Blackstone

Opportunities Are Brewing

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Joseph Zidle
Chief Investment Strategist
Senior Managing Director, Private Wealth Solutions

Byron R. Wien
Vice Chairman, Private Wealth Solutions

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A Remarkable First Quarter

The first quarter of 2023 was remarkable. There was historic volatility in sovereign and corporate bonds. A large US bank failed for the first time since the Global Financial Crisis. Rates markets vacillated wildly, moving from pricing in a reacceleration in rate hikes by the Federal Reserve, to rate cuts, and then back again, with dizzying speed.

But it was also remarkable in that, despite these events, most asset classes ended up having a solid first quarter. Equities performed well in many global markets, with the S&P 500 up 7.5% on the quarter. Credit and sovereign bonds generally gained, and emerging market assets broke their 2022 losing streak. Speculative assets arguably performed the best of all, with the NASDAQ up 17% (its best quarter since 2Q'20) and Bitcoin up 72% (its best quarter in two years).

Market Hopes for a Fed "Pivot"

This all suggests that markets have intuited that deteriorating economic data could be more than counterbalanced by a reversal of the Federal Reserve's most aggressive monetary tightening stance since the 1980s. Beyond the obvious stress in the banking sector, there seems to be a hope that the consequent tightening in bank lending standards could, in a sense, do some of the Fed's job for it by tightening financial conditions. Some have suggested that this phenomenon could be equivalent to a full percentage point (or more) of Fed rate hikes, alleviating the need for any further tightening on the part of the central bank and allowing it to stop hiking, and even causing it to "pivot" to easing its monetary policy stance.

And as they've done all along, markets have been swift to price in just that, implying a swift end to the Fed's tightening cycle and as many as four rate cuts by January 2024.

The good news is that, as shown in this presentation, the latest data suggest that policymakers have been successful in stemming the bleeding so far as bank deposit flight is concerned (at least for now). These same actions have, however, also resulted in a net ~$750 billion increase in liquidity injected into the system.

It's no surprise, then, that markets have rallied as they have. Investors could be forgiven for thinking that we are about to experience a replay of the Fed's recession playbook from the last two cycles, wherein it responded to deteriorating economic data by reducing rates to record low levels and engaging in massive quantitative easing.

It's (Still) Unwise to Fight the Fed

What's different this time is that inflation continues to increase at uncomfortably high rates. To be fair, the recent increase in oil prices notwithstanding, the headline Consumer Price Index has appeared to have durably peaked for this cycle, and has declined in a relatively linear fashion. Unfortunately, however, inflationary pressures remain broad-based, and important underlying measures have not shown enough progress. The core Personal Consumption Expenditures (PCE) Price Index, the Fed's preferred inflation measure, continues to rise at extreme levels on a year-over-year and sequential basis, and has not shown signs of durably rolling over. Other indicators that Fed Chair Jay Powell is closely watching, such as core CPI ex-shelter, similarly have not shown enough progress.

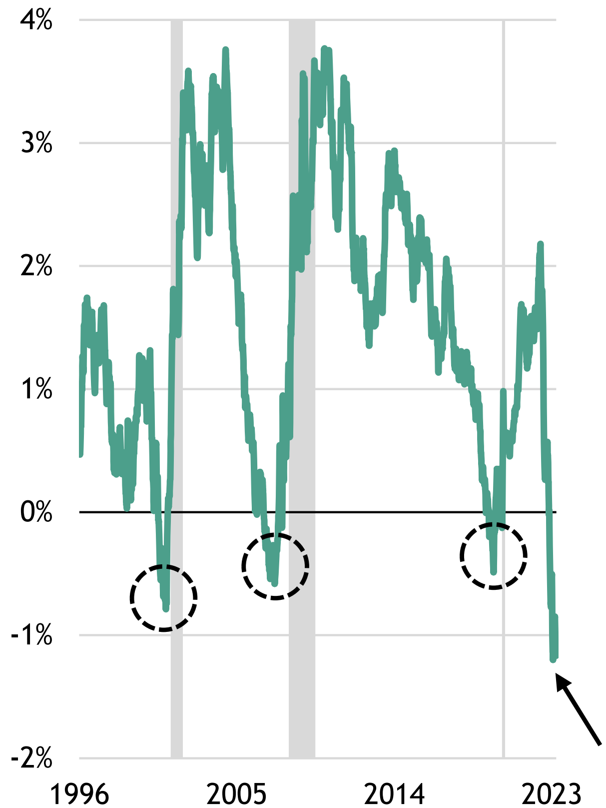
All of this provides the ballast for one of our core convictions, which is that the Fed has more work to do, and that rates will stay higher for longer. This has myriad implications for portfolio management, ranging from duration, to volatility, to diversification. In this webinar, we look forward to sharing our thoughts on finding the opportunities that are brewing in this uncertain and difficult environment.

Note: As detailed in the "Disclaimers" section, the above and all subsequent commentary in this presentation reflect the personal views of Joseph Zidle, Senior Managing Director, and Byron Wien, Vice Chairman, and do not necessarily reflect the view of Blackstone.

Key economic indicators point to a potential recession later this year

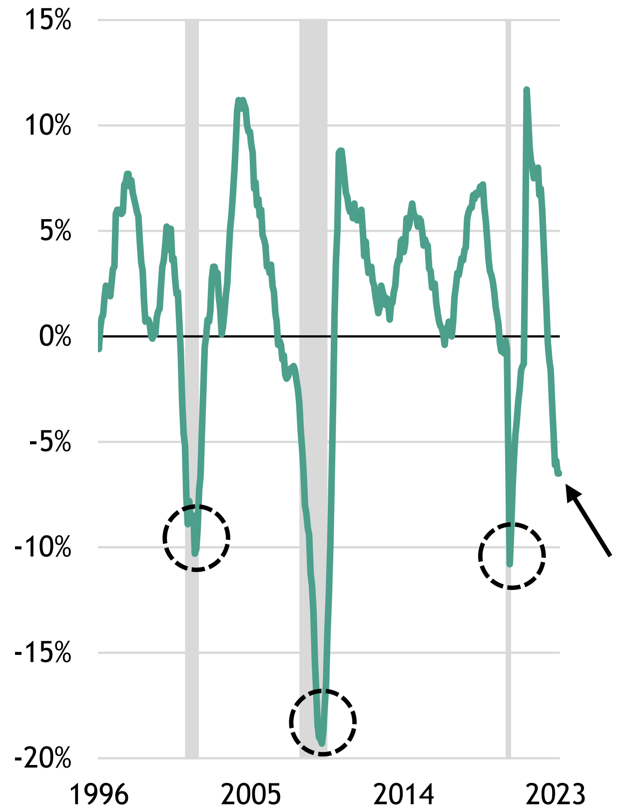
US Treasury Yield Curve (10-year less 3-month)[1]

(7-day rolling average)



