FIRST QUARTER 2024

Market Update

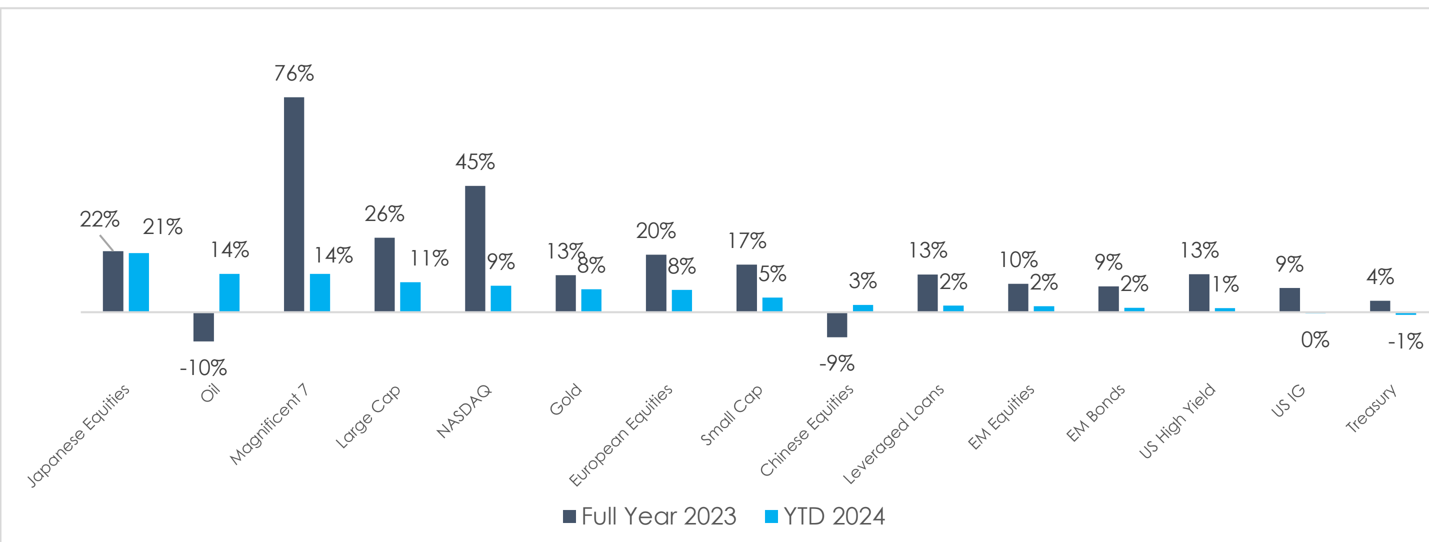
The first quarter of 2024 began with broad-based confidence that the Federal Reserve would begin cutting interest rates in March and proceed with reductions as inflation progressed toward the Fed's 2% target and the U.S. economy continued to grow at a solid pace. On the positive side, U.S. economic resilience has persisted, but so has inflation, much to the dismay of the Fed and investors hoping for lower interest rates.

Despite stalling progress on inflation and a rebound in interest rates, the U.S. stock market has reached new highs in 2024, driven by a robust economic backdrop, strong corporate earnings, and investor optimism. The S&P 500 index gained 10% in the first quarter of 2024, breaching a historic level of 5,000 points for the first time ever. Artificial intelligence or A.I. remained a prominent market theme as A.I. bellwether NVIDIA returned 82% in the first quarter. The approval of Bitcoin ETFs led the cryptocurrency to new highs as it rose 67% in the first quarter.

Price action in financial markets has been characterized by many as "exuberant", but there are widely divergent perspectives between Wall Street, where all-time highs continue to be reached, and Main Street, where the average American appears somewhat gloomy and discouraged by the new norm of high prices, which continue to rise, albeit at a slower pace.

As we enter the second quarter, all eyes turn to the June Fed meeting and the economic data and market developments leading up to the event. So far, all appears well on the economic and corporate earnings front. Inflation remains the primary area of focus and uncertainty, and lest we not forget, we have an upcoming U.S. presidential election in seven months.

