	**0.31**	**0.36**	**0.08**	**0.06**	**(0.57)**	**0.41**	**0.46**	**0.25**	**(0.26)**	**0.01**
		r²	1.00	0.24	0.63	0.06	0.45	0.56	0.31	0.00	0.20	0.10	0.13	0.01	0.00	0.33	0.17	0.21	0.06	0.07	0.00

Data Source: NBER, Bloomberg. Intellectual Property of 42 Macro LLC. Asterisk = 3mo T-Bill Yield prior to the 1973-75 recession. Mild, Moderate, and Severe recession statistics are averages.

Left Tail Risk

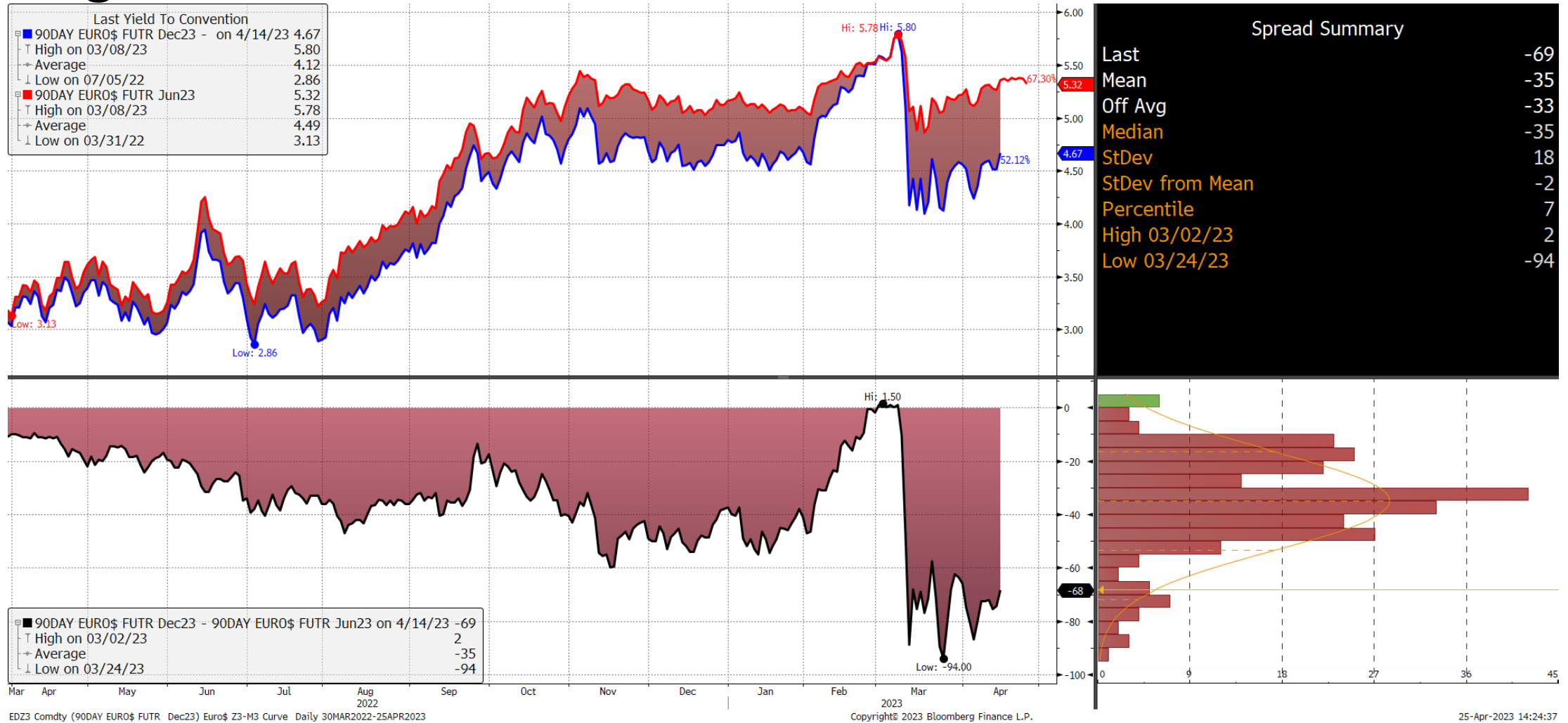# Money Market Participants Believe The Fed Has Already Done Enough To Break The Economy
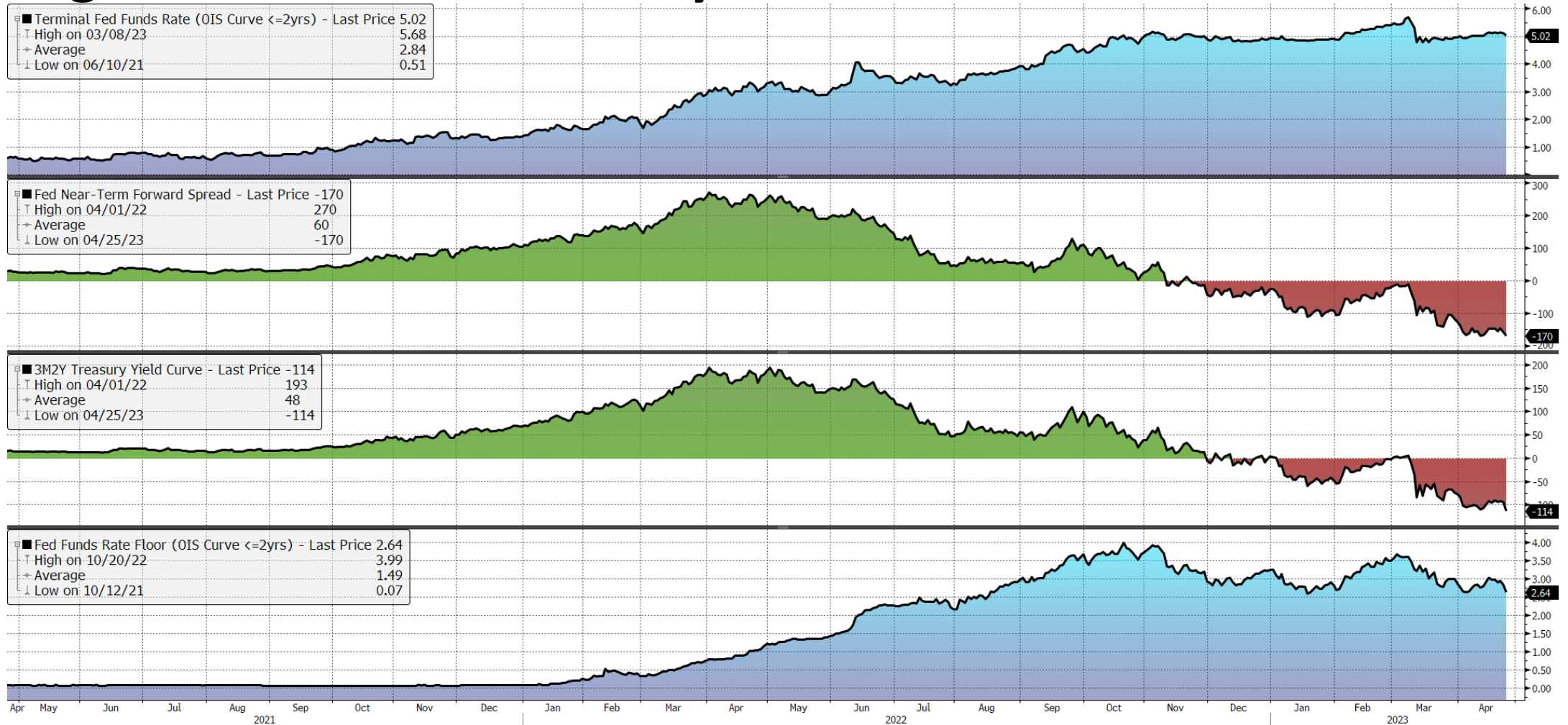
The Eurodollar Market Believes The Economy Will Break Quickly Enough For Panic Rate Cuts In 2H23

© 42 Macro LLC. Data Source: Bloomberg.

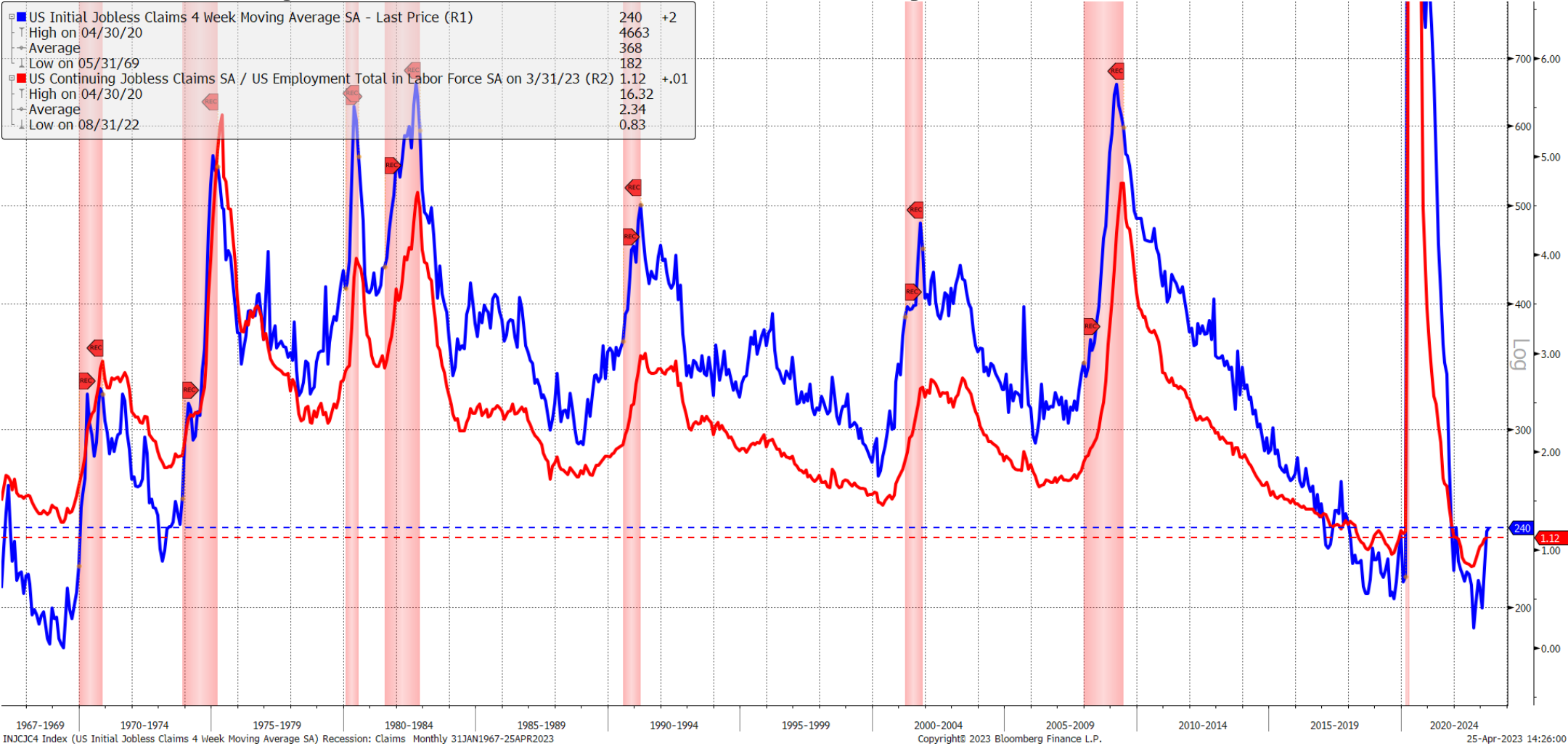# The Inversion In The 3M10Y Treasury Yield Curve Also Implies A Recession Is Likely
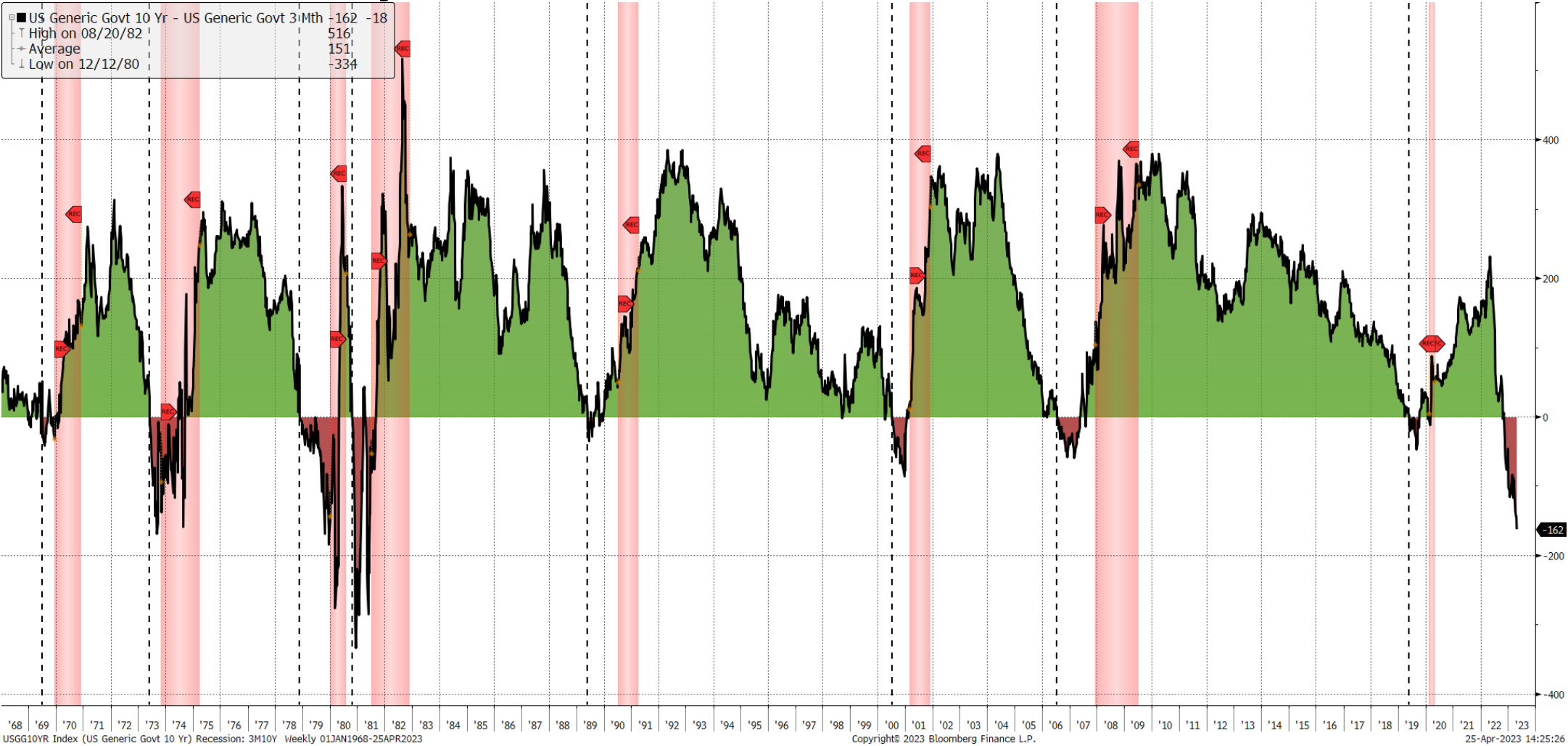
Our #Math On 3M10Y Yield Curve Inversions Suggests A Recession Is Most Likely To Commence In The Oct-23 Through Apr-24 Period

Date of 3M10Y Yield Curve Inversion	Real GDP 0-6mos Forward	Real GDP 6-12mos Forward	Real GDP 12-18mos Forward	Industrial Production 0-6mos Forward	Industrial Production 6-12mos Forward	Industrial Production 12-18mos Forward	Nonfarm Payrolls 0-6mos Forward	Nonfarm Payrolls 6-12mos Forward	Nonfarm Payrolls 12-18mos Forward	Unemployment Rate 0-6mos Forward	Unemployment Rate 6-12mos Forward	Unemployment Rate 12-18mos Forward	Core PCE YoY 0-6mos Forward	Core PCE YoY 6-12mos Forward	Core PCE YoY 12-18mos Forward
12/17/1968	2.3%	0.2%	-0.0%	2.6%	-0.5%	-2.7%	2.4%	0.9%	-0.3%	10bps	0bps	140bps	-4bps	13bps	-13bps
6/1/1973	1.5%	-0.6%	-1.3%	2.1%	-0.6%	-7.9%	1.8%	0.7%	-1.2%	0bps	50bps	180bps	166bps	261bps	232bps
11/1/1978	1.5%	0.9%	0.6%	1.2%	-0.3%	-4.2%	2.1%	0.9%	-0.2%	-20bps	30bps	160bps	36bps	27bps	121bps
10/27/1980	3.9%	0.4%	-2.6%	2.6%	0.4%	-3.8%	1.2%	0.1%	-1.3%	-30bps	70bps	140bps	-30bps	-102bps	-149bps
5/22/1989	1.5%	1.3%	0.4%	-0.7%	1.5%	-1.3%	0.9%	1.0%	-0.6%	20bps	0bps	80bps	-70bps	22bps	24bps
7/7/2000	0.7%	0.3%	-0.1%	-1.2%	-2.9%	-0.9%	0.5%	-0.4%	-1.0%	20bps	40bps	110bps	26bps	12bps	-70bps
7/17/2006	1.0%	0.9%	1.2%	0.7%	1.7%	0.6%	0.8%	0.4%	0.3%	0bps	10bps	30bps	-10bps	-46bps	15bps
5/15/2019	1.6%	-0.7%	-1.3%	-0.1%	-15.8%	12.7%	0.7%	-12.3%	7.3%	0bps	960bps	-650bps	-20bps	-59bps	42bps
10/26/2022	0.6%			-0.5%			1.2%			0bps			-60bps		
MIN	0.7%	-0.7%	-2.6%	-1.2%	-15.8%	-7.9%	0.5%	-12.3%	-1.3%	-30bps	0bps	-650bps	-70bps	-102bps	-149bps
1st QUARTILE	1.4%	-0.0%	-1.3%	-0.2%	-1.2%	-3.9%	0.8%	-0.0%	-1.1%	-5bps	8bps	68bps	-23bps	-49bps	-27bps
MEDIAN	**1.5%**	**0.2%**	**-20.1%**	**1.0%**	**-0.4%**	**-2.0%**	**1.0%**	**0.6%**	**-0.4%**	**0bps**	**35bps**	**125bps**	**-7bps**	**12bps**	**20bps**
3rd QUARTILE	1.7%	0.9%	0.5%	2.3%	0.6%	-0.5%	1.9%	0.9%	-0.1%	13bps	55bps	145bps	29bps	23bps	62bps
MAX	3.9%	1.3%	1.2%	2.6%	1.7%	12.7%	2.4%	1.0%	7.3%	20bps	960bps	180bps	166bps	261bps	232bps
PERCENT POSITIVE	100%	75%	38%	63%	38%	25%	100%	75%	25%	38%	75%	88%	38%	63%	63%
PERCENT NEGATIVE	0%	25%	63%	38%	63%	75%	0%	25%	75%	25%	0%	13%	63%	38%	38%
FED STILL HIKING w/in 3mo (n=3)	**1.5%**	**0.4%**	**-1.3%**	**2.1%**	**-0.3%**	**-4.2%**	**1.8%**	**0.7%**	**-1.2%**	**-20bps**	**50bps**	**160bps**	**36bps**	**27bps**	**121bps**
FED PAUSE w/in 3mo (n=3)	1.0%	0.3%	-0.0%	0.7%	-0.5%	-0.9%	0.8%	0.4%	-0.3%	10bps	10bps	110bps	-4bps	12bps	-13bps
FED PIVOT w/in 3mo (n=2)	1.5%	0.3%	-0.4%	-0.4%	-7.2%	5.7%	0.8%	-5.6%	3.4%	10bps	480bps	-285bps	-45bps	-19bps	33bps
MEAN OF BOLDED SCENARIOS	**1.5%**	**0.4%**	**-0.7%**	**1.6%**	**-0.3%**	**-3.1%**	**1.4%**	**0.7%**	**-0.8%**	**-10bps**	**43bps**	**143bps**	**15bps**	**19bps**	**70bps**

Data Source: Bloomberg. All summary statistics featured in the bottom clusters of rows are MEDIAN values unless denoted otherwise. Intellectual Property of 42 Macro LLC.

The Inflection In Continuing Claims As A Percent Of The Labor Force Also Implies A Recession Is Likely
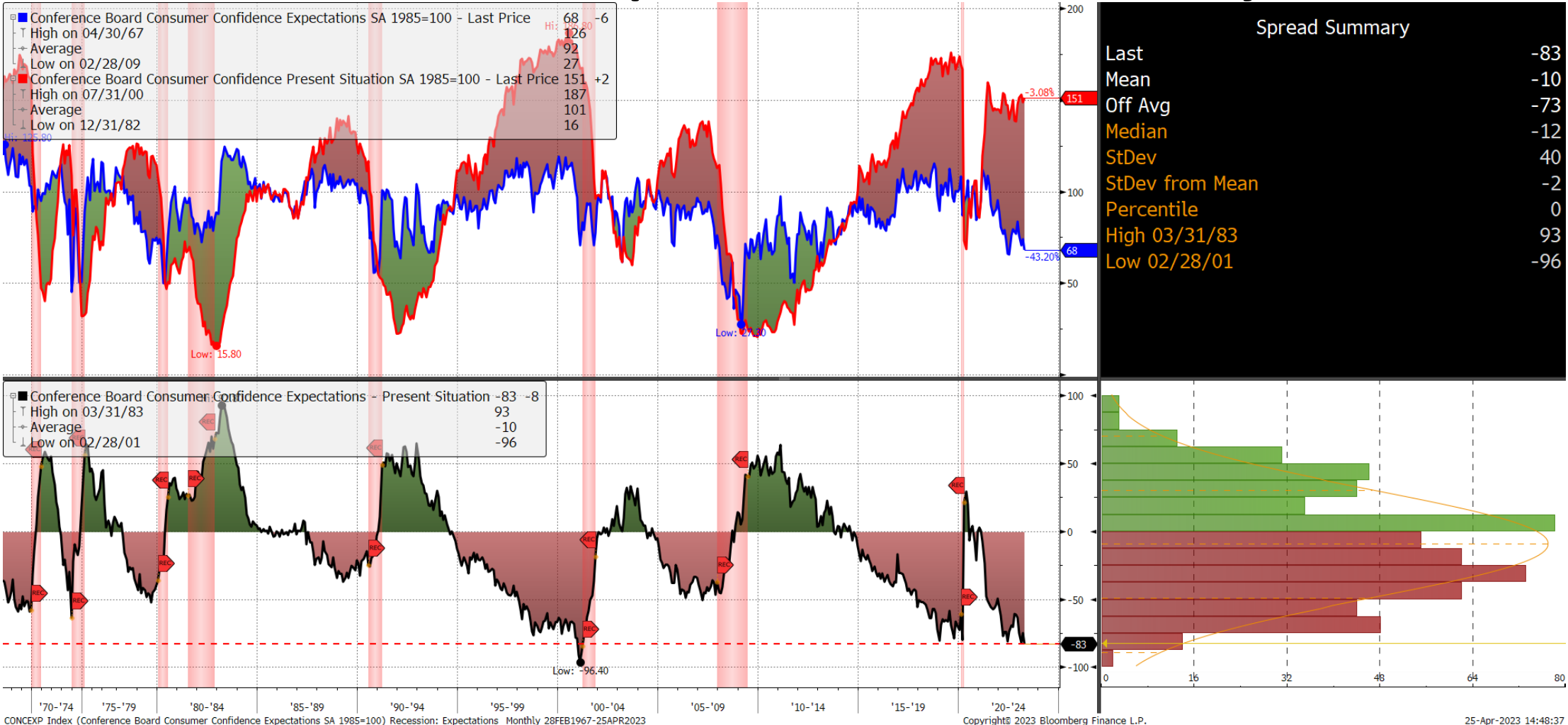

US Initial Jobless Claims 4 Week Moving Average SA - Last Price (R1) — 240 +2
High on 04/30/20 — 4663
Average — 368
Low on 05/31/69 — 182
US Continuing Jobless Claims SA / US Employment Total in Labor Force SA on 3/31/23 (R2) — 1.12 +.01
High on 04/30/20 — 16.32
Average — 2.34
Low on 08/31/22 — 0.83

INJCJC4 Index (US Initial Jobless Claims 4 Week Moving Average SA) Recession: Claims Monthly 31JAN1967-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 14:26:00

Our #Math On Continuing Claims Cycles Suggests A Recession Is Most Likely To Commence In The Sep-23 Through Feb-24 Period

Monthly Trough In Continuing Claims as a % of the Labor Force	Real GDP 0-6mos Forward	Real GDP 6-12mos Forward	Real GDP 12-18mos Forward	Industrial Production 0-6mos Forward	Industrial Production 6-12mos Forward	Industrial Production 12-18mos Forward	Nonfarm Payrolls 0-6mos Forward	Nonfarm Payrolls 6-12mos Forward	Nonfarm Payrolls 12-18mos Forward	Unemployment Rate 0-6mos Forward	Unemployment Rate 6-12mos Forward	Unemployment Rate 12-18mos Forward	Core PCE YoY 0-6mos Forward	Core PCE YoY 6-12mos Forward	Core PCE YoY 12-18mos Forward
4/30/1969	1.0%	-0.6%	1.1%	1.4%	-3.5%	-3.0%	1.5%	0.3%	-1.2%	30bps	90bps	90bps	1bps	-2bps	3bps
3/31/1973	0.6%	0.1%	-0.7%	1.7%	-0.0%	-0.5%	1.3%	1.3%	0.4%	-10bps	30bps	80bps	134bps	202bps	288bps
5/31/1979	0.9%	0.6%	-2.2%	-0.3%	-4.2%	2.9%	0.9%	-0.2%	0.4%	30bps	160bps	0bps	27bps	121bps	94bps
7/31/1981	0.1%	-1.1%	-0.3%	-5.5%	-0.8%	-1.3%	-1.1%	-1.2%	-0.6%	140bps	120bps	60bps	-135bps	-85bps	-69bps
5/31/1989	1.5%	1.3%	0.4%	-0.1%	1.5%	-1.3%	0.8%	1.0%	-0.6%	20bps	0bps	80bps	-66bps	22bps	24bps
5/31/2000	1.9%	0.3%	0.2%	-0.3%	-2.6%	-2.6%	0.3%	-0.1%	-1.0%	-10bps	40bps	120bps	18bps	4bps	-13bps
4/30/2006	0.4%	1.1%	1.2%	0.5%	2.5%	0.0%	0.5%	0.7%	0.2%	-30bps	10bps	20bps	14bps	-29bps	-3bps
8/31/2019	1.3%	-9.6%	8.9%	-1.1%	-5.7%	-0.5%	0.8%	-7.6%	1.9%	-20bps	490bps	-220bps	-4bps	-45bps	22bps
8/31/2022	1.4%			-0.6%			1.3%			-10bps			-34bps		
MIN	0.1%	-9.6%	-2.2%	-5.5%	-5.7%	-3.0%	-1.1%	-7.6%	-1.2%	-30bps	0bps	-220bps	-135bps	-85bps	-69bps
1st QUARTILE	0.5%	-0.8%	-0.4%	-0.5%	-3.6%	-1.6%	0.4%	-0.4%	-0.7%	-13bps	25bps	15bps	-19bps	-33bps	-5bps
MEDIAN	**0.9%**	**0.2%**	**0.3%**	**-0.2%**	**-1.7%**	**-0.9%**	**0.8%**	**0.1%**	**-0.2%**	**5bps**	**65bps**	**70bps**	**7bps**	**1bps**	**12bps**
3rd QUARTILE	1.4%	0.7%	1.1%	0.7%	0.4%	-0.4%	1.0%	0.8%	0.4%	30bps	130bps	83bps	20bps	47bps	41bps
MAX	1.9%	1.3%	8.9%	1.7%	2.5%	2.9%	1.5%	1.3%	1.9%	140bps	490bps	120bps	134bps	202bps	288bps
PERCENT POSITIVE	100%	63%	63%	38%	25%	25%	88%	50%	50%	50%	88%	75%	63%	50%	63%
PERCENT NEGATIVE	0%	38%	38%	63%	75%	75%	13%	50%	50%	50%	0%	13%	38%	50%	38%
FED STILL HIKING w/in 3mo (n=3)	**0.6%**	**0.6%**	**-0.7%**	**0.5%**	**-0.0%**	**0.0%**	**0.9%**	**0.7%**	**0.4%**	**-10bps**	**30bps**	**20bps**	**27bps**	**121bps**	**94bps**
FED PAUSE w/in 3mo (n=3)	1.0%	-0.6%	0.2%	-0.3%	-2.6%	-2.6%	0.3%	-0.1%	-1.0%	30bps	90bps	90bps	1bps	-2bps	-13bps
FED PIVOT w/in 3mo (n=2)	1.4%	-4.1%	4.7%	-0.6%	-2.1%	-0.9%	0.8%	-3.3%	0.7%	0bps	245bps	-70bps	-35bps	-11bps	23bps
MEAN OF BOLDED SCENARIOS	**0.7%**	**0.4%**	**-0.2%**	**0.1%**	**-0.9%**	**-0.4%**	**0.8%**	**0.4%**	**0.1%**	**-3bps**	**48bps**	**45bps**	**17bps**	**61bps**	**53bps**

Data Source: Bloomberg. All summary statistics featured in the bottom clusters of rows are MEDIAN values unless denoted otherwise. Intellectual Property of 42 Macro LLC.

The Negative Spread Between Consumer Expectations And Current Conditions Also Implies A Recession Is Likely

CONCEXP Index (Conference Board Consumer Confidence Expectations SA 1985=100) Recession: Expectations Monthly 28FEB1967-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 14:48:37
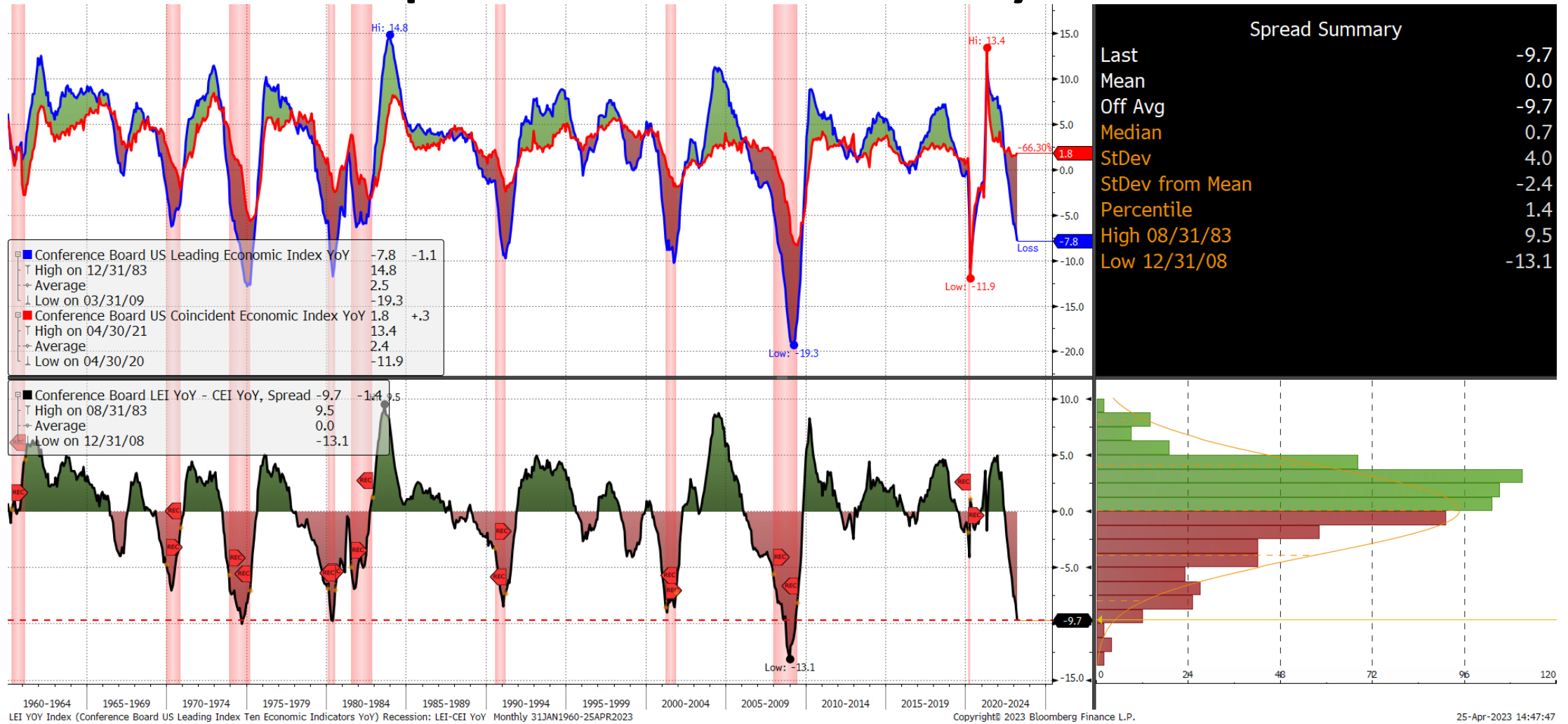
Our #Math On Consumer Confidence Cycles Suggests A Recession Is Most Likely To Commence In The Oct-23 Through Mar-24 Period

Date of Trough Spread b/tw the Conference Board's Consumer Expectations and Present Situation Indices	Real GDP 0-6mos Forward	Real GDP 6-12mos Forward	Real GDP 12-18mos Forward	Industrial Production 0-6mos Forward	Industrial Production 6-12mos Forward	Industrial Production 12-18mos Forward	Nonfarm Payrolls 0-6mos Forward	Nonfarm Payrolls 6-12mos Forward	Nonfarm Payrolls 12-18mos Forward	Unemployment Rate 0-6mos Forward	Unemployment Rate 6-12mos Forward	Unemployment Rate 12-18mos Forward	Core PCE YoY 0-6mos Forward	Core PCE YoY 6-12mos Forward	Core PCE YoY 12-18mos Forward
8/31/1968	1.2%	1.9%	0.2%	3.5%	1.8%	-3.1%	2.0%	1.9%	0.4%	-10bps	10bps	70bps	5bps	9bps	9bps
12/31/1973	-0.6%	-1.3%	-0.5%	-0.6%	-7.9%	-4.2%	0.7%	-1.2%	-1.5%	50bps	180bps	160bps	261bps	232bps	-156bps
9/30/1979	0.6%	-2.2%	3.9%	0.7%	-4.4%	3.1%	0.7%	-0.9%	1.1%	40bps	120bps	-10bps	183bps	16bps	-44bps
9/30/1981	-2.6%	0.1%	1.4%	-3.7%	-3.3%	0.1%	-1.1%	-1.4%	-0.1%	140bps	110bps	20bps	-148bps	-88bps	-51bps
4/30/1989	1.5%	1.3%	0.4%	-1.0%	1.5%	0.2%	0.6%	1.1%	-0.3%	10bps	10bps	50bps	-69bps	21bps	40bps
2/28/2001	0.3%	-0.1%	1.4%	-2.4%	-0.7%	2.4%	-0.6%	-1.0%	-0.1%	70bps	80bps	0bps	1bps	-61bps	26bps
3/31/2007	1.2%	0.2%	0.0%	1.0%	-0.5%	-7.8%	0.2%	0.1%	-1.1%	30bps	40bps	100bps	-28bps	7bps	-12bps
1/31/2019	1.2%	1.3%	-9.6%	-1.3%	-0.6%	-6.3%	0.5%	0.8%	-8.6%	-30bps	-20bps	670bps	-12bps	-7bps	-56bps
3/31/2023															
MIN	-2.6%	-2.2%	-9.6%	-3.7%	-7.9%	-7.8%	-1.1%	-1.4%	-8.6%	-30bps	-20bps	-10bps	-148bps	-88bps	-156bps
1st QUARTILE	0.1%	-0.4%	-0.1%	-1.6%	-3.6%	-4.7%	0.0%	-1.0%	-1.2%	5bps	10bps	15bps	-38bps	-21bps	-52bps
MEDIAN	**0.9%**	**0.1%**	**0.3%**	**-0.8%**	**-0.7%**	**-1.5%**	**0.6%**	**-0.4%**	**-0.2%**	**35bps**	**60bps**	**60bps**	**-6bps**	**8bps**	**-28bps**
3rd QUARTILE	1.2%	1.3%	1.4%	0.8%	0.0%	0.8%	0.7%	0.9%	0.0%	55bps	113bps	115bps	49bps	17bps	13bps
MAX	1.5%	1.9%	3.9%	3.5%	1.8%	3.1%	2.0%	1.9%	1.1%	140bps	180bps	670bps	261bps	232bps	40bps
PERCENT POSITIVE	75%	63%	75%	38%	25%	50%	75%	50%	25%	75%	88%	75%	50%	63%	38%
PERCENT NEGATIVE	25%	38%	25%	63%	75%	50%	25%	50%	75%	25%	13%	13%	50%	38%	63%
FED STILL HIKING w/in 3mo (n=3)	**0.6%**	**-1.3%**	**0.2%**	**0.7%**	**-4.4%**	**-3.1%**	**0.7%**	**-0.9%**	**0.4%**	**40bps**	**120bps**	**70bps**	**183bps**	**16bps**	**-44bps**
FED PAUSE w/in 3mo (n=2)	1.2%	0.8%	-4.8%	-0.1%	-0.6%	-7.0%	0.4%	0.5%	-4.8%	0bps	10bps	385bps	-20bps	-0bps	-34bps
FED PIVOT w/in 3mo (n=3)	0.3%	0.1%	1.4%	-2.4%	-0.7%	0.2%	-0.6%	-1.0%	-0.1%	70bps	80bps	20bps	-69bps	-61bps	26bps
MEAN OF BOLDED SCENARIOS	**0.7%**	**-0.6%**	**0.2%**	**-0.0%**	**-2.6%**	**-2.3%**	**0.7%**	**-0.6%**	**0.1%**	**38bps**	**90bps**	**65bps**	**88bps**	**12bps**	**-36bps**

Data Source: Bloomberg. All summary statistics featured in the bottom clusters of rows are MEDIAN values unless denoted otherwise. Intellectual Property of 42 Macro LLC.