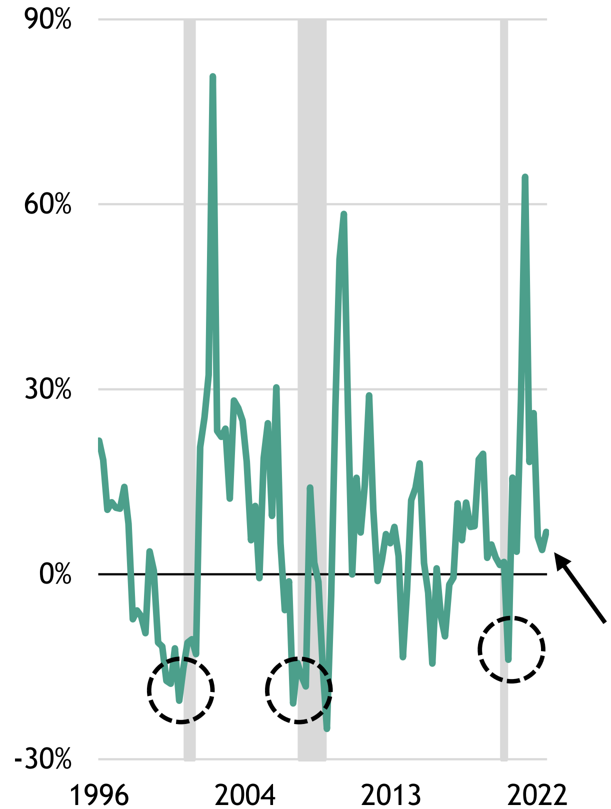
Leading Economic Indicators[2]

(YoY%)



Corporate Profits[3]

(YoY%)



(1) Source: Bloomberg, as of 4/6/2023.
(2) Source: Conference Board and Bloomberg, as of 2/28/2023.
(3) Source: US Bureau of Economic Analysis and Bloomberg, as of 9/30/2022. Represents non-financial corporate profits after tax with inventory valuation and capital consumption adjustments.

US MACRO SCORECARD

● positive ◐ neutral ○ negative

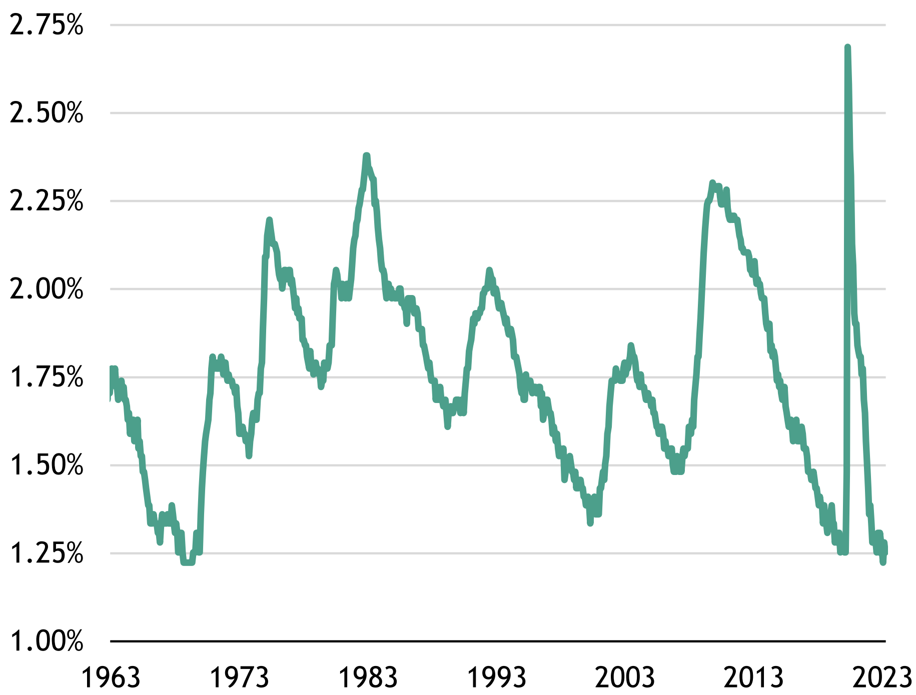
	Indicator	Current	Description
Policy	Monetary Policy	○	The Fed has not signaled an end to its aggressive tightening
	Fiscal Policy	○	While likely to be resolved, debt ceiling risks remain
	Geopolitical Risks	○	Geopolitical tensions (e.g., China, Russia) are heightened
Economy	Housing Market	○	Affordability has improved, but risks still skewed to downside
	Inflation	○	Inflation, while high and sticky, has been easing
	Labor Markets	●	Unemployment remains low, job demand remains high
Financial Sector	Banking	◐	Overall, sector is healthy despite regional bank concerns
	Household Finances	●	Generally healthy, though savings are down and debt is up
	Corporate Debt	●	High debt levels are mitigated by long maturities with low rates and solid debt service ratios
Markets	Market Volatility	○	Extreme bond / rate volatility, equity volatility relatively muted
	Valuation	○	Valuations across most public markets are generally high
	Profits / Margins	●	Profits / Margins at record highs but are vulnerable

Source: Blackstone Investment Strategy, represents latest available data for each measure as of 3/28/2023.

Historically tight labor markets suggest that the economy has remained resilient

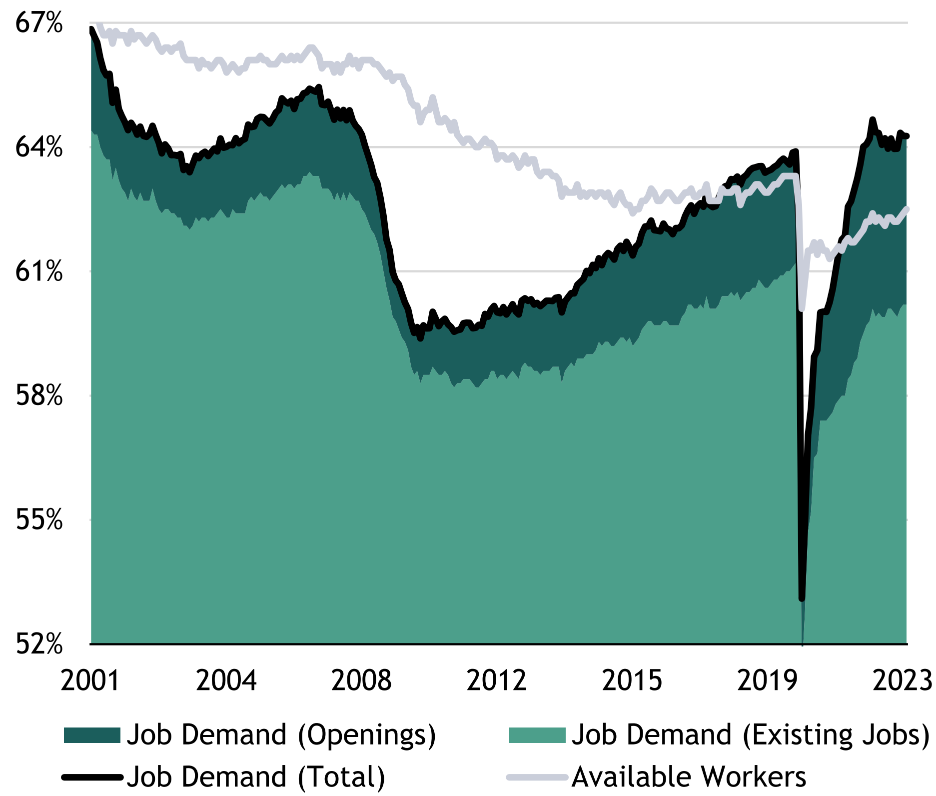
US Unemployment Rate

(log scale)



Labor Demand Continues to Exceed the Number of Available Workers

(percent of population)