2024 year-to-date asset class total returns



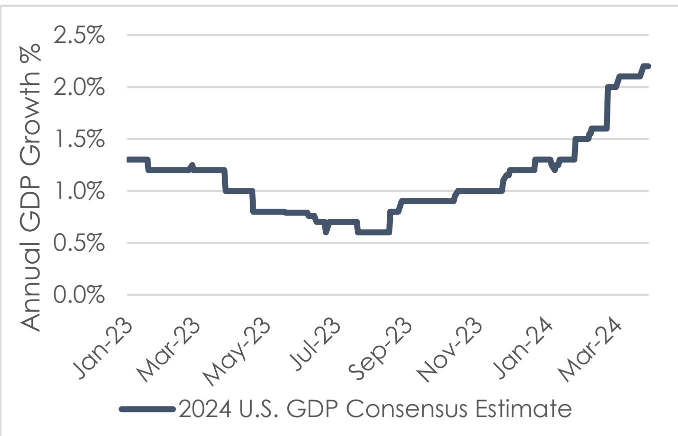
Source: Bloomberg as of March 31, 2024.

Magnificent 7 = UBS Magnificent 7 Index; NASDAQ = NASDAQ Index; Large Cap = S&P 500 Index; Japanese Equities = Nikkei 225 Index; European Equities = Stoxx 600 Index; Small Cap = Russell 2000 Index; US High Yield = Bloomberg US Corporate High Yield Total Return Index; Leveraged Loans = Bank of America Leveraged Loan Index; Gold = Gold Spot Price; EM Equities = MSCI Emerging Markets Index; EM Bonds = Bloomberg Emerging Markets Aggregate Bond Index; US IG = Bloomberg U.S. Aggregate Index; Treasury = Bloomberg US Treasury Total Return Index; Chinese Equities = Shanghai Shenzhen CSI 300 Index; Oil = Brent Crude Oil Spot Price.

Economic soft landing, no landing, or hard landing?

In the last three years, narratives for the U.S. macroeconomic outlook went from the 'roaring 20s' post-pandemic secular recovery, to imminent recession, to the current "goldilocks" and best of all worlds when it comes to growth, inflation, and expected monetary easing. The tug-of-war between U.S. economic strength and the accompanying stickiness of inflation has led many to contend that the U.S. economy could be on track for "no landing," which effectively means the U.S. economy remains too hot and the Fed will not be able to reduce interest rates anytime soon. The economy has continued to avoid recession, with real GDP growth projected to reach 2.2% in 2024.

2024 growth expectations revised up



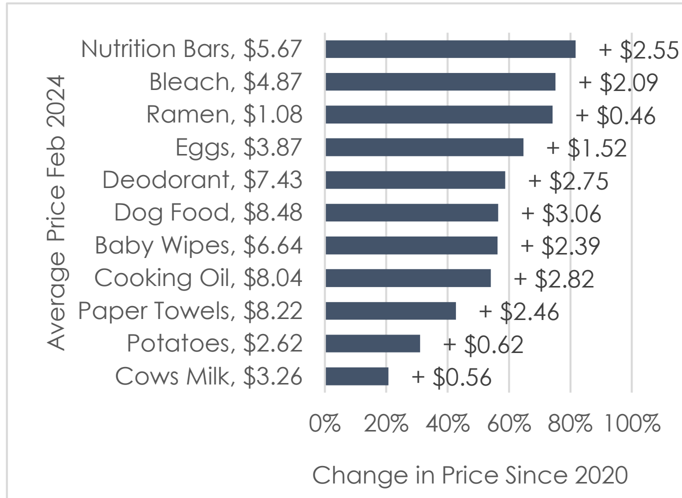
Source: Bloomberg as of March 31, 2024.

Key supports to the economy remain solid: job growth, steady consumer spending despite frustration with price levels, and a high level of government spending. The unemployment rate, 3.8% in March, has come in under 4% for 26 straight months, the longest such streak since the 1960s. After a slower start to the year, the U.S. labor market added the most jobs in a nearly a year in March.

Inflation—hotter for longer?

Despite a small uptick to 3.2% on the headline CPI measure in February, Fed Chairman Powell testified before Congress in March that the Fed is nearly confident enough on inflation to begin cutting interest rates. Headline inflation (inflation including food and energy prices) is struggling to fall below 3% while core inflation (inflation excluding food and energy prices) is still around 4%. While food inflation has come down, according to the latest data from the USDA, U.S. consumers spent more than 11% of their disposable income on eating — whether at home or at a restaurant — in 2022, the highest percentage since 1991. By the end of 2023, consumers were paying nearly 20% more for the same basket of groceries as they were in 2021.

