ALTAIR INSIGHT

Quarterly Market Review

Unbelieva-bull

July 2023

Saint-Jean-Cap-Ferrat, France
Erica Green, Consultant

Second Quarter 2023
Key Topics

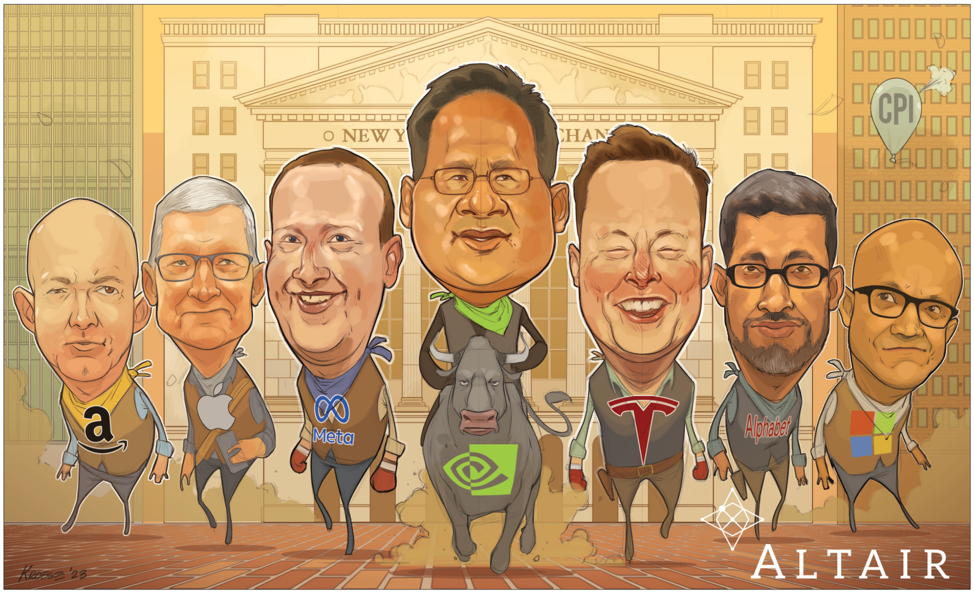
1. The 'Magnificent Seven' stocks have powered a U.S. rally that is likely to slow in the second half but has the makings to be sustainable.

2. Inflation's big drop means the Federal Reserve's tightening job is done, or at least should be.

3. While not booming, the U.S. economy is balanced, stable and recession-free.

4. The global economy continues to show resilience even as China's post-Covid recovery stalls. We remain confident in our international stock weighting and see the makings of improved performance.

5. The commercial real estate market is diversified far beyond the slumping office sector, and reports of its death are greatly exaggerated.



Noah Kroese Illustration for Altair Advisers

"Most despicable is that the bull has the chutzpah to charge ahead when almost everyone agrees a recession is coming any day now."
– Ed Yardeni, head of Yardeni Research

Call it the summer of disbelief.

Despite widespread skepticism about both the ongoing rally and the economy, the U.S. stock market has emerged into bull territory again and a much-predicted recession has not occurred. Does this bull have legs? The elements for further gains are in place, thanks to not only the big tech stocks that rode a wave of investor enthusiasm about the prospects for artificial intelligence-spurred growth but also to broadening market strength.

The gloomy predictions have diminished in recent weeks with the market becoming more balanced and a soft (or softish) landing for the economy looking increasingly possible.

A recession still could occur, putting pressure on the market. Weakness in some leading economic indicators and the well-known lag effect of interest-rate increases could end the year-long string of modest quarterly gains in GDP growth. The commercial real estate slump is another concern. But recent economic data have trended more positive, inflation's decline has gained momentum, unemployment remains near record lows, and the Fed's long-awaited pause in June has both encouraged markets and reinforced the notion that the end (of tightening) is truly near. We continue to believe that no recession is imminent and, if one eventually occurs, it will be short.

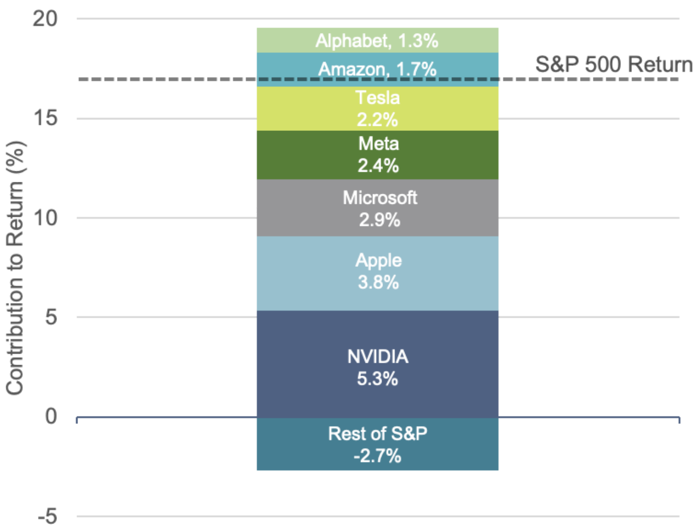
A respectful dip of the Altair flag is in order for Harry Markowitz, the 1990 Nobel laureate in economic science who died in June at age 95. The Chicago-born and -educated Dr. Markowitz revolutionized finance and investing as the father of modern portfolio theory. His breakthrough research quantifying and advocating diversification still influences portfolio construction to this day.

Please read on for our quarterly deep dive into key issues affecting the markets.

1. The 'Magnificent Seven' stocks have powered a U.S. rally that is likely to slow in the second half but has the makings to be sustainable.

This comeback year for U.S. markets has its roots partly in the release last November of a "chatbot" by a research laboratory in San Francisco, OpenAI, that fired the world's imagination about the applications of artificial intelligence and the companies that stand to profit from them.