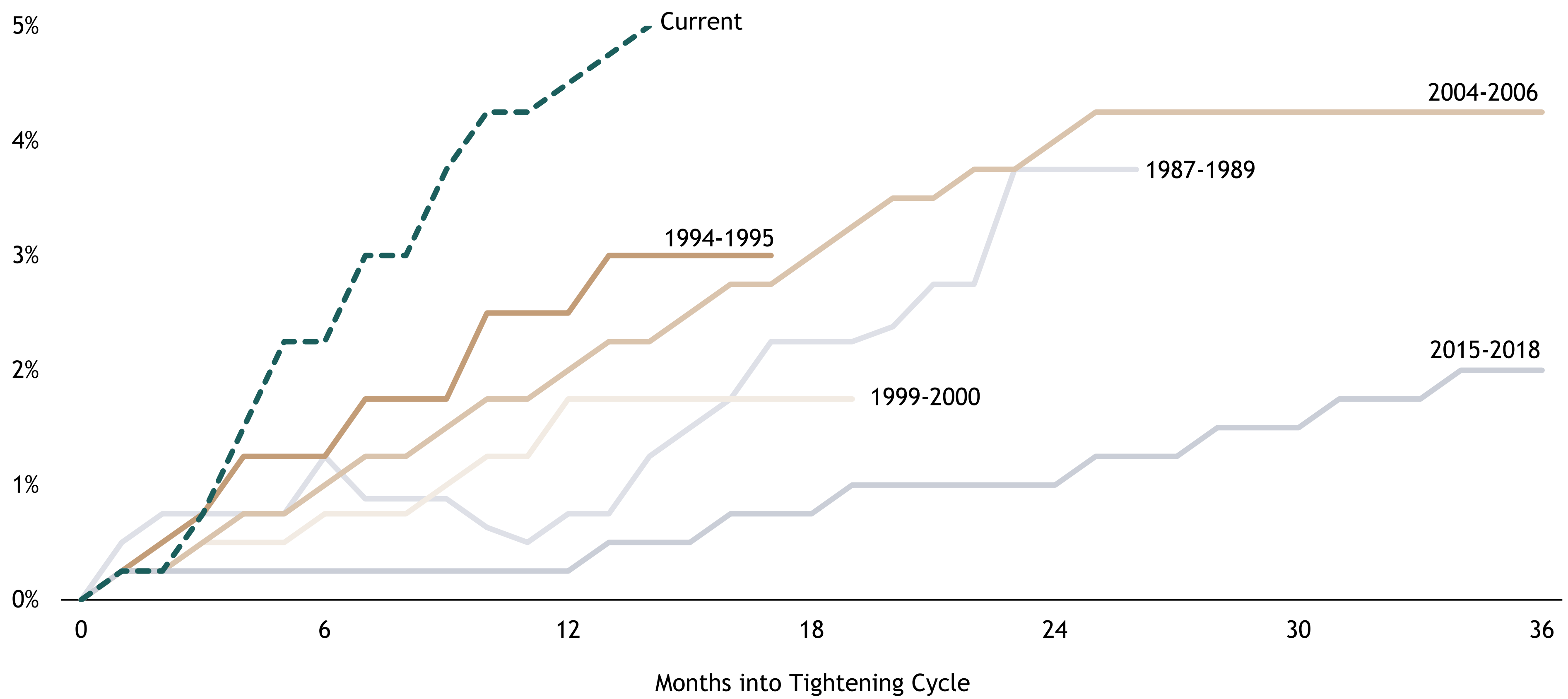


Source: US Bureau of Labor Statistics (BLS) and Bloomberg, as of 3/31/2023 (unemployment rate) and 2/28/2023 (all other data). "Job Demand (Openings)" represents total job openings. "Job Demand (Existing Jobs)" represents the US employment to population ratio. "Available workers" represents the labor force participation rate. Note: BLS data for job openings begin in 2001.

This has been the most aggressive Fed tightening cycle in recent history, and the full effects are likely still lagging

Federal Reserve Tightening Cycles

(cumulative change in the federal funds rate)

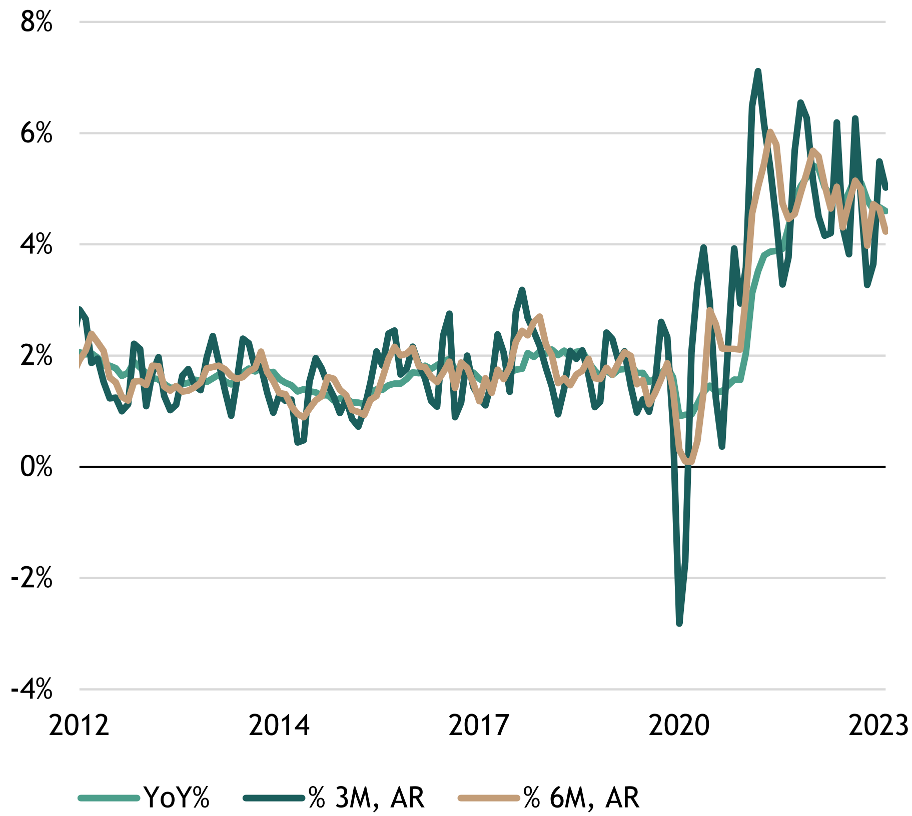


Source: Federal Reserve and Blackstone Investment Strategy calculations, as of 3/31/2023.

Inflation remains elevated and broad-based

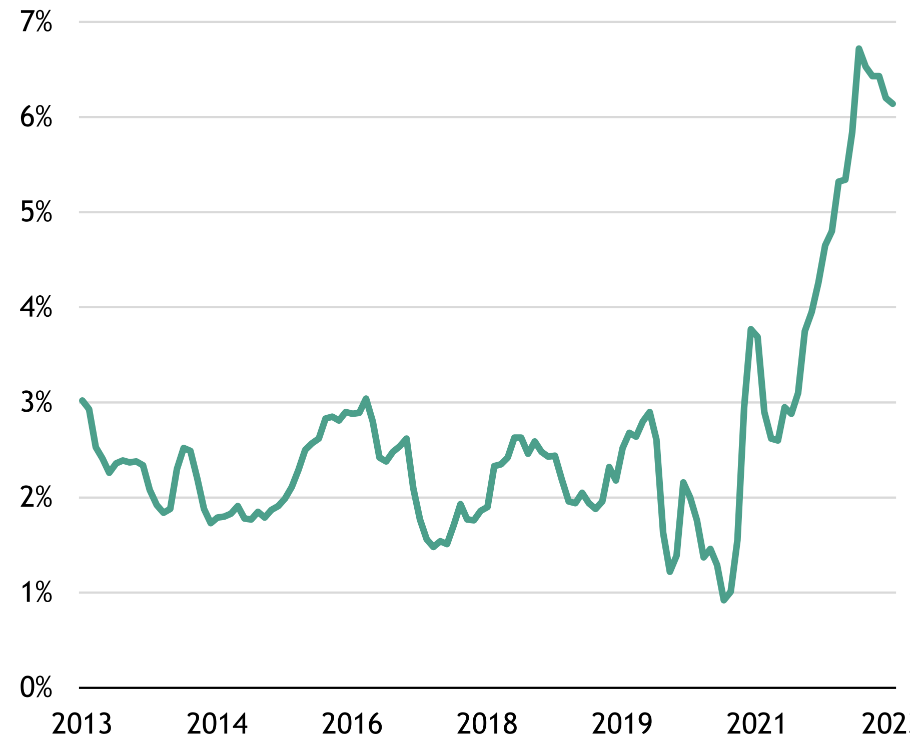
US Core PCE Price Index[1]

