ALTAIR INSIGHT

Quarterly Market Review

Rocky But Resilient

April 2023

Annecy, France
Don Sorota, Managing Director

First Quarter 2023
Key Topics

1. The bank scare will have further repercussions but the system remains stable thanks to federal regulators limiting the damage with a multibillion-dollar rescue.

2. The Fed may be "one and done" with a final interest-rate increase in May. Rate hikes should stop after that.

3. Leading indicators point to inflation falling well below its current 5% in the second half of 2023.

4. For all the talk of a future recession, the economy remains healthy. But companies' earnings ultimately will determine its fate.

5. The political showdown over the debt ceiling will hang over markets until it is resolved, but in the end we believe it will be settled without a U.S. default.

Forward-looking statements may not come true. See disclosures at the end of document.

Noah Kroese Illustration for Altair Advisers

The 2020s are exactly one-third over as of the end of April, and what a decade it has been so far for investors along with everyone else.

A global pandemic and lockdown, one of the deepest (albeit shortest) U.S. recessions on record, multidecade highs for inflation in much of the world, Russia's invasion and war in Ukraine, steep interest-rate hikes, a stock-market crash in 2020 (down 34% in a month), a 25% drop over much of 2022, an attack on the U.S. Capitol, major climate disasters and much more. Whew.

A regional banking scare this year has added to concerns that an economic slowdown could slide into recession. And yet, tumultuous '20s or not, resilience and recovery remain the main narrative. The U.S. and global economies have weathered the jolts and continued to grow every year since the COVID-19-induced shutdowns of 2020. The markets have endured and recovered modestly for the most part. The U.S. benchmark (S&P 500) is up 28% since the start of the decade and international stocks (ACWI ex-US) are up 9% – both categories below their historical averages but still positive amid considerable challenges.

This is not to minimize the risks in today's market environment. Further ramifications of the March bank crisis, the lagged economic impact of a year-plus of steep interest-rate increases, the debt-ceiling impasse, concerns about an earnings recession and economic recession, worsening US-China tensions, the Ukraine war, other geopolitical threats – all these issues cast shadows, to some extent, on the outlook for the rest of 2023. Some of these items, but not all, are reflected in current stock prices.

What gives us confidence: A resilient economy, a strong job market, a surplus of household savings, stalwart consumers, and inflation on a steady downward trajectory. On balance, we retain a neutral stance overall, with slight tactical overweights to U.S. large- and small-cap stocks. We recommend that our clients remain at target allocation levels in all three risk categories: higher, medium and lower risk.

May we continue to live in interesting times, to paraphrase the old saying. We would not mind, however, if the final two-thirds of the decade turn out to be a tad less "interesting" – or rocky – than the first third.

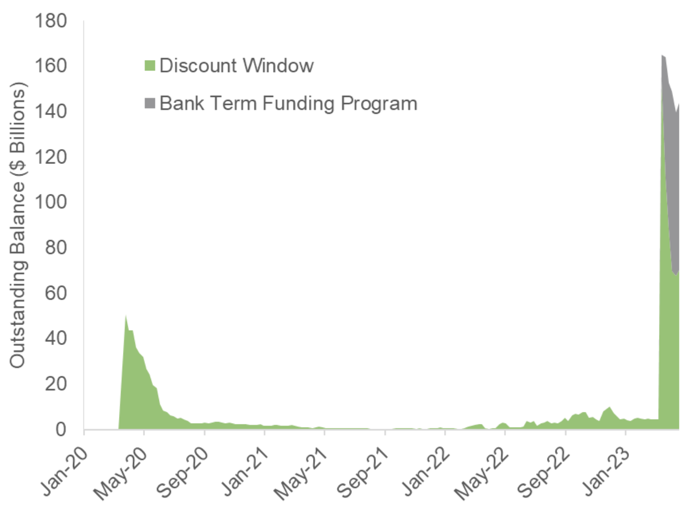
Please read on for our more in-depth thoughts on issues affecting the markets this quarter.

1. The bank scare will have further repercussions but the system remains stable thanks to federal regulators limiting the damage with a multibillion-dollar rescue.

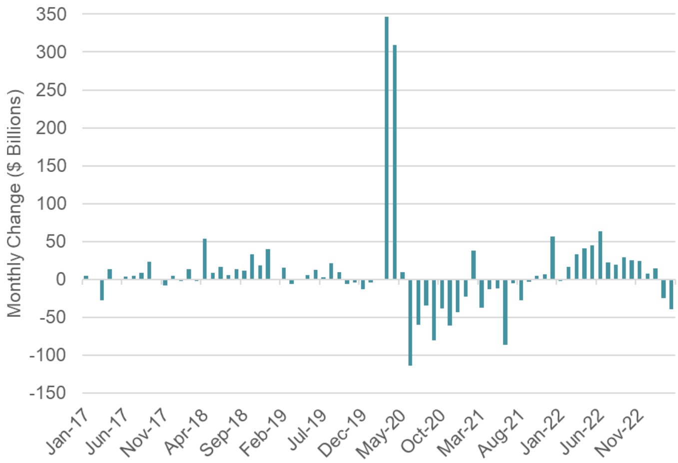
The biggest takeaway from the three collapses that rattled the banking industry in March is that it never came close to triggering a systemwide catastrophe à la 2008. The high-powered rescue plan put into action by federal agencies immediately after Silicon Valley Bank and Signature Bank failed saw to that. The biggest banks already were much more fundamentally sound than in past years, too, as a result of reforms born out of the global financial crisis.