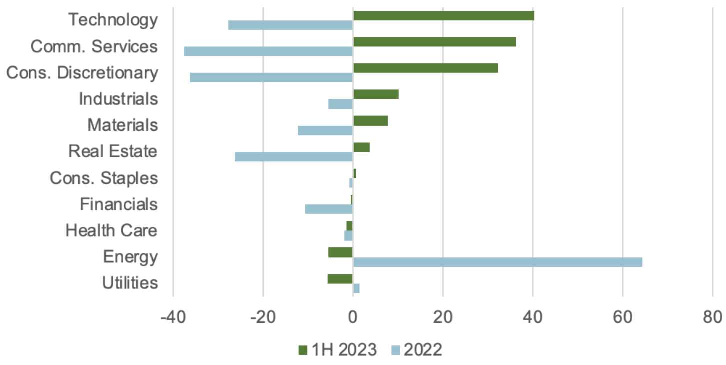
Magnificent Seven Drive S&P Performance
Year-to-Date 2023



Enthusiasm for ChatGPT helped ignite a remarkable surge in giant tech-related stocks that accounted for the S&P 500's entire 16.8% first-half gain and much of the 27% rise off last October's low. Nvidia was up 189% through the first six months of 2023, Meta 138%, Tesla 113%, Amazon 55%, Apple 50%, Microsoft 43% and Alphabet 36% (although only Nvidia, Apple and Microsoft are back to all-time highs in the wake of extreme volatility in 2022). While last year's sell-off was painful, returns this year have benefited from equity managers in client portfolios who are willing to lean into long-term themes such as artificial intelligence.

Yet we do not see this as akin to the transitory trends that blew up meme stocks in 2020 or the dotcom bubble of the late 1990s. All of the newly dubbed "Magnificent Seven" gunslingers behind the rally are long-established and highly profitable. Corporate earnings for not just those companies but the entire S&P 500 have delivered better-than-expected performance this year, even if down from a year ago. And while mega-caps and growth stocks have dominated the comeback, the rally has broadened since May to include more companies along with advances in all 11 S&P sectors, as well as small-cap stocks.

Last Year's Laggards Are This Year's Winners
1H 2023 and 2022 Returns



The extent of the first-half performance will be difficult to repeat, and more volatility is likely. Markets still face challenges from the Russia-Ukraine war, above-average inflation, 5% interest rates and the effects of a cooling economy. Still, this runup is not the result of irrational exuberance and we do not expect the market to revisit last year's lows. Most of this year's gains amount to a recovery from the 2022 sell-off; the broad market is still down 5% from last year's all-time high.

Past performance is no guarantee of future results, but historical trends point to positive second halves in similar years. Since 1945, the S&P 500 has gained an average of 10.0% in the second half of years in which it rose at least 10% in the first half, according to the Bespoke Investment Group. Also, earnings downturns such as the one over the past year have historically signaled opportunity for investors. Since 1962, according to a recent Fidelity white paper, weak earnings periods have been followed by better-than-average market returns over the subsequent 12 months.

Enough cautionary signs exist to keep us from changing our overall neutral weighting to higher risk assets or from increasing our tactical overweight to U.S. stocks. But we do believe the market is well-positioned to deliver further gains despite the challenges.

2. Inflation's big drop means the Federal Reserve's tightening job is done, or at least should be.

No cake was served and no "Mission Accomplished" banner was hung to mark the Fed's announcement of the latest quarter-point interest-rate hike following its July meeting. But either would have been fitting. Barring a dramatic change in data, we believe it likely was the final increase in the central bank's 16-month tightening campaign.

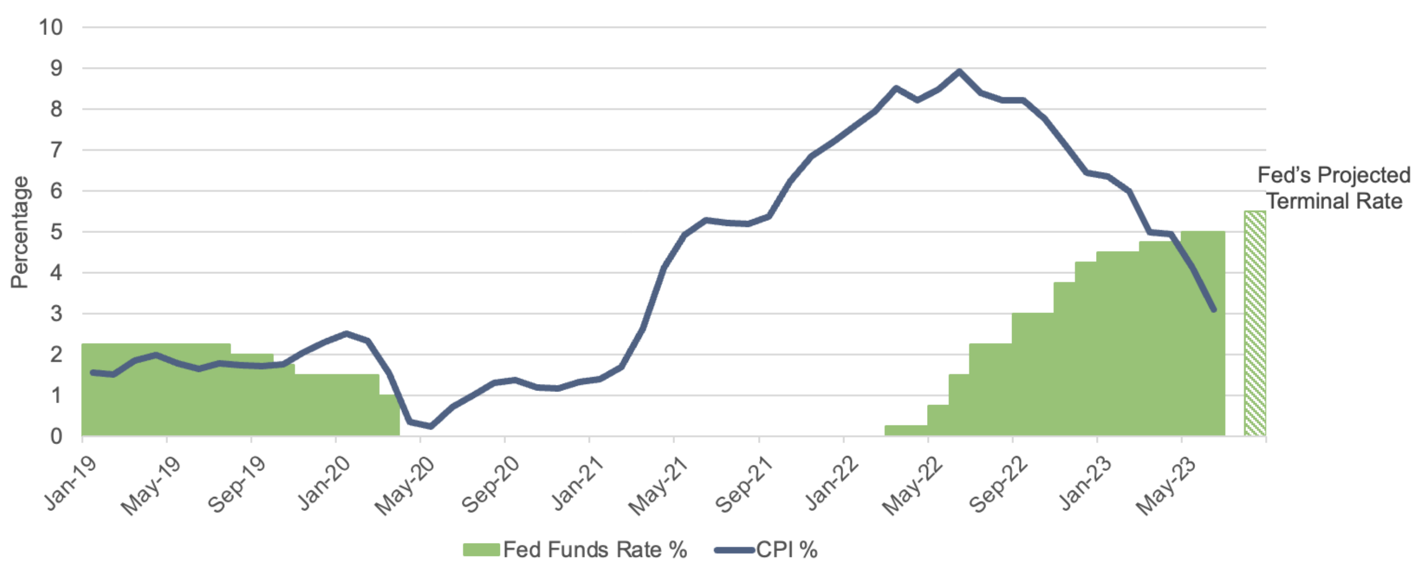
Inflation by any measure – the Consumer Price Index headline rate of 3.0%, CPI core (excluding food and energy) of 4.8%, or the core PCE Index rate of 4.6% – has fallen well below the federal funds rate of 5.25%. That is a clear signal to us that the Fed should stop raising rates now in order to lessen the risk of overtightening and squeezing the growth out of the economy.