(YoY change and sequential annual rate of change)



US Core CPI: Services Less Shelter[2]

(YoY%)

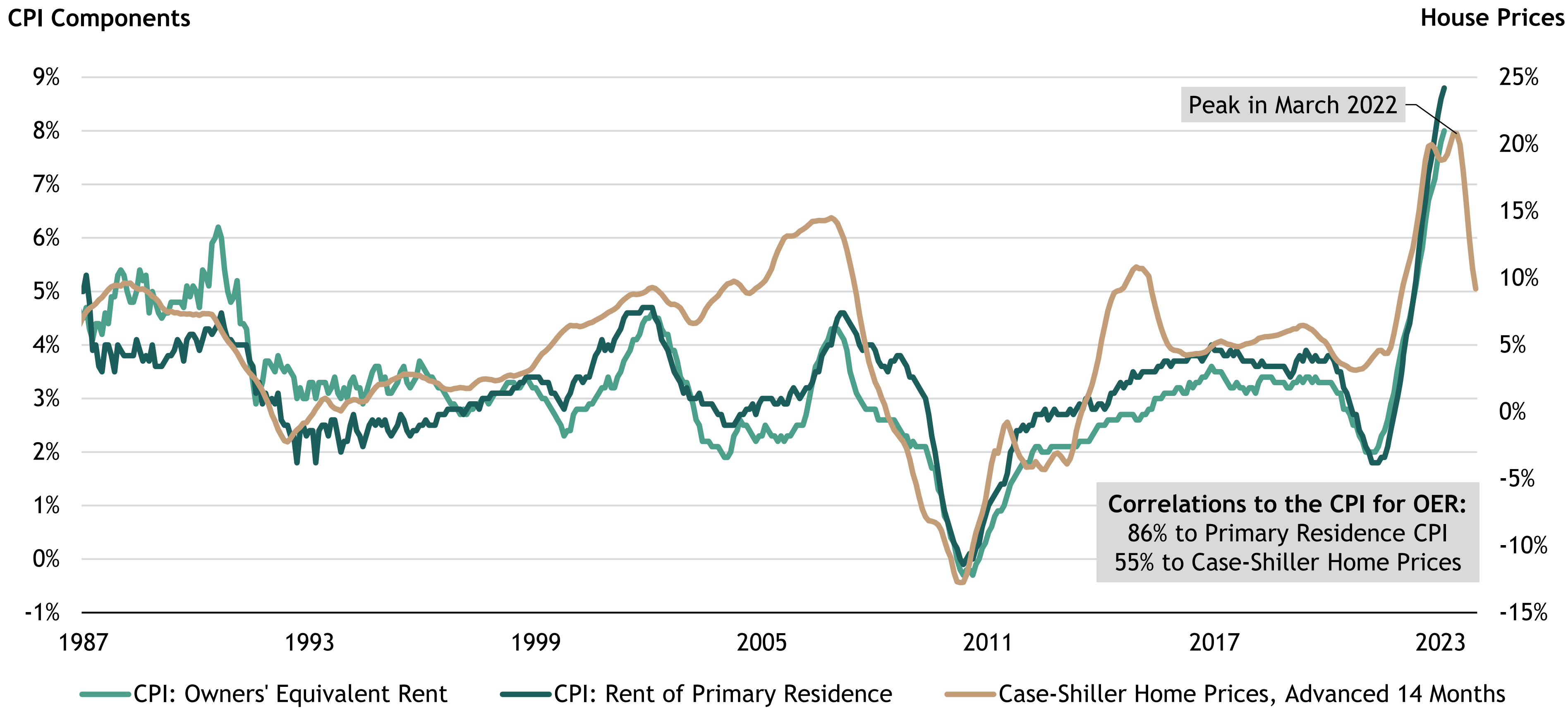


(1) Source: US Bureau of Economic Analysis and Macrobond, as of 2/28/2023. "Core PCE" represents the Personal Consumption Expenditures Price Index, excluding food and energy categories.
(2) Source: US Bureau of Labor Statistics and Bloomberg, as of 2/28/2023.

Home prices have led shelter CPI components by an average of ~14 months, historically

CPI Rent Components and Case-Shiller Home Price Index

(YoY%)

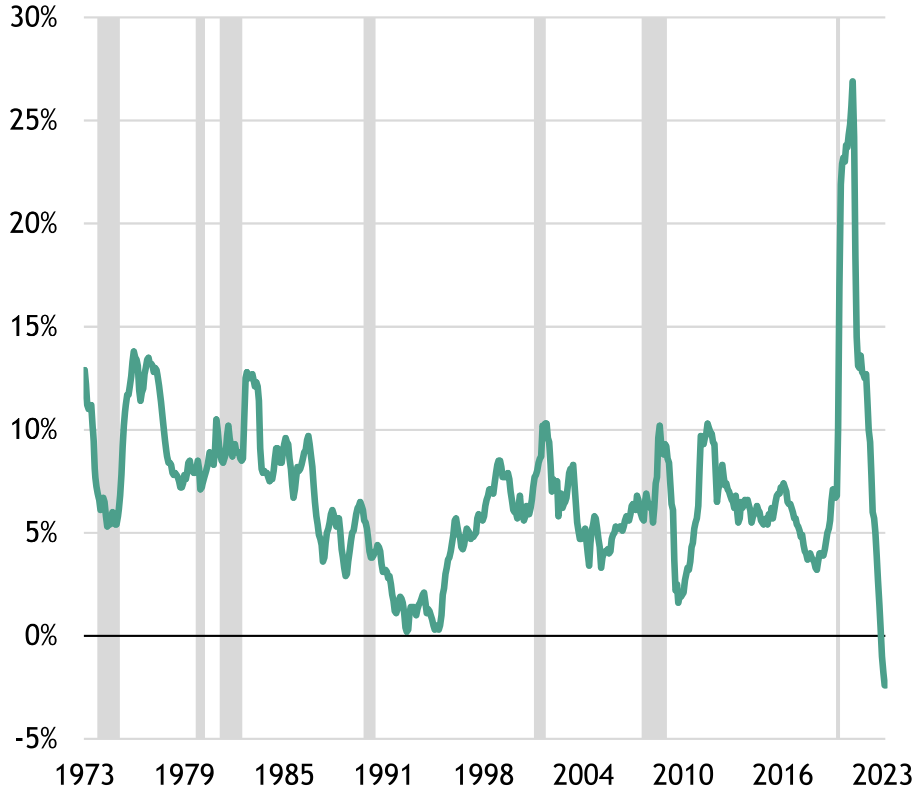


Source: Blackstone Investment Strategy; S&P Dow Jones Indices (home price data), as of 12/31/2022 (data available on a 2-month lag); Bureau of Labor Statistics (CPI data), as of 2/28/2023. CPI measures represent the Consumer Price Index for all urban consumers (US city average), seasonally adjusted. “Case-Shiller Home Prices” represents the S&P/Case-Shiller US National Home Price Index. “Owners’ Equivalent Rent” (OER) is defined by the BLS as the “implicit rent that owner occupants would have to pay if they were renting their homes, without furnishings or utilities” (i.e., the rental equivalent).