The Negative Spread Between Leading And Coincident Economic Indicators Also Implies A Recession Is Likely

LEI YOY Index (Conference Board US Leading Index Ten Economic Indicators YoY) Recession: LEI-CEI YoY Monthly 31JAN1960-25APR2023

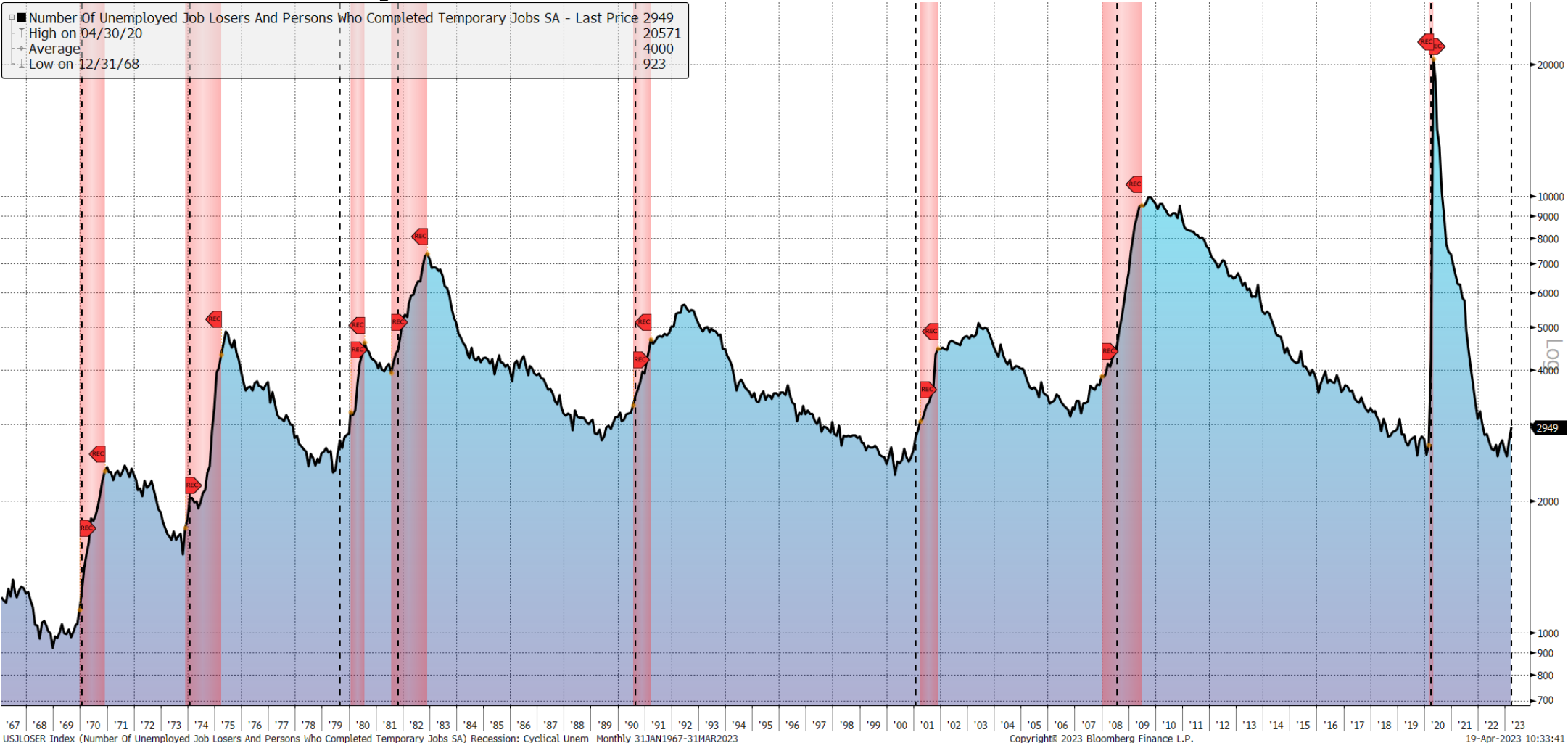Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 14:47:47

Our #Math On LEI Inversions Suggests A Recession Is Most Likely To Commence Sometime In 2H23

Date LEI YoY Growth Rate Inflects Below 0%	Real GDP 0-6mos Forward	Real GDP 6-12mos Forward	Real GDP 12-18mos Forward	Industrial Production 0-6mos Forward	Industrial Production 6-12mos Forward	Industrial Production 12-18mos Forward	Nonfarm Payrolls 0-6mos Forward	Nonfarm Payrolls 6-12mos Forward	Nonfarm Payrolls 12-18mos Forward	Unemployment Rate 0-6mos Forward	Unemployment Rate 6-12mos Forward	Unemployment Rate 12-18mos Forward	Core PCE YoY 0-6mos Forward	Core PCE YoY 6-12mos Forward	Core PCE YoY 12-18mos Forward
2/28/1967	0.9%	1.7%	3.7%	1.2%	3.4%	2.1%	1.1%	1.6%	1.7%	0bps	0bps	-30bps	0bps	72bps	74bps
10/31/1969	-0.6%	1.1%	1.6%	-3.5%	-3.0%	2.7%	0.3%	-1.2%	0.7%	90bps	90bps	40bps	-2bps	3bps	27bps
11/30/1973	0.1%	-0.7%	-1.6%	-0.7%	-4.6%	-8.2%	0.8%	-0.4%	-2.1%	30bps	150bps	240bps	224bps	279bps	-81bps
4/30/1979	0.9%	0.6%	-2.2%	0.8%	-1.9%	-1.3%	1.2%	0.4%	-0.4%	20bps	90bps	60bps	45bps	139bps	71bps
7/31/1981	0.1%	-1.1%	-0.3%	-5.5%	-0.8%	-1.3%	-1.1%	-1.2%	-0.6%	140bps	120bps	60bps	-135bps	-85bps	-69bps
10/31/1989	1.3%	0.4%	-1.4%	1.5%	0.2%	-3.3%	1.1%	-0.3%	-0.9%	10bps	50bps	80bps	21bps	40bps	-79bps
1/31/1996	2.4%	1.9%	2.3%	3.8%	2.8%	3.8%	1.4%	1.1%	1.4%	-10bps	-20bps	-40bps	-12bps	-3bps	-1bps
3/31/1999	2.2%	2.0%	1.9%	1.4%	3.3%	0.9%	1.2%	1.4%	0.6%	0bps	-20bps	-10bps	29bps	47bps	-5bps
11/30/2000	0.3%	-0.3%	-0.15%	-2.6%	-2.6%	2.3%	-0.1%	-1.0%	-0.4%	40bps	120bps	30bps	4bps	-13bps	-15bps
8/31/2006	1.0%	0.9%	1.2%	1.3%	1.0%	0.1%	0.6%	0.3%	0.2%	-20bps	10bps	30bps	-11bps	-57bps	9bps
6/30/2016	1.1%	0.9%	1.8%	0.3%	1.3%	1.1%	0.9%	0.8%	0.6%	-20bps	-40bps	-20bps	33bps	-13bps	-0bps
10/31/2019	-0.7%	-1.3%	2.5%	-16.7%	14.0%	1.9%	-13.9%	9.2%	1.5%	1110bps	-780bps	-80bps	-78bps	44bps	177bps
6/30/2022	1.4%	1.4%		-1.2%	0.3%		1.4%	2.1%		-10bps	-10bps		-42bps	-44bps	
MIN	-0.7%	-1.3%	-2.2%	-16.7%	-4.6%	-8.2%	-13.9%	-1.2%	-2.1%	-20bps	-780bps	-80bps	-135bps	-85bps	-81bps
1st QUARTILE	0.1%	-0.0%	-0.6%	-2.8%	-2.1%	-1.3%	0.2%	-0.5%	-0.4%	-2bps	-20bps	-23bps	-12bps	-13bps	-29bps
MEDIAN	**0.9%**	**0.7%**	**1.4%**	**0.5%**	**0.6%**	**1.0%**	**0.8%**	**0.4%**	**0.4%**	**15bps**	**30bps**	**30bps**	**2bps**	**21bps**	**-0bps**
3rd QUARTILE	1.1%	1.2%	2.0%	1.3%	3.0%	2.1%	1.1%	1.2%	0.9%	53bps	98bps	60bps	30bps	53bps	38bps
MAX	2.4%	2.0%	3.7%	3.8%	14.0%	3.8%	1.4%	9.2%	1.7%	1110bps	150bps	240bps	224bps	279bps	177bps
PERCENT POSITIVE	83%	75%	67%	58%	58%	67%	75%	58%	58%	58%	58%	58%	58%	58%	42%
PERCENT NEGATIVE	17%	25%	33%	42%	42%	33%	25%	42%	42%	25%	33%	42%	42%	42%	58%
FED STILL HIKING w/in 3mo (n=3)	**0.9%**	**1.1%**	**1.6%**	**0.8%**	**-1.9%**	**0.9%**	**1.2%**	**0.4%**	**0.6%**	**20bps**	**90bps**	**40bps**	**29bps**	**47bps**	**27bps**
FED PAUSE w/in 3mo (n=6)	0.5%	0.1%	1.5%	-0.2%	1.1%	0.6%	0.7%	0.6%	0.4%	10bps	-5bps	5bps	-12bps	-8bps	-0bps
FED PIVOT w/in 3mo (n=3)	0.9%	0.4%	1.1%	1.2%	0.2%	2.1%	1.1%	-0.3%	-0.4%	10bps	50bps	30bps	4bps	40bps	-15bps
MEAN OF BOLDED SCENARIOS	**0.9%**	**0.9%**	**1.5%**	**0.7%**	**-0.7%**	**1.0%**	**1.0%**	**0.4%**	**0.5%**	**18bps**	**60bps**	**35bps**	**15bps**	**34bps**	**13bps**

Data Source: Bloomberg. All summary statistics featured in the bottom clusters of rows are MEDIAN values unless denoted otherwise. Intellectual Property of 42 Macro LLC.

The Sharp Rise In Cyclical Unemployment Also Implies A Recession Is Likely
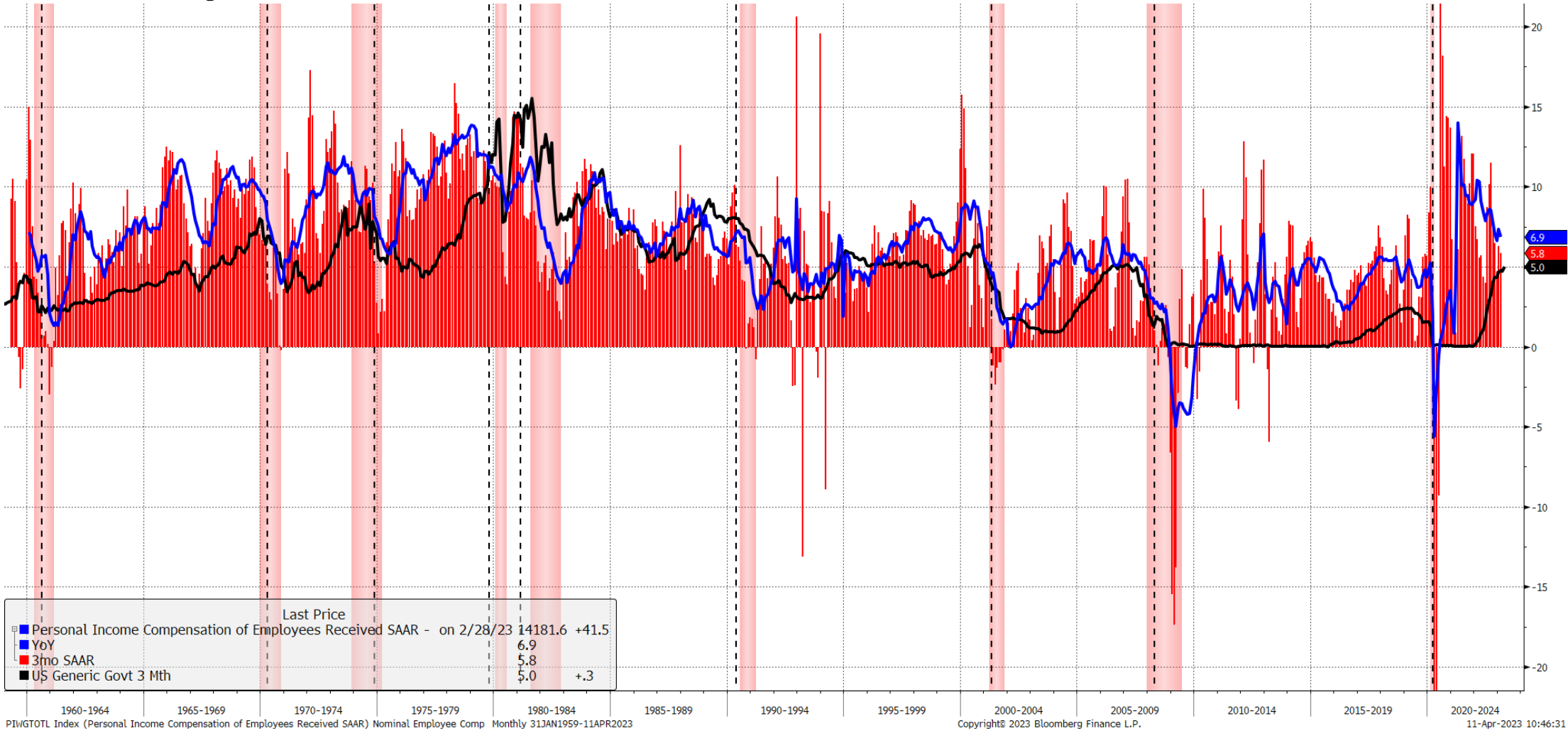

Number Of Unemployed Job Losers And Persons Who Completed Temporary Jobs SA - Last Price 2949
High on 04/30/20 20571
Average 4000
Low on 12/31/68 923

USJLOSER Index (Number Of Unemployed Job Losers And Persons Who Completed Temporary Jobs SA) Recession: Cyclical Unem   Monthly 31JAN1967-31MAR2023   Copyright© 2023 Bloomberg Finance L.P.   19-Apr-2023 10:33:41

Our #Math On Cyclical Unemployment Inflections Suggest A Recession Is Most Likely To Commence Between Apr-23 And Sep-23

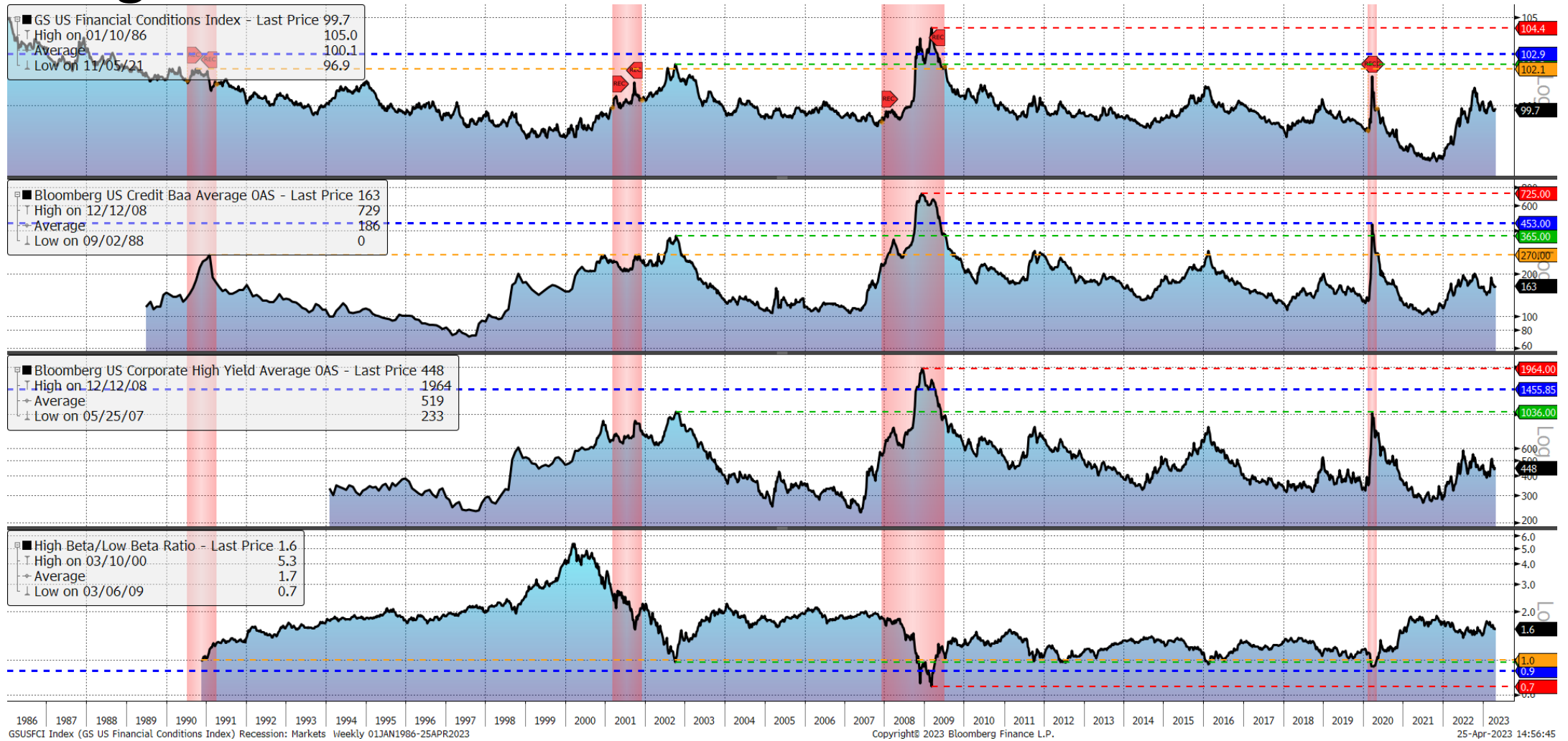| Date of +10% t3mo Rise Off Cyclical Low in the Total Number of Unemployed Due to Firings or Culmination of Temporary Work	Real GDP 0-6mos Forward	Real GDP 6-12mos Forward	Real GDP 12-18mos Forward	Industrial Production 0-6mos Forward	Industrial Production 6-12mos Forward	Industrial Production 12-18mos Forward	Nonfarm Payrolls 0-6mos Forward	Nonfarm Payrolls 6-12mos Forward	Nonfarm Payrolls 12-18mos Forward	Unemployment Rate 0-6mos Forward	Unemployment Rate 6-12mos Forward	Unemployment Rate 12-18mos Forward	Core PCE YoY 0-6mos Forward	Core PCE YoY 6-12mos Forward	Core PCE YoY 12-18mos Forward
1/31/1970	-0.0%	-0.2%	3.3%	-0.6%	-0.5%	0.9%	-0.2%	-0.3%	0.6%	110bps	90bps	10bps	-16bps	49bps	4bps
1/31/1974	-0.6%	-1.3%	-0.5%	0.2%	-9.3%	-1.8%	0.7%	-1.7%	-0.7%	40bps	260bps	50bps	265bps	193bps	-195bps
8/31/1979	1.0%	-1.8%	1.7%	1.2%	-6.4%	4.3%	0.6%	-0.9%	1.1%	30bps	140bps	-30bps	156bps	26bps	24bps
10/31/1981	-2.6%	0.1%	1.4%	-3.8%	-3.3%	2.3%	-1.3%	-1.4%	0.5%	140bps	110bps	-20bps	-149bps	-58bps	-65bps
8/31/1990	-0.8%	0.3%	0.9%	-3.5%	1.8%	0.3%	-0.8%	-0.4%	0.0%	90bps	30bps	50bps	-42bps	-56bps	-13bps
1/31/2001	0.3%	-0.1%	1.4%	-2.9%	-0.9%	2.5%	-0.4%	-1.0%	-0.2%	40bps	110bps	10bps	12bps	-70bps	12bps
7/31/2008	-2.7%	-1.3%	1.4%	-11.1%	-3.0%	4.1%	-2.5%	-2.5%	-0.7%	200bps	170bps	30bps	-134bps	-28bps	106bps
3/31/2020	-1.3%	2.5%	2.4%	-1.9%	2.4%	0.9%	-6.1%	1.8%	2.4%	350bps	-180bps	-130bps	-15bps	59bps	187bps
3/31/2023															
MIN	-2.7%	-1.8%	-0.5%	-11.1%	-9.3%	-1.8%	-6.1%	-2.5%	-0.7%	30bps	-180bps	-130bps	-149bps	-70bps	-195bps
1st QUARTILE	-1.6%	-1.3%	1.2%	-3.6%	-4.1%	0.8%	-1.6%	-1.5%	-0.3%	40bps	75bps	-23bps	-65bps	-56bps	-26bps
MEDIAN	**-0.7%**	**-0.1%**	**1.4%**	**-2.4%**	**-1.9%**	**1.6%**	**-0.6%**	**-0.9%**	**0.3%**	**100bps**	**110bps**	**10bps**	**-16bps**	**-1bps**	**8bps**
3rd QUARTILE	0.1%	0.1%	1.9%	-0.4%	0.1%	2.9%	0.0%	-0.4%	0.8%	155bps	148bps	35bps	48bps	51bps	45bps
MAX	1.0%	2.5%	3.3%	1.2%	2.4%	4.3%	0.7%	1.8%	2.4%	350bps	260bps	50bps	265bps	193bps	187bps
PERCENT POSITIVE	25%	38%	88%	25%	25%	88%	25%	13%	63%	100%	88%	63%	38%	50%	63%
PERCENT NEGATIVE	75%	63%	13%	75%	75%	13%	75%	88%	38%	0%	13%	38%	63%	50%	38%
FED STILL HIKING w/in 3mo (n=2)	**0.2%**	**-1.5%**	**0.6%**	**0.7%**	**-7.8%**	**1.2%**	**0.7%**	**-1.3%**	**0.2%**	**35bps**	**200bps**	**10bps**	**211bps**	**110bps**	**-85bps**
FED PAUSE w/in 3mo (n=1)	-1.3%	2.5%	2.4%	-1.9%	2.4%	0.9%	-6.1%	1.8%	2.4%	350bps	-180bps	-130bps	-15bps	59bps	187bps
FED PIVOT w/in 3mo (n=5)	-0.8%	-0.1%	1.4%	-3.5%	-0.9%	2.3%	-0.8%	-1.0%	0.0%	110bps	110bps	10bps	-42bps	-56bps	4bps
MEAN OF BOLDED SCENARIOS	**-0.3%**	**-0.8%**	**1.0%**	**-0.8%**	**-4.9%**	**1.4%**	**0.0%**	**-1.1%**	**0.2%**	**68bps**	**155bps**	**10bps**	**97bps**	**54bps**	**-39bps**

Data Source: Bloomberg. All summary statistics featured in the bottom clusters of rows are MEDIAN values unless denoted otherwise. Intellectual Property of 42 Macro LLC.

Nominal Employee Compensation Suggests Fed Policy Is Not Sufficiently Restrictive Now; It Should Be In 1-2 Quarters, However

Last Price

Personal Income Compensation of Employees Received SAAR - on 2/28/23 14181.6 +41.5	
YoY	6.9
3mo SAAR	5.8
US Generic Govt 3 Mth	5.0 +.3

PIWGTOTL Index (Personal Income Compensation of Employees Received SAAR) Nominal Employee Comp Monthly 31JAN1959-11APR2023

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Every Recession Has A Phase 2 Credit Cycle Downturn And The Pending One Has NOT Been Priced In

GS US Financial Conditions Index – Last Price 99.7
High on 01/10/86 — 105.0
Average — 100.1
Low on 11/05/21 — 96.9

Bloomberg US Credit Baa Average OAS – Last Price 163
High on 12/12/08 — 729
Average — 186
Low on 09/02/88 — 0

Bloomberg US Corporate High Yield Average OAS – Last Price 448
High on 12/12/08 — 1964
Average — 519
Low on 05/25/07 — 233

High Beta/Low Beta Ratio – Last Price 1.6
High on 03/10/00 — 5.3
Average — 1.7
Low on 03/06/09 — 0.7

GSUSFCI Index (GS US Financial Conditions Index) Recession: Markets Weekly 01JAN1986-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 14:56:45

41

The FOMC Sees U3 At 4.5% By Yearend 2023, Which Suggests The Fed Is Implicitly Forecasting A Recession And Won't **Ease** Quickly

USURTOT Index (U-3 US Unemployment Rate Total in Labor Force Seasonally Adjusted) Recession: U3 Delta Monthly 31JAN1948-11APR2023

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11-Apr-2023 10:47:18
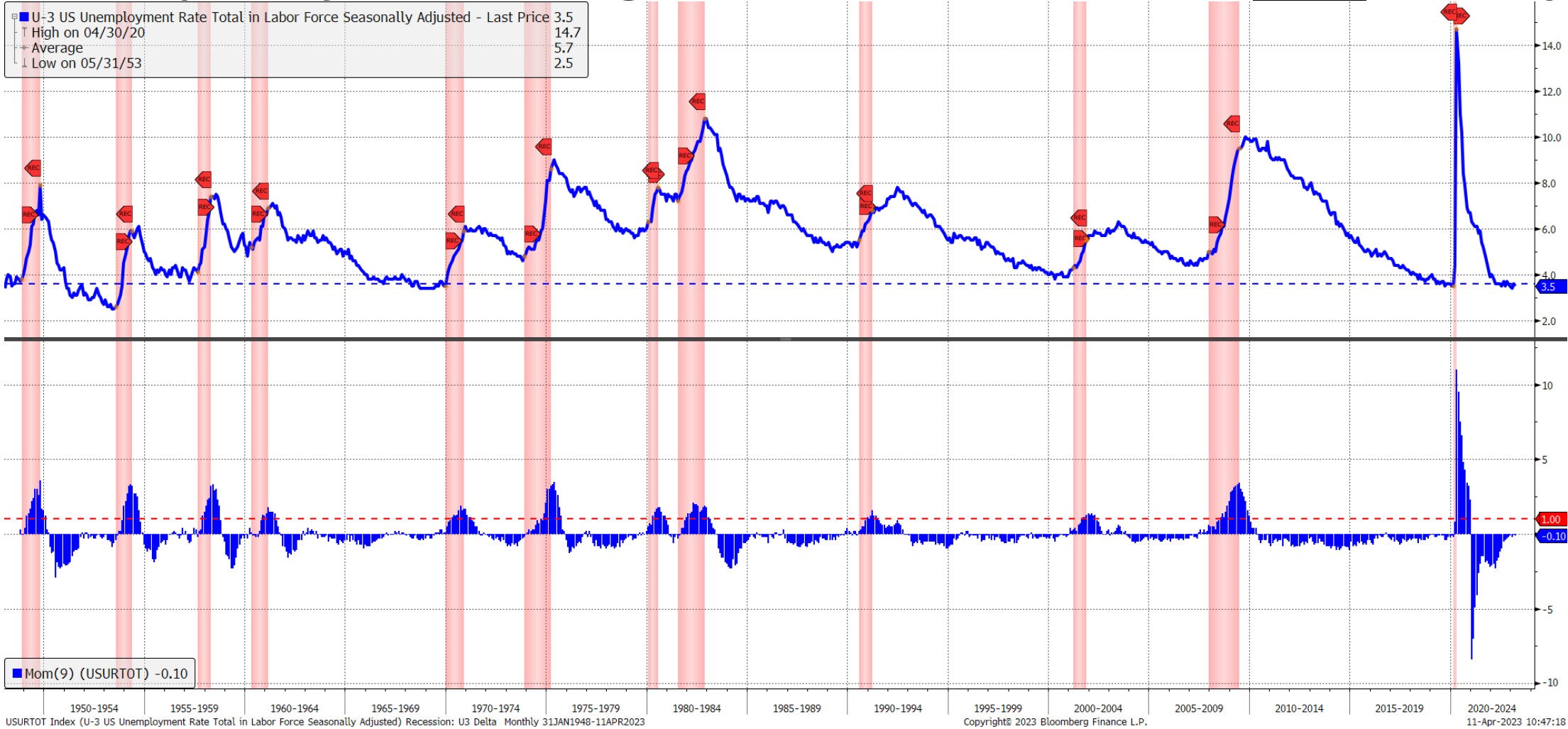
US Commercial Bank Deposits Are Declining At One Of Their Fastest Rates Ever

US Commercial Bank Liabilities Deposits SA - Last Price 17180 -76
High on 04/13/22   18158
Average   5183
Low on 02/07/73   590

Large Dom Chartered Comm Banks Deposits SA - Last Price 10587 -45
High on 03/09/22   11352
Average   4118
Low on 04/17/85   1275

Small Dom Chartered Comm Banks Deposits SA - Last Price 5365 -5
High on 12/07/22   5608
Average   1413
Low on 03/28/73   101

Drawdown (%) (ALCLDEPO) -5.39

Drawdown (%) (ALCLLPST) -6.7406

Drawdown (%) (ALCLSPST) -4.3428

ALCLDEPO Index (US Commercial Bank Liabilities Deposits SA) US Comm. Bank Deposits Weekly 03JAN1973-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 14:57:57

Bad Things Happen When Private Sector Money DEFLATION Is Not Offset By Public Sector Money REFLATION

US Narrow Money Supply SA on 3/31/23 (R1) 18.9
High on 03/31/22 20.7
Average 1.9
Low on 01/31/59 0.1
S&P 500 (R2) 4079
High on 12/31/21 4766
Average 840
Low on 02/28/58 41

Drawdown (%) (M1) -8.3321

Drawdown (%) (SPX) -14.4151

M1 Index (Federal Reserve United States Money Supply M1 SA) M1 Drawdown Monthly 31JAN1958-25APR2023