Chair Jerome Powell made clear this summer that the Fed still intended to pursue restrictive monetary policy for the foreseeable future. With inflation still descending, however, we are skeptical the central bank will follow through on some members' calls for at least one more increase. Cooling economic and inflation data are working in the Fed's favor, and they are cognizant of the heightened risks if they push rates higher.

We continue to believe that there also will be no rate cuts before 2024, however – a view the market consensus has come around to share. The shift in sentiment to keeping short-term rates elevated reaffirms our commitment to short-term Treasury bonds rather than intermediate bonds in taxable fixed-income allocations.

Federal Funds Rate Exceeds Inflation

January 2019 – June 2023



Forward-looking statements may not come true. See disclosures at the end of document. Sources: Bureau of Labor Statistics, Federal Reserve

Twelve straight monthly declines in headline inflation testify in part to the effectiveness of monetary policy, with due credit to the Fed despite its months of inaction before belatedly beginning to tighten. But circumstances outside its control have played a key role. Supply-chain snafus caused by the pandemic have been repaired, allowing goods prices to decelerate. And oil prices have retreated since skyrocketing in the months after Russia invaded Ukraine.

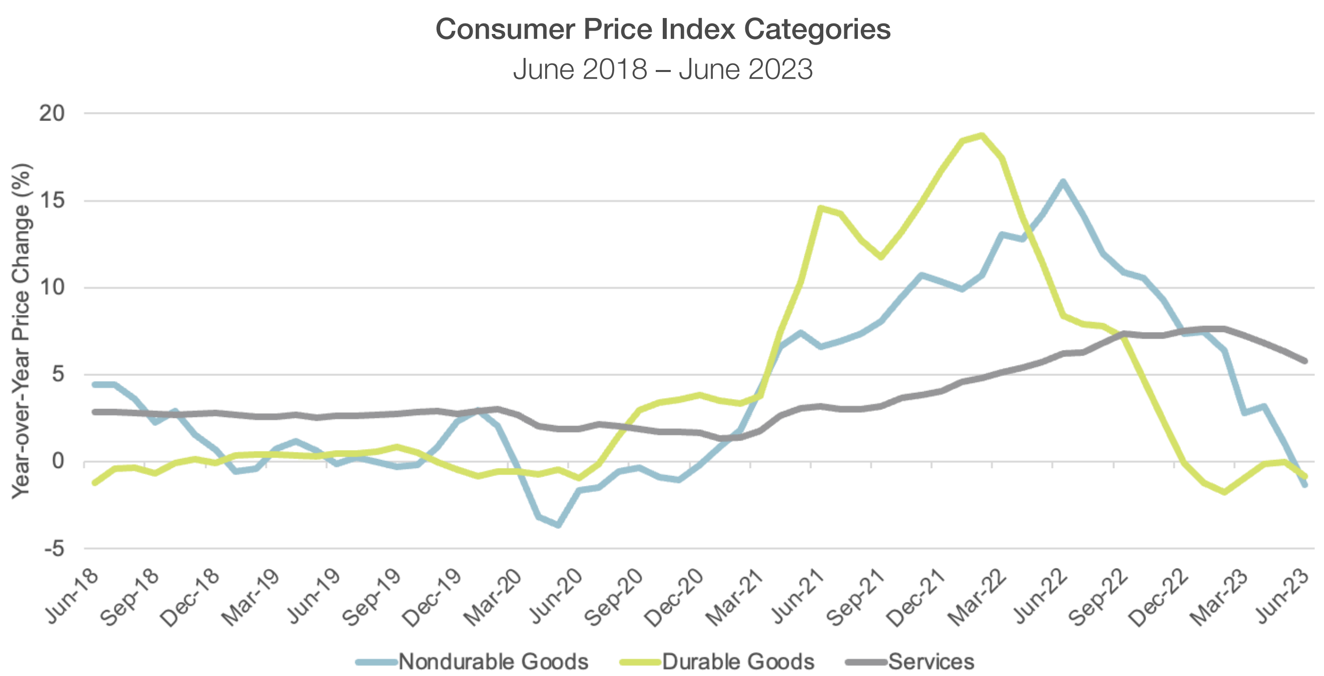
The battle is not yet won. Service-sector prices remain sticky, or stubbornly high. Housing-related (shelter) costs, which account for more than 40% of core CPI, rose 7.8% year-over-year in the latest data. Overall inflation remains at generational highs, well above its 2.1% average from 2000-2020. A sturdy labor market, including wage gains, is contributing to keeping it elevated.

However, the lagging effect of the Fed's rate hikes is almost certain to cool prices more. Research suggests there is a lag effect of at least 12 months between the time a central bank acts and when its actions are felt across the economy.

We also see clear signs in underlying data of a further decline ahead in inflation to show that it is "under control" – Powell's stated goal. Rental prices not yet reflected in the government's inflation statistics have moderated. U.S. wholesale prices as measured by the Producer Price Index no longer appear to be going up. And the U.S. money supply is contracting for the first time since the 1940s as a result of the end of pandemic-related monetary and fiscal stimulus, another trend that takes time to filter into spending and inflation figures.

Other countries are having more difficulty than the U.S. in pushing prices meaningfully lower, leaving high inflation as a global problem. Central banks that let the U.S. take the lead in hiking rates last year are still ramping up their campaigns even as the Fed appears to be wrapping its effort up.

Inflation has yet to be vanquished, but appears to be in full retreat. Its continued decline means the Fed's long run as the overwhelming force shaping markets is winding down, and that is good news for investors.



3. While not booming, the U.S. economy is balanced, stable and recession-free.

“The recession is coming! The recession is coming!” Pundits’ repeated warnings have resounded like Paul Revere’s for months on end on cable news shows, Twitter feeds, websites, and in newspapers. Unlike British troops in 1775, however, a recession is nowhere in sight.