Weeks after the panic subsided, we believe the risk for broad contagion remains low. However, there will be ripple effects of these collapses. Besides the potential for further upheaval among small and midsize banks, lending, economic growth and employment all are likely to be affected. Bank lending has declined significantly in the early aftermath of the crisis.

Banks Quick to Access New Federal Capital
January 1, 2020 – April 19, 2023



Banks Slow Issuance of Commercial and Industrial Loans
January 2017 – March 2023



Federal regulators are likely not blameless in the bank havoc. Mismanagement and excessive risk-taking by Silicon Valley Bank that left a nearly $2 billion hole in its bond portfolio even after Fed officials warned it of problems as far back as 2021 have been identified as the main catalyst of the crisis. SVB's clients were mostly riskier startups, and their deposits turned out to be transitory in the age of instantaneous money movement. But questions remain about the Fed's oversight of the bank. The actions, or inaction, of federal and state regulatory officials ahead of the collapse are part of a congressional inquiry about what went wrong.

Yet the government took swift emergency action once the crisis erupted, shoring up the financial system to prevent more panic-driven bank runs and head off further trouble. The Federal Reserve, Treasury Department and Federal Deposit Insurance Corporation did not simply dump money into the problem, although inevitably that was a big part of it.

Declaring the event a "systemic risk," they guaranteed all deposits at the two failed banks above the standard $250,000 FDIC maximum and created the Bank Term Funding Program as a safeguard against any other runs on deposits. They lent U.S. banks an average of $117 billion a day in the month after the crisis emerged to bolster liquidity due to massive withdrawals, and lent another $175 billion to the new banks the FDIC established to take over SVB and Signature. They also committed emergency funds beyond the $30 billion provided by 11 of the nation's largest banks to beleaguered First Republic Bank.

The largely unrelated failure of Credit Suisse Bank, already in trouble but under magnified scrutiny following the U.S. collapses, fueled the wave of withdrawals amid anxieties about the health of the global financial system. But the system proved its sturdiness as governments and big banks again stepped up. The Swiss National Bank rescued Credit Suisse with an amount equivalent to 25% of that nation's GDP and orchestrated its sale to UBS.

The March panic was never akin to 2008, a crisis caused by banks' exposure to toxic housing assets rather than a bank run tied to temporary liquidity issues with high-quality securities whose value rapidly depreciated in the face of interest-rate increases. But its impact is significant and still growing. The aid provided to banks by U.S. regulators could ultimately surpass the total from the earlier crisis if deposit guarantees above $250,000 are extended to all banks, as is being considered.

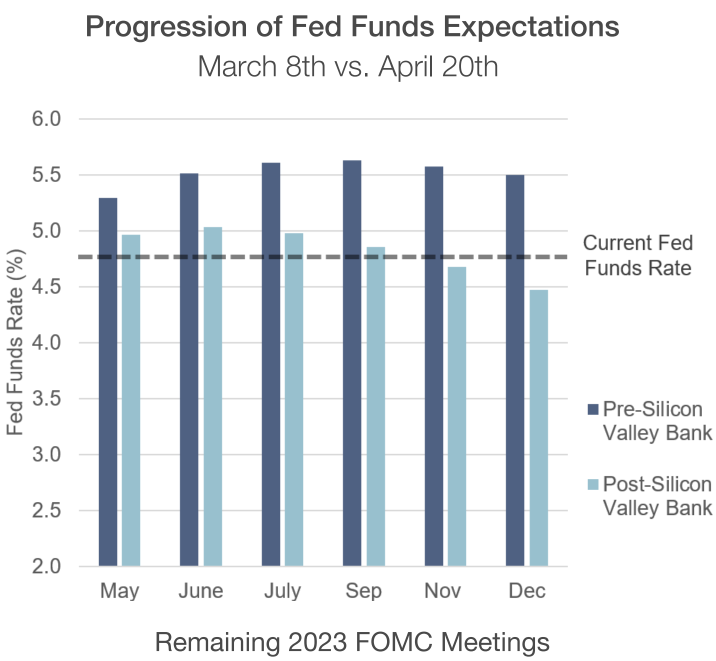
Banks now face higher costs and losses on some assets, potentially causing them to tighten credit. Lending in the U.S. contracted by the most on record in the last two weeks of March, according to Federal Reserve data – a cautionary sign although admittedly an early, small sample size.

The extent of any spillover damage to the commercial real estate sector also is something we are keeping a close eye on, as regional banks hold a meaningful portion of this debt. Upcoming refinancings of loans at much higher interest rates than in the past could increase the risk of a credit crunch in the sector. While that would increase stress on the economy, we do not think a threat to financial stability is likely.

2. The Fed may be "one and done" with a final interest-rate increase in May. Rate hikes should stop after that.

The banking crisis appears to have contained a silver lining: aiding the Federal Reserve's anti-inflation drive by likely cooling the economy further. It also just may prevent the Fed from pushing rates too high in its dogged tightening crusade.