Contraction in money supply confirms that inflation has peaked, but money supply level much higher than trend

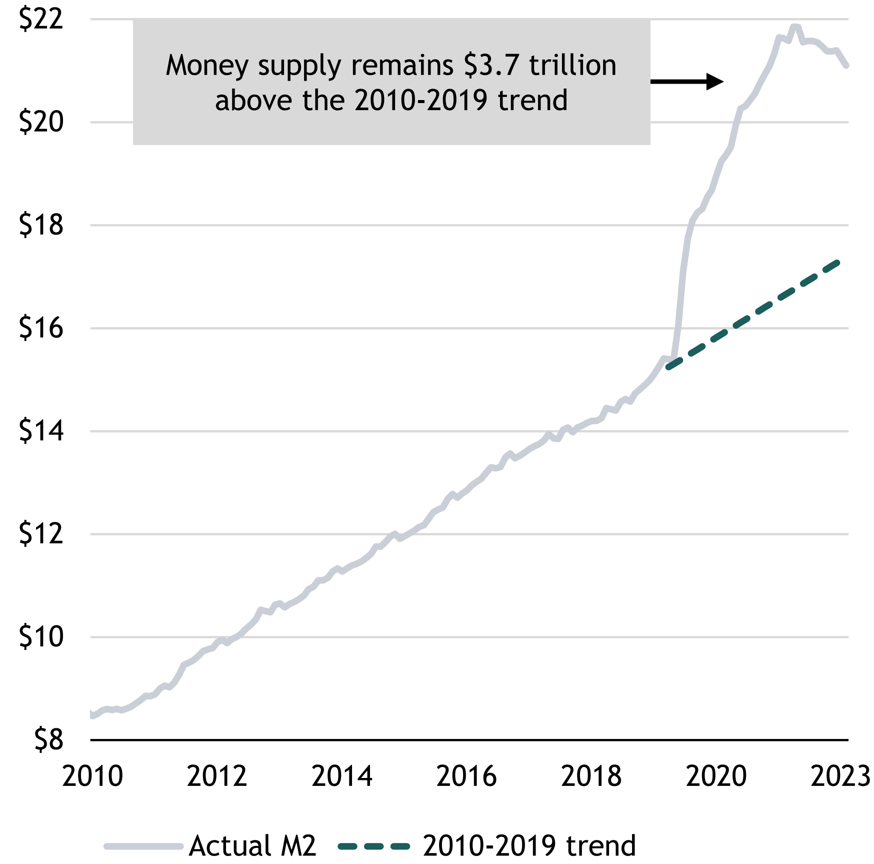
US Money Supply (M2) Growth

(YoY%)



M2 Stock: Actual vs. 2010-2019 Trend

(US$ in trillions)

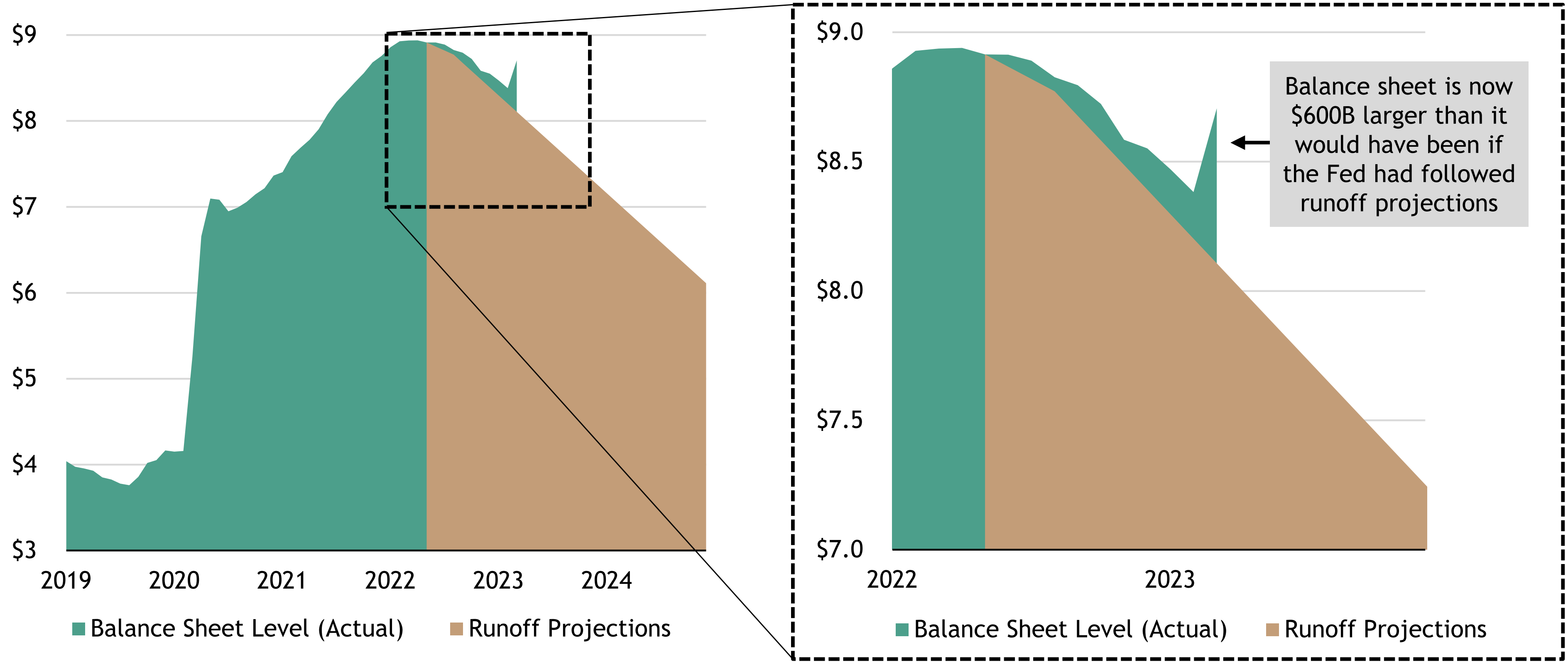


Source: Federal Reserve and Bloomberg, as of 2/28/2023.