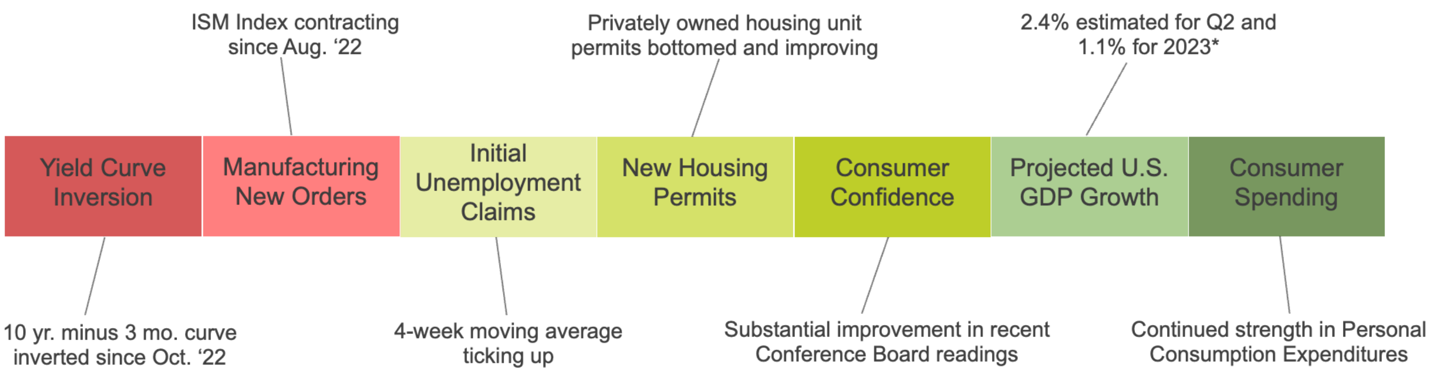
The economy has some soft spots, so a recession is still possible. However, improving data in recent weeks strongly reinforce our view that it would not be serious and is unlikely before 2024. If gross domestic product does contract for two consecutive quarters – one of the technical definitions of a recession – the pullback should be mild and a recovery should quickly follow.

A sturdy labor market, continued consumer spending and robust capital expenditures all have mitigated the likelihood of a significant slowdown despite pressures from inflation and steep rate rises. Overall, though, the economy remains a mixed picture, and some weak areas need to see progress before those recession calls are silenced.

First, a look at the negatives that merit particular scrutiny.

- Part of the U.S. Treasury yield curve remains deeply inverted, underlining markets’ worries that the Fed’s extended rate-hike cycle will ultimately tip the economy into recession. The gap between the 2-year and 10-year Treasury note yields recently reached its widest since 1981 before narrowing, reflecting investor concerns about the longer-term outlook. However, overall economic data sends a far less dire signal. We view the prospect of a deep recession as unlikely in the foreseeable future.
- The Conference Board’s Leading Economic Index of key indicators has declined for 15 straight months, signaling weakening growth prospects. Manufacturing, measured by four of the 10 indicators including new orders, is a particularly soft spot. Indeed, a separate gauge of factory activity – the Institute for Supply Management’s closely watched manufacturing survey – fell to a three-year low in June. We believe the slowdown reflects an industry that is still making the post-Covid transition to a less torrid pace as the level of goods orders returns to normal.

Economic Indicators



*Quarterly estimate from the Atlanta Fed as of 7/18/23 and annual estimate from the World Bank’s June 2023 Outlook

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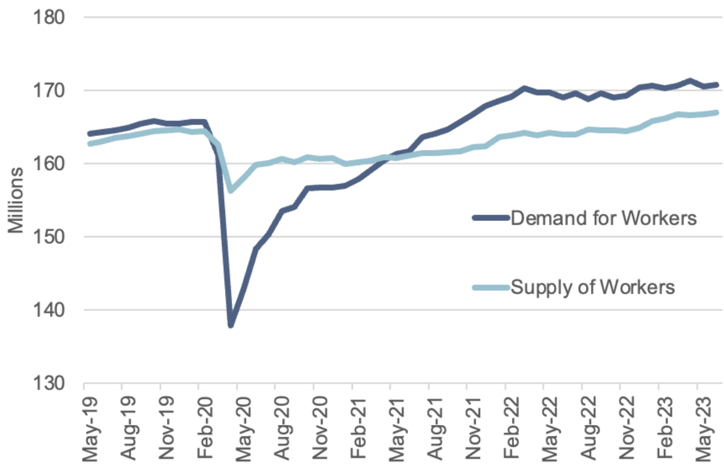
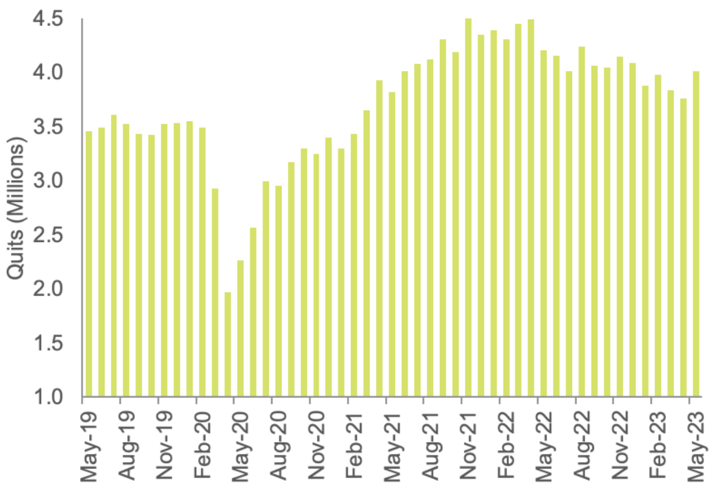
Labor Market Still Tight
May 2019 – June 2023



Demand= employed + job openings, Supply= labor force

… But Showing Signs of Moderation
May 2019 – May 2023



- Household savings that built up to unprecedented excess levels during the pandemic thanks to stimulus and lockdowns have dwindled, which could threaten future spending and growth.

Corporate earnings straddle the middle ground, subpar for now but with better estimates going forward. Companies are currently in the midst of reporting what is expected to be a third consecutive quarter of declining profits while still holding up better than anticipated under the strain of inflation and higher rates. Consensus projections point to a return to higher earnings in the second half.

Positive factors continue to more than offset those weaknesses, recently giving evidence that the economy is getting better.

- The labor market remains robust even while softening from more than a year of interest-rate hikes. Wages are growing faster than desired at well above 4% year-over-year. Yet the economy added an average of 244,000 jobs a month from April through June and unemployment remains near a record low at 3.6%.