Chair Jerome Powell's mantra has long been "two percent" – insisting on inflation sinking back to its recent historical norm of around that level before the central bank could consider its mission accomplished. He held his ground on proceeding with steep rate hikes even as more cracks appeared in the economy and occasionally as a fellow member or two of the Federal Open Market Committee (FOMC) would suggest that aggressive policy could do more harm than good.



March marked a turning point. The Fed was poised to accelerate to a half-percentage-point increase, the FOMC minutes from that month's meeting suggest. But concerns about the likely decline in economic activity from the banks' shakeup less than two weeks earlier prompted it to discuss pausing before ultimately going with a smaller hike of one quarter-point. Powell likened the bank events to "the equivalent of a rate hike or perhaps more than that."

One final quarter-point hike in May, taking the federal funds rate to 5%, is not risky. We wrote in this space in January that a rate at that level "or a bit more" would not be oppressive for U.S. companies. That remains our view, but we believe even more firmly now that pushing it significantly above 5% would be a gamble. Three additional months of rate hikes since then are still working their way through the economy and the full impact of today's higher rates is not yet known. A higher rate may be unnecessary, too: The Consumer Price Index already has fallen to an annual rate of 5% from 6.5% at the start of the year.

We expect that a Fed suddenly torn between lowering inflation and ensuring financial stability will choose stability and pause or end its rate-hike campaign. It certainly should stop. If not, the odds of a consequential recession will rise further.

Contrary to bond market expectations, we do not anticipate the Fed will cut rates this year. That scenario would require the economy to have fallen into a deep contraction or inflation to have sunk back near 2%. We do not believe either of those situations will occur; more of our thinking on that is in the next two sections.

3. Leading indicators point to inflation falling well below its current 5% in the second half of 2023.

The Fed, markets and consumers alike got welcome news in April when the latest CPI report showed inflation dropping to 5% on an annualized basis, the slowest increase since May 2021. That confirmed a meaningful cooling this year and signaled that inflation has covered roughly half or more of the desired descent from last June's 9% peak to the 2% target. It also matched the 5% reported two weeks earlier by the other inflation gauge the Fed watches closely: the price index for personal consumption expenditures.

A key factor: Prices for services, surging since 2021, are finally showing signs of easing.

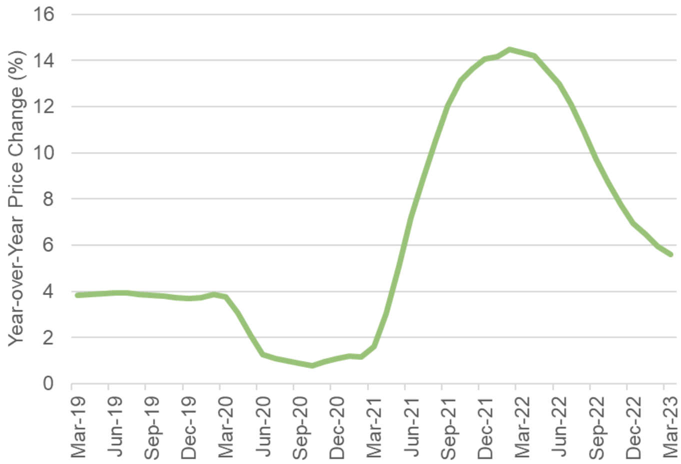
Beyond the widely reported headline numbers, though, lie even more encouraging data: leading indicators that have yet to be reflected in official inflation measures. Those barometers show even more momentum in the decline of inflationary pressures.

Three categories in particular show added evidence of this trend:

- **Housing.** Shelter (housing) costs accelerated to an 8.2% annual growth pace in March and, as CPI's largest component, are the biggest sticking point in elevated inflation. But Zillow's index of observed rents, which usually leads the government's rent statistics by six months or more, shows a pronounced drop under way that implies shelter inflation will cool more quickly in the second half.
- **Wholesale prices.** Inflation at the wholesale level, which typically heralds future inflation trends, fell in March by the most since the start of the pandemic in early 2020. The Producer Price Index slowed to a 2.7% increase over the past 12 months from 4.9% in February.
- **Money supply.** The most recent Fed data on M2 money supply, a benchmark measure of the amount of cash and cash equivalents circulating in the economy, showed it shrinking by $130 billion in February. Money supply is falling at its fastest rate since the 1930s after ballooning during the pandemic because of the government's huge stimulus spending. It decelerated further in March as a result of the sharp drop in bank deposits following the SVB collapse. A continued decline foreshadows still-lower inflation.

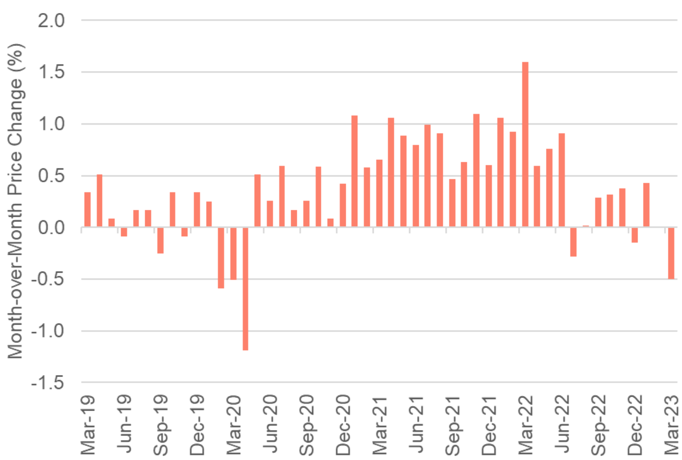
Zillow Observed Rent Index

March 2019 – March 2023



Producer Prices Drop the Most Since Beginning of Pandemic

March 2019 – March 2023



Money Supply Shrinks

January 1, 2017 – April 3, 2023

How long it will take inflation to return to 2% remains a big question. Its rise to last year's peak took 16 months, and historical data from Strategas Research indicates the pace of decline tends to be similar. That suggests it could approach the target rate as soon as late 2023.