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25-Apr-2023 14:58:48
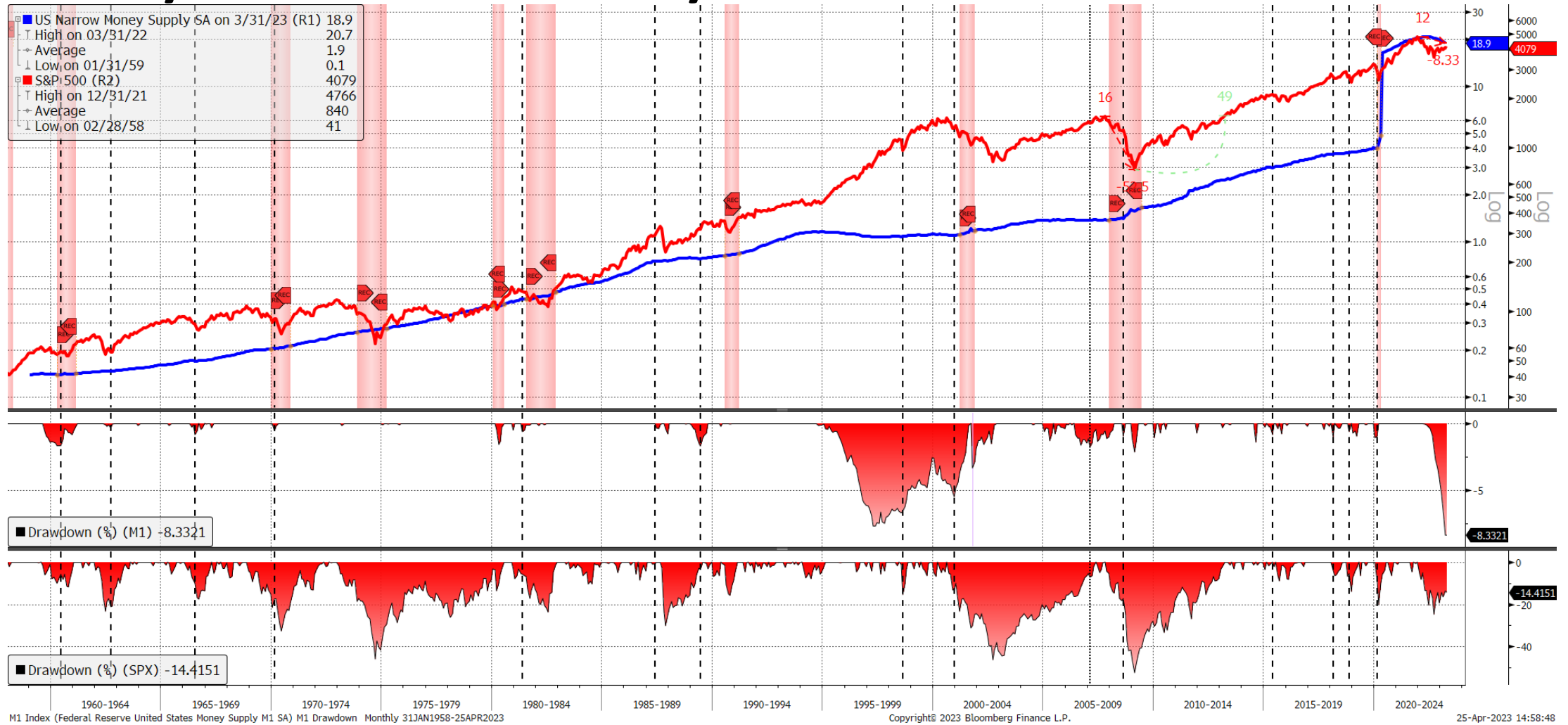
The Drawdown In US Commercial Bank Deposits Is Likely To Continue Amid The Competition For Capital And Mobile Banking
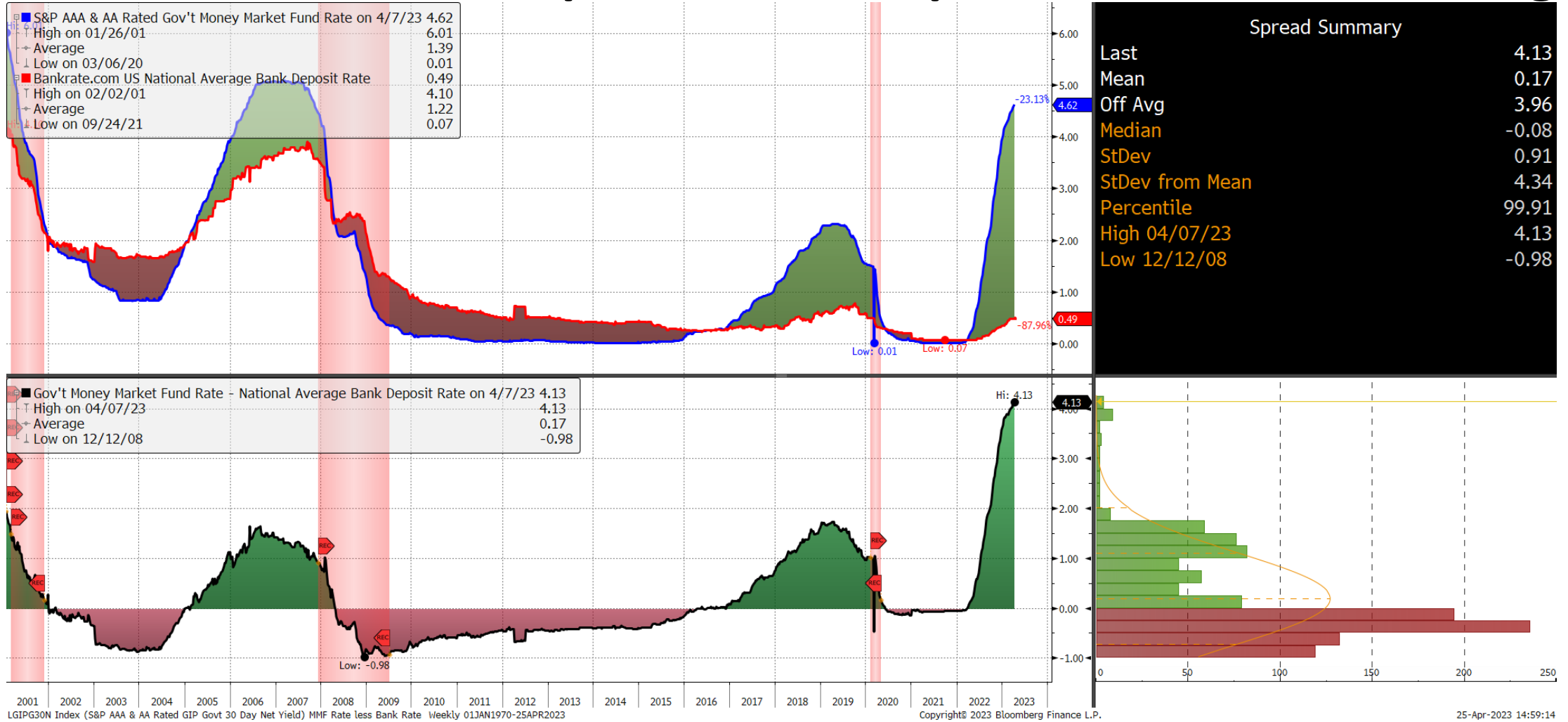
Money Market Fund Assets Are Exploding Higher

ICI Money Market Funds Total Assets 5209 -69
High on 04/12/23 — 5277
Average — 2198
Low on 03/08/89 — 295

ICI Money Market Funds Total Assets 5208.8 -68.6
High on 04/12/23 — 5277.4
Average — 2198.4
Low on 03/08/89 — 295.2
3mo SAAR (MMFA) — 16.9
YoY (MMFA) — 16.6

Goverment Money Market Funds Share of Money Market Funds Total Assets 0.83 -.00
High on 03/16/22 — 0.89
Average — 0.53
Low on 04/11/07 — 0.17

MMFA Index (ICI Money Market Funds Assets) MMF Assets and Compositi Weekly 08MAR1989-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 14:59:38

It Is Not Likely That Treasury Secretary Yellen Can Supply Enough T-Bills To Accommodate The Aggressive Increase In Demand
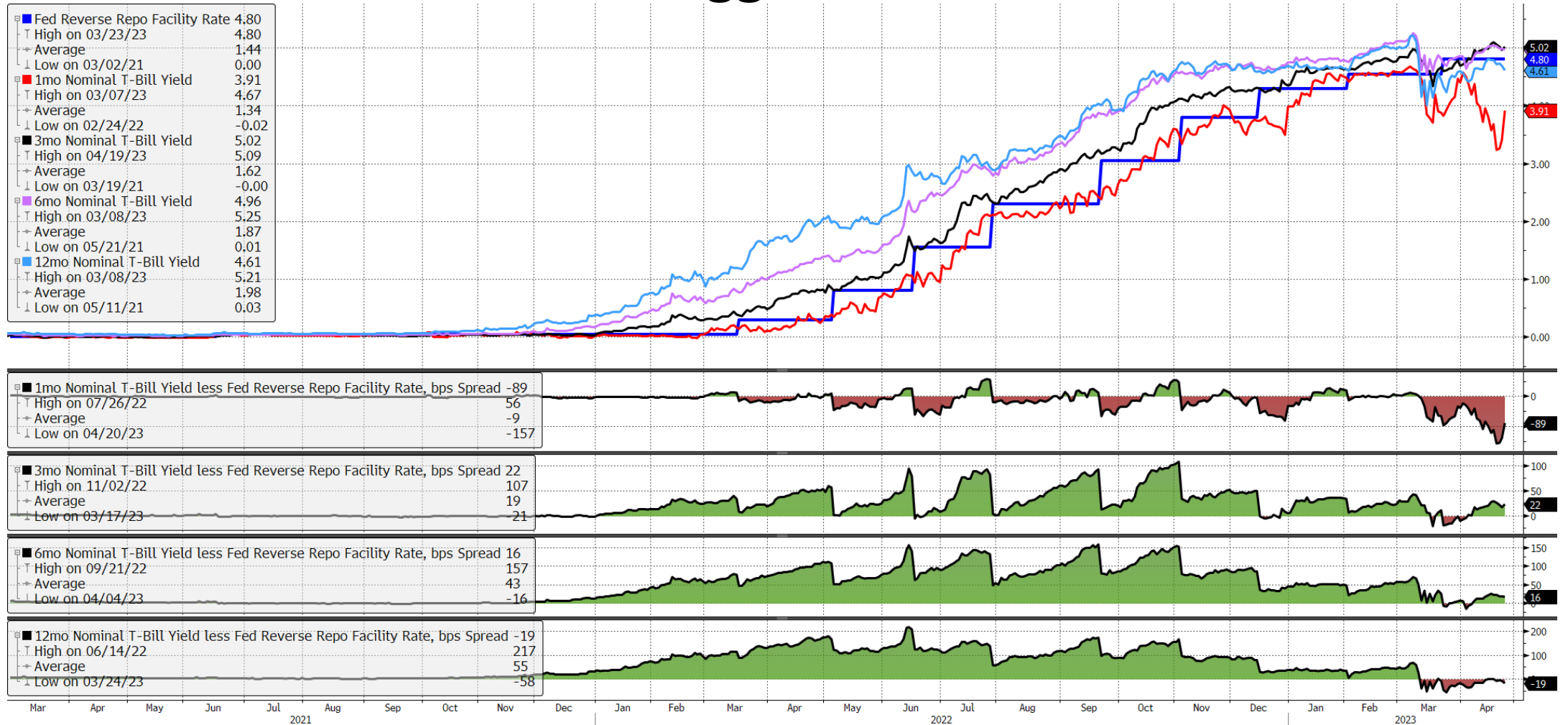
TOMOTCSO Index (US Treasury RRP Repo Operations Collateral - Award Rate) RRP Rate vs. T-Bill Yie Daily 28FEB2021-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:05:37

It Is Likely That Both The TGA And RRP Are Higher – Potentially Much Higher – In ~Six Months

Fed Balance Sheet - Total Assets on 4/19/23 (R1) 8593
High on 04/13/22 8965
Average 4569
Low on 02/11/09 1844
Fed Balance Balance Sheet - Emergency Loans on 4/19/23 (R1) 325
High on 03/22/23 354
Average 28
Low on 01/22/20 0
US Treasury General Account Balance on 4/21/23 (R2) 281
High on 07/27/20 1831
Average 300
Low on 07/30/10 3
Fed Reverse Repo Facility Balance (R3) 2275
High on 12/30/22 2554
Average 407
Low on 11/25/19 0

3mo T-Bill Yield less 3mo USD OIS Rate -4
High on 09/03/19 30
Average -11
Low on 10/10/22 -100

FARBAST Index (US Condition of All Federal Reserve Banks Total Assets) FBS/TGA/RRP/TBill-OIS Daily 02JAN2009-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:06:39

The Lack Of Unencumbered Liquidity Provision By The Fed Means @42Macro Adjusted Net Liquidity Is Likely To Still Be Trending Lower When Phase 2 Begins

@42macro Adjusted Net Liquidity - Last Price (R1) 5711
S&P 500 - Last Price (R2) 4100
Bitcoin - Last Price (R3) 27561
Ethereum - Last Price (R4) 1834

Drawdown (%) (ES1) -14.3387
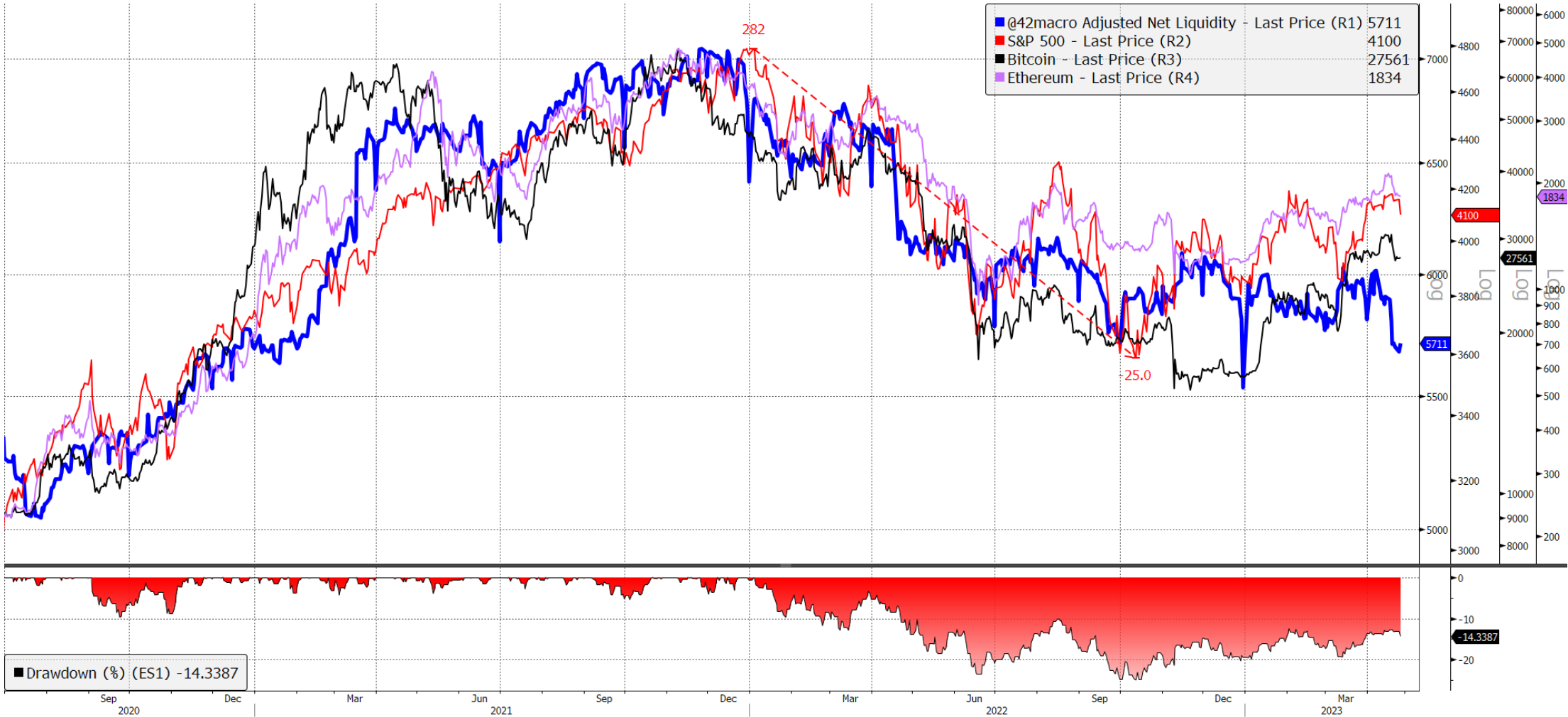
.42MANL U Index (@42macro Adjusted Net Liquidit) @42Macro NET LIQUIDITY Daily 30JUN2020-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:07:46

"Small" Banks Are A Meaningful Share Of The US Banking Sector's Total Assets And Dominate Commercial Real Estate Lending

ALCBSTOA Index (Small Dom Chartered Comm Banks Total Assets SA) Small Banks Assets Weekly 03APR1985-25APR2023

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25-Apr-2023 15:08:52
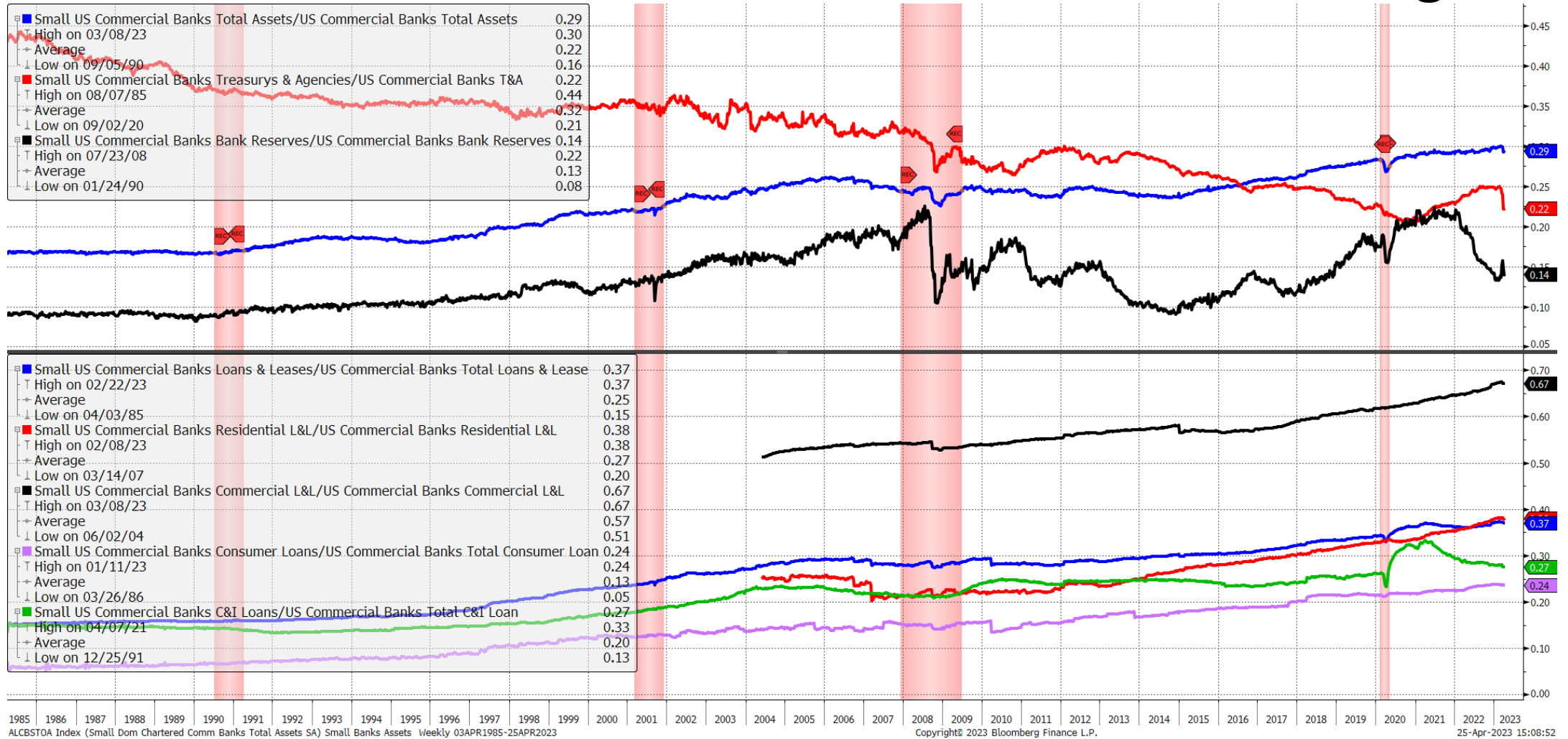
"Small" Banks Account For Nearly 40% Of Total US Commercial Bank Loans And Leases
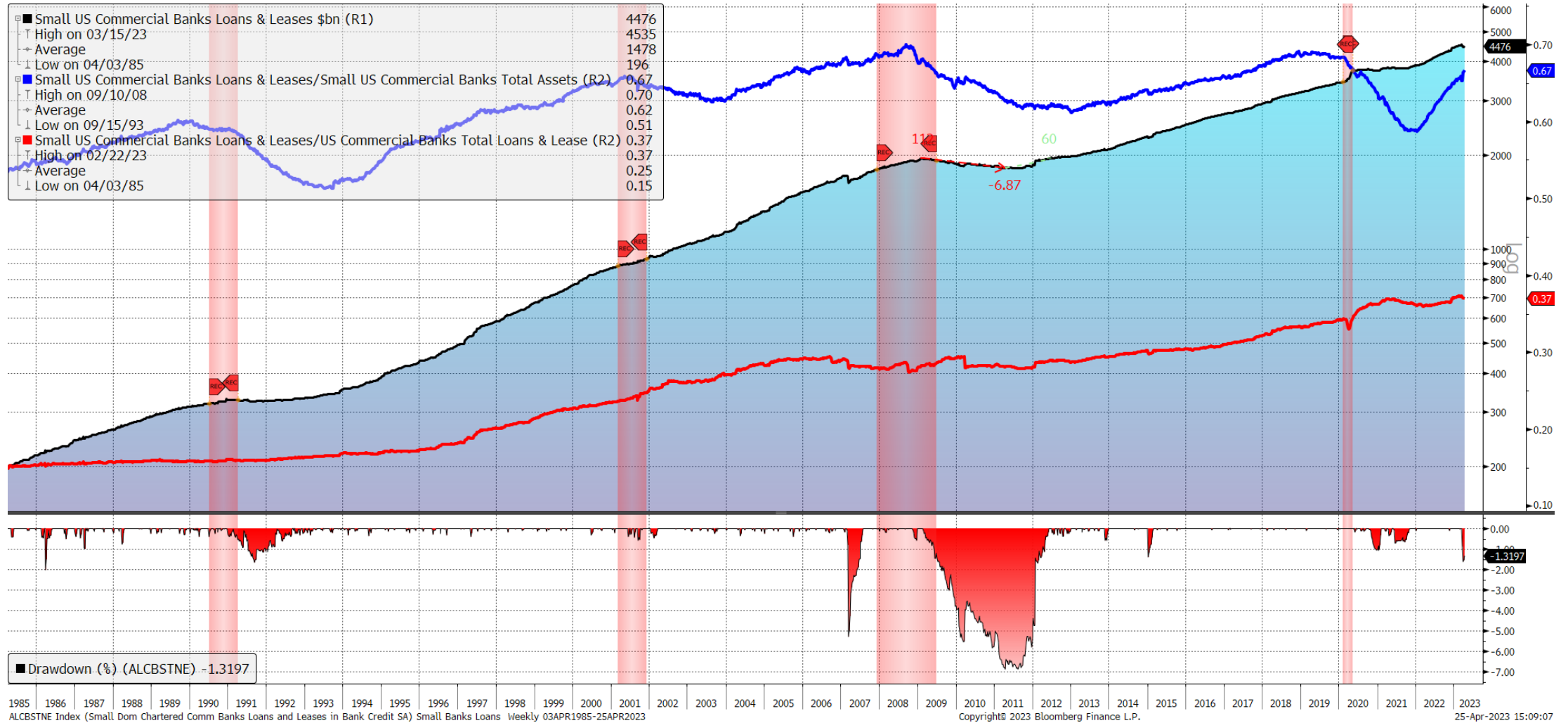
Liquid Deposits At "Small" Banks Account For Nearly 30% Of Total US Commercial Bank Deposits And They Are Declining At The Fastest Rate Ever

■ Small US Commercial Banks Other Deposits $bn (Total less Large Time Deposits) (R1)   4821
  T High on 06/22/22   5238
  → Average   1561
  ⊥ Low on 04/03/85   246
■ Small US Commercial Banks Other Deposits/Small US Commercial Banks Total Deposit (R2)   0.90
  T High on 06/01/22   0.94
  → Average   0.84
  ⊥ Low on 06/28/89   0.74
■ Small US Commercial Banks Other Deposits/US Commercial Banks Total Deposits (R2)   0.28
  T High on 10/05/22   0.29
  → Average   0.22
  ⊥ Low on 04/03/85   0.15

■ Drawdown (%) (ALCLSODP) -7.9561

ALCLSODP Index (Small Dom Chartered Comm Banks Other Deposits SA) Small Banks Deposits Weekly 03APR1985-25APR2023

Largely As A Result Of Deposit Outflows, "Small" Banks Are Slamming On The Credit Intermediation Breaks

Small US Commercial Banks Total Assets SA - Last Price 6717.2 -2.6
3mo SAAR (ALCBSTOA) -3.5
YoY (ALCBSTOA) 1.2

Small US Commercial Banks Treasurys & Agencies SA - Last Price 924.5 -1.8
3mo SAAR (ALCBSGVS) -30.6
YoY (ALCBSGVS) -17.1

Small US Commercial Banks Loans & Leases SA - Last Price 4475.6 +10.5
3mo SAAR (ALCBSTNE) 1.0
YoY (ALCBSTNE) 11.9

Small US Commercial Banks Residential Real Esate Loans & Leases SA - Last Price 958.0 +3.3
3mo SAAR (ALCBSDRL) 3.3
YoY (ALCBSDRL) 15.8

Small US Commercial Banks Commercial Real Estate Loans & Leases SA - Last Price 1940.3 +1.0
3mo SAAR (ALCBSCRE) 1.3
YoY (ALCBSCRE) 14.6

Small US Commercial Banks Consumer Loans SA - Last Price 443.7 +1.9
3mo SAAR (ALCBSELS) 2.2
YoY (ALCBSELS) 13.4

Small US Commercial Banks C&I Loans SA - Last Price 2771.1 +8.3
3mo SAAR (ALCBC&IL) -2.8
YoY (ALCBC&IL) 8.1

ALCBSTOA Index (Small Dom Chartered Comm Banks Total Assets SA) Small Banks Assets % Weekly 06JAN2021-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:10:07

The Credit Crunch Is A Feature, Not A Bug: Commercial & Industrial (C&I) Lending Conditions

SLDETIGT Index (Net % of Domestic Respondents Tightening Standards - C&I Loans for Large/Medium) SLOS: C&I Quarterly 29JUN1990-11APR2023   Copyright© 2023 Bloomberg Finance L.P.   11-Apr-2023 10:52:31
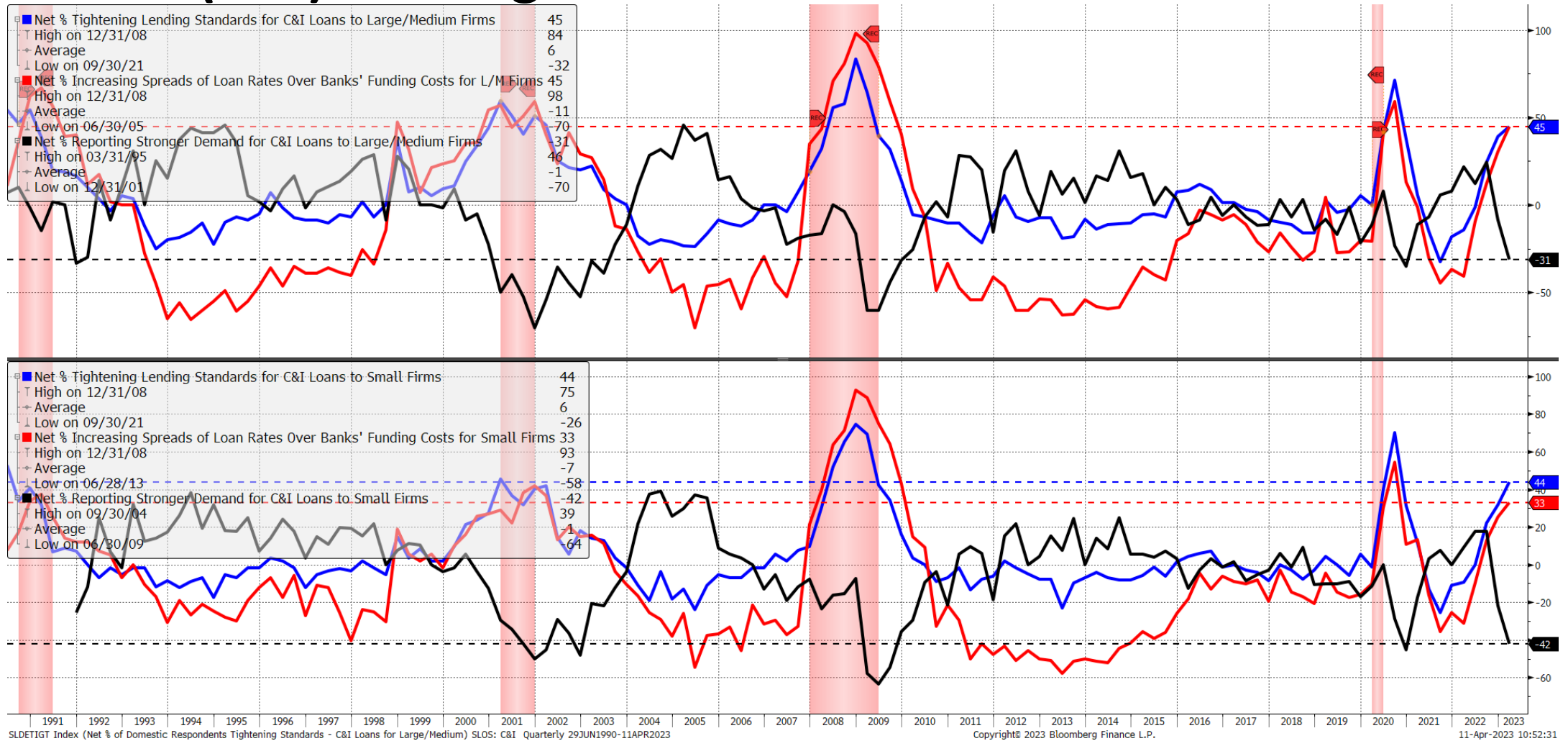
The Credit Crunch Is A Feature, Not A Bug: Commercial Real Estate (CRE) Lending Conditions
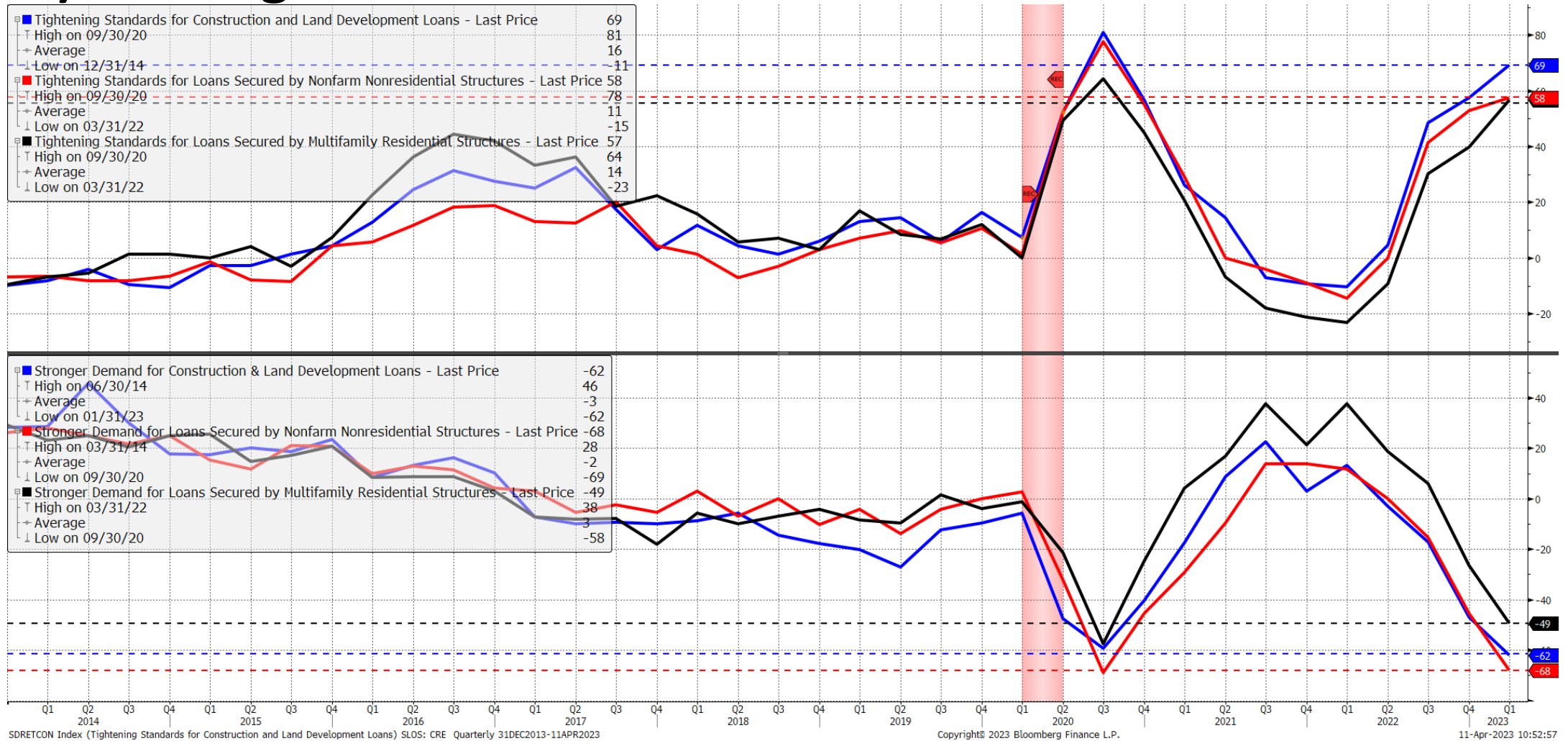
The Credit Crunch Is A Feature, Not A Bug: Consumer Lending Conditions

Net % Domestic Respond Reporting Inc Willingness to Make Consumer Install Loans - Last Price -13
High on 03/31/94   29
Average   7
Low on 12/31/08   -47

Net % of Domestic Respondents Reporting Stronger Demand for Credit Card Loans - Last Price -11
High on 09/30/21   32
Average   4
Low on 09/30/20   -65

Net % of Domestic Respondents Reporting Stronger Demand for Auto Loans - Last Price -39
High on 06/29/12   35
Average   4
Low on 09/30/20   -49

Net % of Dom Resp Rep Stronger Demand for Cons Loans Ex Credit Card and Auto - Last Price -26
High on 06/29/12   16
Average   0
Low on 09/30/20   -43

SDCLCON Index (Net % Domestic Respond Reporting Inc Willingness to Make Consumer Install Loans) SLOS: Consumer Quarterly 29JUN1990-11APR2023   Copyright© 2023 Bloomberg Finance L.P.   11-Apr-2023 10:53:21