- Consumers, whose spending represents 70% of the economy, are mostly holding firm. Consumer sentiment soared to a nearly two-year high in early July in the largest monthly rise since 2006. And spending, while little-changed in recent months, remains at a high level as measured by the Personal Consumption Expenditures index.

- Economic growth exceeded expectations in the first half, propelled by increased spending, falling energy prices and a reduction in supply-chain bottlenecks. Second-quarter GDP was most recently pegged by the Atlanta Fed at a 2.4% annual rate.

- Housing has rebounded after a lengthy slump. Construction of new homes surged in May by the most in three decades and permits for future housing construction also rose.

- The banking sector has stabilized after the March crisis involving regional banks. The biggest U.S. banks raised revenue forecasts after reporting record second-quarter earnings.

All told, the data show an economy with both strengths and weaknesses but scant sign of falling into major trouble.

4. The global economy continues to show resilience even as China's post-Covid recovery stalls. We remain confident in our international stock weighting and see the makings of improved performance.

Surprising strength in the face of some daunting first-half challenges leaves global growth still chugging along despite a loss of momentum. The sooner that foreign central banks are able to end their rate-hike campaigns, the sooner it should regain its pre-pandemic pace.

The assumed international narrative for 2023 was turned on its head in the first half. Expectations were that China would boom with its Zero Covid restrictions lifted and that Europe could suffer badly from an energy crisis and deep slump because of the war in Ukraine. Instead, China's economy is struggling after reopening in January, and Europe has dodged an energy emergency thanks to a mild winter and avoided a serious downturn, enduring just a mild recession in the 20-nation eurozone.

China remains the biggest headwind for both the global economy and non-U.S. stocks, which continued to trail their U.S. counterparts in the first half despite delivering solid returns (9.9% for the iShares MSCI All Country World ex US ETF). The International Monetary Fund said China's sluggish recovery is a lingering threat but still sees its economy expanding 5.2% this year while global GDP grows by 3%.

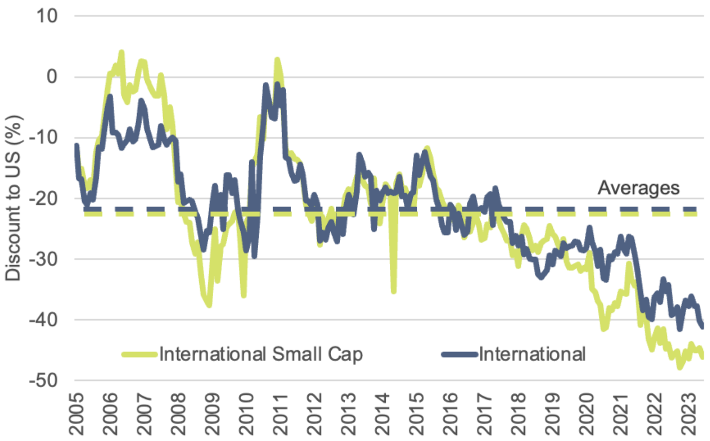
We do not believe the world's second-largest economy is not in danger of falling into a recession. But retail sales have turned sluggish, manufacturing has contracted for three straight months, a jobs shortage has worsened, and exports and new orders are declining in a reflection of reduced overseas demand. The property market remains in crisis after a brief resurgence.

The Chinese economy also is pressured by deglobalization and by a deteriorating relationship with the United States. The latest U.S. move to restrict access to its semiconductor technology, which was met with a tit-for-tat response by Beijing on metals exports, complicates growth efforts.

Yet we see promising signs to maintain our current underweighting and that reinforce our belief in the need for a solid international allocation in a diversified portfolio.

International Stocks Offer Attractive Discount

January 2005 – June 2023



International investments have generated solid risk-adjusted returns over the long run and should continue to do so. Valuations are attractive, with the MSCI All Country World ex US Index (Europe, Australasia and Far East) Index trading at a nearly 40% discount to the S&P 500, the most in more than 20 years. Improving fundamentals should ultimately support higher stock prices. Corporate earnings are ticking up; consumer spending in Europe has benefited from the milder winter, which kept energy expenses low; wages are elevated, and unemployment is low. Japan's economy has exceeded expectations.

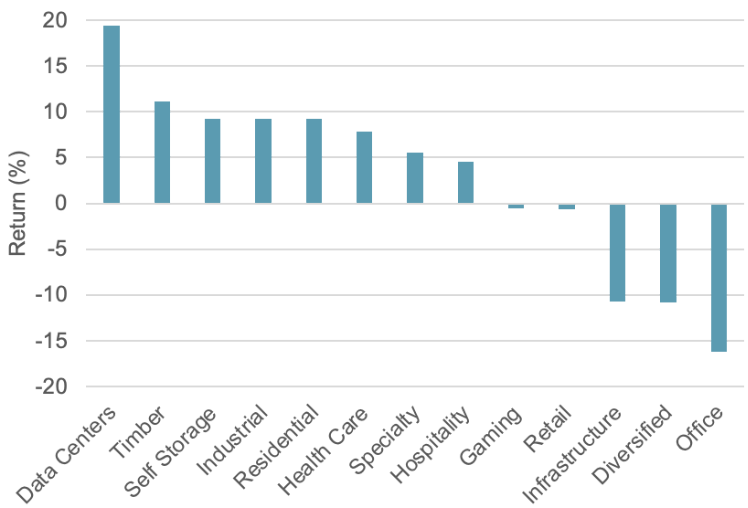
The dollar could be a helpful wild card for investors. When the U.S. currency rises against other currencies, that takes a chunk out of investments in overseas stocks when they are converted back to dollars. But one in decline will add to them. If, as we suspect, the Fed has stopped hiking U.S. interest rates while foreign central banks keep raising theirs, the dollar is likely to head lower, serving as a tailwind for international investments.

5. The commercial real estate market is diversified far beyond the slumping office sector, and reports of its death are greatly exaggerated.

The commercial real estate (CRE) market has been beset by a confluence of challenging trends. But the outlook is more nuanced and less dire than most news headlines suggest.