It is too much to expect 2% inflation before next year. This episode of high inflation has proven stickier than expected, and several factors may slow the latest progress. The OPEC+ production cuts spell higher prices for gasoline, China's reopening is expected to boost economic activity including a travel boom, and still-abundant household savings support continued spending by U.S. consumers.

All told, however, the available evidence suggests material cooling of inflation in the months ahead.

4. For all the talk of a future recession, the economy remains healthy. But companies' earnings ultimately will determine its fate.

Flush with government stimulus money, consumers kept the U.S. economy afloat with their spending during the dark days of the pandemic. Now it may be corporate America's turn to help fend off the threat of another pullback.

The odds of a recession have risen since the start of the year because of the bank tumult. The health of corporate earnings will determine whether the economy can maintain the resilience it has shown throughout the rate-hike cycle.

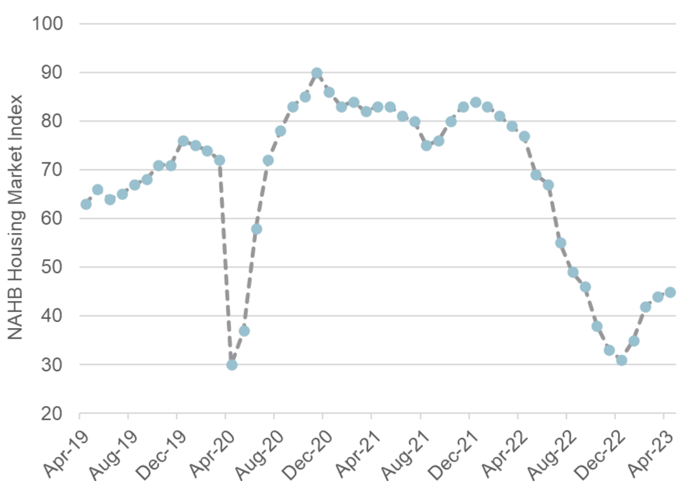
Globally, the economy faces what the International Monetary Fund described as a thickening fog in trimming its growth projections from early in the year amid pressures from tighter monetary policy, Russia's invasion of Ukraine and stress in the financial sector. Central banks on both sides of the Atlantic are still hiking interest rates despite the increased uncertainty as they try to tamp down inflation. So far there has been no big drop-off in

Forward-looking statements may not come true. See disclosures at end of document. Sources: Zillow, Bureau of Labor Statistics, St. Louis Federal Reserve growth; U.S and European business activity rose in April at the fastest pace in a year.

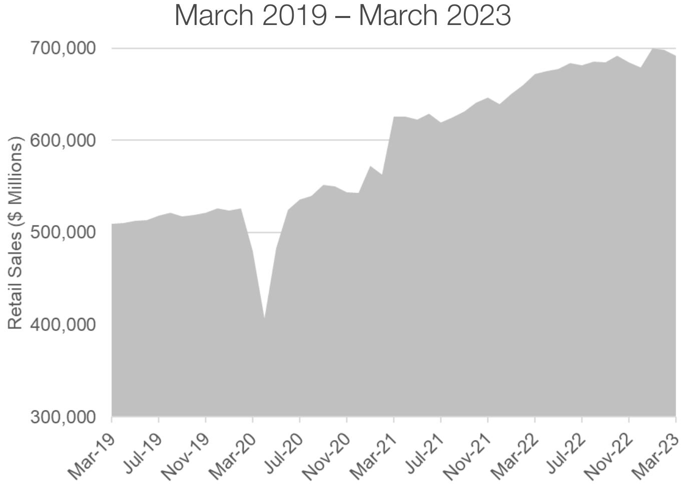
In the U.S., S&P 500 companies are being increasingly squeezed by both the worst bout of inflation in four decades and higher interest rates. Fourth-quarter profits (-3.4%) fell for the first time since the third quarter of 2020, when much of the economy was shut down by COVID.

Earnings are on pace for a bigger drop of 6.2% in the first quarter as we publish this, according to FactSet data. That would be the biggest setback since the pandemic-crippled period of April through June 2020.