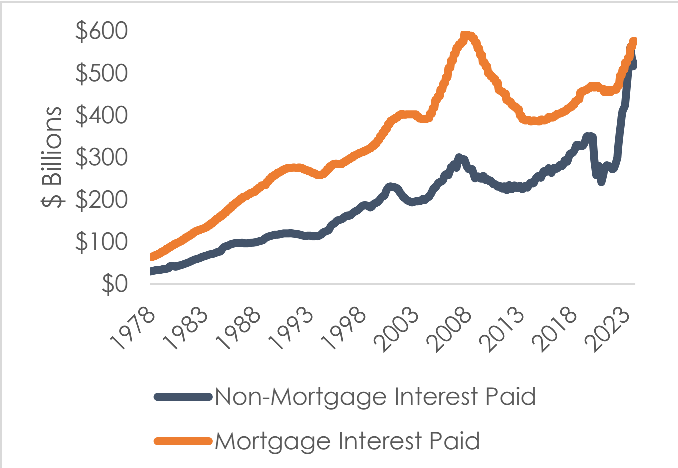
Change in cost of select goods: February 2020 to February 2024



Source: NielsenIQ as of March 31, 2024.

Consumers continue to spend, but many, especially middle- and lower-income households, are feeling the pain from higher prices and higher interest rates. For the first time on record, interest payments on credit cards, auto loans, and other non-mortgage debts are as big a financial burden for U.S. households as mortgage interest payments. At the same time, rising values of stocks and real estate have propelled household net worth to jump by $4.8 trillion in the fourth quarter of 2023 and a staggering $39.3 trillion (140% of GDP) since the pandemic. Amid all the crosscurrents impacting the U.S. consumer, the health of the labor market will remain critical to continued resilience and support for the overall economy.

Annual interest payments by U.S. households



Source: Bloomberg as of March 31, 2024.

Equity markets and earnings strong

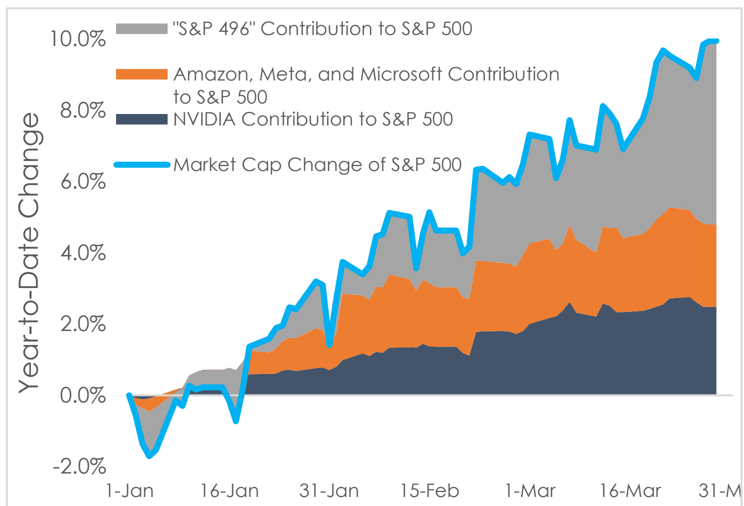
The U.S. equity market rally roared on for a second-straight quarter in the first quarter. The S&P 500 posted its fifth gain of the last six quarters, adding 10.2% and making the period the 11th best start to a year since 1950. In what's been called "the everything rally", the opportunity set has been rich; all of the S&P 500's sectors, except real estate, rose in the first quarter. Structural themes that are driving risk assets higher are a continuation of much of what we saw in 2023. Alongside hopes that the economy has officially skirted recession, at the forefront of zealous investors' minds are A.I., cloud technology, GLP-1 drugs (weight-loss drugs like Ozempic, Wegovy, Mounjaro, etc.), onshoring, defense spending, and energy infrastructure investments.

We have seen a wealth of positive catalysts for equities both domestically and abroad. The Nikkei 225, a proxy for the Japanese equity market, reached a new all-time high in February after nearly three and a half decades. The Japanese index has been on a tear for more than a year, driven by a combination of riding the semiconductor momentum from the U.S., stronger corporate earnings, a weaker yen that helps exporters, and an influx of foreign investors looking for an alternative to China's depressed markets, where equites and real estate continue to falter.