The industry has been under pressure largely due to rapidly rising interest rates, capital market volatility and the aftermath of the regional bank crisis. Concerns are mounting over the refinancing needs of CRE owners, as commercial mortgage loans totaling more than $1 trillion are maturing before the end of 2024. Not only do these owners face the prospect of having to refinance at considerably higher rates, they are doing so at a time when many traditional lenders are stepping away from the asset class or requiring more capital than a year ago.

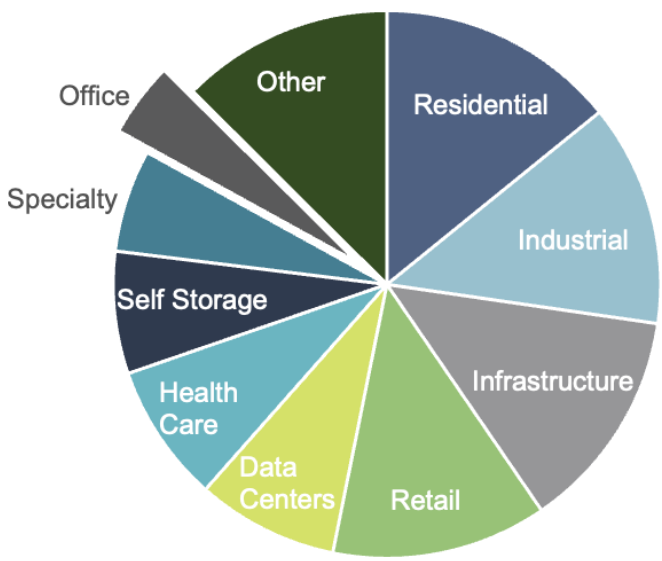
REIT Sector Performance
Year-to-Date 2023



The office sector in particular is in the eye of the storm with a significant number of employees now working from home on a regular basis. Indeed, office utilization in the U.S. is down more than 50% from the pre-pandemic period. Recent underperformance in publicly traded real estate markets reflects this challenging backdrop. But we believe investors have painted the entire category with an overly broad brush that ignores significant differences, not only among sectors but even within sectors. These dislocations present opportunities for skilled and active investors.

The commercial real estate market is diversified and composed of multiple sectors including office, retail, industrial, multifamily and hospitality. While all face refinancing challenges if interest rates remain high and the supply of capital stays constrained, many do not face the same issues troubling the office sector, which accounts for less than a third of CRE.

US REIT Market Allocation
As of June 2023



Indeed, the industrial sector continues to be a bright spot – at the expense of retail – as e-commerce expands while data centers and hyperscalers (cloud service providers) flourish in the booming digital era. Multifamily has remained robust due to low unemployment and rising wages, along with hotels holding up as families and employees ramp up their travels. These sectors should continue to perform barring a severe recession, which is not our base case.

Even within the office sector there exist nuances depending on region, location, vintage, amenities and sustainability credentials. For example, older office buildings located in central business districts of population-declining cities are struggling in contrast to newer, high-amenity offices in growing cities (primarily in the South).

Investors also are concerned with the knock-on effects the CRE market could have on banks – especially regional banks – which collectively hold more than 50% of the $5.6 trillion of CRE loans outstanding. If CRE owners default and walk away from their loans and the banks are left holding the properties, could this pose a systemic risk to the U.S. economy, banking sector and broader financial markets? We do not believe so, for the following reasons:

- The loan portfolios of banks are also well-diversified by property type, region, location and maturity. The loans from banks mature over a multi-year period, so real estate and capital markets could drastically change during this time.

- Banks are in a far better position, with better balance sheets, since the global financial crisis. Not only are the borrowers of higher quality but the commercial loan-to-value ratios between 50% and 65% provide a significant amount of equity cushion before most banks would experience any losses.

Assuming the United States avoids a severe recession as we expect, banks should be able to absorb a reasonable amount of losses over the next few years. (Of course, there will be a few exceptions.) Banks also have access to the Federal Reserve's funding facilities for additional capital.

International real estate, which represents 40% of total global real estate, has underperformed U.S. REITs with its larger exposure to the battered office sector. We still like its prospects going forward. Certain property types such as self-storage, cell towers, data centers, private hospitals and logistics are new and less established than in the U.S. and are expected to grow. Valuations also are more attractive than for U.S. real estate. Importantly, too, international real estate provides portfolio diversification, which we believe is valuable and essential for long-term investors.

Further volatility in commercial real estate lies ahead, but we think there are pockets of opportunity for both our recommended public and private real estate investments. REITs are trading at steep discounts to net asset value and our managers have pared their portfolios to focus primarily on sectors with positive fundamentals, supportive secular trends and attractive valuation discounts. On the private side, the volatility and uncertainty have reduced the supply of available credit from traditional lenders. Private lenders and well-capitalized real estate investment managers now have the power to push better pricing and terms and focus on higher quality assets.

Our Outlook

- **Inflation** has dropped dramatically and should show further progress by year-end, although its descent may slow given more challenging year-over-year comparisons. We do not expect it to reach the Federal Reserve's 2% target before 2024.

- **The Fed** will be hard-pressed to justify another interest-rate hike if recent economic and inflation trends remain encouraging. We think it is likely done raising rates after a final increase of 25 basis points in July but will hold rates steady until 2024 absent a recession.

- **A recession** remains possible for the U.S. economy if the lagged effects of monetary tightening unexpectedly cause widespread layoffs, a large amount of defaults on commercial real estate loans and a falloff in consumer spending. But current evidence suggests it will be mild and relatively brief if it occurs.

- **The global economy** is not at risk of recession unless China's economic problems worsen significantly or a geopolitical shock occurs. Europe has weathered a recession and the war in Ukraine and appears well-positioned for recovery.

- **The U.S. dollar** is likely to decline, aiding investors, following the end of the Fed's hiking cycle as foreign central banks continue raising rates. A weaker dollar historically has benefited stocks, particularly international investments denominated in local currencies and U.S. large caps, which derive a significant share of their revenue from abroad.

Quotes of the Quarter

"Inflation has really come down a lot – and there's more (declining data) in the pipeline"

Janet Yellen
U.S. Treasury secretary

"The Fed's overriding goal right now is to get inflation down – we're going to succeed at it. And to do that without a recession would be a triumph. I feel like we're on that golden path."