Builder Sentiment Weak But Improving
April 2019 – April 2023



Retail Sales Still High
March 2019 – March 2023



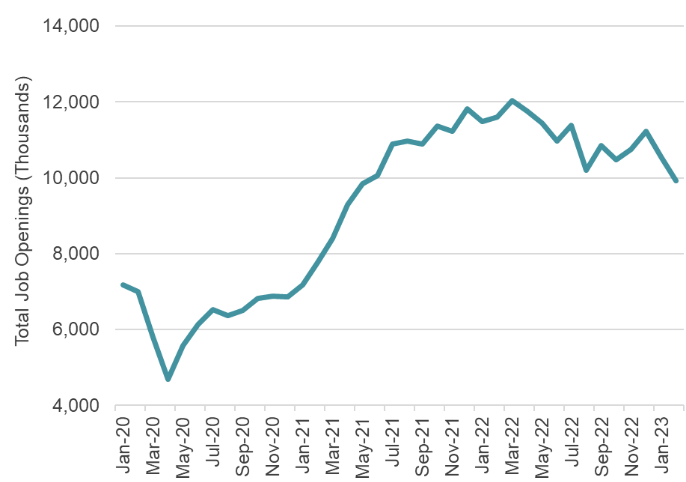
Could consumers come to the rescue again? Perhaps, thanks to retaining a large chunk of that government stimulus money; they held roughly $1 trillion in excess savings going into this year, according to Chicago-based consultancy RSM, more than the pre-pandemic amount. However, consumer demand may be starting to waver under pressure from inflation and higher rates.

Retail sales, while still historically very high, fell in the most recent month for which data are available, and more consumers are relying on credit cards to keep spending.

The economy continues to grow at a modest pace – expanding in the first quarter by an annualized 2.5%, based on the Atlanta Fed's estimate. But increasing cracks have appeared.

Manufacturing activity contracted in March for the fifth straight month after a 28-month period of growth. The Conference Board's Leading Economic Index, which measures U.S. business cycles, fell for a 12th consecutive month in March and points to a possible slowdown ahead.

Job Openings at Lowest Level Since 2021
January 2020 – February 2023

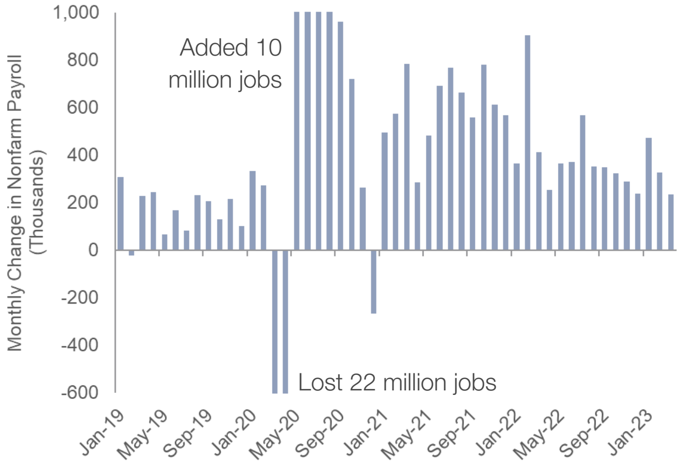


The job market remains robust but has slackened recently, with employers hiring at a more moderate pace and job openings falling by 700,000 in a single

Forward-looking statements may not come true. See disclosures at end of document. Sources: National Association of Home Builders, U.S. Census Bureau, St. Louis Federal Reserve month to their lowest level since 2021. The housing industry remains hampered by high mortgage rates; recent data show homebuilder sentiment and housing starts improving but still weak.

Job Additions Settle at More Sustainable Pace

January 2019 – March 2023



Collectively, these weakening areas of the economy do not suggest a serious contraction ahead. They may produce a mild recession within the next several months if current trends continue, however. Those expectations are mostly reflected in today's relatively cautious markets. The S&P 500 is still down about 14% from its all-time high reached in January 2022.

So far corporate profits have held up reasonably well, given the challenges. But expectations are being lowered: More S&P 500 companies (78 as of mid-April) have lowered their earnings forecasts than in any quarter since 2019. Further weakening could lead to layoffs and a higher recession risk. We also are closely watching the status of stock buybacks, which typically decrease when corporate profits fall.

For now, the outlook for corporate earnings growth is for a near-term shallow decline and then a return to growth in the second half of this year. The jury is still out on that, since estimates usually decline as the time approaches. But the economy likely will achieve the elusive soft landing (no recession), or at least not a hard landing, if that scenario holds.

Earnings Growth Expected to be Positive in Second Half

S&P 500 Earnings

5. The political showdown over the debt ceiling will hang over markets until it is resolved, but ultimately we believe it will be settled without a U.S. default.

The debt ceiling standoff is a recurring drama that seems destined to occur whenever there is fractiousness, and close to an even split, between Democrats and Republicans in Washington. This year's episode could climax as soon as early June, or whenever Congress is forced to increase the debt limit in order for the government to be able to continue to pay its bills and avoid a default.

Many questions remain about how the two parties will bridge their considerable differences. However, while the outcome is unpredictable, we share the view of most financial and political experts that historical precedent and realpolitik point to a resolution being reached in time to avoid a default.

Congress has raised the debt ceiling 78 times since 1960 – 49 times under Republican presidents and 29 under Democrats, most recently in 2021. Deepening U.S. political polarization has made for increasingly contentious votes in recent years, twice pushing agreements to the 11th hour in the past dozen years. It can be a rough ride for markets. But a default has never occurred.

In 2011, after a lengthy standoff between President Barack Obama and congressional Republicans, Congress finally agreed to lift the ceiling only two days before the date the Treasury estimated it would run out of money. Despite the narrow escape, the United States' creditworthiness was downgraded for the first time ever by S&P Global Ratings. Markets paid a price, falling 17% in one month. Yet the S&P 500 recovered to finish the year in positive territory with a 2.1% return.