The explosive growth of the Magnificent Seven, the darlings of the S&P 500, sputtered in March, underperforming the broader index after rising by just 1.6% (on a market-cap weighted basis) versus 3.1% for the index during the month. Tesla and Apple, the laggards of the group, fell by 29% and 11%, respectively, in the first quarter. This comes however, after a year in which the earnings of the Magnificent 7 grew by 31%, while the growth of the remaining 493 stocks in the index was only 1.9%. In fact, Nvidia's surge to an all-time high post its fourth quarter earnings release in February was the biggest single session increase of market value in history, beating Meta's historic gain just three weeks prior.

Is the "exuberance" justified? On the one hand, fundamentals suggest that valuations remain rather rich; the S&P 500 sports an earnings multiple of 25 times while corporate credit spreads (a measure of risk or stress) offer little room for error at multi-year tight levels. On the other hand, the feared narrowness of the equity market rally has broadened significantly, fourth quarter corporate earnings showed strong upward momentum (+7.5% year-over-year), and consensus expects corporate earnings to grow by another 10.7% in 2024. Capital markets are wide open, corporate bond issuance has set records year-to-date, and still, trillions of dollars sit on the sidelines in money markets and CDs, awaiting an entry point.

S&P 500: NVIDIA and the "Tremendous Three"



Source: Bianco Research and Bloomberg as of March 31, 2024.

When will the Fed interest rate cutting cycle commence?

In the first quarter of 2024, interest rates rose considerably amid firm economic growth, a surprising uptick in inflation, and a message of continued patience on getting inflation down from the Federal Reserve.

Market expectations, which were once projecting almost 175 basis points of interest rate cuts earlier this year, have now coalesced around three, 25 basis point rate cuts for 2024, matching the Fed's most recent guidance. Some Fed officials have communicated that they believe the Fed will cut less than three times this year due to the stubbornness of inflation. While consensus expects interest rates to fall this year, the possibility of higher-for-longer interest rates is worth noting.

For investors earnings 5%+ in money market funds and Treasury Bills, such a possibility would probably be welcome news. Moreover, higher interest rates have not stopped issuers from accessing capital markets and issuing healthy amounts of new borrowings. For homebuyers, consumers paying historically high rates on autos and credit cards, and those subject to floating rate debt tied to the Fed funds rate, higher-for-longer is much less palatable.

Zooming out globally, the Bank of Japan finally exited its radical negative interest rate policy, bringing the amount of negative yielding debt down to a mere $300 billion from a high of $18 trillion during the depths of the pandemic. It appears the past 10 years of negative and zero interest rates are behind us now that inflation has become a top economic and monetary policy concern.

Government bond yields	YE 2021	YE 2023	3/31/ 2024	Change YTD (bps)
6-Month U.S. Treasury Yield	0.18%	5.25%	5.32%	+7 bps
2-Year Treasury Yield	0.73%	4.25%	4.62%	+37 bps
5-Year Treasury Yield	1.26%	3.85%	4.21%	+36 bps
10-Year Treasury Yield	1.51%	3.88%	4.20%	+32 bps
30-Year Treasury Yield	1.90%	4.03%	4.34%	+31 bps
Japan's 10-Year Government Bond Yield	0.07%	0.61%	0.71%	+10 bps
Germany's 10-Year Government Bond Yield	-0.18%	2.02%	2.30%	+28 bps
U.K.'s 10-Year Government Bond Yield	0.97%	3.53%	3.93%	+40 bps

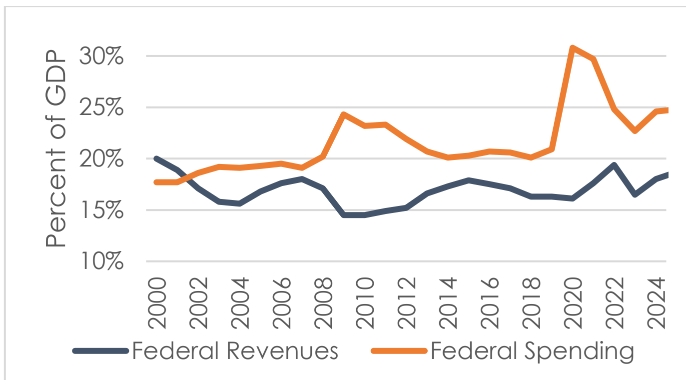
Source: Bloomberg as of March 31, 2024.