An Earnings Recession Is Likely Just Around The Corner

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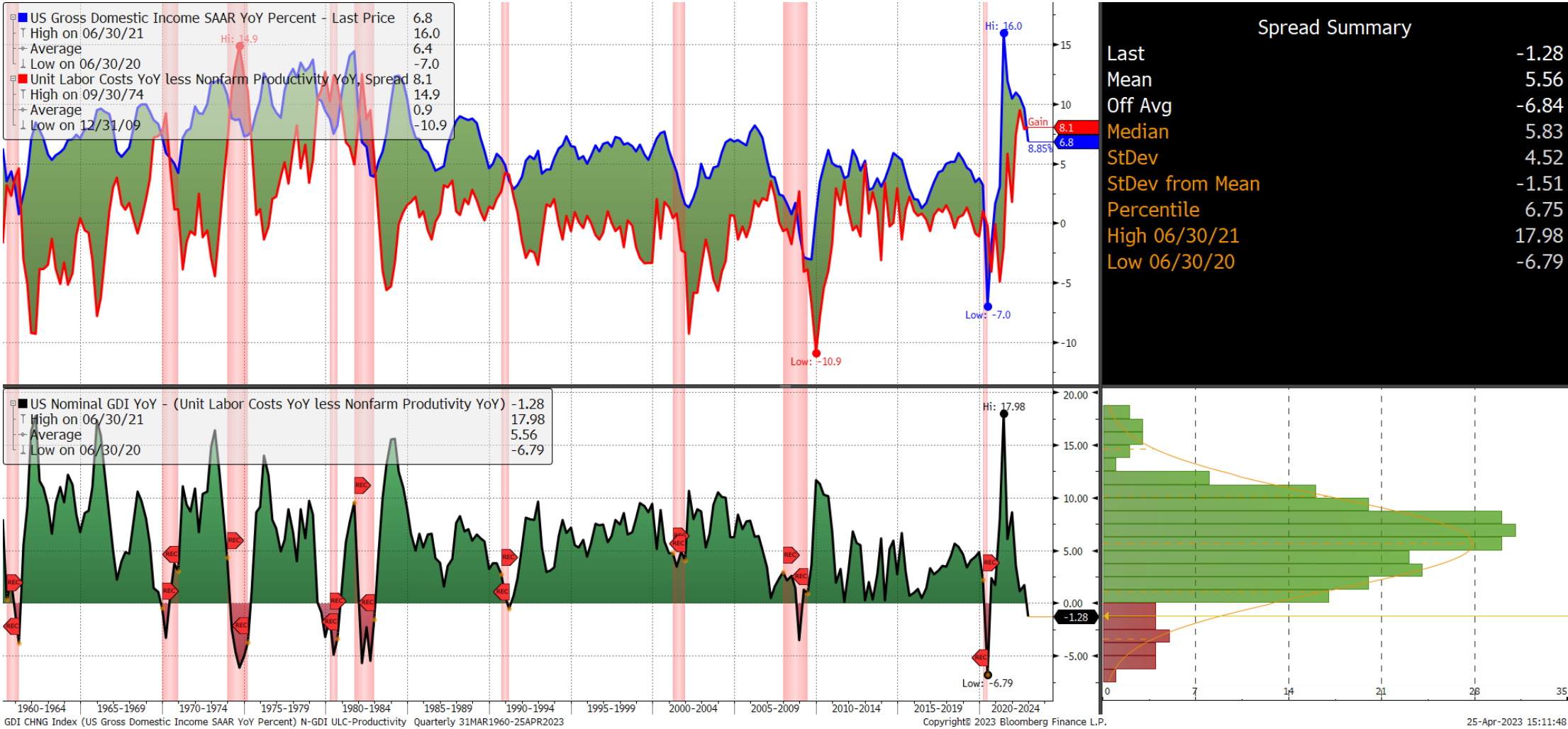
Contrary To Popular Opinion, Stocks Do Not Always Bottom Before The Trough In Earnings
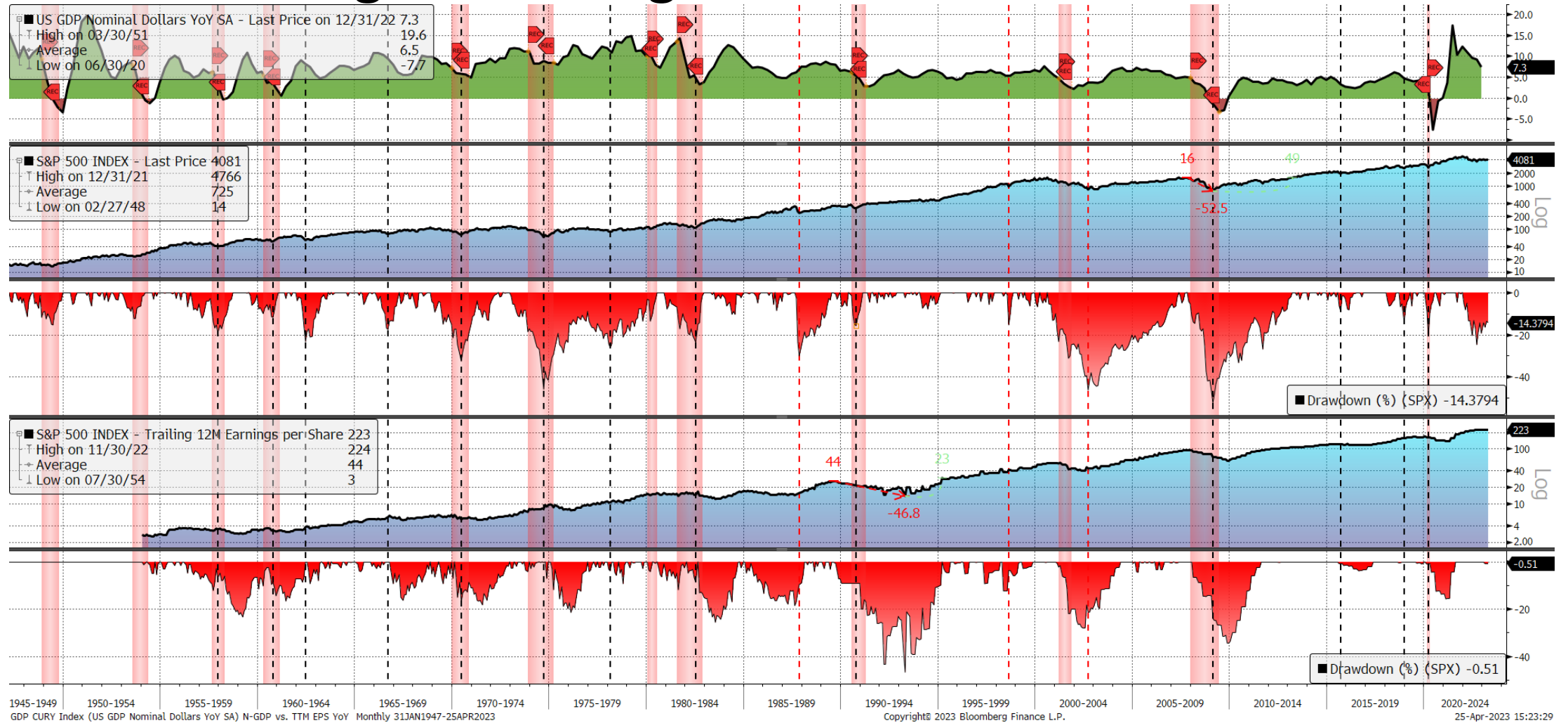
"Everyone Is [NOT] Bearish": US Households' Allocation To Stocks Remains Near Dot-Com Bubble Highs
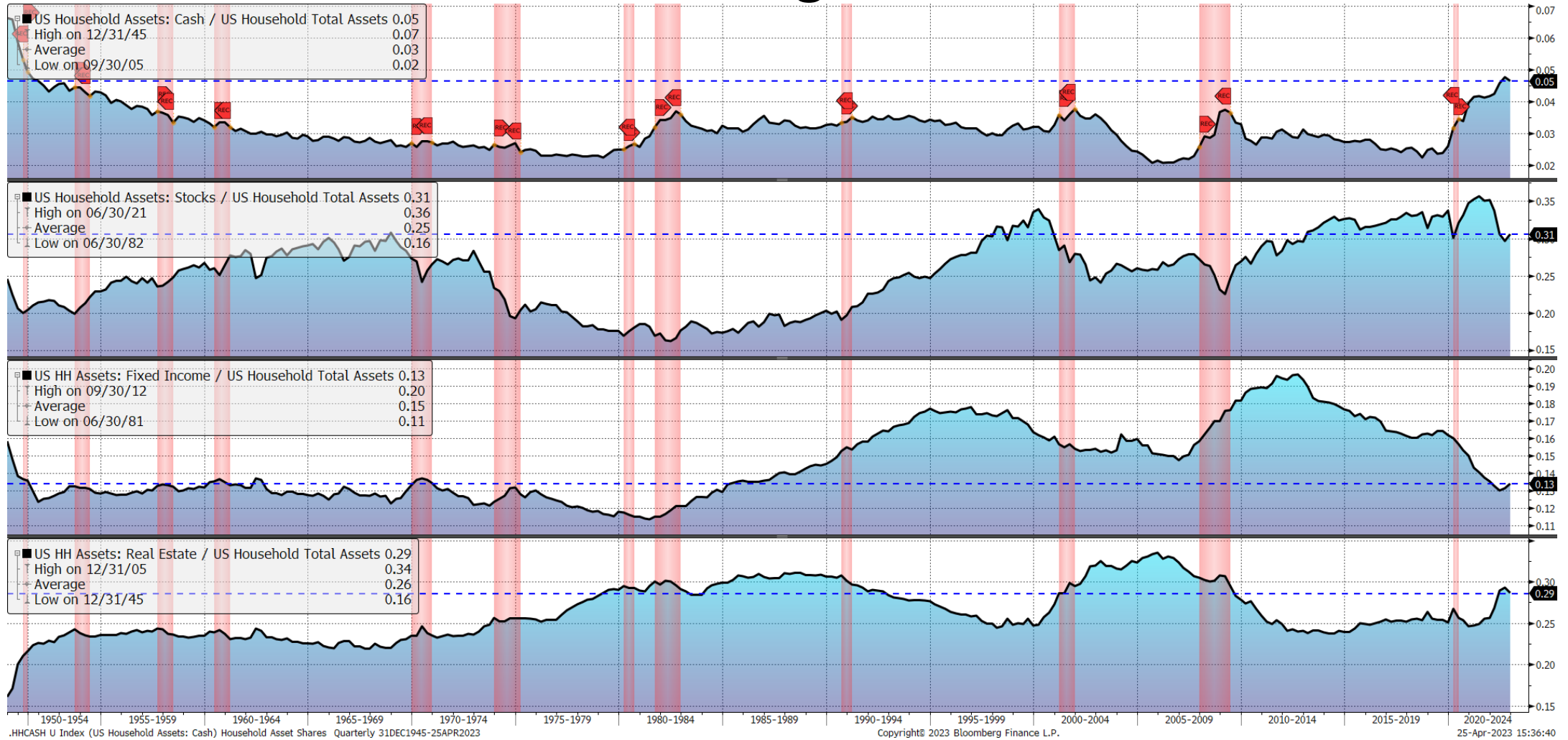
"Everyone Is [NOT] Bearish": US Households' Allocation To Money Market Funds Remains Well Shy Of Recession Liquidity Preferences

US Household Assets: Money Market Funds – Last Price (R1) 2794
⊤ High on 06/30/20 2952
↔ Average 1017
⊥ Low on 03/31/77 3
US Household Assets: Stocks – Last Price (L1) 51102
⊤ High on 12/31/21 59762
↔ Average 16374
⊥ Low on 03/31/75 1260

Hi: 59761.87 Hi: 2952.33
77086.96%
3954.95%
Low: 2.94 Low: 1260.23

RATIO SUMMARY

Last	0.05
Mean	0.06
Off Avg	-0.01
Median	0.06
StDev	0.03
StDev from Mean	-0.22
Percentile	30.21
High 03/31/09	0.14
Low 09/30/77	0.00

US Household Assets: Money Market Funds / US Household Assets: Stocks 0.05
⊤ High on 03/31/09 0.14
↔ Average 0.06
⊥ Low on 09/30/77 0.00

Hi: 0.14
0.05
Low: 0.00

HNPOMMMF Index (FOF Households and Nonprofit Organizations MMMF Share Holdings Asset) HH MMF / HH Stocks   Quarterly 31MAR1975-25APR2023

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25-Apr-2023 15:37:00

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Right Tail Risk

CLIs Suggest The Chinese And European Economies Are Recovering Nicely

USA OECD Composite Leading Indicator (CLI) 98
High on 12/31/72 104
Average 100
Low on 04/30/20 93

Eurozone OECD Composite Leading Indicator (CLI) 98
High on 01/31/73 104
Average 100
Low on 04/30/20 89

UK OECD Composite Leading Indicator (CLI) 96
High on 05/31/72 107
Average 100
Low on 04/30/20 87

Japan OECD Composite Leading Indicator (CLI) 100
High on 03/31/73 105
Average 100
Low on 01/31/75 95

China OECD Composite Leading Indicator (CLI) 99
High on 06/30/07 105
Average 100
Low on 02/29/20 84

World OECD Composite Leading Indicator (CLI) 99
High on 01/31/73 105
Average 100
Low on 04/30/20 90

OEUSKLAC Index (USA OECD Leading Indicators CLI Amplitude Adjusted SA) Global CLIs Monthly 31JAN1955-25APR2023

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25-Apr-2023 15:38:01

PMIs Also Suggest The Chinese And European Economies Are Recovering Nicely
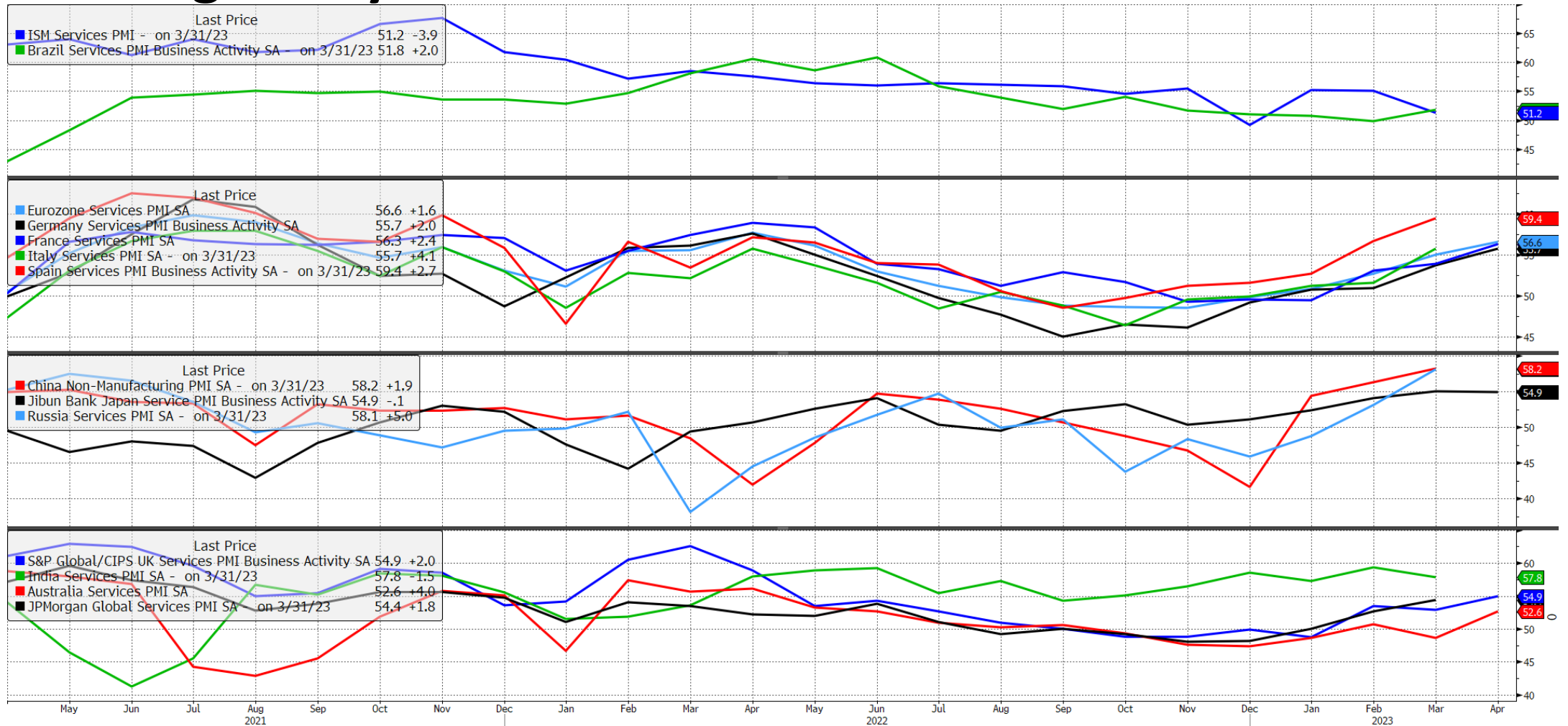
NAPMNMI Index (ISM Services PMI) Services PMIs Monthly 28FEB2018-25APR2023

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25-Apr-2023 15:38:49

China's Recovery Is Explicitly Bearish For The US$

Terminal Fed Funds Rate (OIS Curve <=2yrs) - Last Price 5.04
High on 03/08/23 5.68
Average 2.68
Low on 03/02/21 0.44
Terminal ECB Policy Rate (OIS Curve <=2yrs) - Last Price 3.62
High on 03/07/23 4.12
Average 1.22
Low on 03/25/21 -0.49
Terminal BOE Policy Rate (OIS Curve <=2yrs) - Last Price 4.86
High on 09/27/22 6.28
Average 2.47
Low on 03/02/21 0.34
Terminal BOJ Policy Rate (OIS Curve <=2yrs) - Last Price 0.25
High on 01/04/23 0.65
Average 0.13
Low on 07/30/21 -0.05

Terminal ECB Policy Rate less Terminal Fed Funds Rate, bps Spread - Last Price -142
High on 03/02/21 -90
Average -146
Low on 08/08/22 -229

Terminal BOE Policy Rate less Terminal Fed Funds Rate, bps Spread - Last Price -18
High on 09/27/22 175
Average -21
Low on 02/16/23 -85

Terminal BOJ Policy Rate less Terminal Fed Funds Rate, bps Spread - Last Price -479
High on 03/02/21 -46
Average -255
Low on 03/08/23 -527

.TERMFFR U Index (Terminal Fed Funds Rate (<=2yr) Terminal Policy Rates Daily 28FEB2021-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:40:01

The US$ Faces Structural Headwinds From Capital Outflows
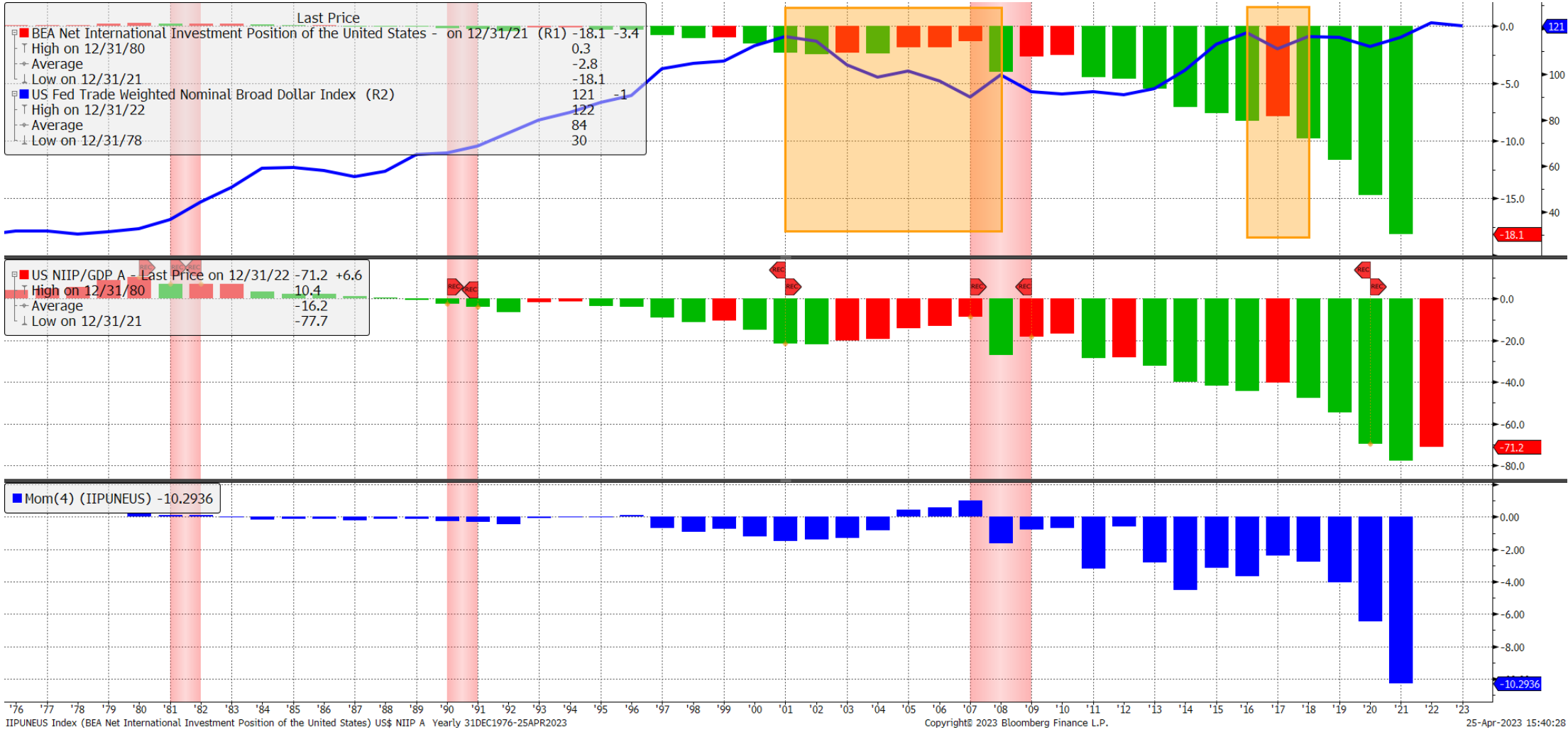
A Weak US$ Is Supportive Of Global Growth And Carry Trades
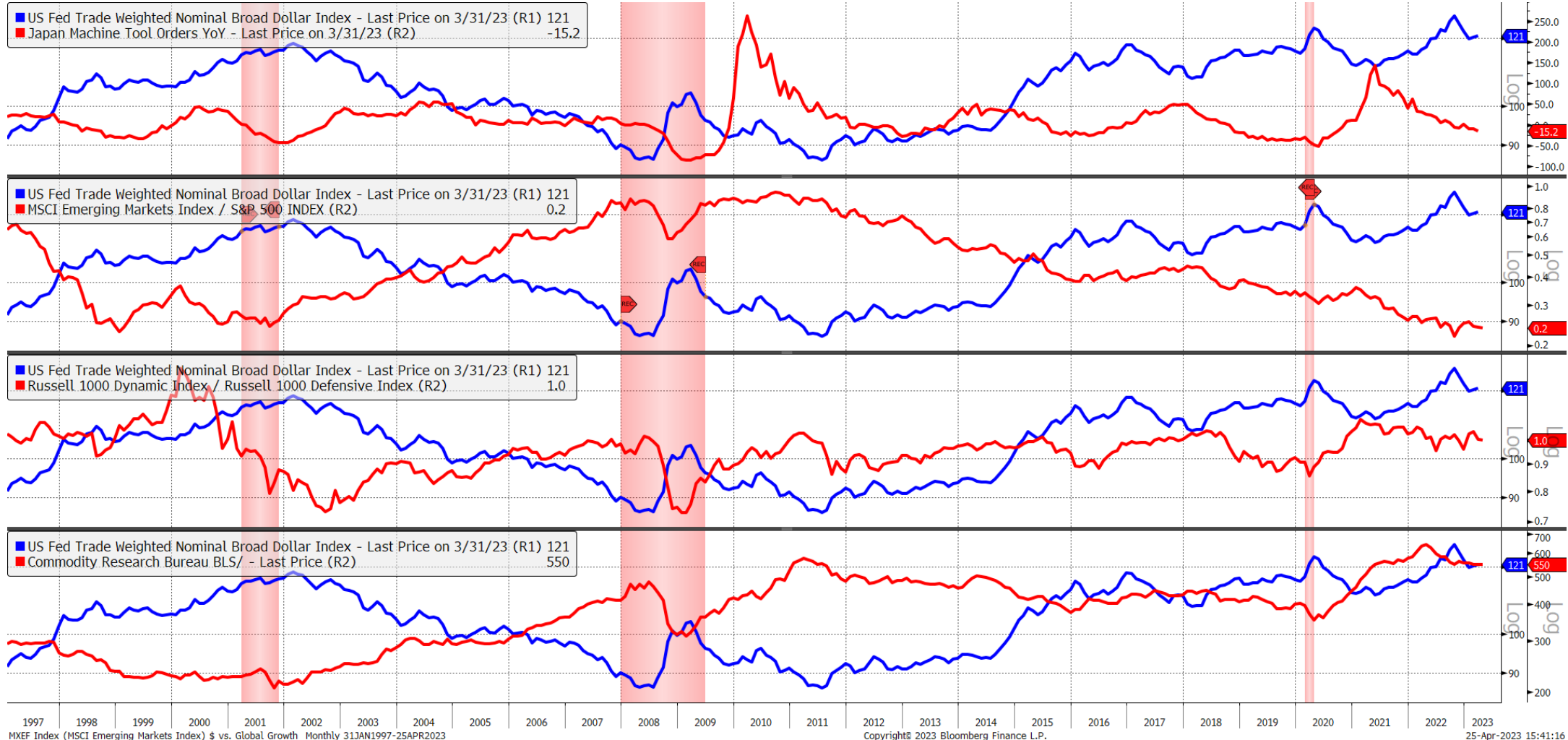
MXEF Index (MSCI Emerging Markets Index) $ vs. Global Growth Monthly 31JAN1997-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:41:16

Will The Surge In Global Central Bank Liquidity Be Sustained?

World Central Bank Balance Sheet $tn (R1) — 30
High on 02/28/22 — 34
Average — 19
Low on 03/02/09 — 9
Bloomberg World Stock Exchange Market Capitalization $tn on 4/24/23 (R2) — 104
High on 11/17/21 — 123
Average — 70
Low on 03/09/09 — 25
Bloomberg Global-Aggregate Index Market Capitalization $tn (R3) — 62
High on 07/29/21 — 69
Average — 48
Low on 03/04/09 — 27

Mom(65) (.G6CBBS U) −0.462

Mom(130) (.G6CBBS U) 0.5854

.G6CBBS U Index (G6 Central Bank Balance Sheet) G6 CBBS $ Daily 02JAN2009-25APR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:41:40

The Global Liquidity Cycle Appears To Have Peaked In Jan/Feb

World Central Bank Balance Sheet $tn - Last Price 30.2 +.1
- High on 02/28/22 — 33.9
- Average — 17.1
- Low on 06/30/06 — 4.8

World Narrow Money Supply $tn - Last Price 52.2 +.7
- High on 12/31/21 — 56.0
- Average — 25.1
- Low on 04/30/03 — 9.5

World FX Reserves $tn - Last Price 12.0 -.2
- High on 09/30/21 — 13.0
- Average — 9.0
- Low on 01/31/03 — 2.3

Mom(3) (.G6CBBS U) -0.3317

Mom(3) (.G6M1$ U) -0.9824

Mom(3) (WIRAWRLD) 0.03

.G6CBBS U Index (G6 Central Bank Balance Sheet) Global Liquidity 3mo Monthly 31JAN2003-31MAR2023

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25-Apr-2023 15:42:44

The BOJ And PBOC Were Aggressively Defending YCC And Supporting The Chinese Economy Post Zero COVID

ECB Balance Sheet Total Assets (€tn) (R1) 7.7 -.1
High on 06/30/22 8.8
Average 4.2
Low on 01/31/10 1.9
3mo SAAR (EBBSTOTA) -11.4
STOXX Europe 600 Index (R2) 458 -3

BOE Balance Sheet Total Assets (£tn) (R1) 0.9 +.0
High on 01/31/22 1.0
Average 0.4
Low on 09/30/11 0.1
3mo SAAR (B111B56A) -8.7
FTSE All-Share Index (R2) 4158 -147

BOJ Balance Sheet Total Assets (¥tn) (R1) 734.8 -4.7
High on 02/28/23 739.6
Average 417.8
Low on 06/30/10 113.2
3mo SAAR (BJACTOTL) 17.6
Nikkei 225 Index (R2) 28041 +596

PBOC Balance Sheet Total Assets (¥tn) on 2/28/23 (R1) 41.8 -.4
High on 01/31/23 42.2
Average 33.5
Low on 01/31/10 23.0
3mo SAAR (CNBMTTAS) 16.1
Shanghai Composite Index (R2) 3273 -7

SNB Balance Sheet Total Assets (fltn) on 2/28/23 (R1) 0.9 -.0
High on 05/31/22 1.1
Average 0.7
Low on 01/31/10 0.2
3mo SAAR (SZBSTOAS) -3.6
Swiss Market Index (R2) 11106 +8

EBBSTOTA Index (ECB Balance Sheet All Assets) G2-6 CBBS 3mo SAAR Monthly 31JAN2010-31MAR2023   Copyright© 2023 Bloomberg Finance L.P.   25-Apr-2023 15:43:13

Neither The BOJ Nor PBOC Appear Inclined To Continue Easing

ECB Balance Sheet Total Assets (€tn) (R1) 7.7 -.1
High on 06/30/22 8.8
Average 4.2
Low on 01/31/10 1.9
MoM SAAR (EBBSTOTA) -5.6
STOXX Europe 600 Index (R2) 458 -3

BOE Balance Sheet Total Assets (£tn) (R1) 0.9 +.0
High on 01/31/22 1.0
Average 0.4
Low on 09/30/11 0.1
MoM SAAR (B111B56A) 0.1
FTSE All-Share Index (R2) 4158 -147

BOJ Balance Sheet Total Assets (¥tn) (R1) 734.8 -4.7
High on 02/28/23 739.6
Average 417.8
Low on 06/30/10 113.2
MoM SAAR (BJACTOTL) -2.6
Nikkei 225 Index (R2) 28041 +596

PBOC Balance Sheet Total Assets (¥tn) on 2/28/23 (R1) 41.8 -.4
High on 01/31/23 42.2
Average 33.5
Low on 01/31/10 23.0
MoM SAAR (CNBMTTAS) -4.2
Shanghai Composite Index (R2) 3273 -7

SNB Balance Sheet Total Assets (fitn) on 2/28/23 (R1) 0.9 -.0
High on 05/31/22 1.1
Average 0.7
Low on 01/31/10 0.2
MoM SAAR (SZBST0AS) -3.4
Swiss Market Index (R2) 11106 +8

EBBSTOTA Index (ECB Balance Sheet All Assets) G2-6 CBBS MoM SAAR Monthly 31JAN2010-31MAR2023

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Bear Markets Tend To Bottom Right Around When The Fed Pivots

Start Date	End Date	Duration (months)	S&P 500 Max Drawdown	S&P 500 Max Drawdown Final 3mos	S&P 500 Max Recovery First 3mos	S&P 500 -3mo/+3mo CAGR	Date of Fed Pivot	Style of Fed Pivot (Pause, Pivot, or Panic)	Months From the Bear Market Trough to an Inflection in the Liquidity Cycle	Months From the Inflection in the Liquidity Cycle to the Peak of the Inflation Cycle	Month of Peak Headline CPI	Months From the Bear Market Trough to the Peak of the Inflation Cycle	Month of Trough Industrial Production YoY/ISM Manufacturing PMI	Months From the Bear Market Trough to the Bottom of the Growth Cycle
9/16/1929	6/1/1932	32	-86%	-40%	112%	27%	4/1/1932	Pivot	(2)	(32)	Jul-29	(34)	Jul-32	2
3/10/1937	4/28/1942	62	-60%	-17%	18%	-2%	7/1/1942	Pause	2	(1)	May-42	1	Jun-42	2
5/29/1946	5/19/1947	12	-28%	-12%	17%	3%	n/a	n/a	n/a	n/a	Mar-47	(2)	Mar-48	10
6/15/1948	6/13/1949	12	-21%	-10%	16%	4%	n/a	n/a	n/a	n/a	Jul-48	(10)	Oct-49	5
8/2/1956	10/22/1957	15	-22%	-19%	7%	-13%	11/15/1957	Pivot	1	(8)	Mar-57	(7)	Jan-58	3
12/12/1961	6/26/1962	6	-28%	-25%	14%	-14%	7/19/1962	Pivot	1	(18)	Jan-61	(17)	Aug-62	2
2/9/1966	10/7/1966	8	-22%	-13%	18%	3%	9/22/1966	Pivot	(0)	1	Oct-66	1	Apr-67	7
11/29/1968	5/26/1970	18	-36%	-23%	18%	-9%	1/30/1970	Pivot	(4)	(1)	Dec-69	(5)	Nov-70	6
1/11/1973	10/3/1974	21	-48%	-25%	24%	-7%	7/1/1974	Pivot	(3)	6	Dec-74	3	Jan-75	4
11/28/1980	8/12/1982	20	-27%	-9%	40%	28%	6/1/1981	Pivot	(14)	(14)	Mar-80	(28)	May-82	(2)
8/25/1987	12/4/1987	3	-34%	-32%	21%	-17%	10/19/1987	Pivot	(2)	0	Oct-87	(1)	Mar-88	4
7/16/1990	10/11/1990	3	-20%	-17%	16%	-3%	10/29/1990	Panic	1	0	Oct-90	1	Jan-91	4
3/24/2000	10/9/2002	31	-49%	-19%	21%	-2%	1/3/2001	Pivot	(21)	(9)	Mar-00	(30)	Oct-01	(11)
10/9/2007	3/9/2009	17	-57%	-28%	40%	1%	9/18/2007	Pivot	(18)	10	Jul-08	(7)	Dec-08	(2)
4/29/2011	10/3/2011	5	-19%	-15%	21%	3%	9/21/2011	Pivot	(0)	0	Sep-11	(0)	Oct-11	1
9/20/2018	12/24/2018	3	-20%	-20%	21%	-2%	1/4/2019	Pause	0	(5)	Jul-18	(5)	Dec-19	12
2/19/2020	3/23/2020	1	-34%	-34%	44%	-5%	3/3/2020	Panic	(1)	(1)	Jan-20	(2)	Apr-20	1
MIN		1	-86%	-40%	7%	-17%	n/a	n/a	(21)	(32)	n/a	(34)	n/a	(11)
1st QUARTILE		5	-48%	-25%	17%	-7%	n/a	n/a	(3)	(8)	n/a	(10)	n/a	1
MEDIAN		**12**	**-28%**	**-19%**	**21%**	**-2%**	n/a	n/a	**(1)**	**(1)**	n/a	**(5)**	n/a	**3**
3rd QUARTILE		20	-22%	-15%	24%	3%	n/a	n/a	0	0	n/a	0	n/a	5
MAX		62	-19%	-9%	112%	28%	n/a	n/a	2	10	n/a	3	n/a	12
PERCENT POSITIVE		n/a	0%	0%	100%	41%	n/a	n/a	33%	40%	n/a	24%	n/a	82%
PERCENT NEGATIVE		n/a	100%	100%	0%	59%	n/a	n/a	67%	60%	n/a	76%	n/a	18%
PEAK HEADLINE CPI > 5% (n=8)		**17**	**-32%**	**-17%**	**18%**	**-0%**	n/a	n/a	**(3)**	**(0)**	n/a	**(3)**	n/a	**4**
PEAK HEADLINE CPI < 5% (n=9)		6	-28%	-20%	21%	-2%	n/a	n/a	(0)	(5)	n/a	(5)	n/a	2
BOTTOM IN RECESSION (n=9)		**17**	**-34%**	**-23%**	**24%**	**-3%**	n/a	n/a	**(3)**	**(1)**	n/a	**(7)**	n/a	**3**
BOTTOM OUT OF RECESSION (n=8)		7	-28%	-18%	20%	-2%	n/a	n/a	(0)	(1)	n/a	(1)	n/a	3
-20% to -30% (n=9)		**8**	**-22%**	**-15%**	**17%**	**3%**	n/a	n/a	**0**	**(5)**	n/a	**(5)**	n/a	**4**
-30% to -50% (n=5)		18	-36%	-25%	21%	-7%	n/a	n/a	(3)	(1)	n/a	(2)	n/a	4
-50%+ (n=3)		32	-60%	-28%	40%	1%	n/a	n/a	(2)	(1)	n/a	(7)	n/a	2
MEAN OF BOLDED SCENARIOS		**14**	**-29%**	**-18%**	**20%**	**-1%**	n/a	n/a	**(2)**	**(2)**	n/a	**(5)**	n/a	**4**

Data Source: Bloomberg. 3mo T-Bill Yield prior to 1971. Industrial Production YoY prior to 1956. ISM Manufacturing PMI onward. All summary statistics featured in the bottom clusters of rows are MEDIAN values. Intellectual Property of 42 Macro LLC.