Austan Goolsbee
Chicago Federal Reserve president

"Every person on TV says recession. Every economist {except me} says recession. I've never seen anything like it."

Mark Zandi
Moody's Analytics chief economist

Market Data

U.S. Stocks

A tech stocks-led turnaround from last year's sell-off spread to the broader market in the second quarter as investors reacted positively to the sturdier-than-expected economy, falling inflation and the end of the debt-ceiling crisis. The result was the best quarter (+8.8%) for the benchmark-mirroring iShares S&P 500 ETF since the fourth quarter of 2021 and the strongest first half (+16.8%) since 2019.

Megacap technology stocks, among the biggest losers in the market-wide 2022 rout, continued to pace the run into bull territory as excitement about artificial-intelligence breakthroughs boosted companies that might benefit from them. Three tech giants saw their stock prices more than double in the first half: Nvidia, Meta Platforms and Tesla. Those companies and a handful of others sparked the best first half (32%) for the tech-centric Nasdaq since 1983. In a flip-flop from last year, the best-returning S&P sectors for the first six months were 2022's three biggest losers: technology (40.4%), communications services (36.3%) and consumer discretionary (32.2%).

Small caps, previously flat for 2023 due in part to their limited exposure to technology, joined the rally in June with an 8.1% runup that accounted for the entire first-half return of the iShares Russell 2000 ETF.

Growth stocks trounced value stocks, turbocharged by the tech rally while value was restrained by the underperforming utilities, energy, consumer staples and healthcare sectors.

International Stocks

Developed-markets stocks outside the U.S. advanced more modestly than their American counterparts but still reached year's halfway point with impressive gains. The iShares MSCI EAFE ETF, the benchmark for large and mid-cap stocks in Europe, Australia and the Far East, added 3.2% in the quarter for a 12.4% return year-to-date.

Japan's market experienced a first-half resurgence and stocks in Europe delivered solid gains despite interest-rate hikes, a recession in the eurozone and the war in Ukraine. Led by France, Germany and Italy, the pan-European Stoxx 600 was up nearly 9%. A more muted dollar than in past years helped. Before conversion to the dollar, which was virtually unchanged against leading foreign currencies for the quarter and the first half, the EAFE benchmark was up 12.6% year-to-date.

Emerging-markets stocks had a more subdued performance, held back by China's market slump, particularly in consumer and healthcare stocks. The iShares MSCI Emerging Markets ETF managed a 5.2% gain in the first half after a 1.0% rise in the second quarter. Mexico (26.6%) reached midyear as a performance leader in investments abroad, while Brazil (17.8%) rebounded impressively after a negative first quarter.

Real Estate

REIT stocks again underperformed the broader market, hurt by not only offices still left partially or completely empty following the pandemic but also by high interest rates and the regional bank crisis. But U.S. REITs eked out small gains for a second consecutive quarter following last year's rout, aided by a strong performance by data centers, the approaching end of rate hikes and an improving U.S. inflation outlook. International real estate stocks fell due to their overweight to the troubled office sector.

The Vanguard REIT Index Fund, made up of U.S. stocks issued by commercial REITs, surged out of negative territory for 2023 in the last week of June to end the first half with a 3.5% year-to-date gain. The Vanguard Global ex-US Real Estate ETF, representing real estate stocks in more than 30 countries, dipped 1.5% for the quarter and was down 3.5% at midyear.

Hedged/Opportunistic

Publicly traded senior bank loans and private debt investments (direct lending) both outpaced other fixed income options with solid second-quarter returns. 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 posted a 6.7% first-half return, putting it on pace for its best full-year performance in more than a decade.

Private direct lending produced similar but smaller gains. While private direct lending has a yield advantage over publicly traded bank loans, the sharp rise in rates in the first half boosted demand and prices for bank loans and enabled them to outperform.

Fixed Income

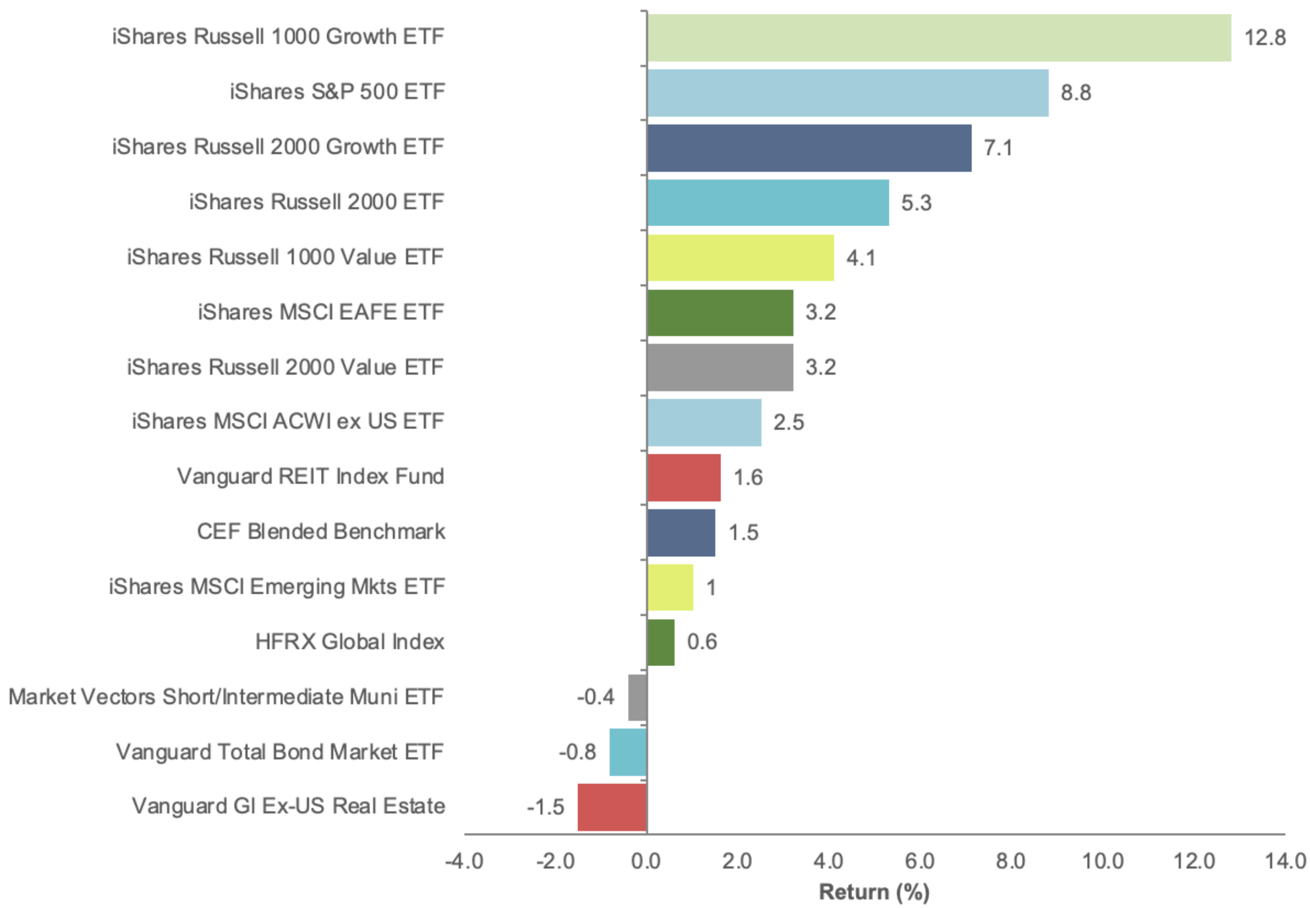
Bond prices fell slightly in the second quarter, reflecting higher rates and uncertainty about the Federal Reserve's next steps. Yields, which move opposite to prices, had fallen sharply in March amid expectations the Fed was ending its hiking cycle and poised to cut rates if the economy foundered. But the economy held firm and so did the Fed's stated commitment to more tightening, pushing the yield on the benchmark 10-year Treasury note back to where it began the year, 3.8%. That effectively stunted bonds' recovery from last year's historic plunge.