Balance sheet spikes by >$300B as the Fed intervenes to shore up the banking sector and financial stability

Federal Reserve Balance Sheet Level and Runoff Projections[1]

(US$ in trillions)



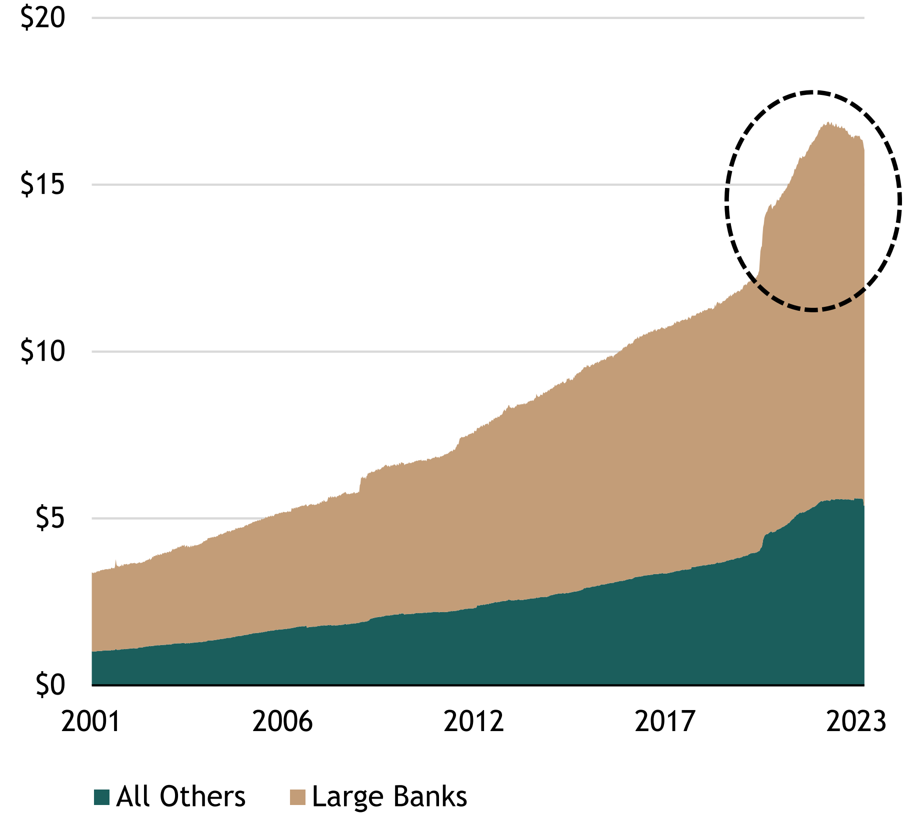
Source: Blackstone Investment Strategy, Federal Reserve and Bloomberg, as of 3/31/2023.

(1) "Runoff Projections" are based on the Federal Reserve's "Statement Regarding Plans for Reducing SOMA Holdings of Treasury Securities, Agency Debt, and Agency Mortgage-Backed Securities" (May 4, 2022). This statement indicated the Fed's intent to reduce the size of its balance sheet, subject to the following monthly caps: From June 2022 through August 2022, monthly cap of $45 billion in combined Treasury and agency debt / agency MBS; From September 2022 onward, monthly cap of $95 billion in combined Treasury and agency debt / agency MBS. The "runoff projections" are hypothetical and assume that the monthly caps are reached in each given month.

Investors shift cash out of traditional bank deposits and into money-market mutual funds

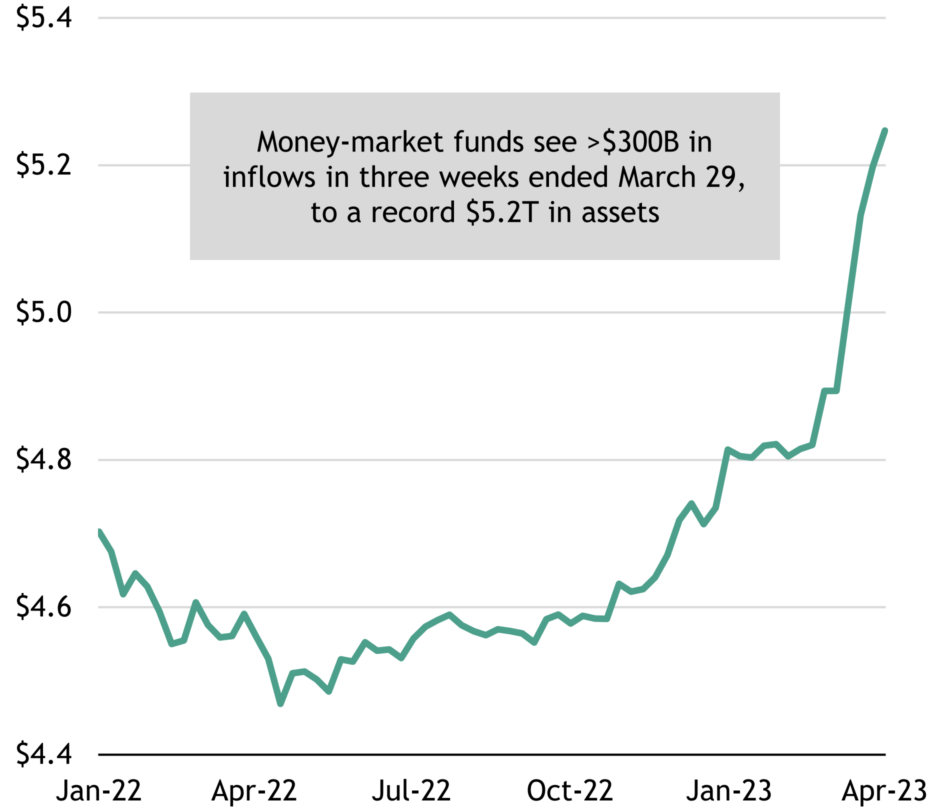
Total US Commercial Bank Deposits: 25 Largest Banks vs. All Others(1)

(US$ in trillions)



Total Money-Market Fund Assets(2)

(US$ in trillions)

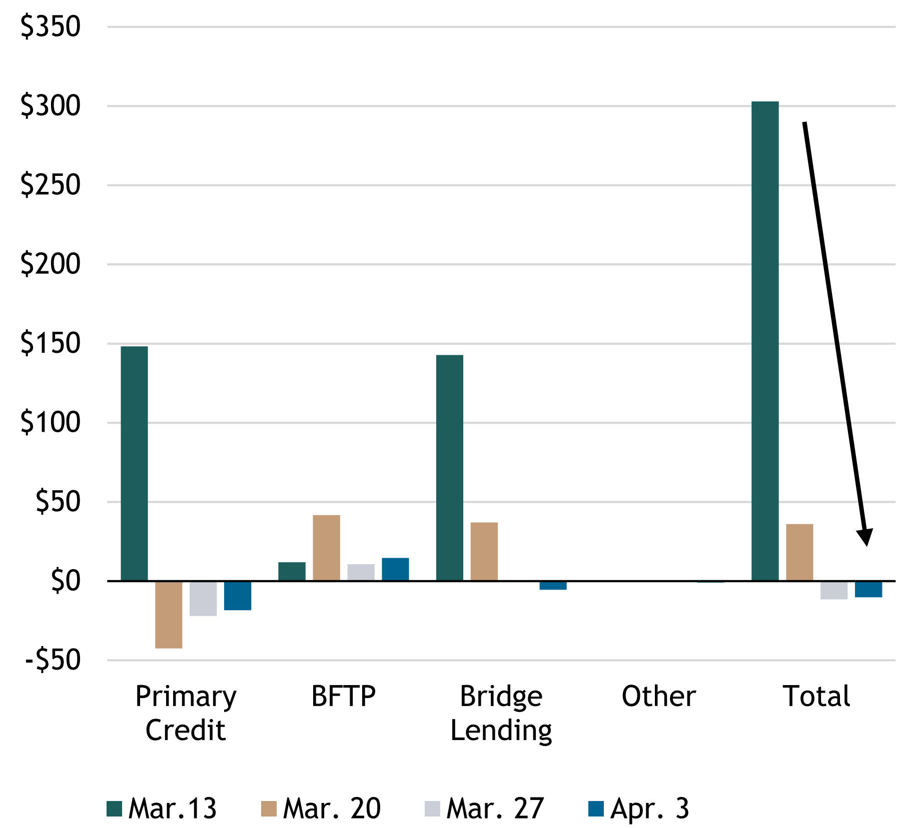


(1) Source: Federal Reserve and Macrobond, as of 3/20/2023. Large banks represent the top 25 domestically chartered commercial banks ranked by size. Small banks represent the domestically chartered commercial banks outside of the top 25.
(2) Source: Investment Company Institute and Bloomberg, as of 4/5/2023.