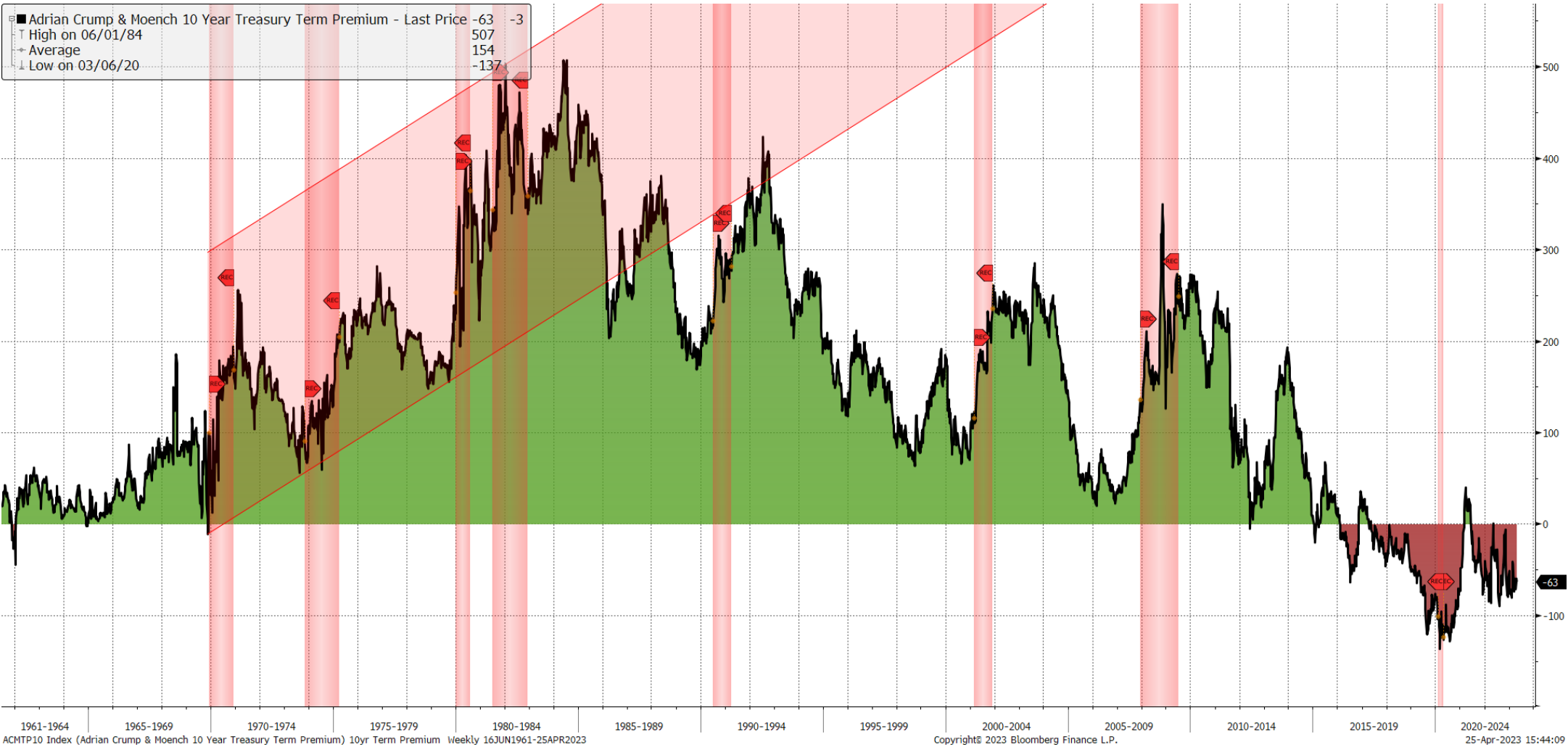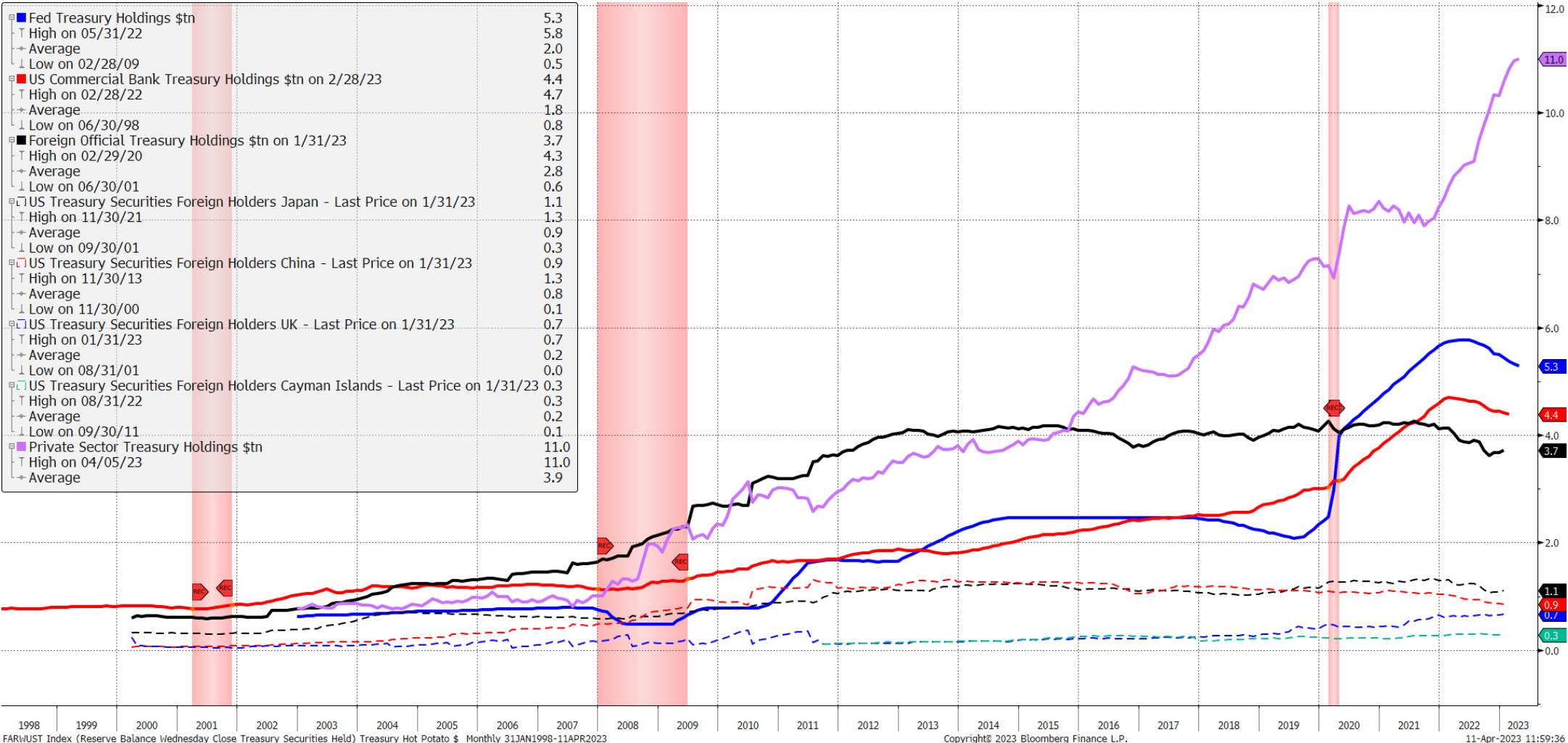# "Pause Pivots" Have Historically Been Quite Bullish For Risk Assets

Date of Fed Pivot When Bayesian Prior = Bear Market	Style of Fed Pivot (Pause, Pivot, or Panic)	S&P 500 3mos Forward	S&P 500 6mos Forward	S&P 500 12mos Forward	Fed Funds Rate 3mos Forward	Fed Funds Rate 6mos Forward	Fed Funds Rate 12mos Forward	10yr Nominal Treasury Yield 3mos Forward	10yr Nominal Treasury Yield 6mos Forward	10yr Nominal Treasury Yield 12mos Forward	Bloomberg Commodity Index 3mos Forward	Bloomberg Commodity Index 6mos Forward	Bloomberg Commodity Index 12mos Forward	US Dollar Index 3mos Forward	US Dollar Index 6mos Forward	US Dollar Index 12mos Forward
4/1/1932	Pivot	-39%	11%	-20%												
7/1/1942	Pause	7%	18%	49%												
n/a (no observable pivot date for the 1946-47 bear)	n/a															
n/a (no observable pivot date for the 1948-49 bear)	n/a															
11/15/1957	Pivot	4%	12%	33%	-200bps	-250bps	-50bps									
7/19/1962	Pivot	1%	18%	23%	-25bps	-4bps	25bps	-10bps	-15bps	-2bps	1%	12%	13%			
9/22/1966	Pivot	3%	16%	24%	-75bps	-150bps	-125bps	-57bps	-71bps	10bps	-4%	-3%	-9%			
1/30/1970	Pivot	-5%	-9%	12%	-100bps	-150bps	-375bps	5bps	-39bps	-168bps	5%	8%	19%	-0%	-1%	-1%
7/1/1974	Pivot	-26%	-20%	11%	-375bps	-500bps	-650bps	30bps	-24bps	32bps	34%	22%	3%	2%	-3%	-4%
6/1/1981	Pivot	-7%	-5%	-16%	-450bps	-700bps	-700bps	191bps	-37bps	21bps	-11%	-17%	-26%	5%	-2%	7%
10/19/1987	Pivot	-9%	-8%	-1%	-62bps	-50bps	100bps	-188bps	-124bps	-149bps	-4%	-0%	-3%	-6%	-7%	-3%
10/29/1990	Panic	13%	23%	29%	-125bps	-225bps	-300bps	-62bps	-61bps	-117bps	-12%	-11%	-11%	-1%	10%	9%
1/3/2001	Pivot	-3%	-6%	-12%	-200bps	-275bps	-475bps	42bps	14bps	12bps	-2%	-8%	-21%	7%	8%	11%
9/18/2007	Pivot	-1%	-10%	-21%	-100bps	-300bps	-325bps	-44bps	-106bps	-64bps	6%	16%	-4%	-4%	-10%	-0%
9/21/2011	Pivot	5%	17%	20%	0bps	0bps	0bps	-6bps	27bps	-31bps	-9%	-9%	-4%	4%	3%	4%
1/4/2019	Pause	20%	22%	32%	0bps	-25bps	-75bps	-5bps	-54bps	-105bps	4%	2%	-3%	1%	2%	1%
3/3/2020	Panic	0%	9%	29%	-150bps	-150bps	-150bps	-51bps	-48bps	58bps	-10%	-2%	15%	0%	-4%	-4%
MIN	n/a	-39%	-20%	-21%	-450bps	-700bps	-700bps	-188bps	-124bps	-168bps	-12%	-17%	-26%	-6%	-10%	-4%
1st QUARTILE	n/a	-6%	-7%	-7%	-200bps	-275bps	-375bps	-52bps	-64bps	-108bps	-10%	-8%	-10%	-1%	-3%	-2%
MEDIAN	**n/a**	**0%**	**11%**	**20%**	**-100bps**	**-150bps**	**-150bps**	**-8bps**	**-43bps**	**-16bps**	**-3%**	**-1%**	**-4%**	**1%**	**-1%**	**0%**
3rd QUARTILE	n/a	4%	17%	29%	-62bps	-50bps	-50bps	11bps	-22bps	14bps	4%	9%	6%	4%	2%	7%
MAX	n/a	20%	23%	49%	0bps	0bps	100bps	191bps	27bps	58bps	34%	22%	19%	7%	10%	11%
PERCENT POSITIVE	n/a	53%	60%	67%	0%	0%	15%	33%	17%	42%	42%	42%	33%	60%	40%	50%
PERCENT NEGATIVE	n/a	47%	40%	33%	85%	92%	77%	67%	83%	58%	58%	58%	67%	40%	60%	50%
FED PAUSE (n=2)	**n/a**	**13%**	**20%**	**40%**	**0bps**	**-25bps**	**-75bps**	**-5bps**	**-54bps**	**-105bps**	**4%**	**2%**	**-3%**	**1%**	**2%**	**1%**
FED PIVOT (n=11)	n/a	-3%	-5%	11%	-100bps	-200bps	-225bps	-6bps	-37bps	-2bps	-2%	-0%	-4%	2%	-2%	-0%
FED PANIC (n=2)	n/a	7%	16%	29%	-138bps	-188bps	-225bps	-56bps	-55bps	-29bps	-11%	-7%	2%	-1%	3%	2%
FED PIVOT NOT IN RECESSION (n=9)	**n/a**	**1%**	**16%**	**20%**	**-69bps**	**-100bps**	**-100bps**	**-8bps**	**-45bps**	**-16bps**	**-3%**	**-1%**	**-4%**	**3%**	**0%**	**2%**
FED PIVOT IN RECESSION (n=6)	n/a	-2%	10%	20%	-150bps	-225bps	-300bps	-23bps	-43bps	-42bps	-3%	3%	9%	-0%	-2%	-3%
MEAN OF BOLDED SCENARIOS	**n/a**	**5%**	**15%**	**27%**	**-56bps**	**-92bps**	**-108bps**	**-7bps**	**-48bps**	**-46bps**	**-1%**	**-0%**	**-4%**	**1%**	**0%**	**1%**

Data Source: Bloomberg. All summary statistics featured in the bottom three clusters of rows are MEDIAN values. Intellectual Property of 42 Macro LLC.

ICYMI

42 Macro Secular Inflation Model: Our #Math Suggests Core PCE Is Likely To Trend 90-130bps Higher Throughout This Decade; Will The Fed Accept 3%?

US SECULAR INFLATION MODEL FEATURES	Δ-ADJUSTED Z-SCORE (Latest Value vs. 2010-19 Sample)
Automation: Capex/Employee Compensation (Latest Value = 26%)	0.5
Commodities: CRB Index (Latest Value = 546)	**2.4**
Demographics: Share of Population ≥ 65 Years Old (Latest Value = 17%)	2.2
Fed Reaction Function: Fed Balance Sheet as a % of GDP (Latest Value = 33%)	3.6
Globalization: Imports of Goods and Services as a % of GDP (Latest Value = 15%)	**1.2**
Household Formation: Net Change in Domestic Households (Latest Value = 1881)	2.6
Income Inequality: Gini Coefficient (Latest Value = 0.49)	(3.3)
Labor Supply: Labor Force Participation Rate (Latest Value = 62.6)	**1.0**
Money Supply: M2 YoY (Latest Value = -2.4%)	(4.4)
Money Velocity: M2/Nominal GDP (Latest Value = 1.2)	(3.1)
Monopsony Power: S&P 100 Market Cap/S&P 500 Market Cap (Latest Value = 67%)	(4.1)
Populism: 25-54 Employment-to-Population Ratio (Latest Value = 78%)	(0.2)
Productivity: Output Per Hour of Nonfarm Labor YoY (Latest Value = -1.8%)	**3.3**
Public Debt: Federal Debt Held by the Public as a % of GDP (Latest Value = 107%)	6.0
Technology: NASDAQ 100 Market Cap/Russell 3000 Market Cap (Latest Value = 37%)	(3.5)
Wages: Employment Cost Index YoY (Latest Value = 5.1%)	**8.1**
Wealth Effect: Household Net Worth as a % of DPI (Latest Value = 772%)	**2.5**
Wealth Inequality: Top-10% Share of Household Wealth (Latest Value = 52%)	(0.4)
Mean Z-Score	0.8
Weighted Z-Score	2.1
2010-19 Trend of Core PCE YoY	1.6%
2020-29 Trend Projection - Mean Z-Score Model	2.4%
2020-29 Trend Projection - Weighted Z-Score Model	2.9%
2020-to-date Trend of Core PCE YoY	3.3%

Treasurys Are Grossly Mispriced In A World Where 3-5% Inflation Is The Norm

Adrian Crump & Moench 10 Year Treasury Term Premium - Last Price -63   -3
High on 06/01/84   507
Average   154
Low on 03/06/20   -137

ACMTP10 Index (Adrian Crump & Moench 10 Year Treasury Term Premium) 10yr Term Premium   Weekly 16JUN1961-25APR2023

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25-Apr-2023 15:44:09

The US Treasury Cannot Afford For The Fed To Lose This Battle With Inflation

FARWUST Index (Reserve Balance Wednesday Close Treasury Securities Held) Treasury Hot Potato $ Monthly 31JAN1998-11APR2023

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11-Apr-2023 11:59:36

... Because Private Sector Creditors Will Demand Structurally Higher Coupons To Capitalize The US Government

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Blocking And Tackling

We Use The 42 Macro GRID Model To Measure And Map The Top Two Principal Components Of Asset Market Returns: Growth & Inflation

United States		Actuals																						Projections						
42 Macro GRID Framework	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
Macro Regime	D	I	I	I	I	I	I	I	I	I	I	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	G
Conditional Probability of GOLDILOCKS	24%	11%	3%	1%	4%	3%	1%	2%	4%	4%	2%	6%	12%	14%	20%	28%	34%	33%	31%	26%	16%	10%	10%	12%	12%	16%	20%	26%	30%	36%	39%
Conditional Probability of REFLATION	14%	32%	39%	35%	30%	33%	16%	13%	7%	5%	6%	3%	1%	4%	4%	1%	1%	3%	4%	1%	0%	1%	1%	1%	1%	2%	2%	3%	5%	8%	13%
Conditional Probability of INFLATION	23%	43%	54%	62%	58%	59%	77%	76%	59%	54%	70%	33%	7%	17%	12%	3%	2%	6%	8%	2%	2%	5%	5%	6%	7%	8%	8%	8%	9%	10%	12%
Conditional Probability of DEFLATION	40%	14%	4%	2%	8%	6%	6%	9%	31%	37%	22%	58%	80%	65%	65%	67%	63%	59%	57%	71%	81%	84%	84%	81%	80%	75%	70%	63%	56%	46%	37%
OECD Composite Leading Indicator	101.1	101.0	101.0	100.9	100.8	100.6	100.4	100.1	99.8	99.5	99.3	99.1	98.9	98.8	98.7	98.6	98.6	98.5	98.5	98.3	98.2	98.0	97.9	97.7	97.6	97.5	97.4	97.4	97.3	97.4	97.4
3mo Δ	-0.2	-0.2	-0.2	-0.2	-0.3	-0.4	-0.5	-0.6	-0.8	-0.9	-0.8	-0.7	-0.6	-0.5	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2	-0.4	-0.5	-0.5	-0.5	-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	0.0
Z-Score (t3yrs)	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4	-0.4	-0.5	-0.4	-0.4	-0.3	-0.5	-0.2	0.0	0.3	0.4	0.4	0.2	-0.2	-0.5	-0.5	-0.4	-0.3	-0.1	0.1	0.3	0.5	0.8	1.0
Headline CPI YoY	5.4	6.2	6.8	7.0	7.5	7.9	8.5	8.3	8.6	9.1	8.5	8.3	8.2	7.7	7.1	6.5	6.4	6.0	5.0	4.6	4.1	3.7	3.3	2.9	2.6	2.2	1.9	1.7	1.5	1.3	1.2
3mo Δ	0.0	0.9	1.6	1.6	1.3	1.1	1.5	0.8	0.7	0.5	0.3	-0.3	-0.9	-0.8	-1.2	-1.7	-1.3	-1.1	-1.5	-1.8	-1.9	-1.3	-1.3	-1.2	-1.1	-1.0	-1.0	-0.9	-0.8	-0.7	-0.5
Z-Score (t3yrs)	-0.2	0.5	1.1	1.1	0.7	0.5	0.9	0.2	0.1	0.0	-0.3	-0.8	-1.2	-1.1	-1.4	-1.7	-1.3	-1.1	-1.3	-1.6	-1.7	-1.2	-1.2	-1.1	-0.9	-0.8	-0.8	-0.7	-0.6	-0.5	-0.3

→ x-axis: 3mo Δ of Headline CPI YoY; y-axis: 3mo Δ of OECD Composite Leading Indicator

GROWTH ↑ + INFLATION ↓ = GOLDILOCKS

GROWTH ↑ + INFLATION ↑ = REFLATION

GROWTH ↓ + INFLATION ↓ = DEFLATION

GROWTH ↓ + INFLATION ↑ = INFLATION

US GROWTH: Secular View

US GROWTH: Cyclical View

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US GROWTH Agent-Based Nowcast Model

42 Macro Agent-Based Nowcast GROWTH Model Features

United States	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
USA OECD Leading Indicators CLI Amplitude Adjusted SA	98.6	99.0	99.4	99.8	100.2	100.5	100.9	101.2	101.3	101.3	101.2	101.2	101.1	101.0	101.0	100.9	100.8	100.6	100.4	100.1	99.8	99.5	99.3	99.1	98.9	98.8	98.7	98.6	98.6	98.5	98.5
US Industrial Production YOY SA (5%)	-6.3	-4.9	-4.9	-3.6	-2.0	-5.4	1.0	16.6	15.6	9.2	5.1	4.4	3.4	4.0	4.5	3.0	2.3	6.6	4.4	4.6	3.7	3.2	3.0	3.1	4.5	3.1	1.9	0.6	1.4	1.0	0.5
US Trade Balance of Exports YOY SA (4%)	-14.1	-12.3	-10.9	-8.3	-4.7	-6.9	9.8	37.7	43.8	32.6	24.4	22.4	16.7	21.9	21.1	19.8	15.1	20.1	17.6	21.7	21.5	22.3	22.0	21.5	22.5	13.6	10.5	7.1	13.5	8.1	
Retail Sales Less Food Services Auto Dealers & Building Mat& Gas Station SA YoY (4%)	12.0	11.1	10.4	8.0	14.5	11.3	17.6	33.2	19.4	14.8	9.4	12.1	10.7	12.6	13.6	12.7	9.7	11.8	4.2	5.6	7.0	6.1	8.7	7.2	7.0	6.1	5.2	6.9	6.7	7.3	5.5
ISM Manufacturing PMI SA (7%)	55.5	58.7	57.3	60.2	59.3	60.8	63.8	61.0	61.9	61.1	60.0	59.6	60.7	60.4	60.8	58.6	57.6	58.4	57.0	55.9	56.1	53.1	52.7	52.9	51.0	50.0	49.0	48.4	47.4	47.7	46.3
ISM Services PMI (8%)	57.1	56.1	56.1	57.5	58.7	56.4	62.3	63.0	63.9	61.2	64.0	61.7	62.1	66.6	67.6	61.7	60.4	57.2	58.4	57.5	56.4	56.0	56.4	56.1	55.9	54.5	55.5	49.2	55.2	55.1	51.2
USA Business Tendency Manufacturing Confidence Composite OECD Normalsd SA (3%)	1.9	2.2	2.4	2.4	2.4	2.8	3.5	3.8	3.4	2.4	1.5	1.1	0.9	0.6	0.4	0.0	-0.4	-0.8	-1.1	-1.3	-1.3	-1.5	-1.6	-1.8	-2.1	-2.3	-2.4	-2.2	-2.1	-2.1	-2.0
USA Consumer Opinion Confidence Composite OECD Normalised SA (3%)	-1.8	-1.9	-2.2	-2.4	-2.4	-1.8	-0.5	0.9	1.3	1.1	0.6	-0.1	-0.7	-1.1	-1.2	-1.3	-1.6	-2.0	-2.6	-3.0	-3.4	-3.6	-3.1	-2.3	-1.8	-1.5	-1.3	-0.9	-0.4	0.1	0.2
US Employees on Nonfarm Payrolls Total SA (6%)	-6.3	-5.9	-5.9	-6.1	-6.0	-5.8	-4.4	10.9	9.0	5.9	5.4	4.6	4.2	4.3	4.5	5.1	5.0	5.2	4.9	4.9	4.8	4.5	4.4	4.2	4.0	3.7	3.4	3.2	3.3	2.9	2.7
US Employees on Nonfarm Payrolls Total Private SA (6%)	-6.9	-6.3	-6.1	-6.4	-6.3	-6.0	-4.4	13.1	10.3	6.5	5.9	5.3	4.9	4.8	5.0	5.7	5.6	5.9	5.6	5.6	5.5	5.3	5.0	4.8	4.6	4.1	3.8	3.5	3.5	3.0	2.8
US Avg Weekly Hours Nonfarm Total Private Production and Nonsupervisory SA (0%)	1.8	1.8	2.4	1.8	2.7	1.2	3.0	2.7	1.2	0.9	0.9	0.0	0.3	0.0	-0.3	-0.3	-1.4	0.6	-0.9	-0.9	-0.9	-0.6	-0.9	-0.6	-0.9	-0.6	-0.9	-0.9	0.3	-0.9	-0.6
Average Weekly Earnings Total (1%)	4.2	6.7	8.3	6.2	8.2	4.9	6.5	4.2	5.1	5.1	6.1	5.2	6.3	6.5	5.0	6.0	6.7	7.4	6.0	5.6	5.8	6.1	5.7	3.9	6.0	6.8	4.9	4.2	5.4	4.7	4.4
US Job Openings By Industry Total SA (2%)	-9.1	-6.9	-0.6	2.2	-0.1	10.9	45.0	98.2	76.3	64.6	67.1	72.3	67.1	66.7	63.4	72.5	60.1	49.5	43.2	26.6	16.3	8.9	4.6	-7.0	-0.3	-7.9	-4.3	-5.0	-8.0	-14.4	
Bureau of Labor Statistics Employment Diffusion Nonfarm Payrolls +1 Month SA (4%)	72.6	71.2	63.6	68.0	59.2	64.0	78.0	70.2	67.6	69.2	72.2	74.8	71.4	74.4	78.6	78.8	66.6	84.6	79.0	68.8	70.6	69.2	72.2	62.0	63.4	65.2	63.4	64.0	64.6	57.4	60.2
US Personal Consumption Expenditures Chained 2012 Dollars SAAR (5%)	-0.8	-0.6	-1.4	-2.0	-0.1	-1.3	10.4	25.5	15.4	9.8	7.9	7.6	6.6	7.1	7.4	7.0	5.6	6.7	2.3	2.4	2.6	2.1	2.2	2.3	2.1	1.7	1.4	1.9	2.7	2.5	
Real Personal Consumption Expenditures of Goods (3%)	10.5	10.2	8.7	6.9	12.8	9.9	22.0	38.1	17.9	11.1	6.7	7.4	5.8	7.3	7.8	6.3	3.9	5.0	-4.6	-3.0	-1.8	-1.6	-0.3	0.0	-0.2	-0.6	-1.5	-0.2	0.5	1.6	
US Personal Consumption Expenditures Services Chained 2012 Dollars SAAR (6%)	-5.8	-5.4	-5.9	-6.1	-5.8	-6.2	4.8	19.5	14.1	9.1	8.5	7.8	7.0	6.9	7.3	7.4	6.4	7.6	6.1	5.3	5.0	4.1	3.5	3.5	3.4	2.9	2.9	3.1	3.9	3.0	
US Disposable Personal Income Chained 2012 Dollars SA (1%)	5.3	4.7	2.9	3.5	12.9	2.8	28.0	-5.7	-3.9	-3.5	-3.4	0.0	-1.4	-0.9	4.6	-11.5	-3.4	-21.6	-7.4	-4.8	-4.7	-4.6	-4.1	-2.6	-2.0	-1.4	0.0	3.0	3.3		
Adjusted Retail & Food Services Sales Total SA (3%)	6.6	5.9	4.2	3.2	9.3	6.9	30.3	53.7	29.0	19.8	15.5	15.7	14.4	16.4	18.8	17.7	13.6	17.3	7.4	7.8	8.7	8.8	10.0	9.7	8.4	8.0	5.9	6.2	7.6	5.9	2.9
MBA US Purchase Index SA (1%)	21.6	21.8	27.3	24.7	17.9	1.5	40.4	32.0	-11.7	-17.3	-17.7	-16.3	-12.6	-10.0	-9.4	-13.0	-6.7	-8.7	-10.2	-11.0	-14.3	-4.7	-15.8	-23.1	-37.9	-40.8	-41.7	-42.2	-39.0	-41.2	-37.6
US Auto Sales Total Annualized SAAR (1%)	-4.9	-2.1	-9.0	-2.6	-1.2	-6.9	56.1	115.7	39.1	17.7	1.6	-14.0	-25.5	-19.9	-17.3	-23.5	-9.6	-10.2	-24.9	-22.8	-25.4	-15.4	-9.5	0.9	10.8	14.7	10.0	7.0	4.7	5.8	11.2
US Capacity Utilization % of Total Capacity SA (5%)	-6.3	-4.6	-4.4	-2.8	-1.3	-4.7	2.3	18.5	17.9	11.2	7.9	6.9	5.8	6.3	6.6	4.9	4.0	8.1	5.6	5.5	4.2	3.4	3.0	2.8	3.9	2.3	0.9	-0.5	0.1	-0.4	-0.9
US Manufacturers New Orders Total SA (6%)	-3.9	-2.7	-0.2	0.6	1.5	1.1	12.9	31.2	26.3	18.9	13.0	13.0	11.4	12.2	13.2	11.9	11.7	12.1	12.9	14.4	14.2	14.0	12.4	11.4	12.0	10.4	7.1	8.4	3.8	2.7	
Capital Goods New Orders Nondefense Excluding Aircraft SA (4%)	-4.7	-3.7	-1.3	1.6	3.9	5.4	8.5	22.3	18.5	16.4	14.3	14.6	11.5	12.5	13.0	11.3	11.5	11.6	10.6	7.6	9.9	8.9	8.8	8.4	8.0	6.3	5.3	5.0	4.0	4.2	
US Durable Goods New Orders Industries SA (4%)	1.6	3.0	7.4	7.5	5.2	2.6	20.6	48.7	34.7	23.7	13.2	13.3	9.4	9.0	11.2	10.8	11.4	10.5	9.5	12.2	10.8	11.3	10.7	9.3	11.2	10.3	6.8	11.2	2.5	2.2	
US Trade Balance of Imports SA (4%)	-6.1	-2.3	1.3	0.4	3.8	4.3	17.8	34.7	38.0	35.6	22.7	21.0	20.6	18.8	20.8	21.3	20.4	23.5	27.2	23.9	23.1	20.0	16.8	13.8	14.4	13.5	2.1	1.6	3.8	0.7	
Association of American Railroads Total Traffic US Freight Carloads (2%)	-2.1	1.4	3.6	8.4	2.2	1.8	16.1	30.7	34.1	12.4	3.0	-0.7	-1.3	-2.0	-4.8	-3.2	-3.0	1.9	-0.7	-6.3	-2.9	-4.4	0.6	1.4	-3.1	0.8	-4.1	-6.8	-6.3	-7.4	-9.8
Census Bureau US Construction Spending Total SA (3%)	4.9	6.2	5.7	7.0	6.3	4.5	6.1	9.7	10.9	11.3	11.0	10.4	8.5	7.8	7.9	7.3	9.0	11.7	10.5	10.7	10.6	10.8	11.0	9.5	10.7	10.0	10.5	9.4	6.9	5.2	

Data Source: Bloomberg. Intellectual Property of 42 Macro LLC. Nowcast feature weights are dynamically retrained monthly according to the relative strength of the first difference regressions between the independent and the dependent variables.

US INFLATION: Secular View

US INFLATION: Cyclical View

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US INFLATION Agent-Based Nowcast Model

42 Macro Agent-Based INFLATION Nowcast Model Features

United States	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23
US CPI Urban Consumers NSA YoY	1.4	1.2	1.2	1.4	1.4	1.7	2.6	4.2	5.0	5.4	5.4	5.3	5.4	6.2	6.8	7.0	7.5	7.9	8.5	8.3	8.6	9.1	8.5	8.3	8.2	7.7	7.1	6.5	6.4	6.0	5.0
US CPI Urban Consumers Less Food & Energy YoY NSA (7%)	1.7	1.6	1.6	1.6	1.4	1.3	1.6	3.0	3.8	4.5	4.3	4.0	4.0	4.6	4.9	5.5	6.0	6.4	6.5	6.2	6.0	5.9	5.9	6.3	6.6	6.3	6.0	5.7	5.6	5.5	5.6
US PPI Final Demand YoY NSA (8%)	0.3	0.6	0.8	0.8	1.6	3.0	4.1	6.5	7.0	7.6	8.0	8.7	8.8	8.9	9.9	10.0	10.1	10.4	11.7	11.2	11.1	11.2	9.7	8.7	8.5	8.2	7.4	6.6	5.9	4.9	2.7
Commodity Research Bureau BLS/US Spot All Commodities (3%)	4.7	5.2	10.9	10.5	13.4	23.1	36.9	50.6	49.4	54.4	48.8	41.8	36.4	39.5	31.7	30.3	27.2	25.3	25.2	20.9	14.8	7.3	3.6	4.5	1.0	-3.8	0.0	-4.1	-4.4	-10.0	-13.2
Commodity Research Bureau BLS/US Spot Foodstuff (3%)	5.2	2.6	10.6	7.0	9.5	23.4	39.6	66.0	57.3	68.3	58.6	48.5	38.4	41.1	31.1	35.5	36.8	37.4	32.1	26.1	22.4	16.9	13.1	16.2	16.3	15.9	18.7	8.7	3.7	-4.5	-6.1
Commodity Research Bureau BLS/US Spot Raw Industrials (2%)	4.4	7.0	11.1	13.0	16.2	22.9	35.0	40.8	44.2	45.5	42.5	37.3	35.0	38.3	32.1	26.8	20.9	17.5	20.7	17.4	9.7	1.1	-2.5	-2.8	-8.4	-15.4	-11.2	-12.0	-9.7	-13.6	-17.8
US CPI Urban Consumers Food NSA (1%)	3.9	3.9	3.7	3.9	3.8	3.6	3.5	2.4	2.2	2.4	3.4	3.7	4.6	5.3	6.1	6.3	7.0	7.9	8.8	9.4	10.1	10.4	10.9	11.4	11.2	10.9	10.6	10.4	10.1	9.5	8.5
US CPI Urban Consumers Energy NSA (9%)	-7.7	-9.2	-9.4	-7.0	-3.6	2.4	13.2	25.1	28.5	24.5	23.8	25.0	24.8	30.0	33.3	29.3	27.0	25.6	32.0	30.3	34.6	41.6	32.9	23.8	19.8	17.6	13.1	7.3	8.7	5.2	-6.4
US CPI Urban Consumers Commodities Less Food & Energy NSA (4%)	1.0	1.2	1.4	1.7	1.7	1.3	1.7	4.4	6.5	8.7	8.5	7.7	7.3	8.4	9.4	10.7	11.7	12.3	11.7	9.7	8.5	7.2	7.0	7.1	6.6	5.1	3.7	2.1	1.4	1.0	1.5
US CPI Household Furnishings & Supplies NSA (1%)	2.1	1.9	2.9	2.9	2.4	2.3	2.8	3.2	3.7	3.4	3.0	3.3	4.8	6.1	6.0	7.4	9.3	10.3	10.8	10.6	9.7	10.2	10.8	10.6	9.9	8.8	8.3	7.3	6.4	6.3	5.8
US CPI Urban Consumers Apparel NSA (7%)	-6.0	-5.5	-5.2	-3.9	-2.5	-3.6	-2.5	1.9	5.6	4.9	4.2	4.2	3.4	4.3	5.0	5.8	5.8	6.6	5.4	5.0	5.2	5.1	5.1	5.5	4.1	3.6	2.9	3.1	3.3	3.3	
US CPI Transportation Commodities Less Motor Fuel NSA (2%)	4.5	5.3	5.1	5.0	4.6	4.2	4.5	9.2	13.3	20.3	19.8	17.2	14.9	16.5	19.2	21.8	23.4	23.9	21.8	17.2	14.1	9.5	8.8	9.1	5.5	2.4	-0.9	-2.3	-3.2	-1.8	
US CPI Urban Consumers Medical Care Commodities NSA (2%)	0.9	-0.8	-1.1	-2.5	-2.3	-2.5	-2.4	-1.7	-1.9	-2.2	-2.1	-2.5	-1.6	-0.4	0.2	0.4	1.4	2.5	2.7	2.1	2.4	3.2	3.7	4.1	3.7	3.1	3.1	3.2	3.4	3.2	3.6
US CPI Recreation Commodities NSA (5%)	-0.8	-1.3	-1.0	-0.2	-0.2	0.3	0.8	2.9	3.5	3.2	3.2	3.3	3.5	4.0	3.9	3.3	4.1	4.6	4.7	4.0	3.8	4.5	4.1	3.8	4.0	4.3	3.6	4.1	3.3	2.9	3.2
US CPI Education & Communication Commodities NSA (0%)	-6.0	-5.0	-4.3	-2.5	-1.9	-2.7	-4.9	-2.2	-1.4	-1.2	-0.2	-0.5	2.6	2.5	0.9	0.2	0.8	0.3	1.3	-4.0	-6.0	-5.7	-7.0	-7.3	-8.3	-9.1	-9.7	-10.1	-10.3	-10.5	-10.2
US CPI Urban Consumers Alcoholic Beverages NSA (3%)	1.8	2.3	3.0	2.8	2.4	2.0	2.0	1.9	1.6	1.9	2.4	2.6	2.8	2.2	1.9	2.3	2.7	3.5	3.7	3.9	4.0	4.0	4.2	4.3	4.1	5.0	5.5	5.8	5.8	4.9	4.5
US CPI Urban Consumers Services Less Energy Services NSA (6%)	1.9	1.7	1.7	1.6	1.3	1.3	1.6	2.5	2.9	3.1	2.9	2.7	2.9	3.2	3.4	3.7	4.1	4.4	4.7	4.9	5.2	5.5	5.5	6.1	6.7	6.7	6.8	7.0	7.2	7.3	7.1
US CPI Urban Consumers Shelter NSA (2%)	2.0	2.0	1.9	1.8	1.6	1.5	1.7	2.1	2.2	2.6	2.8	2.8	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.1	5.5	5.6	5.7	6.2	6.6	6.9	7.1	7.5	7.9	8.1	8.2
US CPI Urban Consumers Water and Sewer and Trash Collection Services NSA (0%)	3.4	3.3	3.3	3.6	3.6	3.6	3.5	3.6	3.4	3.6	3.7	3.5	3.7	3.7	3.5	3.5	4.0	4.2	4.0	4.2	4.4	4.4	4.4	4.6	4.9	4.8	5.0	4.9	5.0	5.2	5.4
US CPI Urban Consumers Medical Care Services NSA (0%)	4.9	3.7	3.2	2.8	2.9	3.0	2.7	2.2	1.5	1.0	0.8	1.0	0.9	1.7	2.1	2.5	2.7	2.4	2.9	3.5	4.0	4.8	5.1	5.6	6.5	5.4	4.4	4.1	3.0	2.1	1.0
US CPI Urban Consumers Transportation Services NSA (5%)	-5.1	-5.1	-3.4	-3.5	-4.1	-4.4	-1.6	5.6	11.2	10.4	6.4	4.6	4.4	4.5	3.9	4.2	5.6	6.6	7.7	8.5	7.9	8.8	9.2	11.3	14.6	15.2	14.2	14.6	14.6	14.6	13.9
US CPI Recreation Services NSA (0%)	2.7	2.6	2.6	1.6	0.3	1.1	1.2	1.0	0.6	1.9	3.7	3.5	3.5	3.8	2.8	3.3	5.0	5.1	4.8	4.4	4.9	4.7	4.5	4.2	4.1	3.9	5.4	5.7	5.8	6.3	5.9
US CPI Education & Communication Services NSA (0%)	2.8	2.7	2.4	2.3	2.0	2.1	2.0	2.0	2.2	2.4	1.2	1.3	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.5	1.5	1.4	1.3	2.2	2.4	2.8	2.9	3.3	
US Personal Consumption Expenditures Chain Type Price Index SA (12%)	1.3	1.1	1.1	1.3	1.5	1.7	2.5	3.6	4.0	4.3	4.4	4.5	4.4	5.2	5.9	6.0	6.1	6.4	6.8	6.4	6.5	7.0	6.4	6.3	6.3	6.1	5.7	5.3	5.3	5.0	
US Personal Consumption Expenditures Ex Food & Energy Deflator SA (9%)	1.5	1.4	1.4	1.5	1.6	1.6	2.0	3.1	3.5	3.8	3.9	3.9	3.9	4.3	4.8	5.0	5.2	5.4	5.4	5.0	4.9	5.0	4.7	4.9	5.2	5.1	4.8	4.7	4.6		
NFIB Small Business Higher Prices (6%)	13.0	15.0	18.0	16.0	17.0	25.0	26.0	36.0	40.0	47.0	46.0	49.0	46.0	53.0	59.0	57.0	58.0	64.0	66.0	63.0	65.0	63.0	56.0	53.0	51.0	50.0	51.0	43.0	42.0	38.0	37.0
ISM Manufacturing Report on Business Prices Index NSA (2%)	62.8	65.5	65.4	77.6	82.1	86.0	85.6	89.6	88.0	92.1	85.7	79.4	81.2	85.7	82.4	68.2	76.1	75.6	87.1	84.6	82.2	78.5	60.0	52.5	51.7	46.6	43.0	39.4	44.5	51.3	49.2
ISM Services PMI Report on Business Prices SA (0%)	59.9	62.8	64.3	65.7	65.1	71.8	72.9	75.0	78.2	78.0	82.3	76.7	80.6	83.2	83.0	84.5	82.9	83.2	82.9	83.2	80.9	79.1	73.2	72.3	69.8	70.9	70.1	68.1	67.8	65.6	59.5

Data Source: Bloomberg. Intellectual Property of 42 Macro LLC. Nowcast feature weights are dynamically retrained monthly according to the relative strength of the first difference regressions between the independent and the dependent variables.