The Vanguard Total Bond Market ETF, benchmark for investment-grade taxable bonds, dipped 0.8% in the April-to-June quarter to arrive at midyear with a 2.4% return for 2023.

Municipal bonds declined by similarly incremental amounts for the quarter as muni yields followed U.S. Treasury yields higher. Our benchmark for tax-exempt munis, a blend of the Market Vectors short and intermediate ETFs, returned 1.0% for the first half after a 0.4% second-quarter decline.

Second Quarter 2023 Market Returns

Market Returns



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

Investable Benchmark Returns through June 30, 2023

			Annualized			
	Quarter (%)	Year-to-Date (%)	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)
Large Cap Equity						
iShares S&P 500 ETF	8.8	16.8	19.6	14.6	12.4	12.9
iShares Russell 1000 Growth ETF	12.8	28.9	26.6	13.5	14.8	15.5
iShares Russell 1000 Value ETF	4.1	5.0	10.6	13.9	7.8	8.9
Small Cap Equity						
iShares Russell 2000 ETF	5.3	8.1	12.4	10.7	4.1	8.3
iShares Russell 2000 Growth ETF	7.1	13.5	18.7	6.1	4.2	8.9
iShares Russell 2000 Value ETF	3.2	2.5	5.9	15.2	3.4	7.2
International Equity						
iShares MSCI ACWI ex US ETF	2.5	9.9	12.1	7.2	3.5	4.8
iShares MSCI EAFE ETF	3.2	12.4	18.6	9.2	4.6	5.6
MSCI EAFE Index - in local[1]	4.6	12.6	18.1	12.3	6.9	8.2
Vanguard FTSE Europe ETF	3.1	13.7	20.8	10.6	5.1	5.9
Vanguard FTSE Pacific ETF	3.6	9.4	13.0	6.0	2.7	5.0
iShares MSCI Emerging Mkts ETF	1.0	5.2	0.9	1.7	0.4	2.5
Fixed Income						
Market Vectors Sh/Inter Muni ETF	-0.4	1.0	1.1	-1.1	1.2	1.6
Barclays 5 Yr Muni Index[1]	-0.7	1.2	1.5	-0.6	1.4	1.7
SPDR Nuveen Barclays Muni Bond	-0.9	2.1	2.8	-1.9	1.2	2.3
Vanguard Total Bond Market ETF	-0.8	2.4	-0.7	-4.0	0.8	1.5
GI FixedInc Investable Benchmark	-1.5	1.7	-0.4	-5.6	-1.3	-0.1
iShares BarclaysInt Govt/Credit	-0.9	1.5	-0.3	-2.7	1.0	1.2
Alternative						
SPDR Barclays High Yield Bond	0.8	5.0	8.2	2.1	2.5	3.1
Vanguard REIT Index Fund	1.6	3.5	-3.9	5.9	4.4	6.1
Vanguard GI Ex-US Real Estate	-1.5	-3.5	-8.5	-2.5	-3.6	1.0
HFRX Global Index	0.6	0.6	1.3	2.5	1.7	1.5
Invesco Senior Loan ETF	3.4	6.7	11.5	4.1	2.9	2.7
iPath Bloomberg Commodity ETN	-3.2	-9.3	-12.2	20.2	4.7	-1.8
CEF Blended Benchmark[1]	1.5	5.1	4.4	5.6	3.3	4.7
Other Common Benchmarks						
SPDR Dow Jones Industrial Avg	3.9	4.8	13.9	12.2	9.4	11.1
Fidelity Nasdaq Comp. ETF	13.0	32.5	26.5	12.3	14.1	16.2
iShares MSCI ACWI ETF	6.3	14.2	16.4	11.1	8.2	9.1
SPDR Barclays 1-3 Month T-Bill	1.2	2.2	3.6	1.2	1.4	0.8
Inflation - CPI[1]	1.1	2.8	3.0	5.8	3.9	2.7

[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

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Any blended benchmark referenced is comprised of a collection of indices determined by Altair Advisers. Altair Advisers used its judgement to select the indices and relative weightings to be shown, with the objective of providing the user with a meaningful benchmark against which to compare performance. Despite its best efforts to remain neutral in selecting the indices and their relative weightings, the blended benchmark should not be viewed as bias-free as elements of human nature inherently played a role in selecting the components of the blended benchmark.

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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