Looking ahead

As we emerge from the first quarter, many themes remain intact, namely U.S. economic growth resilience, favorable corporate earnings trends, and positive investor sentiment. After dominating business and economic headlines, inflation remains top of mind. The exact sequence and timing of Fed interest rate cuts remains widely debated but given the resilience of the U.S. economy as short-term interest rates went from zero to over five percent, one might ask how consequential a July versus June first interest rate cut would really be or whether two versus three cuts in 2024 would matter in the grand scheme.

Geopolitics and U.S. politics remain in focus. There are currently three active geopolitical conflict zones—eastern Europe, the Middle East, and the South China Sea. Related to these conflicts we already saw one wave of an energy crisis, and current shipping disruptions in the Red Sea. U.S. deficits remain on an unsustainable path; the U.S. government is quickly closing in on $35 trillion of debt and is adding to the burden at a rate of $1 trillion per 100 days. As the election approaches, we expect elevated market volatility as forecasters iterate the implications of a continuation of current, or potentially new policies.

U.S. government spending outpaces revenues



Source: Bloomberg as of March 31, 2024.

With news headlines focused on short-term outcomes especially for 2024, we emphasize the importance of a long-term perspective and focus on fundamentals. The first quarter went well in many respects, yet we remain cognizant of risks and potential surprises to the consensus view. We encourage you to speak with a MassMutual financial professional to help you plan your future.

Kelly Kowalski, CFA, Bronwyn Tierney, CFA, and Cliff Noreen

MassMutual Investment Management

Marino Financial Advisors
Innovative Wealth Solutions

Disclosures

Market Indices have been provided for informational purposes only; they are unmanaged and reflect no fees or expenses. Individuals cannot invest directly in an index.

Description
The UBS Magnificent 7 Index tracks a group of 7 of the largest mega cap tech stocks listed in the US. The stocks mirror their respective S&P 500 weight reweighted pro-rata.
The NASDAQ Composite Index is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
The S&P 500 Index is widely regarded as the best single gauge of large-cap U.S. equities and serves as the foundation for a wide range of investment products. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.
The Nikkei-225 Stock Average is a price-weighted average of 225 top-rated Japanese companies listed in the First Section of the Tokyo Stock Exchange. The Nikkei Stock Average was first published on May 16, 1949, where the average price was ¥176.21 with a divisor of 225.
The STOXX Europe 600 Index is derived from the STOXX Europe Total Market Index (TMI) and is a subset of the STOXX Global 1800 Index. With a fixed number of 600 components, the STOXX Europe 600 Index represents large, mid and small capitalization companies across 17 countries of the European region.
The Russell 2000 Index is comprised of the smallest 2000 companies in the Russell 3000 Index, representing approximately 8% of the Russell 3000 total market capitalization. The real-time value is calculated with a base value of 135.00 as of December 31, 1986. The end-of-day value is calculated with a base value of 100.00 as of December 29, 1978.
The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded
The Bank of America Leveraged Loan Index is designed to measure the performance of the 100 largest facilities in the US leveraged loan market. Index constituents are market-value weighted, subject to a single loan facility weight cap of 2%.
Gold Spot Price is quoted as dollars per Troy Ounce.
The MSCI EM (Emerging Markets) Index is a free-float weighted equity index that captures large and mid-cap representation across Emerging Markets (EM) countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country.
Standard and Poor's Midcap 400 Index is a capitalization-weighted index which measures the performance of the mid-range sector of the U.S. stock market. The index was developed with a base level of 100 as of December 31, 1990.
The Bloomberg Emerging Markets Hard Currency Aggregate Index is a flagship hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers.
The Bloomberg USAgg Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency).
The Bloomberg US Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index. STRIPS are excluded from the index because their inclusion would result in double-counting.
The CSI 300 Index is a free-float weighted index that consists of 300 A-share stocks listed on the Shanghai or Shenzhen Stock Exchanges. Index has a base level of 1000 on 12/31/2004. * Due to our agreement with CSI, shares in the index is restricted, please visit SSIS<go> for more information and access. This ticker holds prices fed from Shenzhen Stock Exchange.
Oil Spot Price is quoted as dollars per barrel for export quality Brent crude oil.

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