Lending to banks has declined in recent weeks as the situation stabilizes

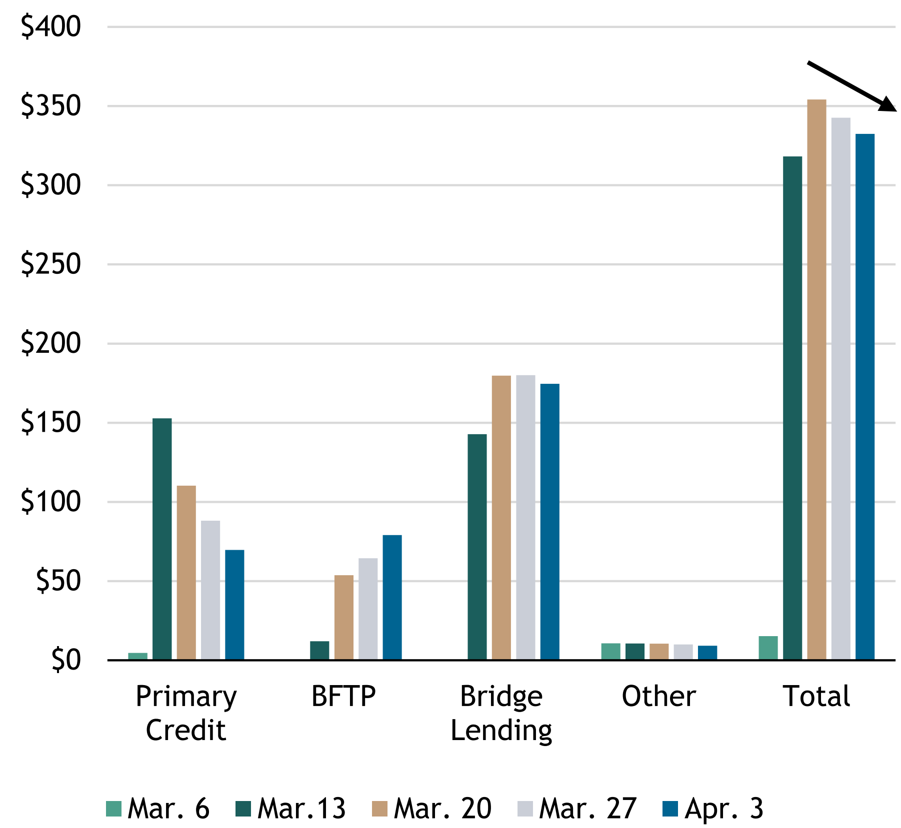
Weekly Change in Fed Credit Facilities

(US$ in billions)



Total Amount of Fed Credit Facilities

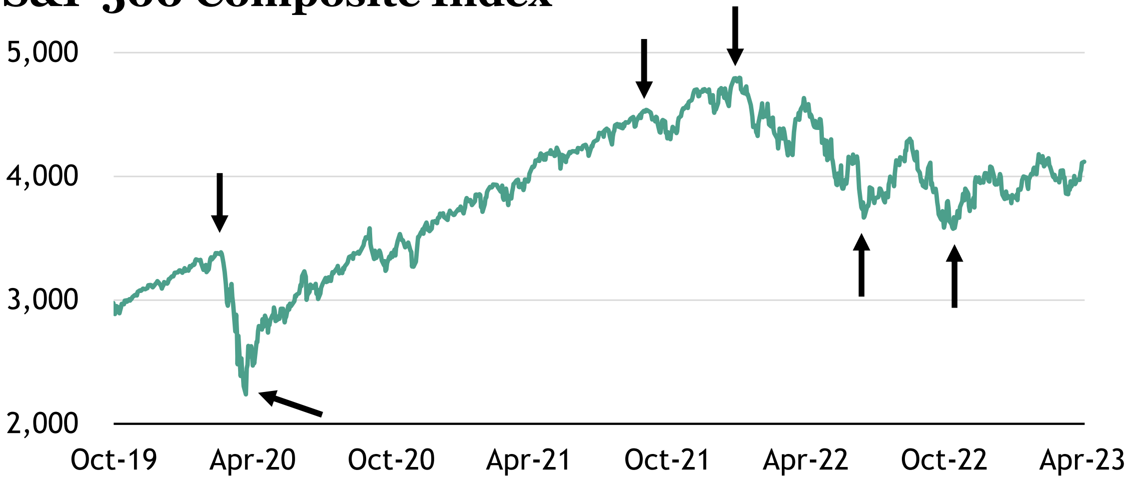
(US$ in billions)



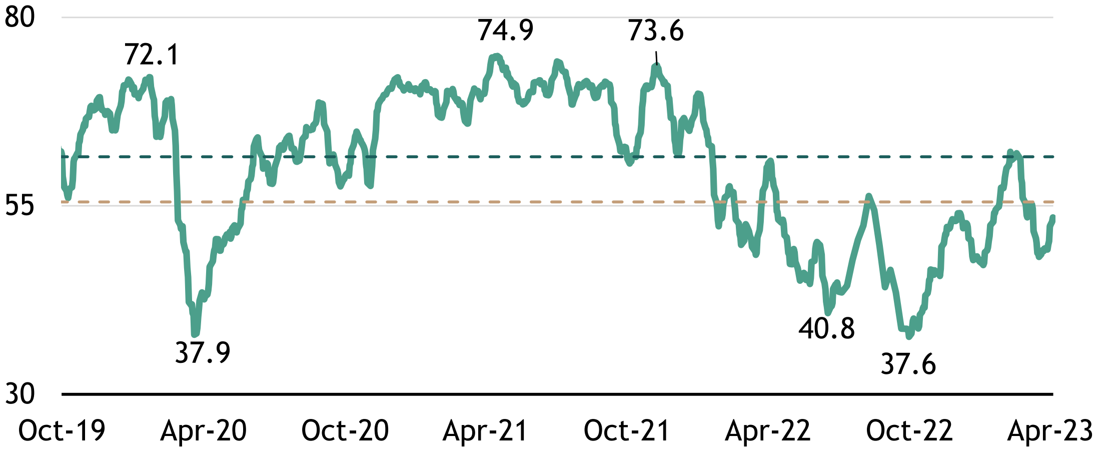
Source: Federal Reserve and Macrobond, as of 4/3/2023. “BFTP” represents the Bank Term Funding Program.“Other” category represents the sum of the following categories: seasonal credit, secondary credit and the payroll protection program liquidity facility.

Crowd sentiment poll is now relatively neutral

S&P 500 Composite Index



NDR Crowd Sentiment Poll



S&P 500 Index Performance[1]

Full History: 12/1/1995 – 4/4/2023

NDR Crowd Sentiment Poll is:	% Gain / p.a.	% of Time
Above 66.0	-0.4	27
57.0 – 66.0 from Above	2.0	17
57.0 – 66.0 from Below	19.2	18
Below 57.0	10.2	37
Buy / Hold = 7.1% Gain / p.a.		

Historical average value of Crowd Sentiment Poll at:[2]

- Optimistic extremes (down arrows) = 68.8
- Pessimistic extremes (up arrows) = 46.8
- Average spread between extremes = 22.3

Extremes generated when sentiment reading:[3]

- Rises above 61.5 = Extreme Optimism
- Declines below 55.5 = Extreme Pessimism

Source: Ned Davis Research, as of 4/4/2023.