The GRIDs Are Global

Data Source: Bloomberg. Intellectual property of 42 Macro LLC. GRID Regime backtests performed on monthly observations on a rolling out of sample basis beginning in Jan-98.

Four Horsemen Of Economic Risk: DEMOGRAPHICS

x-axis: 5yr Forward Old-Age Dependency Ratio
y-axis: Working Age Population 5yr Forward CAGR

© 42 Macro LLC. Data Source: Bloomberg, OECD.
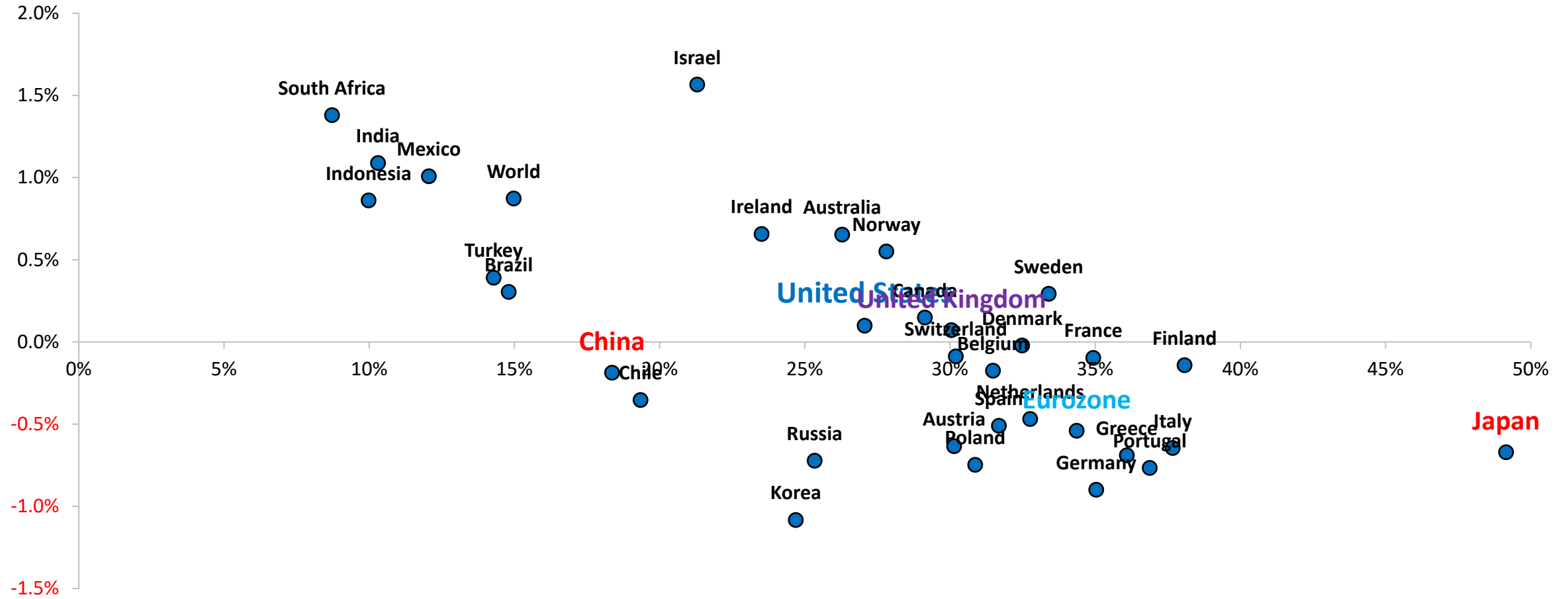
Four Horsemen Of Economic Risk: LEVERAGE

x-axis: Private Nonfinancial Sector Credit/GDP Ratio 5yr Z-Score
y-axis: Private Nonfinancial Sector Debt Service Ratio 5yr Z-Score

© 42 Macro LLC. Data Source: Bloomberg, BIS.
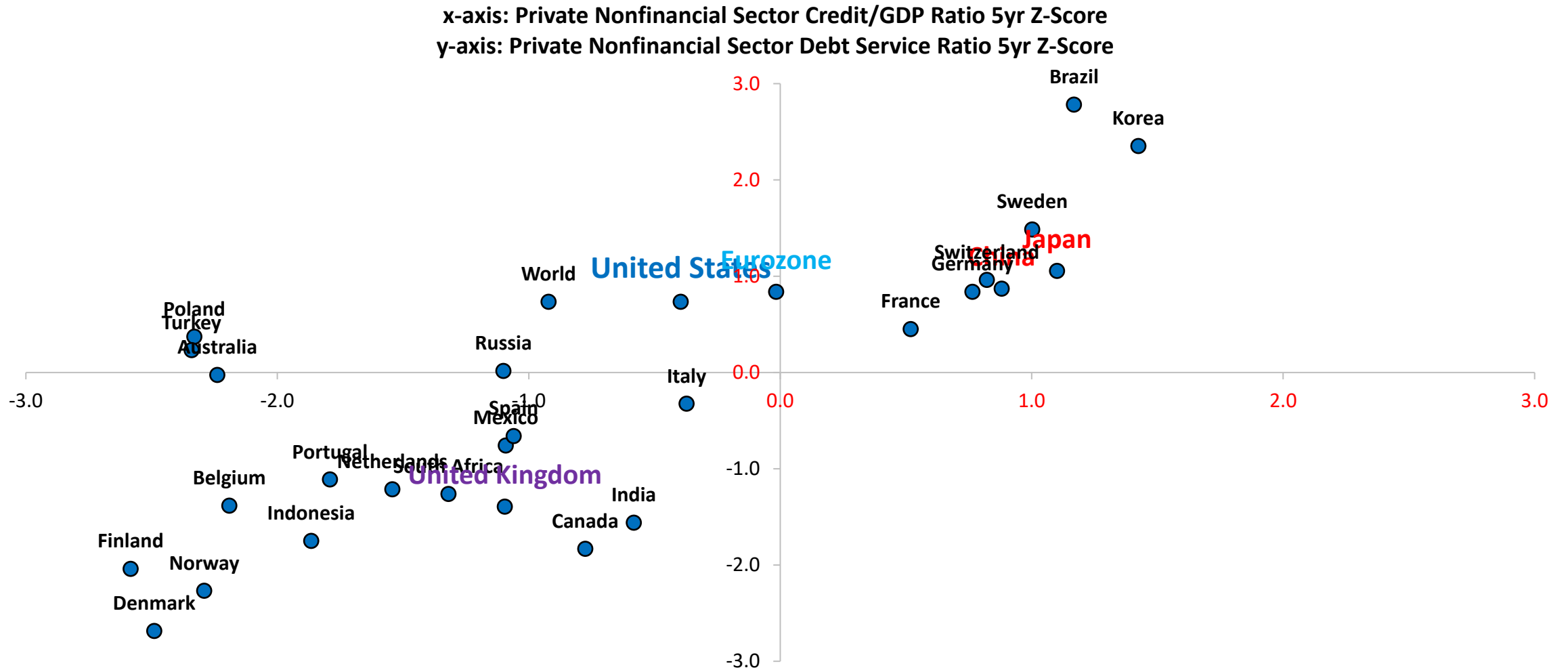
Four Horsemen Of Economic Risk: POLITICS

x-axis: Gini Coefficient
y-axis: Prime Working Age Employment-to-Population Ratio

© 42 Macro LLC. Data Source: Bloomberg, OECD.
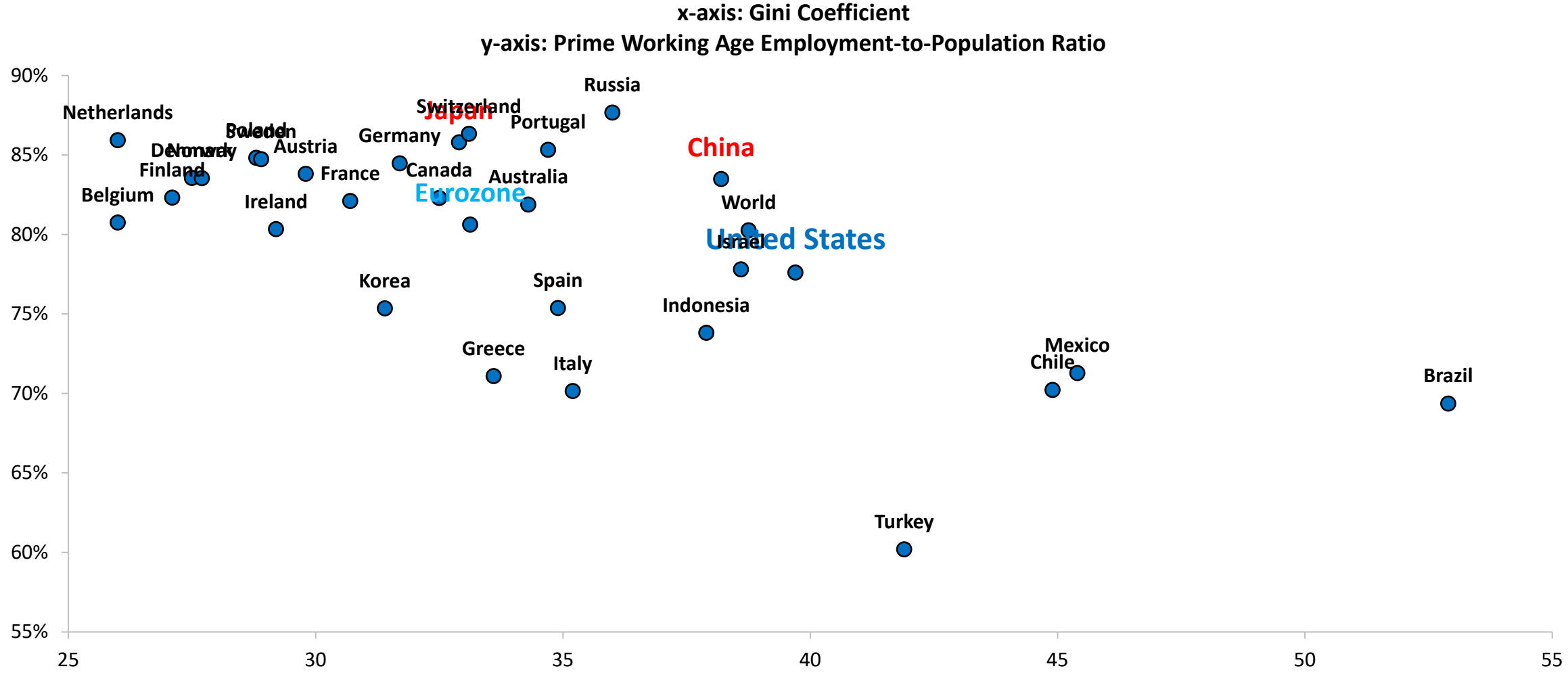
Four Horsemen Of Economic Risk: BALANCE OF PAYMENTS
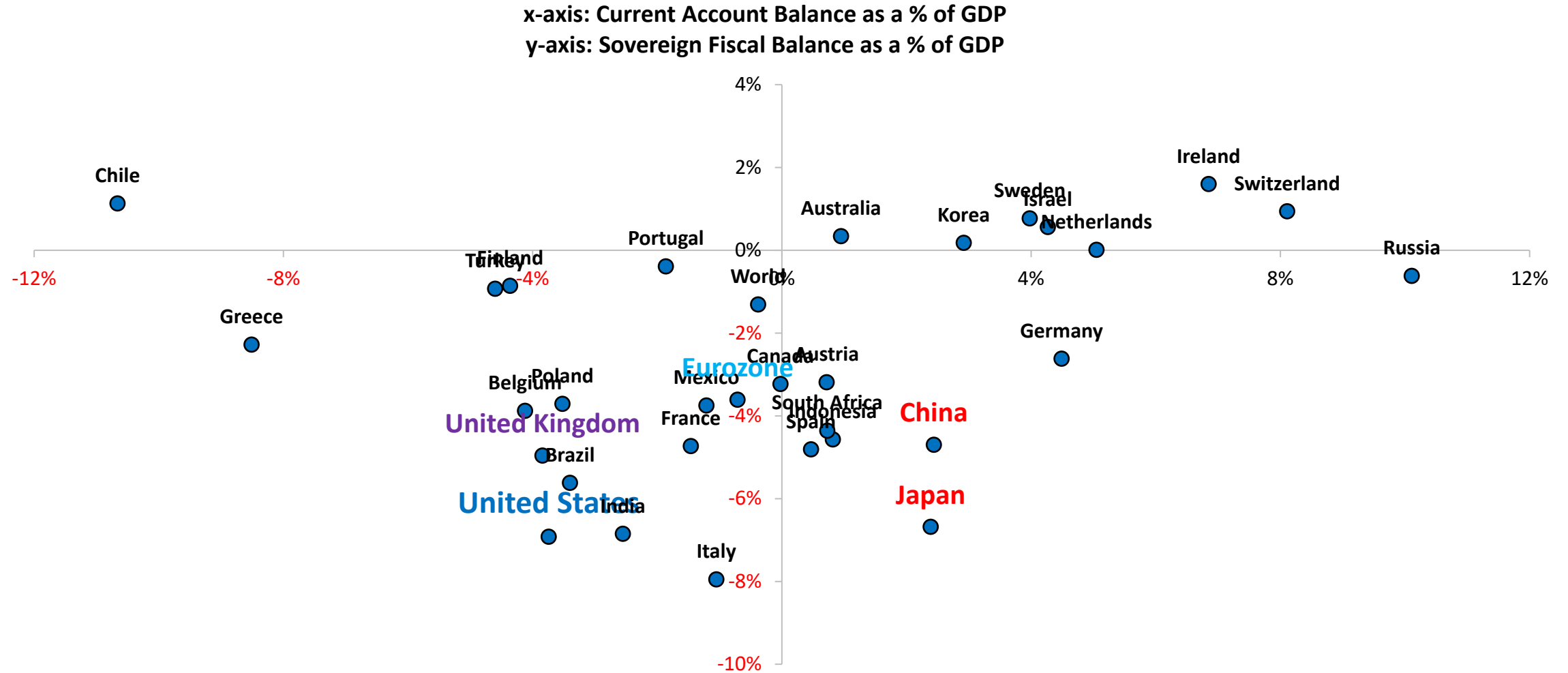
x-axis: Current Account Balance as a % of GDP
y-axis: Sovereign Fiscal Balance as a % of GDP

© 42 Macro LLC. Data Source: Bloomberg.

We Use The @42Macro Weather Model In Conjunction With Our GRID Model Framework To Anticipate Inflections In The Liquidity Cycle And Dispersion Within And Across Asset Markets

Ten Principal Components of Macro: Real Economy Indicators						United States 4/25/2023		Ten Principal Components of Macro: Financial Economy Indicators				

Growth	Previous Value	Latest Value	Previous Signal	Latest Signal
OECD Composite Leading Indicator	98.5	98.5	⬇	⬇
Bloomberg Consensus NTM Real GDP Δ	-150bps	-140bps	⬇	⬇

Stock Market — 3-Month Outlook 🟡

Latest Signal	Previous Signal	Latest Value	Previous Value	Monetary Policy
⬇	⬇	$5,711	$5,697	@42Macro Adjusted Net Liquidity $bn
⬇	⬇	$30,165	$30,202	Global Central Bank Balance Sheet $bn

Inflation	Previous Value	Latest Value	Previous Signal	Latest Signal
Headline CPI YoY	6.0%	5.0%	⬇	⬇
Bloomberg Consensus NTM Headline CPI Δ	-295bps	-170bps	⬇	⬇

Bond Market — 3-Month Outlook 🟢

Latest Signal	Previous Signal	Latest Value	Previous Value	Liquidity
⬇	⬇	-8.3%	-3.3%	Domestic Narrow Money Supply YoY
⬇	⬇	-1.3%	0.7%	Global PPP-Weighted Narrow Money Supply YoY

Employment	Previous Value	Latest Value	Previous Signal	Latest Signal
Unemployment Rate	3.6%	3.5%	⬇	⬇
Bloomberg Consensus NTM Unemployment Rate Δ	110bps	100bps	⬆	⬆

US Dollar — 3-Month Outlook 🔴

Latest Signal	Previous Signal	Latest Value	Previous Value	Interest Rates
⬆	⬆	5.00%	5.00%	Benchmark Policy Rate
⬇	⬇	-108bps	-91bps	2yr Nominal Yield Spread vs. Benchmark Policy Rate

Corporate Profits	Previous Value	Latest Value	Previous Signal	Latest Signal
Bloomberg Consensus NTM Sales Growth Rate	1.5%	1.5%	⬇	⬇
Bloomberg Consensus NTM EPS Growth Rate	-2.2%	-2.2%	⬆	⬆

Commodities — 3-Month Outlook 🟡

Latest Signal	Previous Signal	Latest Value	Previous Value	Fear
❌	⚠	10%	14%	Extreme Aggregated US Dollar POSITIONING
⚠	⚠	-12%	-14%	Extreme Aggregated US Rates POSITIONING

Fiscal Policy	Previous Value	Latest Value	Previous Signal	Latest Signal
Sovereign Fiscal Balance/Nominal GDP	-5.5%	-6.9%	⬆	⬇
Real Effective Exchange Rate	106.2	106.7	⬇	⬇

Bitcoin — 3-Month Outlook 🟡

Latest Signal	Previous Signal	Latest Value	Previous Value	Greed
⚠	⚠	5%	-3%	Extreme Aggregated Commodities POSITIONING
⚠	⚠	-5%	-5%	Extreme Aggregated US Equities POSITIONING