In 2013, the sides were again at loggerheads for months over the issue and the federal government was partially shut down for more than two weeks without funding. The crisis ended with Congress agreeing to suspend the debt ceiling and provide the necessary funds in the meantime. Without a downgrade, the market pullback was a more muted 5% this time and the S&P 500 rebounded to a new all-time high immediately after the deal.

The lesson for investors is that market swings tied to these showdowns can be sudden and violent, in both directions. And that recoveries can be expected to follow.

What if there is no deal this time and a default occurs? No one knows for sure since it has never happened before, but clearly markets and economies worldwide would suffer. Moody's Analytics chief economist Mark Zandi warned Congress in March that the U.S. economy could quickly shed a million jobs and fall into recession if the federal government can no longer pay its bills on time.

Again, we do not think this will happen. None of the parties involved would benefit from such a scenario and all want to avoid it.

Our Outlook

- **The banking tumult** in the first quarter that jolted markets and depositors' confidence has led to tighter lending conditions. The speed with which the crisis was brought under control, however, demonstrated the soundness of the U.S. financial system and response mechanisms.

- **The Federal Reserve** will probably put its rate-hike cycle on hold after a final quarter-point increase. We do not believe it will cut rates this year, however, unless the economy heads into a significant slump or inflation falls sharply, neither of which we view as likely.

- **Inflation** should continue to decline gradually from its still historically high level, with a chance to return to 3% or lower within the year if the economy keeps slowing. Fast-rising shelter costs have helped keep it elevated but there are signs of that category declining later this year.

- **Stocks** are fairly valued and should hold their gains and move higher if the earnings trough is contained, as we expect. Bonds' outlook remains positive with rates at or near a top.

- **The debt ceiling** standoff in Washington will restrain markets until it is resolved and risks a period of heightened volatility. But while political brinkmanship is inevitable in the runup to this summer's deadline to suspend or raise the ceiling without serious consequences, we do not expect it to result in a first-ever U.S. default.

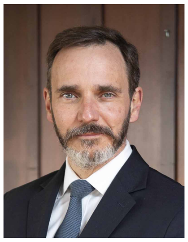
Quotes of the Quarter

"The U.S. economy is obviously performing exceptionally well with continued solid job creation, inflation gradually moving down and robust consumer spending. So I'm not anticipating a downturn in the economy, although of course that remains a risk."

Janet Yellen
U.S. Treasury secretary

"The storm clouds that we have been monitoring for the past year remain on the horizon, and the banking industry turmoil adds to these risks."

Jamie Dimon
JPMorgan Chase CEO



"Inflation is much stickier than anticipated even a few months ago. Core inflation … has not yet peaked in many countries."

Pierre-Olivier Gourinchas
IMF chief economist

Market Data

U.S. Stocks

Technology and other growth stocks led the way as the U.S. market bounced back from the worst year for large caps since 2008. Defying concerns about a bank scare and possible recession, the iShares S&P 500 ETF posted a 7.4% return on encouraging signs of inflation declining and prospects for a let-up in interest-rate hikes. It was the second consecutive 7% quarterly gain since the market bottomed early last fall.

The tech sector jumped 21.6%, paced by behemoths Tesla (68%), Apple (27%) and Microsoft (17%), while the communications services sector was close behind at 21.2% thanks largely to Meta/Facebook (76%), Alphabet (17%) and Netflix (17%). Financials (-5.6%) were the big loser among S&P sectors due to a steep pullback triggered by the collapse of Silicon Valley Bank in March. Energy, health care and utilities also declined.

Small caps underperformed large caps as investors trimmed risk but still managed a modest gain. They contain less tech and more financials than large caps and are more economically sensitive. The iShares Russell 2000 ETF returned 2.7% for back-to-back quarterly increases since last year's big sell-off.
Growth stocks trounced value at all capitalization levels after substantially underperforming them last year due to rising rates and a slowing economy. Large-cap growth stocks within the Russell 1000 returned 14.3% to 0.9% for their value counterparts.

International Stocks

European stocks spearheaded a strong quarter as international developed stocks outperformed their U.S. peers again. Overseas markets proved resilient despite further rate hikes by central banks and got further assistance from the dollar's continuing decline. The iShares MSCI EAFE ETF, proxy for large and midcap stocks in Europe, Australia and the Far East, rose 9.0%. Absent conversion to the dollar, which fell 1% against a basket of other leading currencies, the EAFE benchmark was up 7.7%.

Despite recession concerns for several countries, stocks based in the eurozone turned in another stellar quarterly performance. The STOXX Euro 600 index, which tracks the performance of the zone's biggest companies, rose 7.8% following a 9.6% increase in the fourth quarter – its strongest six-month performance in two years.

Emerging-markets stocks had solid but more modest returns mirroring the market performance in China, which dominates the index. The iShares MSCI Emerging Markets ETF added 4.1%. Mexico (20.3%) was the big winner in dollar-denominated investments overseas, while India (-5.3%) and Brazil (-2.7%) both retreated.