(1) Totals may sum to >100 due to rounding.

(2) Arrows represent extremes in optimism and pessimism. They do not represent buy and sell signals and can only be known for certain (and added to the chart) in hindsight.

(3) Sentiment must reverse by 10 percentage points to signal an extreme, in addition to reaching the above extreme levels.

Dividend discount model shows implied S&P 500 price levels at various levels of earnings and risk-free rates

S&P 500 Dividend Discount Model

Trailing Twelve-Month EPS	10-Year Treasury Yield										
	3.00%	3.10%	3.20%	3.30%	3.40%	3.50%	3.60%	3.70%	3.80%	3.90%	4.00%
$185	4,266	3,971	3,714	3,489	3,289	3,111	2,951	2,807	2,676	2,557	2,448
$190	4,381	4,078	3,815	3,583	3,378	3,195	3,031	2,883	2,749	2,626	2,514
$195	4,496	4,186	3,915	3,677	3,467	3,279	3,111	2,959	2,821	2,696	2,581
$200	4,611	4,293	4,015	3,772	3,556	3,363	3,191	3,035	2,893	2,765	2,647
$205	4,727	4,400	4,116	3,866	3,645	3,447	3,270	3,111	2,966	2,834	2,713
$210	4,842	4,507	4,216	3,960	3,734	3,531	3,350	3,186	3,038	2,903	2,779
$215	4,957	4,615	4,317	4,054	3,822	3,616	3,430	3,262	3,110	2,972	2,845
$220	5,073	4,722	4,417	4,149	3,911	3,700	3,510	3,338	3,183	3,041	2,912
$225	5,188	4,829	4,517	4,243	4,000	3,784	3,589	3,414	3,255	3,110	2,978
$230	5,303	4,937	4,618	4,337	4,089	3,868	3,669	3,490	3,327	3,179	3,044
$235	5,419	5,044	4,718	4,432	4,178	3,952	3,749	3,566	3,400	3,248	3,110
$240	5,534	5,151	4,818	4,526	4,267	4,036	3,829	3,642	3,472	3,318	3,176
$245	5,649	5,259	4,919	4,620	4,356	4,120	3,908	3,718	3,544	3,387	3,242
$250	5,764	5,366	5,019	4,715	4,445	4,204	3,988	3,793	3,617	3,456	3,309
$255	5,880	5,473	5,120	4,809	4,534	4,288	4,068	3,869	3,689	3,525	3,375
$260	5,995	5,581	5,220	4,903	4,622	4,372	4,148	3,945	3,761	3,594	3,441

Source: Blackstone Investment Strategy, Bloomberg, BofA and FactSet, as of 3/31/2023. Earnings per share (EPS) data are for CY2022. Assumes that EPS start the period increasing / decreasing to level indicated in first column, before increasing / decreasing linearly over 2 years to a 4% nominal growth rate and remaining there in perpetuity. Further assumes dividend payout ratio remains constant at the trailing-four-quarter level, and the equity risk premium remains constant. Equity risk premium is calculated using the forward earnings yield for the S&P 500 and the current 10-year Treasury yield.

Private Markets: Asset Class Performance in Context

Annual Returns of Key Indices, Ranked in Order of Performance (2007-3Q'22)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 YTD	Annualized Total Return[(1)]
22.4%	11.4%	58.2%	27.0%	16.0%	16.5%	32.4%	28.8%	15.0%	17.1%	21.8%	10.9%	31.5%	25.6%	41.7%	12.5%	12.4%
16.0%	1.8%	51.6%	18.1%	9.8%	16.0%	19.5%	13.7%	10.7%	12.0%	19.2%	8.3%	24.3%	18.4%	38.1%	4.2%	9.1%
10.2%	-4.9%	26.5%	16.4%	8.4%	15.8%	13.9%	12.5%	5.5%	11.2%	8.6%	8.1%	15.2%	9.9%	28.7%	0.6%	8.4%
8.8%	-6.5%	26.3%	15.8%	8.1%	14.0%	12.7%	12.1%	1.4%	10.6%	7.6%	1.8%	14.5%	7.1%	22.2%	-3.3%	7.4%
5.5%	-10.0%	18.7%	15.1%	7.5%	13.1%	7.4%	9.6%	1.3%	10.2%	7.5%	1.4%	14.3%	5.8%	12.8%	-3.3%	5.7%
4.8%	-23.3%	13.2%	15.1%	6.6%	10.9%	5.3%	7.5%	1.2%	8.8%	6.4%	0.4%	9.0%	5.5%	5.3%	-8.7%	4.1%
4.6%	-26.2%	8.0%	10.1%	5.0%	9.8%	1.3%	2.6%	0.0%	7.1%	4.1%	-2.1%	8.6%	3.1%	5.2%	-14.7%	3.8%
2.1%	-29.1%	0.1%	9.0%	2.1%	9.7%	0.0%	2.5%	-0.7%	6.1%	3.7%	-2.5%	5.3%	1.2%	0.0%	-18.7%	3.0%
1.9%	-37.0%	-1.4%	5.3%	1.5%	1.7%	-1.3%	1.6%	-0.7%	1.1%	1.1%	-4.4%	5.2%	0.5%	-1.0%	-23.9%	2.4%
-17.8%	-39.1%	-29.8%	0.1%	0.1%	0.1%	-1.5%	0.0%	-4.5%	0.3%	0.8%	-5.8%	2.2%	-8.7%	-1.7%	-28.9%	0.9%

- **Private Equity**
- **Private Credit**
- **Private Real Estate**
- Public Equities
- HY Bonds
- Leveraged Loans
- Public REITs
- IG Bonds
- Treasuries
- Cash

Source: Bloomberg and Preqin, as of 9/30/2022. Represents total returns for the respective calendar year, ranked in order of performance. Asset classes presented are based on the following indices: Preqin Private Equity Quarterly Index for "Private Equity", S&P 500 Index for "Public Equities", NCREIF ODCE Index for "Private Real Estate", Cliffwater Direct Lending Index for "Private Credit", Bloomberg U.S. Corporate High Yield for "HY Bonds", Morningstar LSTA US Leveraged Loan Index for "Leveraged Loans", Bloomberg U.S. Corporate Bond Index for "IG Bonds", MSCI US REIT Index for "Public REITs", Bloomberg U.S. Treasury Bill 1-3 Month Index for "Cash", Bloomberg U.S. Intermediate Treasury Index for "Treasuries". **Past performance is not necessarily indicative of future results.** There can be no assurance any alternative asset classes will achieve their objectives or avoid significant losses. The volatility and risk profile of the indices is likely materially different from that of a fund. The indices employ different investment guidelines / criteria than a fund and do not employ leverage; a fund's holdings and the liquidity of such holdings may differ significantly from securities comprising the indices. The indices aren't subject to fees / expenses, and it may not be possible to invest in the indices. The indices' performance has not been selected to represent an appropriate benchmark to compare to a fund's performance, but rather is disclosed to allow for comparison to that of well-known and widely recognized indices. A summary of the investment guidelines for the indices are available upon request. In the case of equity indices, performance of the indices reflects the reinvestment of dividends. The indices are not necessarily the top performing indices in the given asset class and recipients should consider this when comparing the performance of any fund or investment to that of the indices. See "Important Disclosure Information," including "Index Comparison."

(1) Represents annualized total return, calculated over the period 1/1/2007 to 9/30/2022.

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