GRID Regime: DEFLATION
Conviction: HIGH

Composite @42Macro Weather Model
Signal: Stock Market
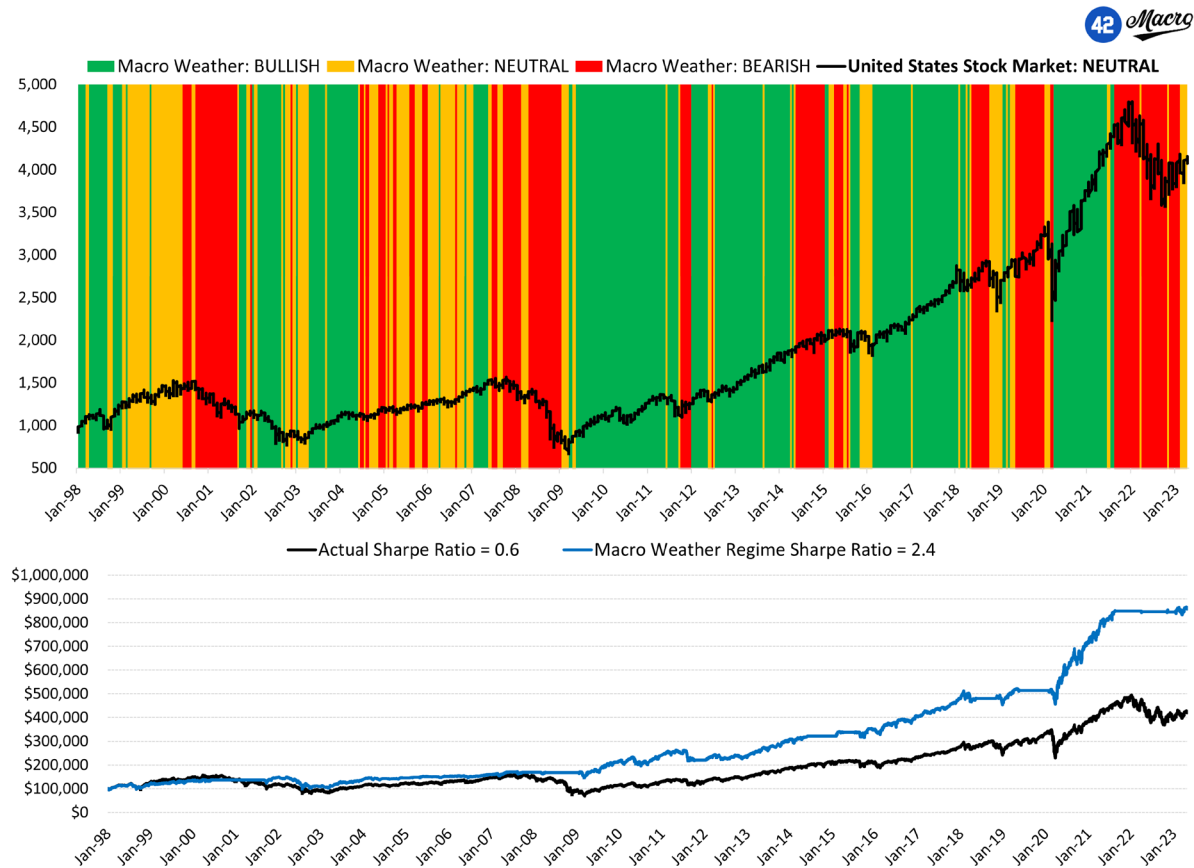
Composite @42Macro Weather Model
Signal: Bond Market
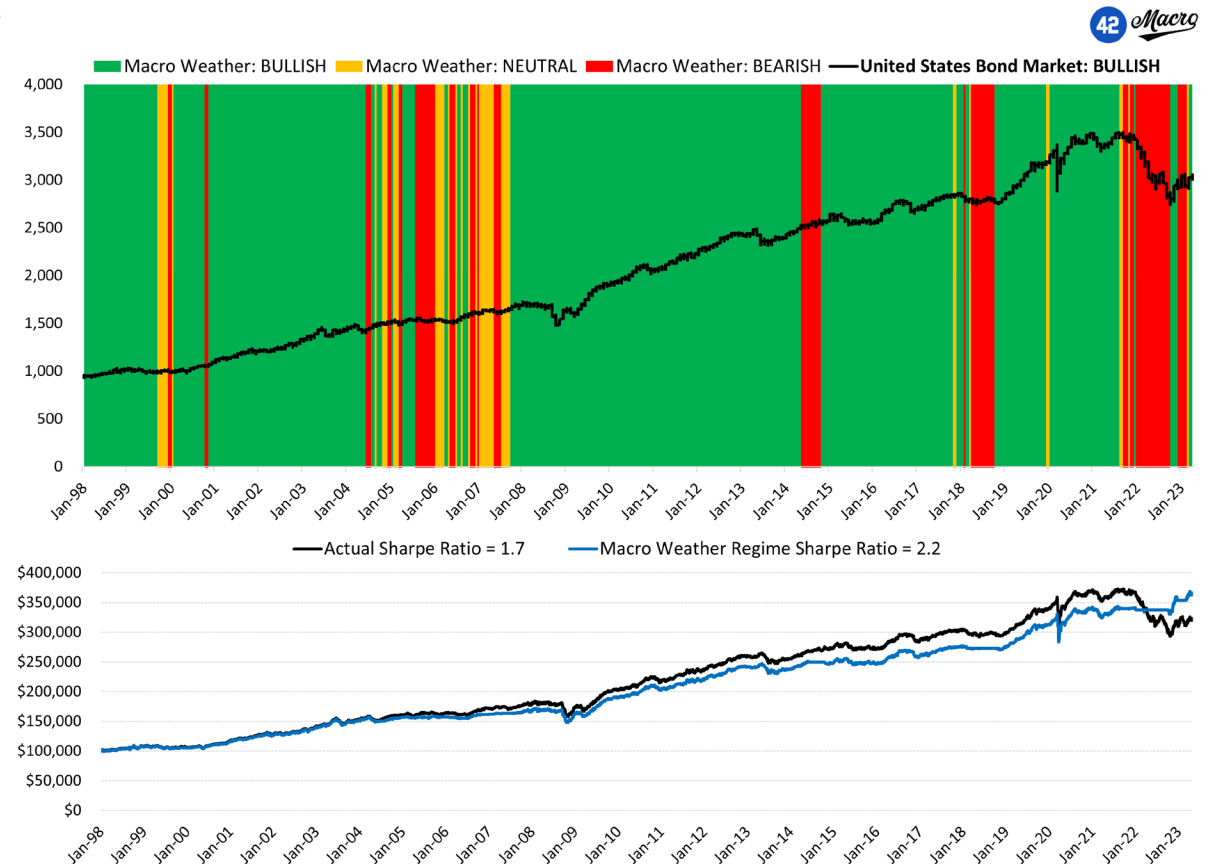
Composite @42Macro Weather Model Signal: US Dollar
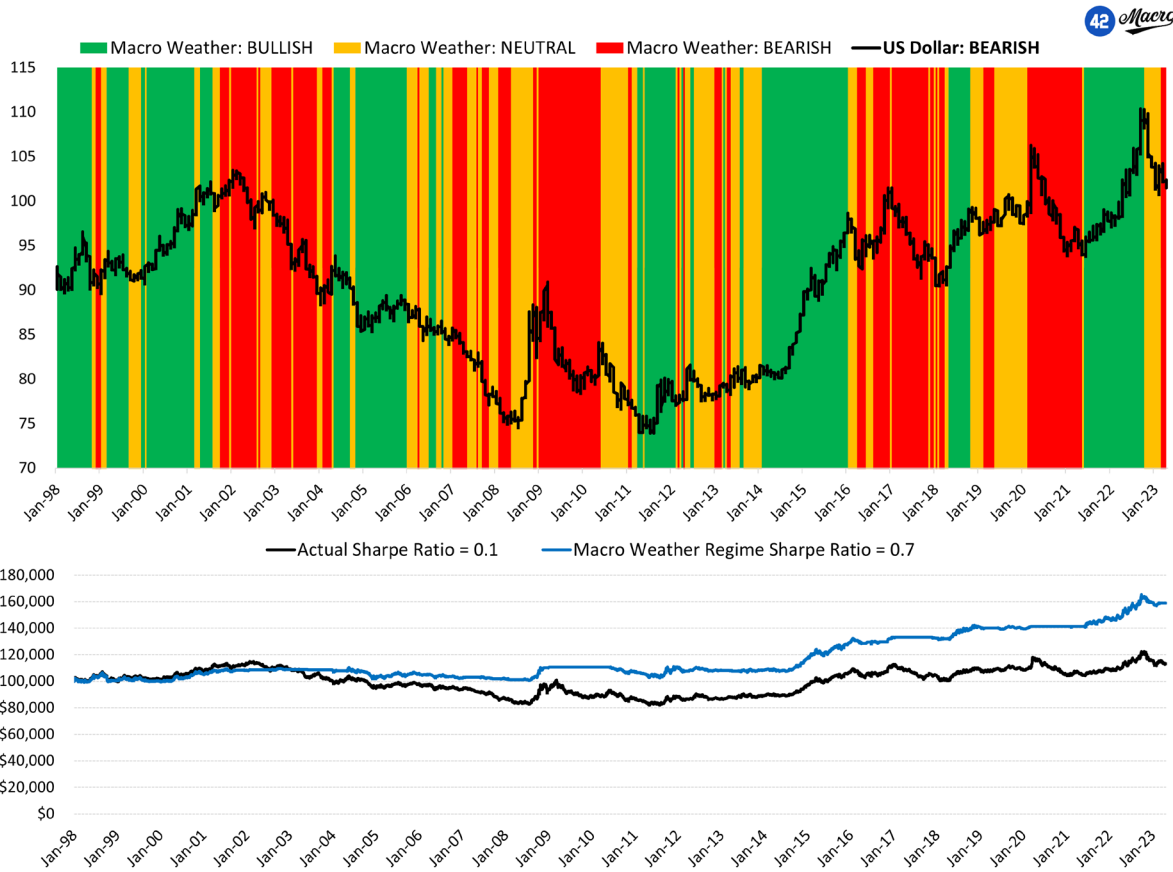
Composite @42Macro Weather Model Signal: Commodities
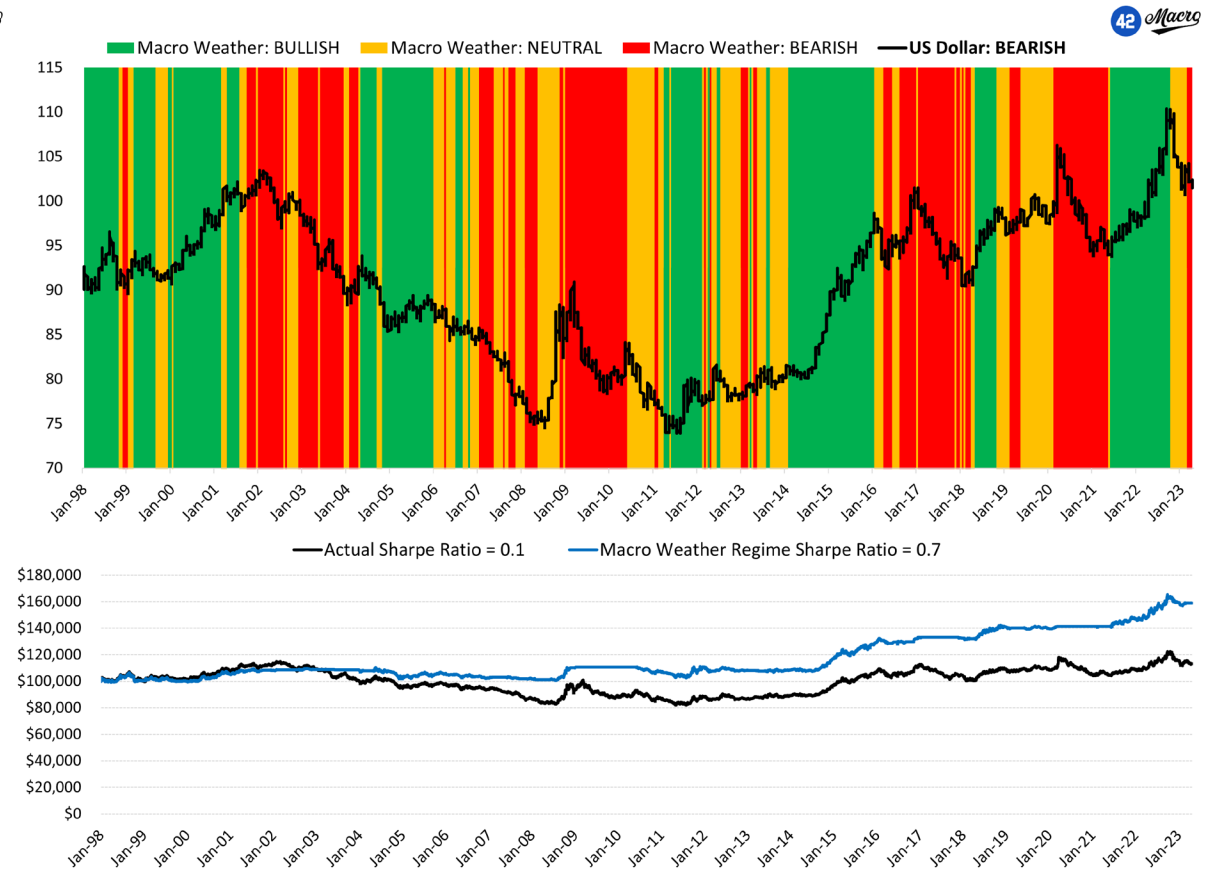
Composite @42Macro Weather Model
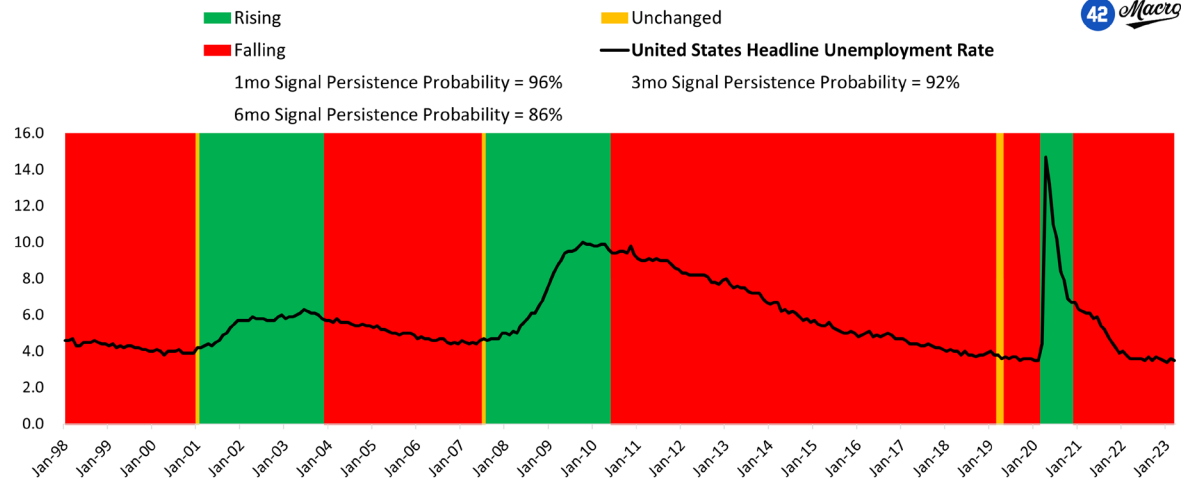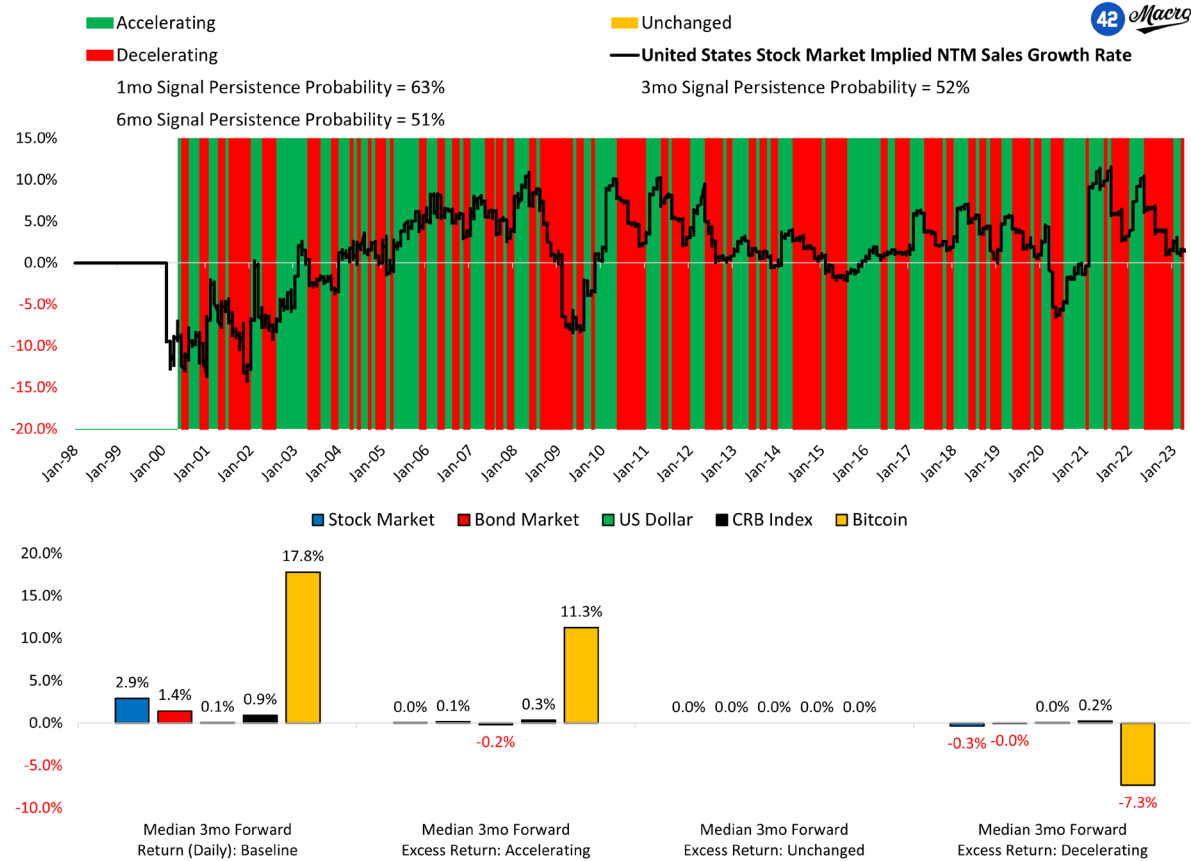## Signal: Bitcoin
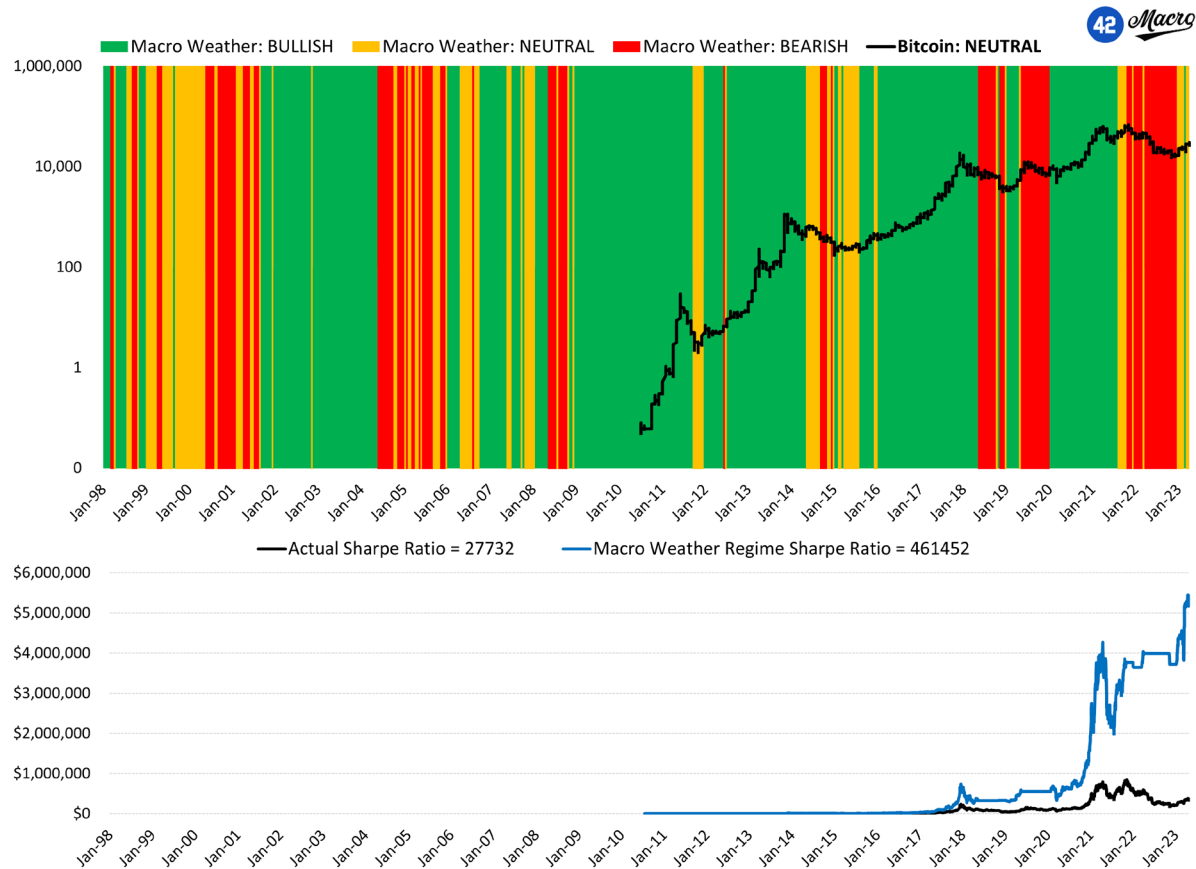
Growth: OECD Composite Leading Indicator
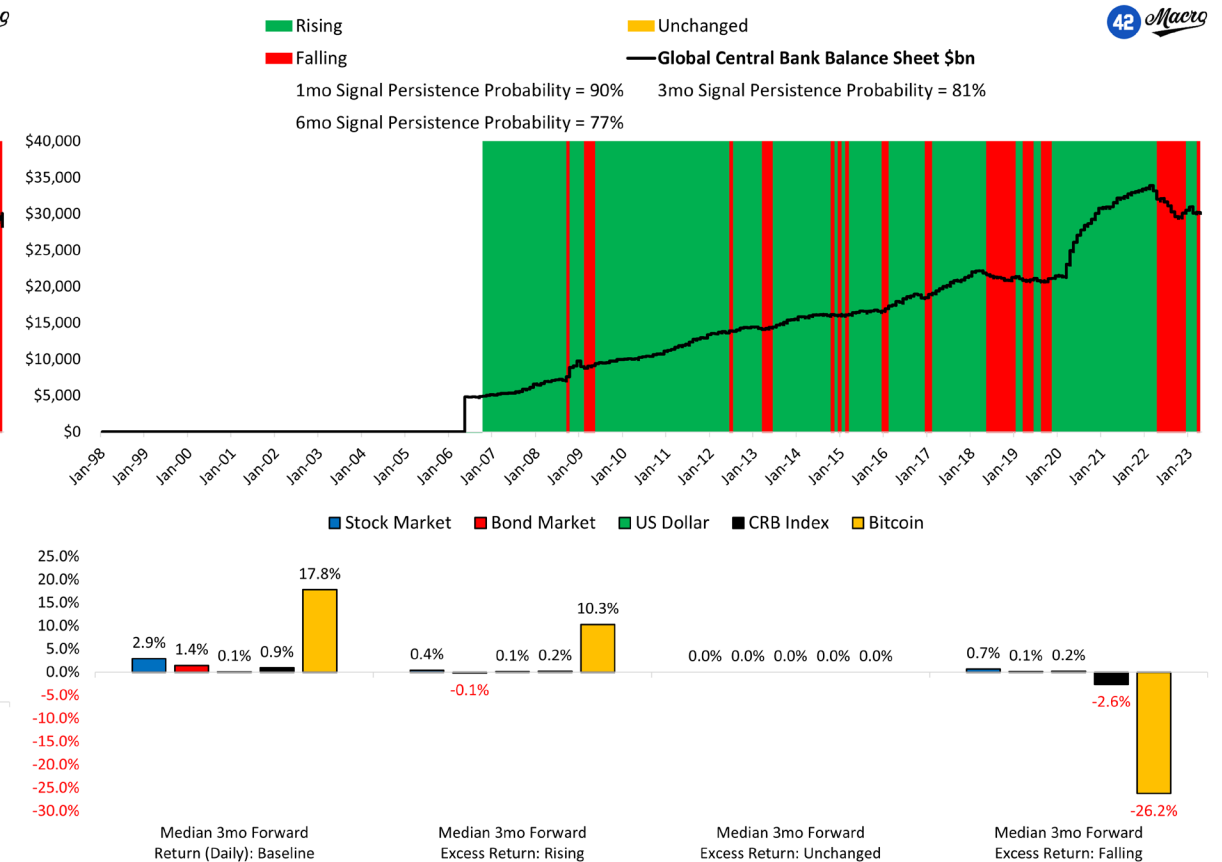
Growth: Bloomberg Consensus NTM Real GDP Δ
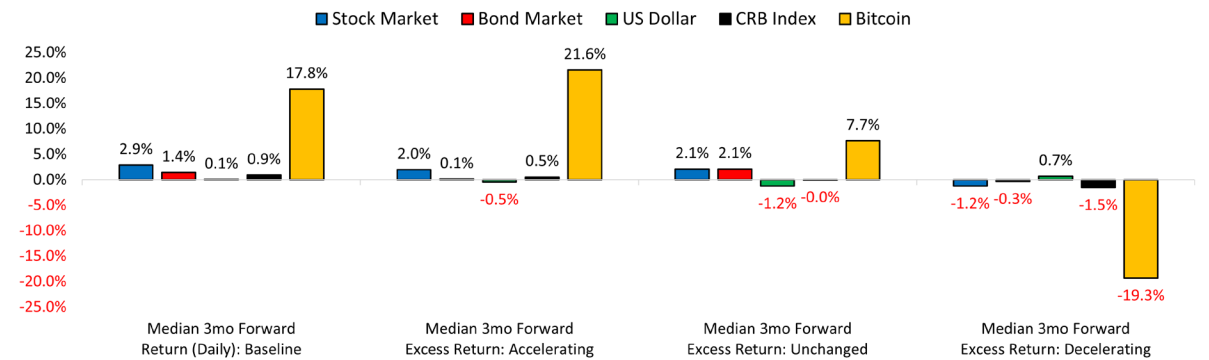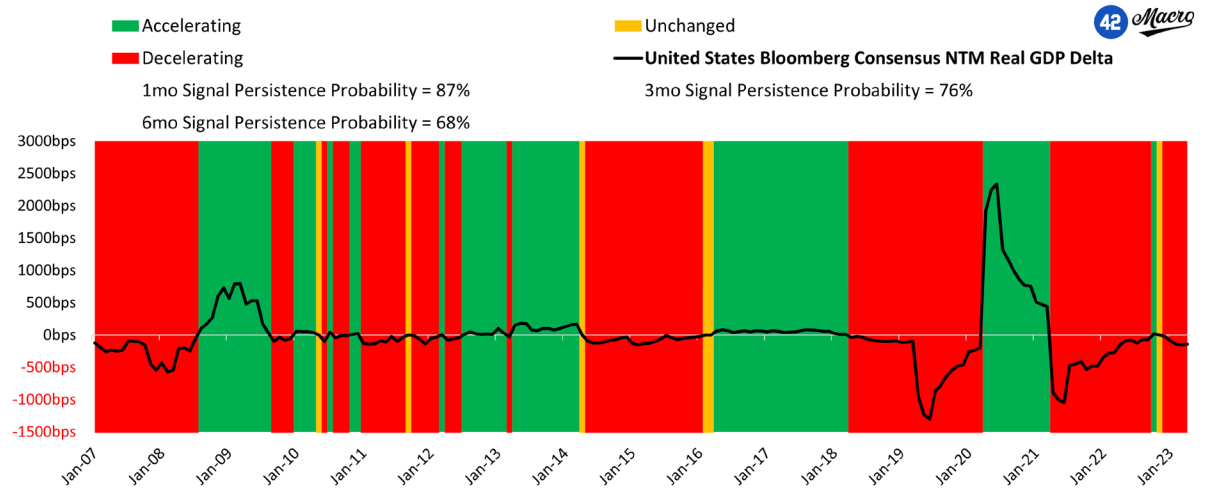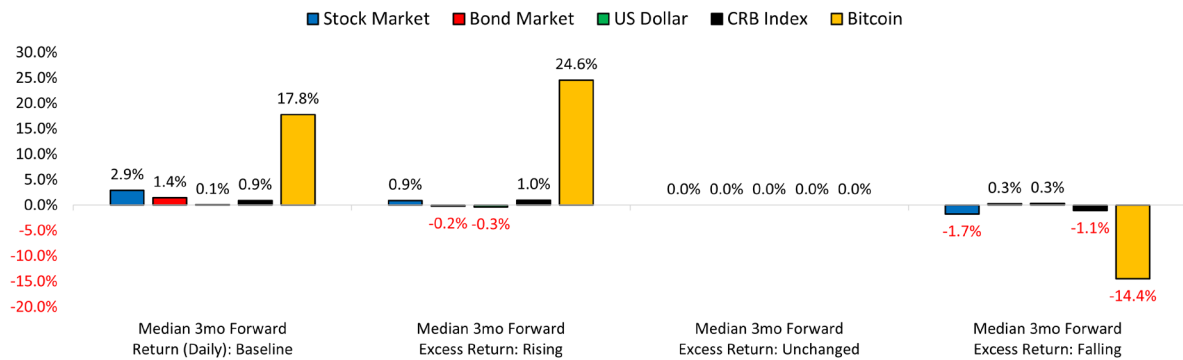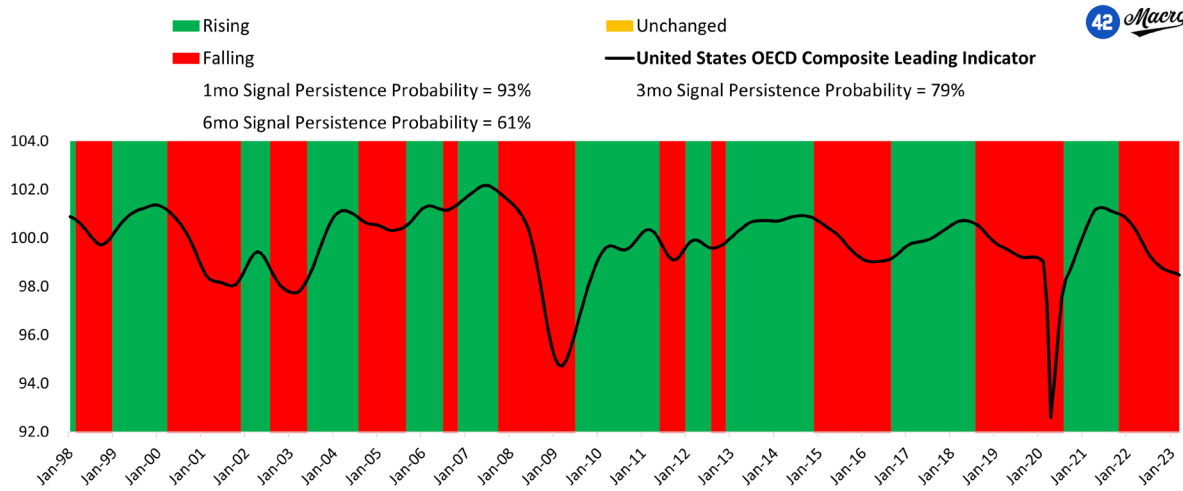
© 42 Macro LLC. Data Source: Bloomberg. The @42Macro Weather Model works by segmenting each feature into distinct regimes and conducting rolling out-of-sample backtests on indiscrete periods to quantify dispersion across regimes, for each liquid asset class. The dispersion identified by these independent out-of-sample backtests contribute independently to each independent Composite Signal.

Inflation: Headline CPI YoY

Accelerating | **Unchanged**
Decelerating | **United States Headline CPI YoY**

1mo Signal Persistence Probability = 89%   3mo Signal Persistence Probability = 74%
6mo Signal Persistence Probability = 55%
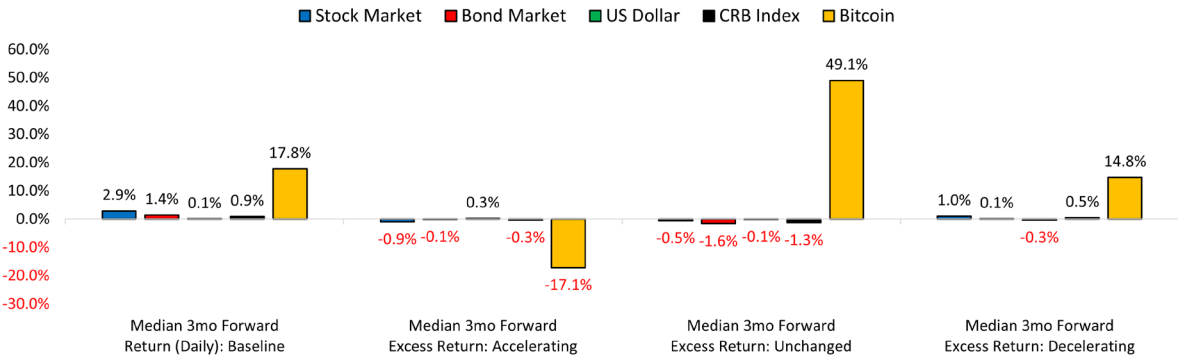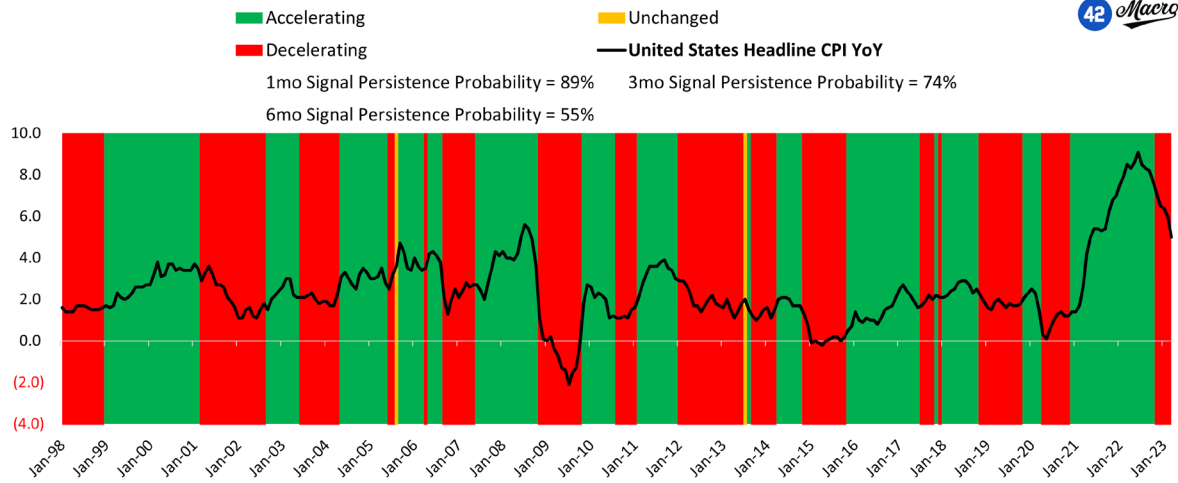
Inflation: Bloomberg Consensus NTM Headline CPI Δ
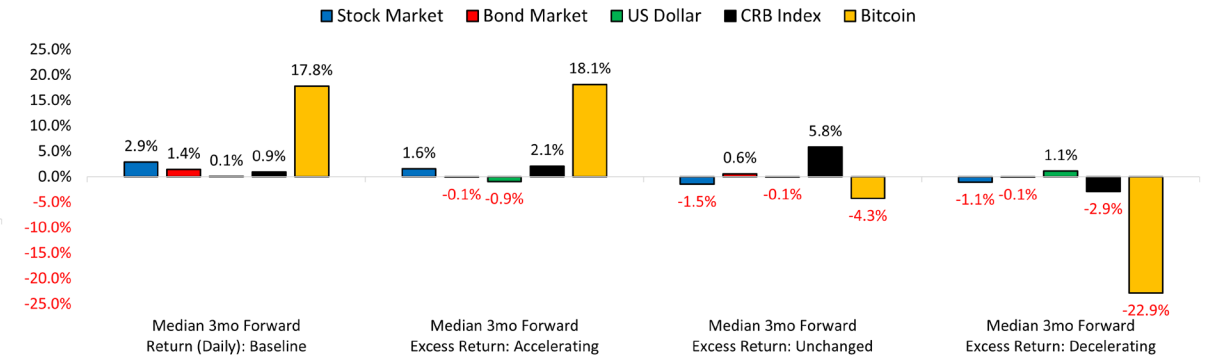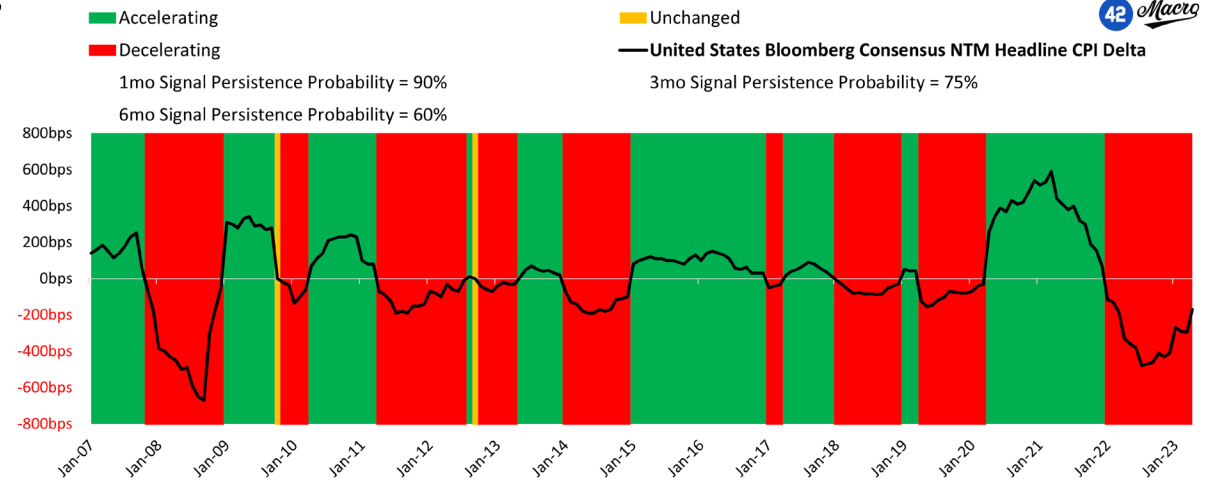
Accelerating | **Unchanged**
Decelerating | **United States Bloomberg Consensus NTM Headline CPI Delta**

1mo Signal Persistence Probability = 90%   3mo Signal Persistence Probability = 75%
6mo Signal Persistence Probability = 60%

© 42 Macro LLC. Data Source: Bloomberg. The @42Macro Weather Model works by segmenting each feature into distinct regimes and conducting rolling out-of-sample backtests on indiscrete periods to quantify dispersion across regimes, for each liquid asset class. The dispersion identified by these independent out-of-sample backtests contribute independently to each independent Composite Signal.

Employment: Unemployment Rate
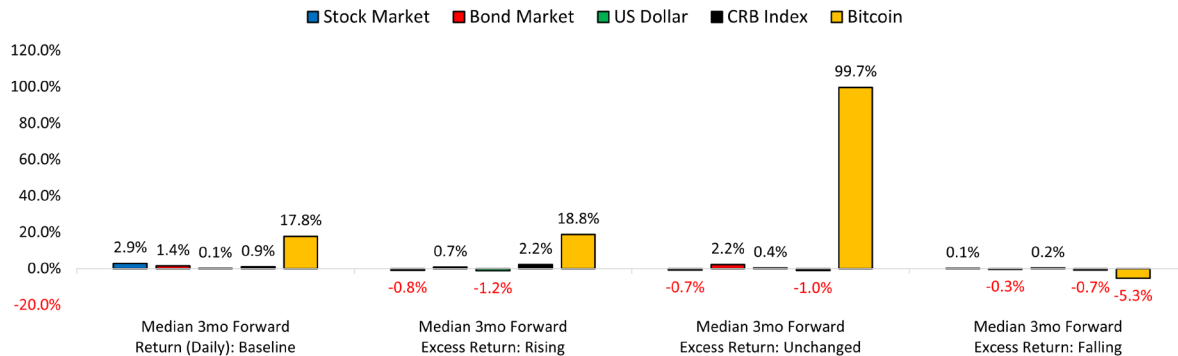
Employment: Bloomberg Consensus NTM Unemployment Rate Δ
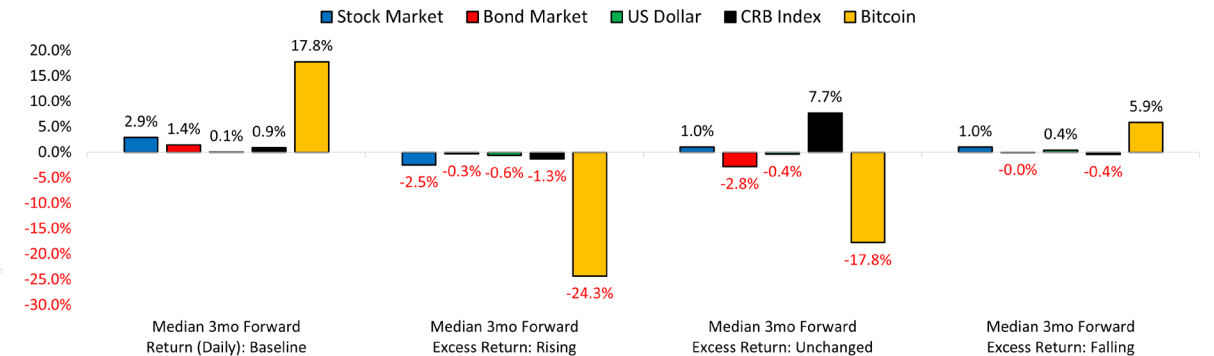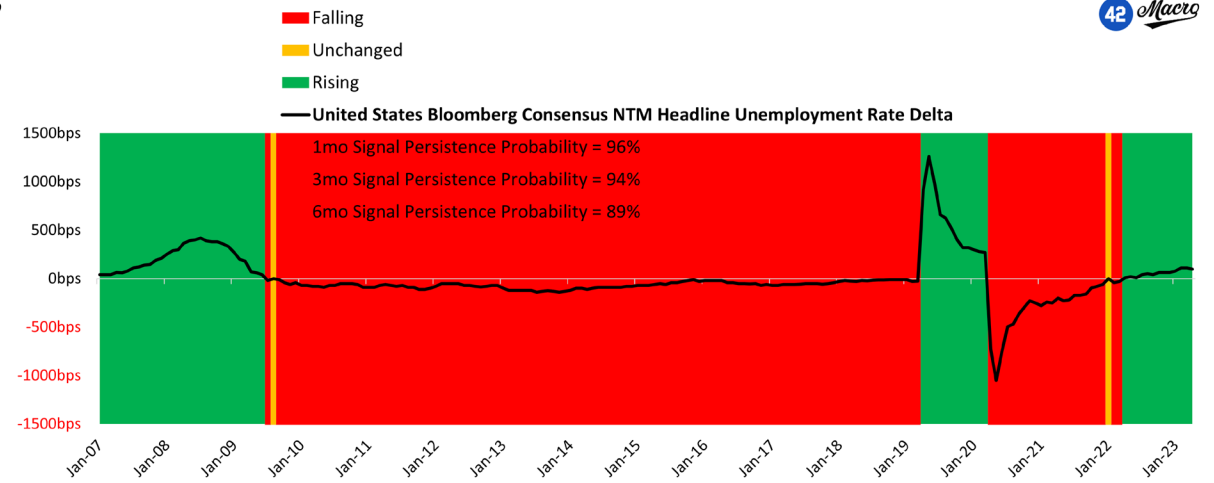
Left chart legend:
- Rising (green)
- Falling (red)
- Unchanged (yellow)
- United States Headline Unemployment Rate (black line)

1mo Signal Persistence Probability = 96%   3mo Signal Persistence Probability = 92%
6mo Signal Persistence Probability = 86%

Left bottom chart legend: Stock Market, Bond Market, US Dollar, CRB Index, Bitcoin

Median 3mo Forward Return (Daily): Baseline — 2.9%, 1.4%, 0.1%, 0.9%, 17.8%
Median 3mo Forward Excess Return: Rising — -0.8%, 0.7%, -1.2%, 2.2%, 18.8%
Median 3mo Forward Excess Return: Unchanged — -0.7%, 2.2%, 0.4%, -1.0%, 99.7%
Median 3mo Forward Excess Return: Falling — 0.1%, -0.3%, 0.2%, -0.7%, -5.3%

Right chart legend:
- Falling (red)
- Unchanged (yellow)
- Rising (green)
- United States Bloomberg Consensus NTM Headline Unemployment Rate Delta (black line)

1mo Signal Persistence Probability = 96%
3mo Signal Persistence Probability = 94%
6mo Signal Persistence Probability = 89%

Right bottom chart legend: Stock Market, Bond Market, US Dollar, CRB Index, Bitcoin

Median 3mo Forward Return (Daily): Baseline — 2.9%, 1.4%, 0.1%, 0.9%, 17.8%
Median 3mo Forward Excess Return: Rising — -2.5%, -0.3%, -0.6%, -1.3%, -24.3%
Median 3mo Forward Excess Return: Unchanged — 1.0%, -2.8%, -0.4%, 7.7%, -17.8%
Median 3mo Forward Excess Return: Falling — 1.0%, -0.0%, 0.4%, -0.4%, 5.9%

95

Corporate Profits: Bloomberg Consensus NTM Sales Growth Rate

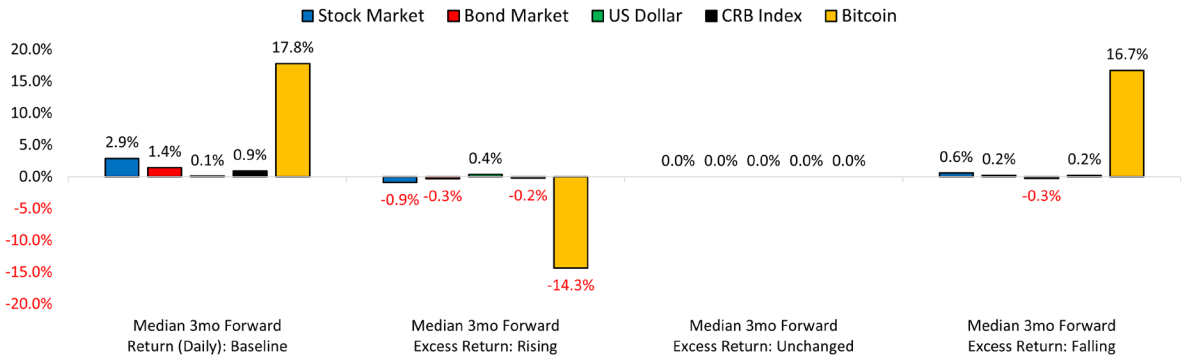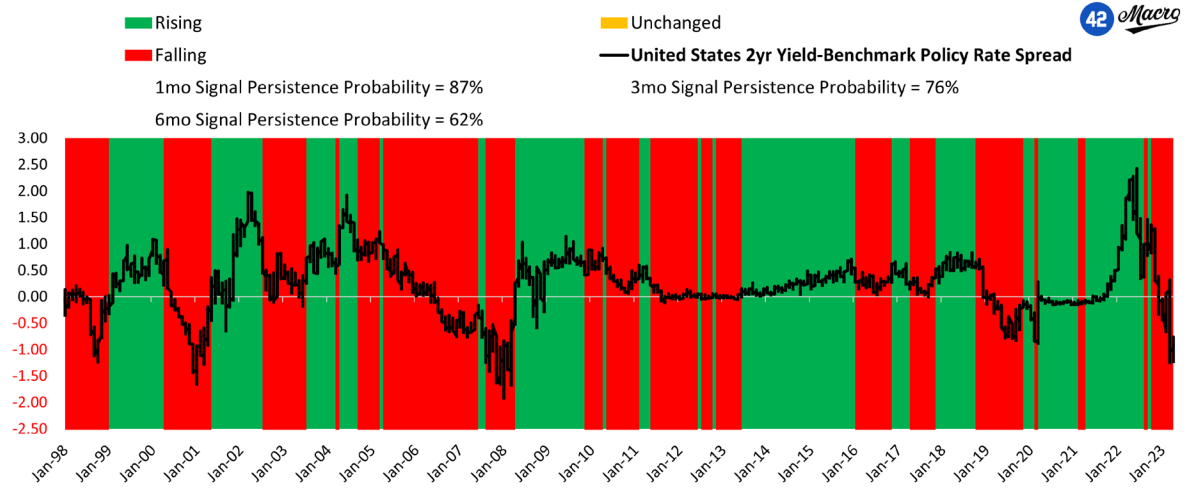# Corporate Profits: Bloomberg Consensus NTM EPS Growth Rate
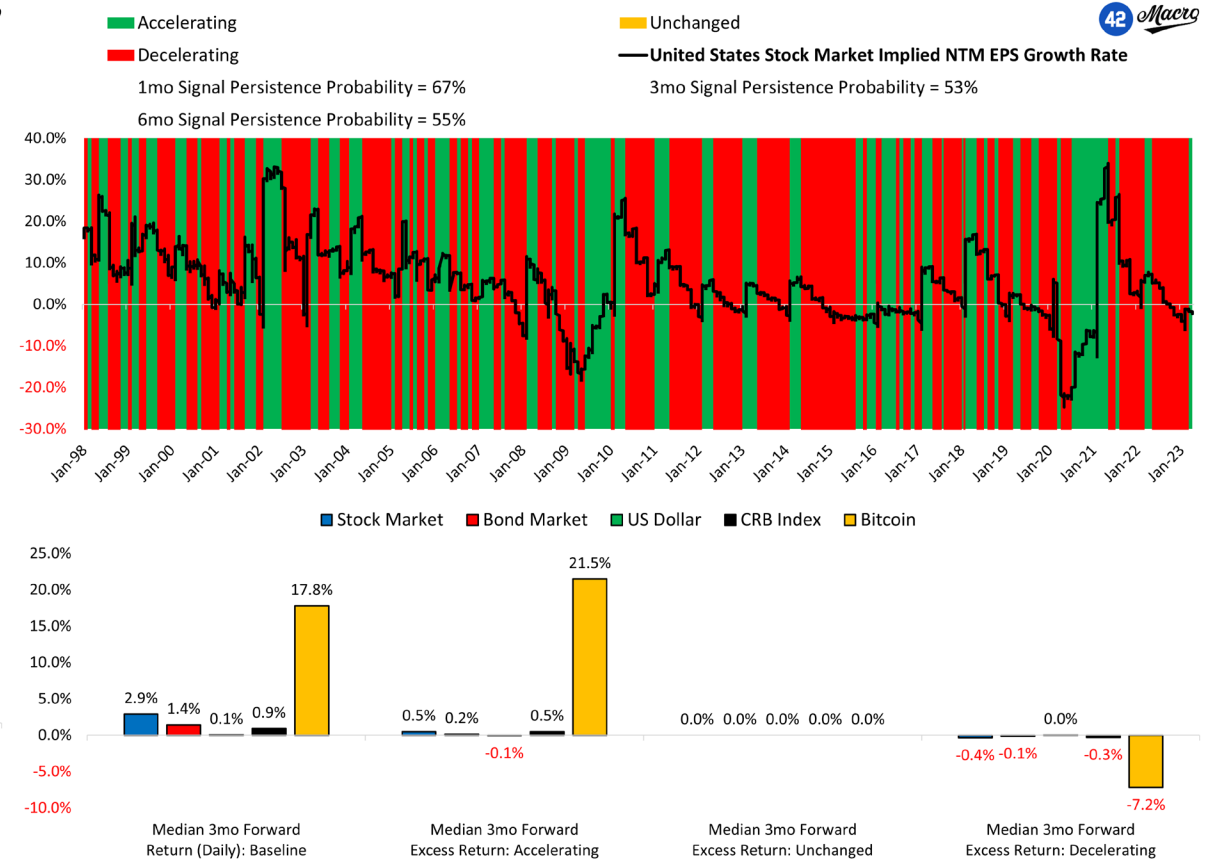
© 42 Macro LLC. Data Source: Bloomberg. The @42Macro Weather Model works by segmenting each feature into distinct regimes and conducting rolling out-of-sample backtests on indiscrete periods to quantify dispersion across regimes, for each liquid asset class. The dispersion identified by these independent out-of-sample backtests contribute independently to each independent Composite Signal.