Real Estate

Publicly traded REIT stocks underperformed the broader market but managed a second consecutive quarterly gain after taking a drubbing for much of last year when interest rates vaulted higher. After sinking into negative territory for the year when the bank turmoil erupted, REITs rallied sharply in the final week of the quarter on more evidence of inflation and rate pressures both easing.

The Vanguard REIT Index Fund, made up of U.S. stocks issued by commercial REITs, advanced by 1.8% in the quarter. The Vanguard Global ex-US Real Estate ETF, a proxy for international real estate stocks in both developed and emerging markets, ended the quarter down 2.0%. International real estate investments are more exposed than U.S. REITs to offices and malls, which both took a big hit in the quarter.

Hedged/Opportunistic

Publicly traded senior bank loans, as well as private debt (direct lending), delivered solid returns on a par with those across most other sectors in fixed income. These loans generally have floating interest rates and thus have benefited from higher yields and rising demand for collateralized loan obligations, which bundle corporate loans and sell slices of the debt to investors. The Invesco Senior Bank Loan ETF generated a second straight 3+% quarter, this time 3.2% – its largest gain since May 2020. Direct lending delivered similar gains.

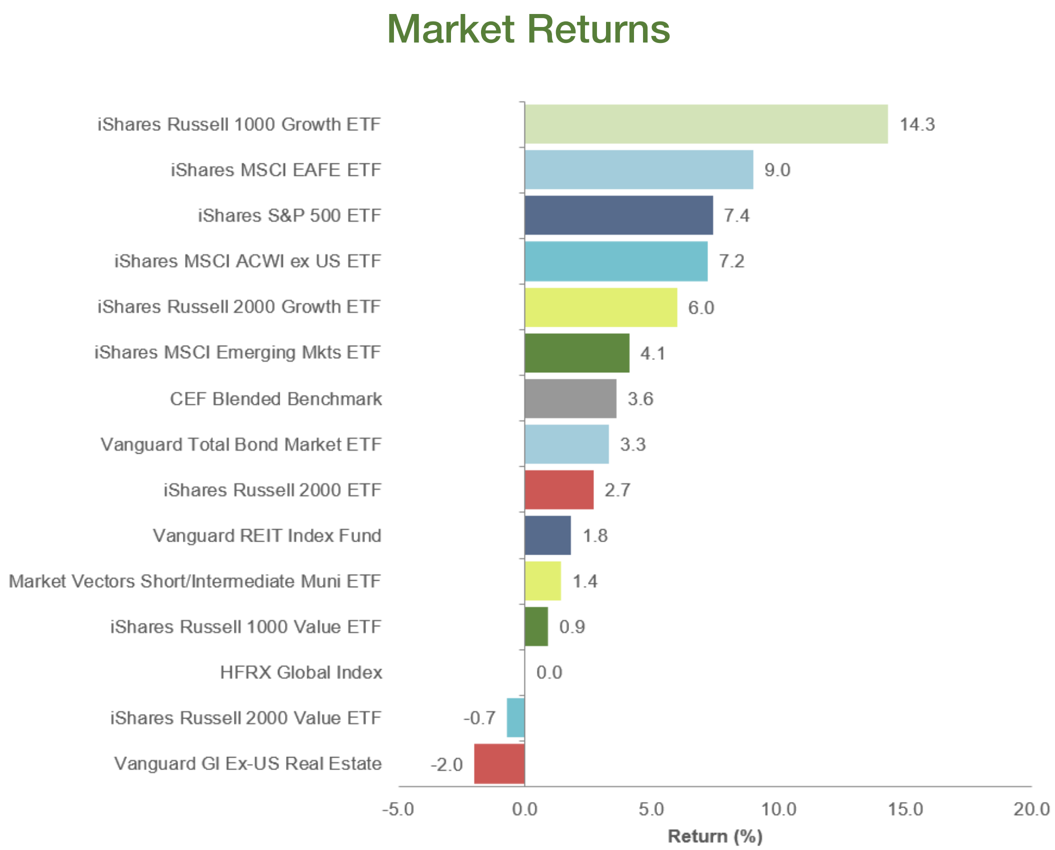
Fixed Income

Bonds began 2023 in comeback mode following their worst year on record. Prospects that the Fed could soon stop increasing interest rates and potentially even reverse course in the event of a pronounced recession sent yields sharply lower in March, with the 10-year U.S. Treasury yield sinking to 3.5% from 4%. Bond prices rise as yields fall.

The Vanguard Total Bond Market ETF, which measures a wide spectrum of public, investment-grade taxable bonds, advanced 3.3% for the quarter. A year ago, by contrast, it already was down nearly 6% after just three months.

Altair's benchmark for tax-exempt municipal bonds, a blend of the Market Vectors short and intermediate ETFs, overcame a slower start to the year thanks to a strong March that lifted it to a 1.4% quarterly gain. Investors piled into municipal and taxable bonds alike, seeking safe havens during a banking panic. Munis largely avoided any fallout from the banking sector. Muni issuers have significantly reduced their susceptibility to bank failures since the 2008 financial crisis, according to GW&K Investment Management, by adopting more conservative debt and cash management practices.

First Quarter 2023 Market Returns



Forward-looking statements may not come true. See disclosures at end of document. Sources: Financial Times Interactive Data (IDC), Charles Schwab

Investable Benchmark Returns through March 31, 2023

	Quarter (%)	Year-to-Date (%)	Annualized 1 Year (%)	Annualized 3 Year (%)	Annualized 5 Year (%)	Annualized 10 Year (%)
Large Cap Equity						
iShares S&P 500 ETF	7.4	7.4	-7.8	18.6	11.1	12.3
iShares Russell 1000 Growth ETF	14.3	14.3	-11.4	18.2	13.4	14.4
iShares Russell 1000 Value ETF	0.9	0.9	-6.8	17.5	7.2	8.9
Small Cap Equity						
iShares Russell 2000 ETF	2.7	2.7	-11.6	17.4	4.6	8.0
iShares Russell 2000 Growth ETF	6.0	6.0	-10.5	13.4	4.2	8.6
iShares Russell 2000 Value ETF	-0.7	-0.7	-13.1	20.9	4.4	7.1
International Equity						
iShares MSCI ACWI ex US ETF	7.2	7.2	-4.2	11.8	2.3	4.0
iShares MSCI EAFE ETF	9.0	9.0	-0.1	13.3	3.5	5.0
MSCI EAFE Index - in local[1]	7.7	7.7	4.4	15.2	6.8	7.9
Vanguard FTSE Europe ETF	10.3	10.3	1.3	15.4	4.2	5.6
Vanguard FTSE Pacific ETF	5.6	5.6	-5.7	10.0	1.3	4.3
iShares MSCI Emerging Mkts ETF	4.1	4.1	-10.5	7.1	-1.8	1.3
Fixed Income						
Market Vectors Sh/Inter Muni ETF	1.4	1.4	0.6	0.4	1.5	1.3
Barclays 5 Yr Muni Index[1]	1.9	1.9	1.8	0.7	1.7	1.6
SPDR Nuveen Barclays Muni Bond	3.0	3.0	-0.3	-0.3	1.5	2.0
Vanguard Total Bond Market ETF	3.3	3.3	-4.7	-2.5	0.9	1.3
GI FixedInc Investable Benchmark	3.3	3.3	-7.4	-3.8	-1.7	-0.2
iShares BarclaysInt Govt/Credit	2.4	2.4	-1.8	-1.4	1.2	1.1
Alternative						
SPDR Barclays High Yield Bond	4.2	4.2	-3.8	4.6	2.4	2.8
Vanguard REIT Index Fund	1.8	1.8	-20.1	9.8	5.8	5.8
Vanguard GI Ex-US Real Estate	-2.0	-2.0	-21.1	1.2	-3.9	0.5
HFRX Global Index	0.0	0.0	-3.1	4.3	1.6	1.5
Invesco Senior Loan ETF	3.2	3.2	1.4	4.8	2.2	2.3
iPath Bloomberg Commodity ETN	-6.3	-6.3	-14.4	24.1	5.3	-2.5
CEF Blended Benchmark[1]	3.6	3.6	-10.5	10.5	3.7	4.1
Other Common Benchmarks						
SPDR Dow Jones Industrial Avg	0.9	0.9	-2.2	17.1	8.8	11.0
Fidelity Nasdaq Comp. ETF	17.3	17.3	-12.8	18.0	12.8	15.3
iShares MSCI ACWI ETF	7.4	7.4	-7.0	15.3	7.0	8.3
SPDR Barclays 1-3 Month T-Bill	1.0	1.0	2.4	0.8	1.2	0.7
Inflation - CPI[1]	1.7	1.7	5.0	5.4	3.9	2.6

[1] There is no investable equivalent for this index

Source: Financial Times Interactive Data (IDC) and Charles Schwab.

This table was prepared using investment performance and other information obtained from third-party sources, which we believe to be reliable; however, we have not audited the data from these sources and are not responsible for its accuracy. Past performance is no guarantee of future results.

Disclosures

The material shown is for informational purposes only. Past performance is not indicative of future performance, and all investments are subject to the risk of loss. Forward-looking statements are subject to numerous assumptions, risks, and uncertainties, and actual results may differ materially from those anticipated in forward-looking statements. As a practical matter, no entity is able to accurately and consistently predict future market activities. Information presented herein incorporate Altair Advisers' opinions as of the date of this publication, is subject to change without notice and should not be considered as a solicitation to buy or sell any security. While efforts are made to ensure information contained herein is accurate, Altair Advisers cannot guarantee the accuracy of all such information presented. Material contained in this publication should not be construed as accounting, legal, or tax advice. See Altair Advisers' Form ADV Part 2A and Form CRS at https://altairadvisers.com/disclosures/ for additional information about Altair Advisers' business practices and conflicts identified. All registered investment advisers are subject to the same fiduciary duty as Altair Advisers.

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The Closed-End Fund Blended Benchmark consists of 60% First Trust Equity Closed-End Fund TR USD Index, 20% Invesco CEF Income Composite ETF, and 20% VanEck Vectors CEF Municipal Income ETF.

The Securitized Credit Benchmark consists of 65% iShares MBS ETF and 35% iShares iBoxx $ High Yield Corporate Bond ETF.

The U.S. Municipal Bonds Benchmark consists of 65% VanEck Short Muni ETF and 35% VanEck Intermediate Muni ETF.

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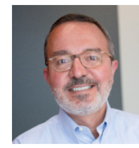

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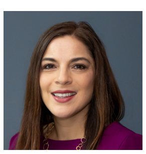

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