Fiscal Policy: Sovereign Fiscal Balance/Nominal GDP
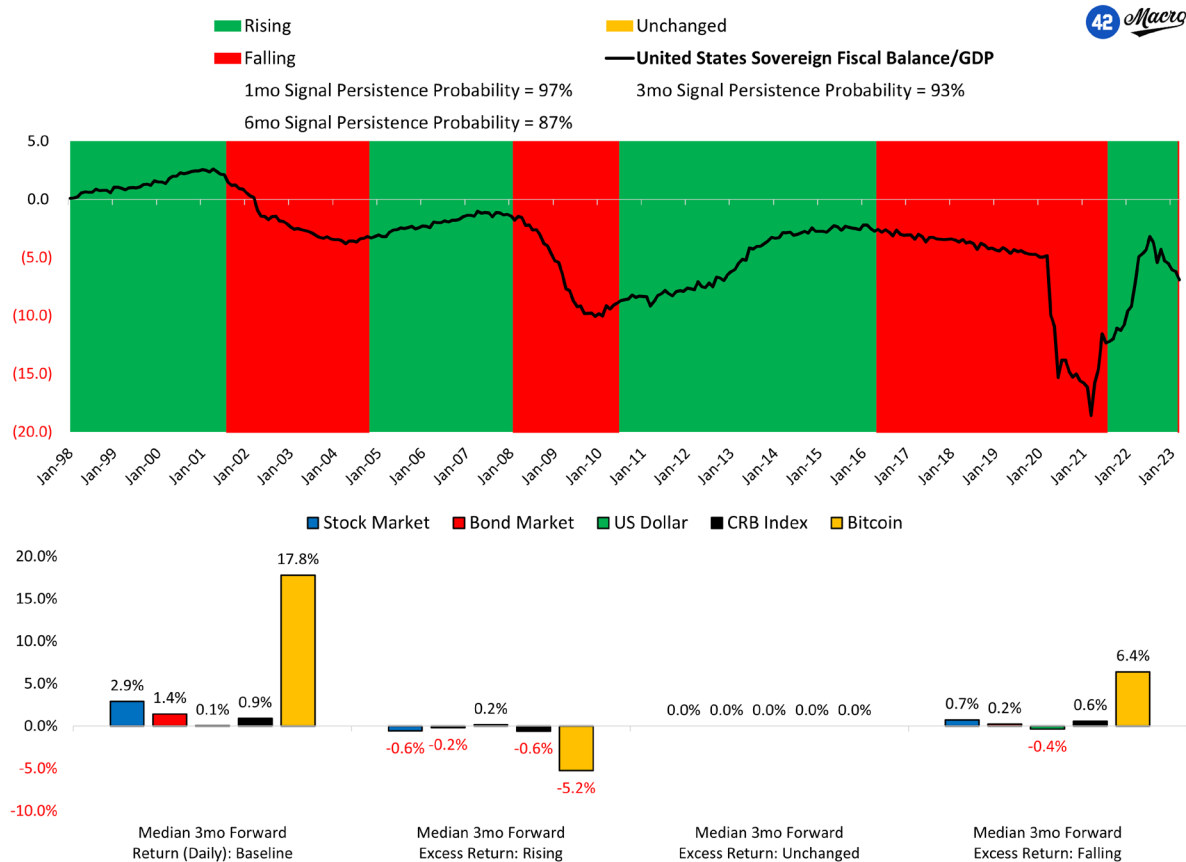
Fiscal Policy: Real Effective Exchange Rate
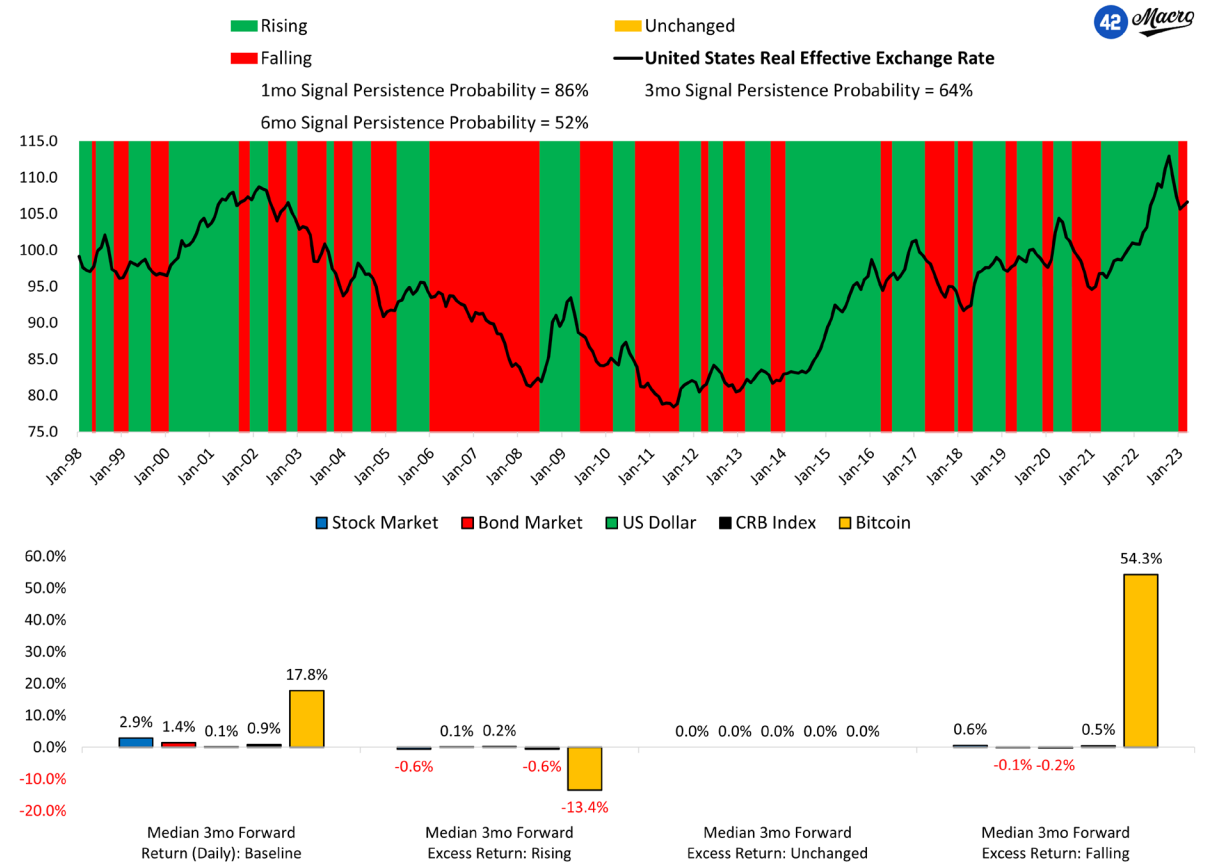
Monetary Policy: @42Macro Adjusted Net Liquidity

Monetary Policy: Global Central Bank Balance Sheet

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Liquidity: Domestic Narrow Money Supply YoY

Liquidity: Global PPP-Weighted Narrow Money Supply YoY
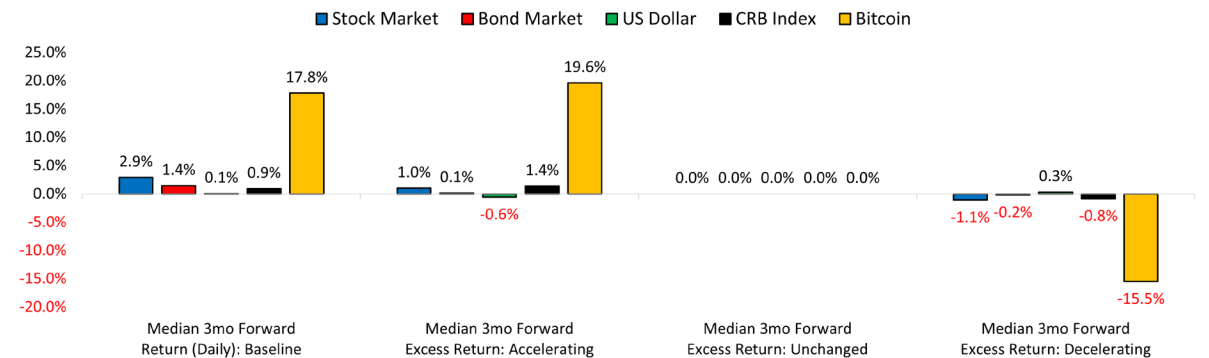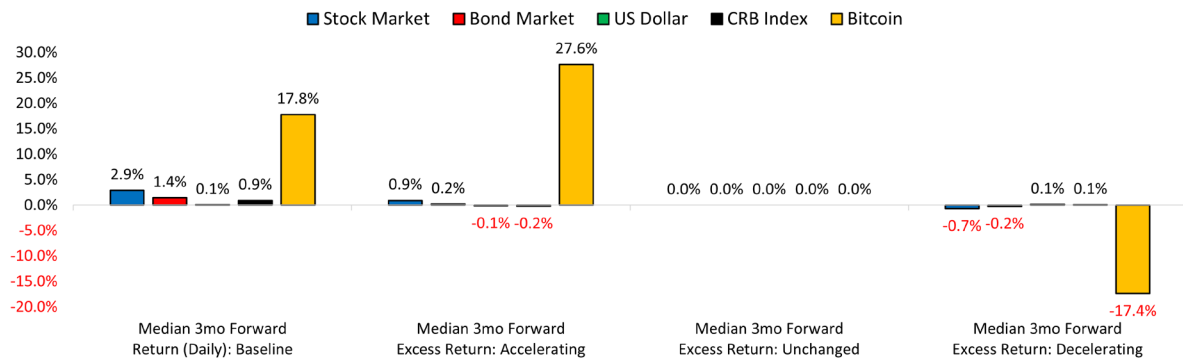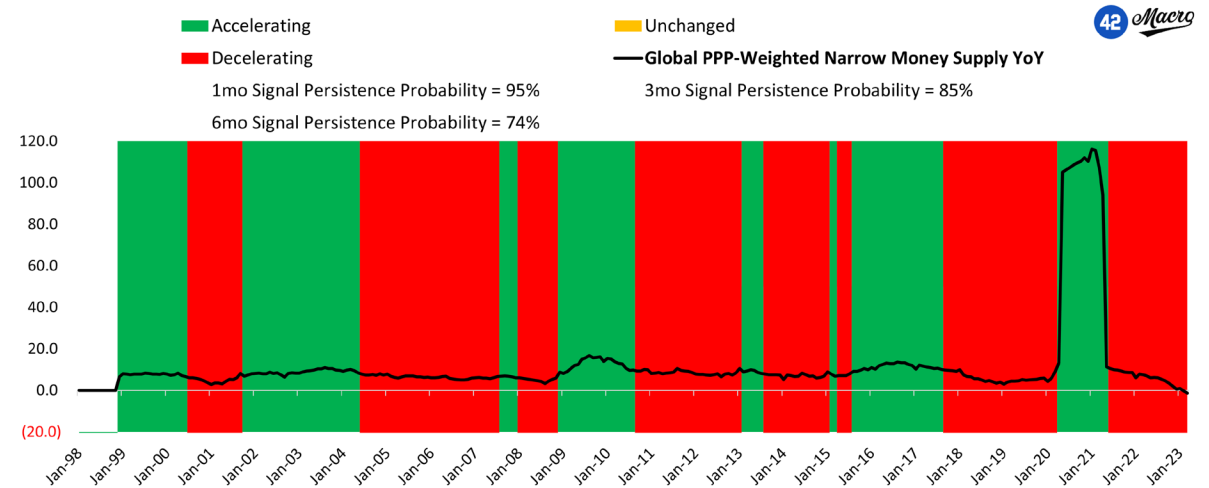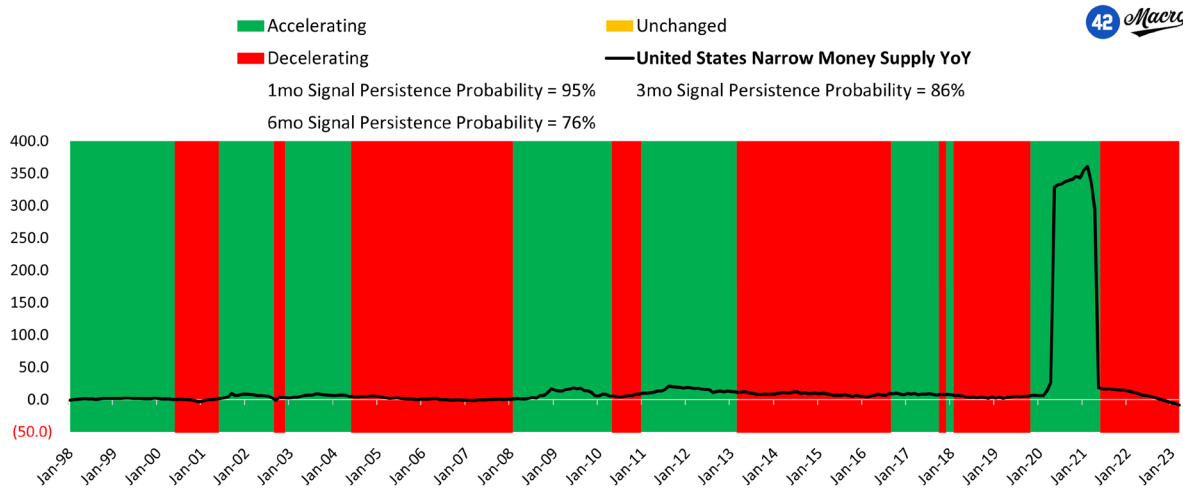
Interest Rates: Benchmark Policy Rate
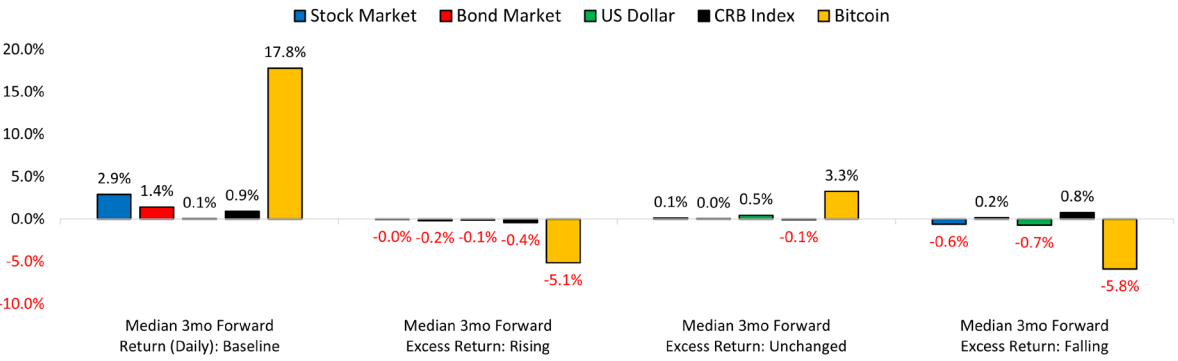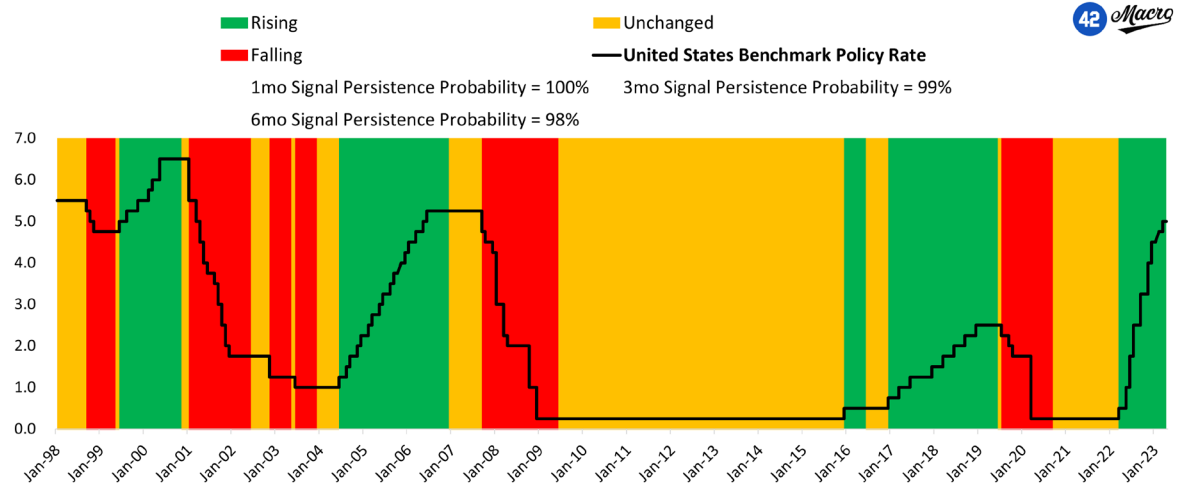
Interest Rates: 2yr Nominal Yield Spread vs. Benchmark Policy Rate

© 42 Macro LLC. Data Source: Bloomberg. The @42Macro Weather Model works by segmenting each feature into distinct regimes and conducting rolling out-of-sample backtests on indiscrete periods to quantify dispersion across regimes, for each liquid asset class. The dispersion identified by these independent out-of-sample backtests contribute independently to each independent Composite Signal.

Fear: Extreme Aggregated US Dollar POSITIONING
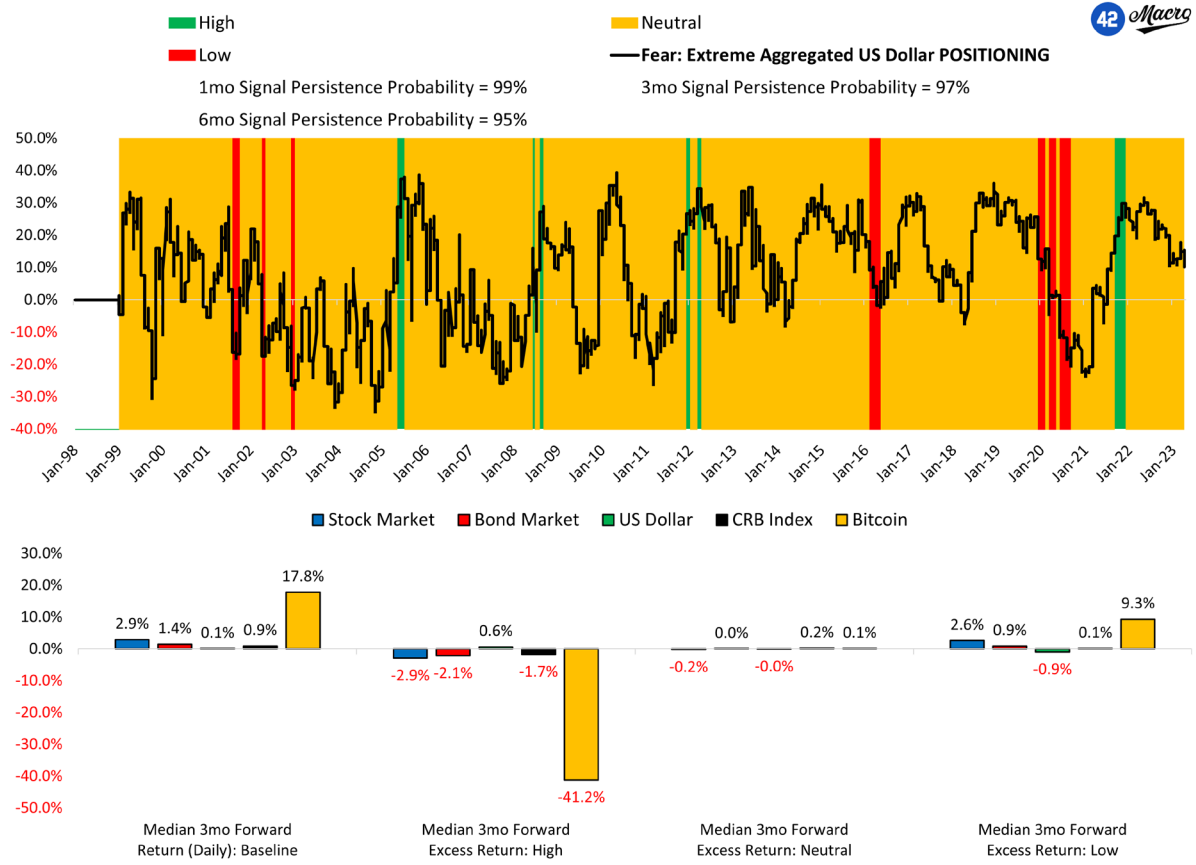
Fear: Extreme Aggregated US Rates POSITIONING
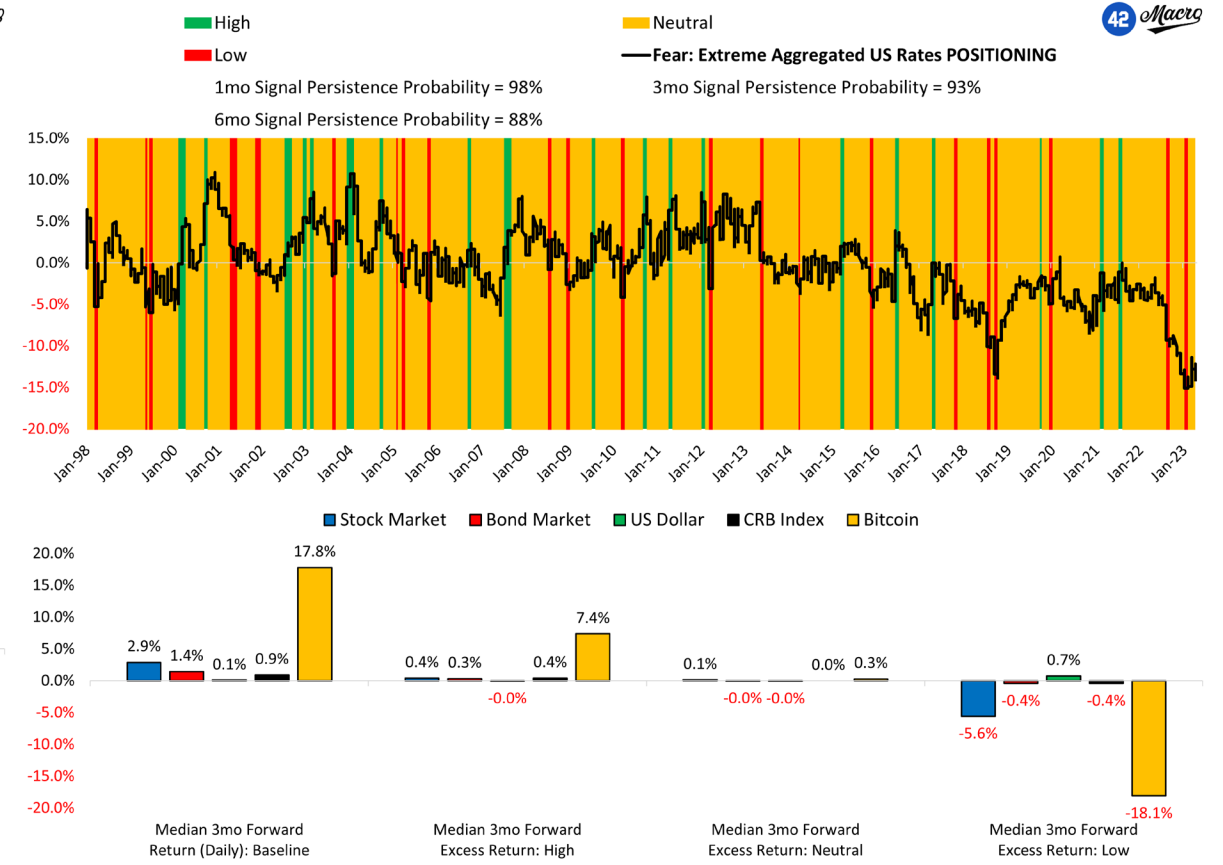
© 42 Macro LLC. Data Source: Bloomberg. The @42Macro Weather Model works by segmenting each feature into distinct regimes and conducting rolling out-of-sample backtests on indiscrete periods to quantify dispersion across regimes, for each liquid asset class. The dispersion identified by these independent out-of-sample backtests contribute independently to each independent Composite Signal.

Greed: Extreme Aggregated Commodities POSITIONING

Greed: Extreme Aggregated US Equities POSITIONING
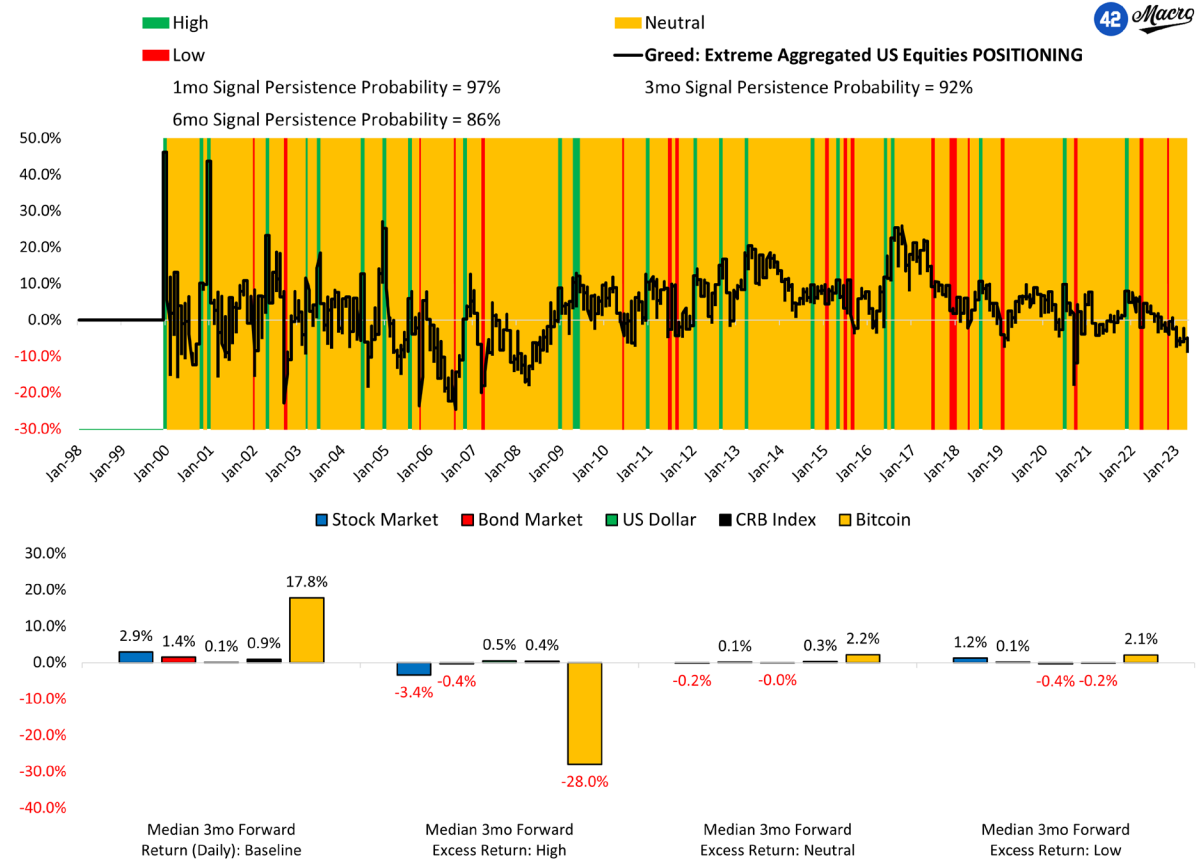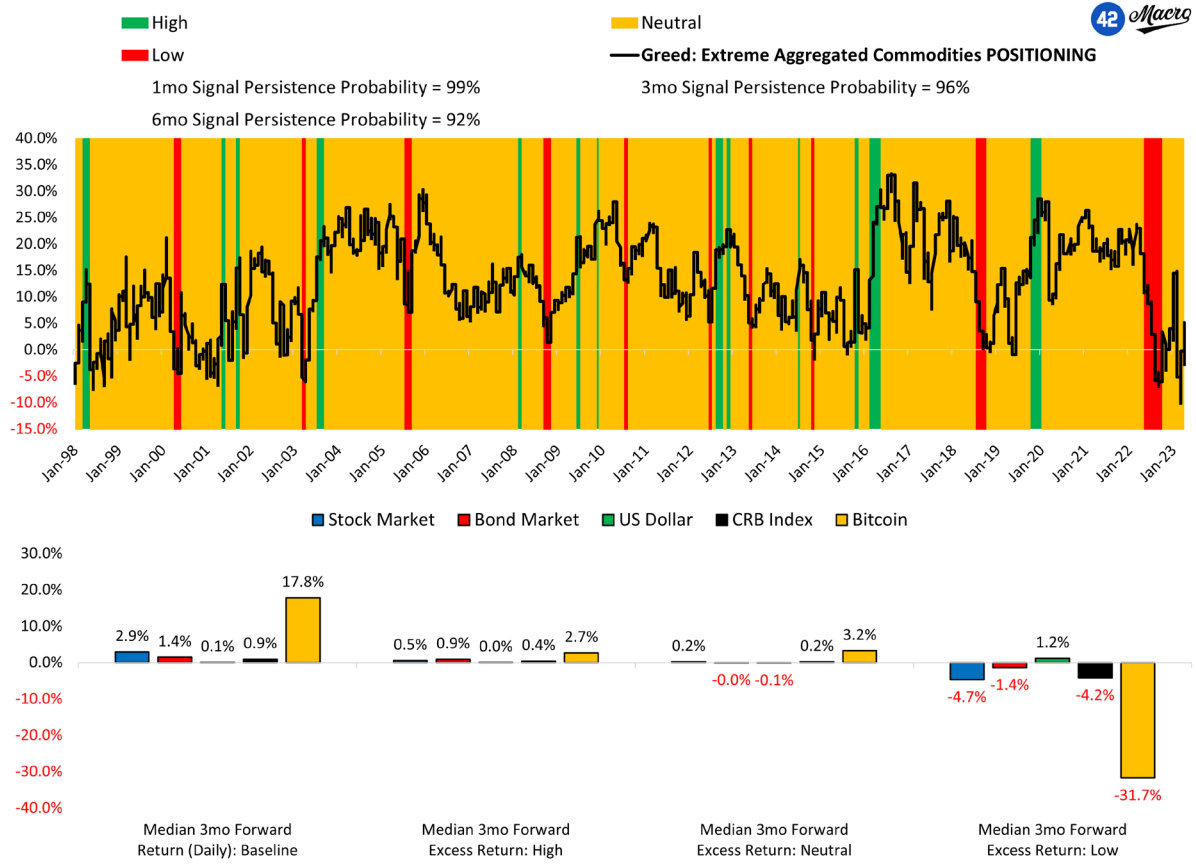
Thanks for reviewing.
See you next month!

42 Macro Product Walkthroughs:

https://42macro.com/walkthrough

42 Macro Playbook:

https://42macro.com/the-playbook/